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# General Education Requirements

Effective Fall, 2004

## Introduction

The College of Liberal Arts, College of Science and Technology, College of Business and College of Professional Studies at Bloomsburg University of Pennsylvania administer undergraduate curricula.

Each curriculum, leading to a baccalaureate degree, requires successful completion of at least 120 semester hours in the major, general education and free electives. This section deals with general education; requirements for each major are listed under department headings. While electives are unrestricted, it's helpful to consult with a faculty adviser.

When a student makes a tentative choice of a major, preliminary or prerequisite courses required in that major are assigned. Admission is selective or restrictive at the junior year entry level for some curricula. The university is not bound to admit the student if the student is not admissible according to the competition for available spaces or other selective criteria.

Students who plan to major in two departments must have a major adviser in each department and meet all of the major requirements of each department and all of the general education requirements. Double majors in some departments may require more than the minimum 120 semester hours for graduation. Double majors in departments in two colleges must have the permission of both college deans to declare a double major.

## Credit, Semester Hour

A semester hour, or credit, is ordinarily defined as the credit for one weekly period of 50 minutes of lecture, discussion or recitation for one semester. In some cases as in laboratory, studio or internship, there may not be a one-to-one correspondence between experimental time and credit.

## Distribution Requirements

The general education program includes specific course requirements totaling 17 credits, distribution requirements totaling 36 credits and a diversity requirement of two courses.

The goals of the general education program are to develop:

- An ability to communicate effectively;
- An ability to think analytically and quantitatively;
- A facility to make independent and responsible value judgments and decisions according to high ethical values and life goals;
- An appreciation of the need for fitness and lifelong recreation skills;
- A capacity for assessing the validity of ideas and an understanding of the approaches used to gain knowledge through the development of critical thinking abilities;
- A greater appreciation of theater, literature, art and music through stimulation of one's creative interests;
- An understanding of our society and the relative position of an individual in this society;
- An understanding of the relationship between an individual and his/her physical and biological environments;
- A familiarity with the major contributions of human knowledge in the humanities, social sciences, natural sciences and mathematics; and
- An awareness and global understanding of the relative position of the individual in the world community.

## Additional Information

See PRP 3612 General Education Requirements

Questions regarding general education requirements may be directed to your academic adviser or to the Registrar.

## Specific Course Requirements

### Communication (9 credits)

20.101 Composition 1 and one of the following:

- 20.201 Composition 2
- 20.203 Approaches to Literary Study
- 20.205 Honors Composition
- 09.231 Technical Writing
- 27.230 Newswriting
- 31.460 Research Writing in Art History
- 42.398 Research and Writing Skills
- 50.290 Writing in Biology

or a Writing-Intensive Literature course:

- 20.131 Bible as Literature
- 20.151 Introduction to Literature
- 20.152 Literature and Society
- 20.156 Popular Literature
- 20.226 European Literature 1
- 20.227 European Literature 2
- 20.236 American Literature 1
- 20.237 American Literature 2
- 20.246 British Literature 1
- 20.247 British Literature 2
- 20.256 Non-Western Literature 1
- 20.257 Non-Western Literature 2

Note: Any writing intensive course taken before 20.101 Composition I is completed may not be used as a substitute for 20.201 Composition II.

The remaining three credits in Communication are to be selected from these courses:

- 10.100 Foundations of French Literature and Culture
- 10.101 French 1
- 10.102 French 2
- 10.203 French 3
- 10.204 French 4
- 10.205 Applied Phonetics and Pronunciation
- 11.100 Foundations of German Literature and Culture
- 11.101 German 1
- 11.102 German 2
- 11.203 German 3
- 11.204 German 4
- 12.100 Foundations of Spanish Literature and Culture
- 12.101 Spanish 1
- 12.102 Spanish 2
- 12.203 Spanish 3
- 12.204 Spanish 4
- 12.205 Phonetic Theory and Practice
- 13.101 Russian 1
- 13.102 Russian 2
- 13.103 Russian 3
- 13.104 Russian 4
- 14.101 Italian 1
- 14.102 Italian 2
- 16.105 Chinese 1
- 16.106 Chinese 2
- 18.101 Latin 1
- 18.102 Latin 2
- 20.112 Practical Grammar
- 20.204 Introduction to Creative Writing
- 25.103 Public Speaking

25.104 Interpersonal Speech Communication

74.153 Introduction to Sign Language

### **Quantitative-Analytical Reasoning (3 credits)**

08.303 Honors Seminar on Research  
 40.156 Business and Economics Math 1  
 40.246 Business and Economics Stat 1  
 43.210 Criminal Justice Statistics  
 45.260 Basic Social Statistics  
 48.160 Basic Statistics  
 53.101 Math Thinking  
 53.109 College Algebra  
 53.111 Finite Mathematics  
 53.118 Applied Matrix Algebra  
 53.123 Essentials Calculus  
 53.125 Analysis 1  
 53.141 Introduction to Statistics  
 53.202 Geometry and Statistics for Elementary Education Majors  
 53.241 Probability and Statistics  
 56.110 Introduction to Computer Science

### **Values, Ethics and Responsible Decision Making (3 credits)**

08.301 Honors Seminar: Values  
 08.303 Honors Seminar on Quantitative and Analytical Reasoning  
 09.213 Science, Technology and Human Values  
 09.230 Human Sexuality  
 28.290 Medical Ethics  
 28.292 Contemporary Moral Problems  
 28.294 Ethics Politics and Public Policy  
 28.295 Business Ethics  
 28.297 Ethics  
 41.105 Environmental Issues/Choices  
 42.210 Values Conflict 20th Cent  
 42.215 Global Issues: Contemporary Values  
 44.207 Ethics, Politics and Public Policy  
 45.320 Sociology of Women  
 46.102 Anthropology and World Problems  
 46.260 Men and Women Anthropology Perspective  
 48.131 Psychology Adjustment  
 48.254 Psychology Aspects Society Issues  
 50.275 Drugs in America  
 50.254 Social Implications Biology  
 60.205 Career Development and Life Planning  
 82.100 Personal Health  
 82.217 Alcohol: Use and Abuse

### **Fitness and Recreational Skills (2 credits)**

Two credits of 61 - Aerospace Studies and 67 - Army Military Science may apply toward this requirement

05.112 Varsity Athletics  
 05.113 Varsity Athletics II  
 05.149 Aquatics - Begin Non-Swim  
 05.150 Beginning Aquatics  
 05.155 Swimnastics  
 05.200 CPR and Safety  
 05.214 Fencing  
 05.217 Bicycling  
 05.219 Tennis  
 05.220 Folk Dancing  
 05.221 Jazz Dance  
 05.222 Creative Dance  
 05.223 Modern Dance  
 05.224 Fitness Dance  
 05.225 Beginning Ballet  
 05.226 Jogging / Walking  
 05.228 Gymnastics  
 05.230 Weight Training and Fitness

05.231 Archery  
 05.232 Bowling  
 05.233 Badminton  
 05.234 Golf  
 05.235 Riflery  
 05.236 Volleyball  
 05.238 Racquetball-Handball  
 05.239 Square Dance  
 05.240 Fitness-Slimnastics  
 05.241 Judo-Self Defense  
 05.243 Backpacking  
 05.244 Orienteering  
 05.245 Canoeing  
 05.247 Basic Rock Climbing  
 05.248 Basic Sailing  
 05.250 Lifesaving  
 05.265 Basketball  
 05.270 Exercise and You  
 05.271 Intermediate Archery  
 05.272 Intermediate Bowling  
 05.273 Intermediate Golf  
 05.274 Intermediate Tennis  
 05.275 Intermediate Volleyball  
 05.276 Intermediate Judo  
 05.277 Advanced Sailing  
 05.291 Hiking, Backpacking and Orienteering (2 credits only)  
 05.298 Fitness and Wellness (1 credit only)  
 05.309 Decisions for Healthy Behavior (1 credit only)  
 05.311 Methods, Materials in Elementary School Physical Education (1 credit only)  
 05.321 First Aid and Safety (1 credit only)  
 05.333 School Camping and Outdoor Education  
 05.397 Adult Hlth Dev Program (1 credit only)  
 50.205 Intro to Nutrition (1 credit only)

### **Distribution Requirements**

Thirty-six semester hours are required with 12 semester hours required from each of the three general academic areas of humanities, social sciences and natural sciences and mathematics. No more than three semester hours from a given academic major may count toward this distribution requirement.

Courses which an individual uses to satisfy the specific communication, quantitative/analytical reasoning, values/ethics and fitness and recreation requirements may not be used to satisfy distribution requirements. Bloomsburg University Curriculum Committee (BUCC) or an individual academic department, with the approval of the BUCC, may exclude any of its courses from being counted as a distribution requirement.

In some cases, qualifications exist in the form of prerequisites, two semester continuity, etc. Consult the class schedule, the university catalog or the student information system for prerequisites and other qualifications. Not every general education course is offered each semester.

The courses appearing here are approved for general education as of June 15, 2003. If a course was previously listed for general education and does not appear in this class schedule, that course will still fulfill general education credit for the student, provided the student enrolled in the course during the time the course was approved for general education. However, students scheduling the course after the course no longer is approved may not receive general education credit for the course.

Questions regarding courses listed as general education should be directed to the academic department which offers the course.

Courses selected to fulfill the distribution requirements must be from at least three different departments within each of the three groups with two or more credits required from each department selected. One course which a student uses to satisfy the specific course

requirements in the categories of communication, quantitative/analytical reasoning and values/ethics may be used to satisfy the distribution requirements.

Students who otherwise meet the prerequisites are permitted to take any course offered by the departments listed below, unless the course is expressly excluded for general education by the university curriculum committee or the department with the approval of the curriculum committee.

No more than six credits from a given academic major may count toward the distribution requirement. Students with a double major must adhere to this policy for one of the majors.

### Group A - Humanities and the Arts

Select courses totaling 12 credits from these departments:

- 30 - Art
- 31 - Art History
- 32 - Art Studio
- 25 - Communication Studies
- 20 - English
- 42 - History
- 10 - French
- 11 - German
- 12 - Spanish
- 13 - Russian
- 14 - Italian
- 16 - Chinese
- 18 - Latin
- 27 - Mass Communications
- 35 - Music
- 28 - Philosophy
- 27 - Theatre Arts

In addition, these courses are eligible:

- 08.101 Honors Humanities I
- 08.201 Honors Humanities II
- 09.171 Scholars Seminar Humanities
- 09.491 Honors Independent Study Humanities I
- 09.492 Honors Seminar Humanities
- 09.493 Honors Independent Study Humanities II

### Group B - Social and Behavioral Sciences

Select courses totaling 12 credits from these departments:

- 46 - Anthropology
- 40 - Economics
- 43 - Criminal Justice
- 41 - Geography
- 44 - Political Science
- 48 - Psychology
- 45 - Sociology and Social Welfare and Criminal Justice

In addition, these courses are eligible:

- 08.130 Honors Social Science I
- 08.230 Honors Social Science II
- 09.172 Sch Sem Soc Sci
- 09.496 Honors Independent Study Soc Sci I
- 09.497 Honors Sem Soc Sci
- 09.498 Honors Independent Study Soc Sci II
- 70.101 Introduction to Exceptional Individuals
- 72.152 Introduction to Communications Disorders

The following courses are not eligible for group B credit:

- 40.156 Business and Economics Mathematics
- 40.180 Special Topics
- 40.246 Business and Economics Statistics I
- 40.356 Business and Economics Statistics II
- 40.456 Econometrics
- 40.470 Senior Seminar
- 40.480 Advanced Special Topics
- 40.490 Independent Study
- 41.350 Advance Planning

### Group C - Natural Sciences and Mathematics

Select courses totaling 12 credits from these departments:

- 50 - Biological and Allied Health Sciences
- 52 - Chemistry
- 51 - Geography and Geosciences
- 53 - Mathematics (but not computer science courses)
- 54 - Physics

In addition, these courses are eligible:

- 08.110 Honors Math and Science I
- 08.210 Honors Math and Science II
- 09.173 Seminar Natural Sciences and Mathematics
- 09.495 Honors Seminar Natural Sciences and Mathematics

The following courses are not eligible for Group C credit:

- 09.230 Human Sexuality
- 50.205 Intro to Nutrition
- 50.254 Social Implications Biology
- 54.180 CAD Engineering Graphics

### Cultural Diversity Requirement

The Cultural Diversity requirement is effective for all degree students entering or re-entering with the fall semester 1993 and thereafter. Each student must successfully complete two courses from this list of diversity focused courses. These courses may be applied toward courses for the major, general education or free electives.

- 05.334 Women in Sport
- 08.130 Honors Social Science I
- 08.302 Honors Seminar, Diversity
- 09.230 Human Sexuality
- 10.203 French III
- 10.204 French IV
- 10.211 Foundations of French Culture and Civilization
- 10.212 France Today
- 11.203 German III
- 11.204 German IV
- 11.211 German Culture and Civilization I
- 11.212 German Culture and Civilization II
- 12.203 Spanish III
- 12.204 Spanish IV
- 12.211 Spanish Culture and Civilization
- 12.212 Spanish-American Culture and Civilization
- 14.203 Italian III
- 16.211 Chinese Culture and Civilization I
- 16.212 Chinese Culture and Civilization II
- 20.256 Non-Western Literature I
- 20.257 Non-Western Literature II
- 20.287 Black Women Writers
- 20.288 Feminist Reading of Culture
- 20.388 Gender/Race/Class
- 20.436 African American Literature
- 25.220 Intercultural Communication
- 25.309 Gender Issues in Communication
- 25.494 Special Topic: Diversity
- 28.408 Feminist Philosophy
- 31.345 History of Near Eastern Art
- 31.346 History of Far Eastern Art
- 31.360 Women, Art and Society
- 40.313 Labor Economics
- 41.102 World Cultural Geography
- 42.131 Asian Culture to 1600
- 42.141 Modern Far East
- 42.143 Black Africa
- 42.210 Values Conflict in 20th Century History
- 42.224 Immigrant Experience
- 42.227 American Women
- 42.228 African American History
- 42.329 The American Woman
- 42.469 Women/Gender Euro I
- 42.470 Women/Gender Euro 2
- 43.420 Crime, Inequality and Identity

- 44.222 Women and Politics
- 44.377 Feminist Political Theory
- 45.215 Racial and Ethnic Minorities
- 45.221 Social Work and Diversity
- 45.330 Sociology of Women
- 46.101 Introduction to Anthropology
- 46.102 Anthropology and World Problems
- 46.200 Principles of Cultural Anthropology
- 46.290 Anthropology of Race and Racism
- 46.310 Aztecs and Mayans
- 46.320 Contemporary World Cultures
- 46.333 Ethnic Identity in the United States
- 46.340 Native North Americans
- 46.350 Medical Anthropology
- 46.370 Indigenous Cultures of Modern Mexico
- 46.390 Sociology of the Child
- 46.440 Language and Culture
- 46.450 Peoples and Cultures of South America
- 46.480 Religion and Magic
- 48.350 Psychology of Sex and Gender
- 60.393 Social Foundations of Education
- 60.394 Education in an Urban Society
- 60.406 Multicultural Education
- 70.101 Introduction to Exceptional Individuals
- 75.330 Deaf Culture
- 79.430 Honors Seminar Professional Studies
- 82.410 Community Health Nursing
- 82.451 Transcultural Health Issues
- 90.350 Value of Diversity in Business
- 91.320 International Accounting
- 93.355 Managing Multicultural Organizations
- 93.456 International Management
- 97.380 International Marketing
- 98.340 Law and Literature
- 98.407 International Legal Environment
- 98.460 Employment, Discrimination and Affirmative Action

# Department of Accounting

## Accounting (B.S.B.A.)

Administered by Department of Accounting  
Effective Fall, 2004

Students majoring in a B.S.B.A. degree program in the College of Business must take at least 50 percent of the business credit hours required for the business degree at Bloomsburg University.

Among 65 semester hours of general education courses, students must take:

- 20.101 Composition I
- 20.201 Composition II
- 25.103 Public Speaking
- 40.121 Principles of Economics I
- 40.122 Principles of Economics II
- 40.156 Business and Economic Mathematics (or 53.123 Essentials of Calculus)
- 40.256 Business and Economics Statistics
- 53.118 Applied Matrix Algebra

**Requirements for the Major** - A total of 63 semester hours is required for a major in accounting under the business administration degree program. Required courses include:

### **Business Core Curriculum (24 semester hours):**

- 91.221 Principles of Accounting I
- 91.223 Managerial Accounting
- 92.150 Introduction to Computer and Information Science
- 93.344 Principles of Management
- 93.481 Business Policies and Strategies
- 96.313 Introduction to Corporate Finance
- 97.310 Marketing: Principles and Practices
- 98.331 Law and Legal Environment

### **Accounting Requirements (24 semester hours):**

- 91.222 Principles of Accounting II
- 91.321 Intermediate Accounting I
- 91.322 Intermediate Accounting II
- 91.323 Intermediate Accounting III
- 91.324 Federal Tax Accounting
- 91.342 Auditing Theory and Procedure
- 91.348 Cost Accounting
- 98.332 Business and Commercial Law

**Accounting Electives** - (6 credits) must be 400-level accounting courses not to include 91.432 Accounting Internship or 91.498 Introduction to Health Care.

**Elective Courses** - Three courses (9 credit hours) are required in upper-level business or economics courses. Most accounting students complete a six-credit internship (91.432) to fulfill part of this requirement.

When selecting an elective, students should be sure they have proper prerequisites and avoid elective courses below that level for which the student has already been prepared in that subject field. Courses designated with a 40, 90, 91, 92, 93, 94, 96, 97 or 98 prefix are considered business or economics electives.

**General education electives** - Select a minimum of 11 semester hours in non-business elective courses. Note: Graduation requires successful completion of a total of 120 semester hours.

## Accounting (Minor)

Administered by Department of Accounting  
Effective Spring, 2004

A minor in accounting provides students in disciplines outside of the College of Business with a broad background in accounting and its functional areas. The minor is designed so students can have the background necessary to apply their major discipline in the business environment. The minor consists of 18 semester hours, 12 of which must be taken at Bloomsburg University.

The following courses are required:

- 91.220 Financial Accounting
- 91.223 Managerial Accounting
- 91.321 Intermediate Accounting I
- 91.322 Intermediate Accounting II

Choose two of the following three courses:

- 91.324 Tax Accounting
- 91.342 Auditing
- 91.348 Cost Accounting

# Department of Anthropology

## Anthropology (B.A.)

Administered by Department of Anthropology  
Effective Fall, 2004

In addition to 53 semester hours of general education requirements, a total of 36 semester hours is required for a major in anthropology. Additional free elective courses satisfy the requirement for a bachelor's degree. The following core courses are required:

- 46.200 Principles of Cultural Anthropology
- 46.210 Prehistoric Archaeology
- 46.220 Human Origins
- 46.385 Anthropology Research and Writing
- 46.470 History of Anthropological Thought and Theory

Practicum: Choose one of the following four courses:

- 46.301 Field Archaeology
- 46.466 Independent Study in Anthropology
- 46.475 Field Methods in Cultural Anthropology
- 46.497 Internship in Anthropology

**Elective Courses in Anthropology** - Students may choose six courses, totaling 18 or more semester hours. At least six semester hours must come from each of two subdisciplines. Four courses may apply to either Subdisciplines A or B:

- 46.460 Applied Anthropology
- 46.466 Independent Study in Anthropology
- 46.495 Special Topics in Anthropology
- 46.497 Internship in Anthropology

### A. Archaeology and Physical Anthropology

- 46.300 Archaeological Method and Theory
- 46.301 Field Archaeology
- 46.310 Aztecs and Mayans
- 46.311 Archaeology of Northeastern North America
- 46.312 South American Archaeology
- 46.340 Native North Americans
- 46.405 Primates

### B. Cultural Anthropology

- 46.102 Anthropology and World Problems
- 46.260 Men and Women: An Anthropological Perspective
- 46.320 Contemporary World Cultures
- 46.333 Ethnic Identity in the United States
- 46.350 Medical Anthropology
- 46.360 Pseudoscience: Myths, Monsters and Mayhem
- 46.370 Indigenous Cultures of Modern Mexico
- 46.390 Socialization of the Child
- 46.440 Language and Culture
- 46.450 Peoples and Cultures of South America
- 46.475 Field Methods in Cultural Anthropology
- 46.480 Religion and Magic

Students contemplating graduate school are advised to take an introductory course in computer science and at least nine credit hours in a foreign language.

## Anthropology Minor

Administered by Department of Anthropology  
Effective Fall, 2004

A minor in Anthropology constitutes 18 semester hours in anthropology. This includes three required courses:

- 46.200 Principles of Cultural Anthropology
- 46.210 Prehistoric Archaeology
- 46.220 Human Origins

and nine additional semester hours from department electives (note: 46.101 Introduction to Anthropology does not apply).

## Latin American Studies Minor

Administered by Department of Anthropology - Effective Fall 2004

A. Spanish Language Required Six (6) Credits  
Six credits Spanish Language (minimum)

B. Focus Courses—Twelve (12) Credits

Twelve credits (four classes) from at least two different departments—no more than one additional course in Spanish may be counted toward the minor in the remaining 12 credit focus requirement.

### Anthropology

- 46.320 Contemporary World Culture\*
- 46.310 Aztecs and Mayas
- 46.312 South American Archaeology
- 46.333 Ethnic Identity in the U.S.\*
- 46.450 Peoples and Cultures of South America
- 46.340 Native North Americans\*
- 46.475 Field Methods in Cultural Anthropology\*
- 46.495 Special Topics in Anthropology\*
- 46.497 Internship in Anthropology (3-15)\*

### English

- 20.152 Literature and society\*
- 20.156 Popular Literature\*
- 20.288 Feminist Reading of Culture\*
- 20.386 Studies in Contemporary Literature\*
- 20.388 Gender/Race/Class\*
- 20.480 Special Topics\*
- 20.481 Special Topics\*
- 20.495 Independent Study in English (3-6)\*
- 20.497 English Internship (1-12)\*

### History

- 42.142 Latin America: From European Colonization to the Present
- 42.224 The Immigrant Experience\*
- 42.397 Independent Study in History (1-4)\*
- 42.404 Topics in American History\*
- 42.453 Problems of Contemporary Latin America

### Languages and Cultures

- Spanish for Heritage Speakers (taught in Spanish)
- Spanish American Culture and Civilization
- Hispanic Culture and Literature in the U.S.
- Hispanic Culture and Civilization (taught in Spanish)
- Special Topics\*
- 12.290 Spanish Study Abroad (1-9)\*
- 12.390 Internship in Spanish (3-9)\*
- Latin American Literature (Survey, taught in Spanish)
- 12.430 Hispanic Short Story\*
- 12.490 Independent Study in Spanish (1-9)\*

\*Course content and objectives and/or practicum must be directly related to the Latin American Studies Minor

### Internships and Study Abroad Programs

Credits acquired through Internships and/or Study Abroad Programs in Latin American countries (Mexico and Puerto Rico exchange programs through Bloomsburg University and/or other abroad programs) must be directly related to the minor and approved by the LAS advisory board.

### Additional Courses by Petition

Students may petition for approval for the LAS minor of courses not mentioned above as focus courses. To do so the student (or the instructor) must provide the LAS coordinator with a course syllabus, that will be discussed for approval by

the board. French, Portuguese and Indigenous languages may be included in this section.

Waiver(s): The coordinator may waive program requirements on a case by case basis when appropriate and after consultation with the advisory board.

## Women's Studies Minor

Administered by both the Department of English and the Department of Anthropology  
Effective Fall, 2004

Courses vary by semester and may be offered in the Departments of Anthropology; Biological and Allied Health Sciences; Communication Studies and Theatre Arts; English; Health and Physical Education; History; Philosophy; Political Science; Psychology; Sociology, Social Welfare and Criminal Justice and those identified as interdisciplinary studies.

Courses that count toward the Women's Studies Minor include:

- 09.230 Human Sexuality
- 20.287 Black Women Writers
- 20.288 Feminist Reading of Culture
- 20.388 Gender, Race and Class
- 25.494 Gender Issues in Communication
- 25.492 Feminist Discourse
- 28.308 Feminist Philosophy
- 42.329 The American Woman
- 42.469 Women and Gender in European Intellectual History I
- 44.377 Feminist Political Theory
- 44.470 Women and Gender in European Intellectual History II
- 45.231 Marriage and Family
- 45.320 Sociology of Women
- 48.350 Psychology of Sex and Gender

## Social Sciences (B.A.)

Administered by: Department of Anthropology  
Effective Fall, 2003

In addition to 53 credits of general education requirements, the interdisciplinary studies student completes a core of 24 credits, plus two minors in the social sciences to complete a total of 60 credits of study. The balance of the university's requirement for a bachelor of arts degree comes from elective courses.

- 46.200 Principles of Cultural Anthropology
- 40.211 Economics I
- 40.212 Economics II
- 48.101 General Psychology
- 45.211 Principles of Sociology
- 41.101 World Physical Geography or 41.102 World Cultural Geography
- 44.101 Elements of Political Science or 44.120 U.S. Government
- A three-credit statistics course

In addition, each social science major must complete two minors (18 credits each) in the social sciences: anthropology, economics, geography (i.e., environmental planning), political science, psychology and sociology.

# Department of Art and Art History

## Art History (B.A.)

Administered by Department of Art and Art History  
Effective Fall, 2004

Students must fulfill the requirements for the major, the general education courses and whatever free elective credits remain to bring the number of semester hours to 120. Transfer students must take at least half the credits for the degree program at Bloomsburg University to graduate with a major in art studio or art history. Of the 13 courses needed for the major, at least seven must be taken at Bloomsburg. All art courses at Bloomsburg are three semester hours unless indicated otherwise.

**Requirements for Art History** - A total of 39 semester hours is required for a major in art history. The degree program in art history provides an overview of the history of art together with minimum competency in a foreign language pertinent to the discipline, as well as direct experience of the art-making process through studio courses. Art history majors are expected to work closely with their adviser to identify courses that are most relevant to their interests and postgraduate goals.

### Core

Choose eight courses from the following:

- 31.215 American Art History
- 31.225 History of Architecture
- 31.235 Ancient and Medieval Art
- 31.236 Art from the Renaissance Through Impressionism
- 31.324 History of Photography
- 31.345 Islamic Art
- 31.346 Art History of the Far East
- 31.355 History of Modern Art
- 31.360 Women, Art and Society
- 31.365 Italian Renaissance Art
- 31.366 Northern Renaissance Art
- 31.373 Romanesque and Gothic Art
- 31.375 Independent Study in Art History
- 31.450 Perspectives on Museums
- 31.451 Museum Exhibition
- 31.480 Writing and Research
- 30.385 Philosophy/Psychology of Art
- 32.480 Internship In Art (depending on the nature of the internship experience, 3-6 credits)
- Or any other Art History course (31)

**Language:** Six semester hours in a foreign language. Art history majors intending to continue studies at the graduate level should take two levels of the same language to acquire greater proficiency.

**Art Studio:** Six semester hours in art studio courses in areas such as drawing, painting, sculpture, 2D or 3D design, ceramics, fabric design, graphics, photography, weaving and computer graphics.

**Art electives:** Three semester hours in an art elective class (art history or art studio)

## Art Studio (B.A.)

Administered by Department of Art and Art History  
Effective Fall, 2004

Students must fulfill the requirements for the major, the general education courses and whatever free elective credits remain to bring the number of semester hours to 120. Transfer students must take at least half the credits for the degree program at Bloomsburg University to graduate with a major in art studio or art history. Of the

13 courses needed for the major, at least seven must be taken at Bloomsburg. All art courses at Bloomsburg are three semester hours unless indicated otherwise.

**Requirements for Art Studio** - A total of 39 semester hours is required for a major in art studio. Required courses include:

### Foundations;

- 32.111 Drawing I
- 32.212 Drawing II
- 32.151 Three-Dimensional Design
- 32.152 Two-Dimensional Design
- 32.231 Painting I
- 32.241 Sculpture I
- 32.281 Photography I or 32.195 Computer Graphics
- Choose two courses from Art History (31)

**Specialization** - Three levels of one of the following: ceramics, fabric design, printmaking, drawing, painting, photography, sculpture or weaving.

**Art Electives** - Complete the 39 credits for major with art electives in Art History or Art Studio.

## Minor in Art History

Administered by Art and Art History  
Effective Fall, 2004

15 semester hours in art history courses (Code 31); plus 30.101 Introduction to Art, for a total of 18 credits.

## Minor in Art Studio

Administered by Art and Art History  
Effective Fall, 2004

The minor in Art Studio requires a total of 18 credit hours. Of these, 15 credit hours (five courses) must be in Art Studio (Code 32) from at least three different instructors. A second level of an art studio course must also be included. Finally, 30.101 Introduction to Art or an art history course (code 31) is also required, bringing the total for the minor to 18 credits.

## Art History (M.A.)

Administered by Department of Art and Art History  
Effective Fall, 2004

**Admission.** In addition to meeting the general admission requirements for the School of Graduate Studies, applicants must also include a one-page statement of their objectives and philosophy. Applicants to art history must include a writing sample and GRE scores. Upon acceptance, students are required to appear for a personal interview with the department chairperson, program coordinator and an adviser in their major field. At this time, any deficiencies in the applicant's background will be noted and an appropriate course of study outlined. A thesis and presented paper are required for art history majors.

**Retention and Candidacy.** Requirements of the School of Graduate Studies applies.

**Graduation.** Art history majors will specialize in an area of study along with advanced general studies. A minimum of 30 semester hours is required; this number may be exceeded depending on the student's program. All other graduation requirements for this program are the same as for the School of Graduate Studies.

Graduate courses in art history include:

- 31.560 Readings and Research in Contemporary Art History
- 31.565 Readings and Research in American Art History
- 31.570 Readings and Research in European Art History

- 31.575 Readings and Research in Oriental Art History
- 31.580 Readings and Research in Architectural Art History
- 31.585 Art and Culture of France
- 31.592 Readings and Research in Advanced Visual Aesthetics
- 31.595 Directed Study in Art History
- 30.590 Current Theories in Art and Art Education
- 30.591 Visual Arts of the Exceptional Child
- 30.595 Master's Thesis

The preceding courses in art history carry 3 semester hours of credit, except for 31.595 and 32.595 (Directed Study) which carry variable credit and 30.595 Master's Thesis which carries 3 to 6 semester hours.

## Art Studio (M.A.)

Administered by the Department of Art and Art History  
Effective Fall, 2004

**Admission.** In addition to meeting the general admission requirements for the School of Graduate Studies, applicants must also include a one-page statement of their objectives and philosophy. Applicants to art studio need to submit an 8" x 10" plastic sleeve of slides representative of their recent creative work. Upon acceptance, students are required to appear for a personal interview with the department chairperson, program coordinator and an adviser in their major field. At this time, any deficiencies in the applicant's background will be noted and an appropriate course of study outlined. A thesis and an exhibition of creative work are required for art studio majors. A thesis and presented paper are required for art history majors.

**Retention and Candidacy.** Requirements of the School of Graduate Studies apply.

**Graduation.** Art studio majors will choose an area of concentration consisting of four levels of the selected specialization along with selected elective courses as suggested by their committee. A minimum of 30 semester hours is required; this number may be exceeded depending on the student's program. All other graduation requirements for this program are the same as for the School of Graduate Studies.

Graduate courses in art studio must include four levels in a chosen discipline plus a six-credit graduate thesis. Students should plan the balance of degree requirements with their adviser. Disciplines include:

- 32.500, 01, 02, 03 Advanced Ceramics I, II, III, IV
- 32.510, 11, 12, 13 Advanced Drawing I, II, III, IV
- 32.520, 21, 22, 23 Advanced Crafts I, II, III, IV
- 32.530, 31, 32, 33 Printmaking I, II, III, IV
- 32.540, 41, 42, 43 Advanced Painting I, II, III, IV
- 32.550, 51, 52, 53 Advanced Sculpture I, II, III, IV
- 32.580, 81, 82, 83 Advanced Photography I, II, III, IV
- 32.595 Directed Study in the Studio Arts

# Department of Audiology and Speech Pathology

## Audiology and Speech Pathology (B.S.)

Administered by Audiology and Speech Pathology  
Effective Fall, 2004

In addition to 53 semester hours of general education requirements, a total of 51 semester hours is required for a major in speech pathology and audiology and with the addition of elective courses, the university degree requirement of 120 hours is met. Students should work with their adviser on course selection.

The following courses in speech pathology and audiology are required:

- 48.160 Basic Statistics
- 50.366 Anatomy and Physiology: Head, Neck and Thorax
- 70.101 Introduction to the Exceptional Individual
- 70.202 Technology for Exceptionalities
- 72.152 Introduction Communication Disorders
- 72.200 Introduction to Audiology
- 72.220 Phonetics
- 72.240 Normal Language Acquisition
- 72.300 Auditory Training and Speech Reading
- 72.410 Applied Speech Science
- 72.320 Speech Pathology I
- 72.330 Speech Pathology II
- 72.340 Cognitive/Behavioral Principles in Speech Language Pathology
- 72.430 Fundamentals of Audiology
- 72.360 Clinical Observation
- 72.460 Psycholinguistics
- 54.106 Science of Sound

## Minor in Audiology and Speech Pathology

Administered by Audiology and Speech Pathology  
Effective Fall, 2003

The minor in Audiology and Speech Pathology is offered to any individual enrolled at Bloomsburg who wishes to gain an introductory understanding of the professions of audiology and/or speech pathology. The undergraduate minor addresses basic processes of communication, development of communicative competence and an overview of the communication disorders. Students can use the minor to enhance preparation in their major or to explore the professions in preparation for graduate education in audiology or speech pathology. Completion of the minor does not qualify the student for certification as an audiologist or speech pathologist, nor does it meet the requirements for a speech-language assistant.

Choose six of the following seven courses:

- 72.152 Introduction Communication Disorders
- 72.200 Introduction to Audiology
- 72.220 Phonetics
- 72.240 Normal Language Acquisition
- 72.300 Auditory Training and Speech Reading
- 72.410 Applied Speech Science
- 72.460 Psycholinguistics

## Audiology (Au.D.)

Administered by Audiology and Speech Pathology  
Effective Fall, 2004

### Program Description

The Au.D. curriculum is a 4 year clinical program. Its primary objective is to produce audiologists who are competent to perform the wide array of diagnostic, remedial, and other services associated with the practice of audiology. The Au.D. places major emphasis on clinical training and the practical application of research, theory, and technology into clinical practice.

The first two years of the program emphasizes didactic instruction and laboratory class work combining theory, practicality and emerging technology. The emphasis in the final two years is on combining the theory with clinical learning experiences. The fourth year is a full year externship with monitoring and advisement by the faculty and staff. Both academic and practicum experience focus on the prevention, identification, evaluation and treatment of individuals with disorders of auditory, balance, communication and related systems.

The program includes academic and clinical training in diagnosis, amplification, electrophysiological testing, aural rehabilitation, educational audiology, assistive devices, cochlear implants, industrial audiology, and private practice..

The program is accredited by the Council on Academic Accreditation (CAA) of the American Speech-Language-Hearing Association (ASHA) and upon graduation, the individual is eligible for the certificate of clinical competence issued by the Council for Clinical Certification of the American Speech, Language, Hearing Association. The graduate also meets all requirements for licensure by the Pennsylvania State Board of Examiners in Speech, Language and Hearing.

### Curriculum

The program of study consists of the following courses:

- 50.576 Neurophysiology
- 72.600 Diagnostic Audiology I: Assessment of Auditory Sensitivity and Speech perception
- 72.601 Aural Rehabilitation for adults
- 72.602 Hearing Science I
- 72.603 Internship: Clinic Methods/Practicum in Audiology I
- 72.604 Hearing Aids: Theoretical and Technical Considerations
- 72.605 Diagnostic Audiology II: Acoustic immittance, site of lesion and pseudohypacusis
- 72.606 Electronics and Instrumentation in Audiology
- 72.607 Internship: Clinic Methods/Practicum in Audiology II
- 72.608 Evaluation and Treatment of Tinnitus
- 72.609 Theoretical and Clinical Masking
- 72.610 Auditory Problems in Children
- 72.611 Internship: Clinic Methods/Practicum in Audiology III
- 72.620 Assistive Listening Devices
- 72.621 Hearing Science II
- 72.622 Aural Habilitation and Rehab for Children
- 72.623 Internship: Clinic Methods/Practicum in Audiology IV

- 72.624 Hearing Aids: Clinical Considerations and Fitting Practices
- 72.625 Clinical Neuroanatomy of Auditory, Visual and Somatosensory System
- 72.626 Internship: Clinic Methods/Practicum in Audiology V
- 72.627 Central Auditory Processing Disorders
- 72.628 Geriatric Audiology
- 72.629 Personal and Interpersonal Implications of Aural Habilitation/Rehab
- 72.630 Internship: Clinic Methods/Practicum in Audiology VI
- 72.635 Clinical Physiological Methods in Audiology: ABR, EcochG
- 72.636 Professional Ethics and Cult Divers
- 72.637 Medical Audiology
- 72.638 Clinic Externship/Residency I
- 72.639 Evaluation and Management of Balance Disorders
- 72.640 Cochlear, Auditory Brainstem and Middle Ear Implants: Assessment and Management
- 72.641 Research in Audiology
- 72.642 Clinic Externship/Residency II
- 72.643 Hearing Conservation
- 72.644 Issues and Perspectives in Audio. Practices
- 72.645 Educational Audiology
- 72.646 Clinic Externship/Residency III
- 72.647 Clinic Externship/Residency IV
- 72.648 Clinic Externship/Residency V
- 72.699 Dissertation

In addition, clinical practica and externships are required throughout the program

### Admission Requirements

Admission to the Doctorate of Audiology program is on a competitive bases. Interested students are encouraged to apply early (application deadline is March 15th). On-line application material can be downloaded at <http://www.bloomu.edu/gradschool/>

Prerequisite coursework and requirements. The Graduate School's general admission criteria and the following specific criteria must be met for unconditional admission.

- Minimum undergraduate GPA 3.00
- Three academic letters of recommendation
- Personal interview
- GRE: Math, Verbal and Written

A minimum of 3 semester hours in each of the following areas: Life sciences, physical sciences, behavioral sciences, mathematics, written and oral communications.

Prerequisite courses in the area of audiology, normal language and/or speech pathology may be required for Council for Clinical Certification requirements

Official Transcripts

TOEFL scores for international students

One-Page, typed letter detailing their professional background, experience and rationale for wanting to be admitted to the program in audiology.

Individuals not meeting all requirements: Conditional admission is considered upon recommendation of the faculty.

### Retention

The student must maintain a QPA of 3.0 with no more than 2 grades lower than a B- throughout the doctoral program. A grade of B- or lower in any clinical experience will necessitate repeating the course to achieve a grade of B or higher.

## Speech Pathology (M.S.)

Administered by Audiology and Speech Pathology  
Effective Fall, 2004

**Admission.** In addition to meeting the general admission requirements for the School of Graduate Studies, applicants for the

master's degree program in speech pathology must meet the following requirements:

Applicants are required to submit a one-page, typed letter detailing their professional background, experience and rationale for wanting to be admitted to the program in speech pathology.

Applicants are required to submit three letters of recommendation from references who have knowledge of their academic and/or clinical background. This information must include the name, address, position and telephone number of each reference.

Applicants must have a bachelor's degree from an accredited institution with a major in communication disorders and a minimum QPA of 2.8. Applicants whose major is in an area other than communication disorders will be required to satisfactorily complete certain academic and practicum deficiencies. These will be prescribed by faculty following analysis of the individual's transcript.

The Graduate Record Examination is required of all applicants. Typically, successful students have had scores of at least Verbal, 485; Quantitative, 485; Analytical writing, 4.5

Deadline for submission of application materials is February 15

**Retention.** Graduate students must maintain a QPA of 3.0 with no more than two Cs throughout the graduate program. If a grade of C is earned in the final clinic course (Clinic III), the course must be repeated. To progress in graduate school, students must maintain adequate academic standing and adhere to the department suitability clause.

**Graduation.** The graduate program in speech pathology consists of a minimum of 55 semester hours with most courses being required. Clinical experience is considered necessary and inseparable from the existing course sequence. It becomes an important step in the development of a competent clinician, linking theory with clinical experience, and preparing for certification and eventual employment in the field.

### Required Courses

- 72.550 Aphasia
- 72.552 Language Disorders in Preschool Children
- 72.554 Fluency Disorders
- 72.556 Disorders of Phonology and Articulation
- 72.558 Clinical Practicum and Professional Issues in Speech-Language Pathology I
- 72.560 Voice Disorders
- 72.562 Language Disorders in School-aged Children
- 72.564 Craniofacial Disorders
- 72.565 Motor Speech Disorders
- 72.566 Clinical Practicum and Professional Issues in Speech-Language Pathology II
- 72.570 Cognitive Based Language Disorders
- 72.572 Augmentative and Alternative Communication
- 72.574 Clinical Instrumentation in Speech Pathology
- 72.576 Clinical Practicum and Professional Issues in Speech-Language Pathology III
- 72.580 Traumatic Brain Injury
- 72.582 Research in Speech and Language Pathology
- 72.583 Swallowing Disorders
- 72.584 Field Experience in Speech Language Pathology I
- 72.586 Field Experience in Speech Language Pathology II
- Thesis Option
- 72.599 Master's Thesis

The thesis may substitute for six credits of required coursework. Courses that may not be substituted include 72.582, 72.558, 72.566, 72.576, 72.584, and 72.586 The substitution of a thesis for six credits of academic coursework will have no effect on the content or credit requirement for American Speech-Language-Hearing Association certification.

# Department of Biological and Allied Health Sciences

## Biology (B.S.)

Administered by Biological and Allied Health Sciences  
Effective Fall, 2004

Biology majors should schedule 50.290 Writing in Biology in their sophomore year. If 50.290 cannot be scheduled, 20.201 English Composition II may be substituted. In addition to general education requirements, additional free elective hours are required to meet the university requirement for a baccalaureate degree.

A maximum of 3 cr hr of 50.490 may be applied as biology elective credit toward the degree. A maximum of 6 cr hr from among 50.445, 50.390, 50.391, 50.490, 50.493 and 50.494 may be applied as biology elective credit toward the degree.

Students may choose an option in  
microbiology  
biotechnology  
marine biology

### Required courses

- 50.114 Concepts in Biology I
- 50.115 Concepts in Biology II
- 50.242 Microbiology
- 50.271 Cell Biology
- 50.332 Genetics
- 50.351 Ecology
- 50.479 Integrated Physiology Laboratory
- 50.481 Senior Biology Seminar
- 52.115 Chemistry for the Sciences I
- 52.116 Chemistry for the Sciences II
- 52.231 Organic Chemistry I
- 52.232 Organic Chemistry II
- 52.341 Biochemistry

Choose one of the following physiology lecture courses:

- 50.472 Animal Cell Physiology
  - 50.474 Vertebrate Systems Physiology
  - 50.477 Plant Physiology
  - 50.478 Microbial Physiology
  - 50.480 Comparative Animal Physiology
- And additional biology courses for a minimum of 39 semester hours.

Choose one of the following two combinations:

- 54.111 Introductory Physics I and 54.112 Introductory Physics II
- 54.211 General Physics I and 54.212 General Physics II

Choose one from the following three sets of options:

- 53.141 Introduction to Statistics or 48.160 Basic Statistics, and 53.123 Essentials of Calculus
- 53.141 Introduction to Statistics or 48.160 Basic Statistics, and 53.125-Calculus I
- 53.125 Calculus I and 53.126 Calculus II

### Biology and Marine Science Electives

- 50.200 Dendrology
- 50.211 Invertebrate Zoology
- 50.212 Vertebrate Zoology
- 50.222 Comparative Biology of Plants
- 50.233 Human Genetics
- 50.252 Field Zoology
- 50.263 Field Botany
- 50.331 Embryology
- 50.333 Molecular Biology
- 50.342 Medical Microbiology
- 50.343 Immunology

- 50.350 Comparative Vertebrate Anatomy
- 50.364 Vertebrate Histology
- 50.390 Undergraduate Research in Biology I
- 50.391 Undergraduate Research in Biology II
- 50.411 Radiation Biology
- 50.430 Evolution
- 50.431 Developmental Biology
- 50.432 Microbial and Molecular Genetics
- 50.435 Bioinformatics and Genomic Analysis
- 50.442 Virology of Mammals
- 50.444 Plant and Animal Tissue Culture
- 50.450 Mycology
- 50.451 Conservation Biology
- 50.452 Limnology
- 50.457 Entomology
- 50.459 Ornithology
- 50.460 Population Biology
- 50.461 Animal Behavior
- 50.464 Functional Neuroanatomy
- 50.472 Animal Cell Physiology
- 50.474 Vertebrate Systems Physiology
- 50.476 Neurophysiology
- 50.477 Plant Physiology
- 50.478 Microbial Physiology
- 50.484 Methods in Biotechnology
- 50.489 Current Topics in Biology
- 50.490 Internship in Biological and Allied Health Sciences
- 50.493 Honors Independent Study I
- 50.494 Honors Independent Study II
- 55.221 Marine Invertebrates
- 55.241 Marine Biology
- 55.250 Wetland Ecology
- 55.260 Marine Ecology
- 55.298 Physiology of Marine Invertebrates
- 55.300 Behavior of Marine Organisms
- 55.330 Tropical Invertebrates
- 55.342 Marine Botany
- 55.343 Marine Ichthyology
- 55.345 Comparative Physiology of Marine Organisms
- 55.341 Ecology of Marine Plankton
- 55.432 Marine Evolutionary Ecology
- 55.441 Biology of Molluscs
- 55.464 Biological Oceanography
- 55.470 Research Diver Methods
- 55.490 Marine Aquaculture
- 55.491 Coral Reef Ecology
- 55.492 Marine Mammals
- 55.493 Behavioral Ecology

## Biology (B.A.)

Department of Biological and Allied Health Sciences, College of Science and Technology  
Effective Fall, 2004

Biology majors should schedule 50.290 Writing in Biology in their sophomore year. If 50.290 cannot be scheduled, 20.201 English Composition II may be substituted. In addition to general education requirements, additional free elective hours are required to meet the university requirement of 120 hours for a baccalaureate degree.

Foreign language requirement. Choose any one of the following courses: 10.101 French 1, 10.102 French 2, 10.203 French 3; 10.204 French 4; 11.101 German 1, 11.102 German 2, 11.203 German 3, 11.204 German 4; 12.101 Spanish 1; 12.102 Spanish 2, 12.203

Spanish 3, 12.204 Spanish 4; 13.102 Russian 2, 13.203 Russian 3, 13.204 Russian 4; 14.102 Italian 2; or 16.106 Chinese 2.

A maximum of 3 cr hr of 50.490 may be applied as biology elective credit toward the degree. A maximum of 6 cr hr from among 50.445, 50.390, 50.391, 50.490, 50.493 and 50.494 may be applied as biology elective credit toward the degree.

Students may choose an option in marine biology

### Required courses

- 50.114 Concepts in Biology I
- 50.115 Concepts in Biology II
- 50.242 Microbiology
- 50.271 Cell Biology
- 50.332 Genetics
- 50.351 Ecology

50.479 Integrated Physiology Laboratory

And at least one of the following physiology lecture courses:

- 50.472 Animal Cell Physiology
- 50.474 Vertebrate Systems Physiology
- 50.477 Plant Physiology
- 50.478 Microbial Physiology
- 50.480 Comparative Animal Physiology

### Mathematics

- 53.141 Introduction to Statistics or 53.123 Essentials of Calculus

### Physical Sciences

- 52.115 Chemistry for the Sciences I
- 52.116 Chemistry for the Sciences II
- 52.230 Fundamentals of Organic Chemistry or 54.111 Introduction to Physics I

And 13 additional biology (minimum of 9 credits in biology) and other science electives to total 43 total credits for the major. Biology and Other Science Electives - choose from the following:

- 50.481 Senior Biology Seminar
- 50.200 Dendrology
- 50.211 Invertebrate Zoology
- 50.212 Vertebrate Zoology
- 50.222 Comparative Biology of Plants
- 50.233 Human Genetics
- 50.252 Field Zoology
- 50.263 Field Botany
- 50.331 Embryology
- 50.333 Molecular Biology
- 50.342 Medical Microbiology
- 50.343 Immunology
- 50.350 Comparative Vertebrate Anatomy
- 50.364 Vertebrate Histology
- 50.390 Undergraduate Research in Biology I
- 50.391 Undergraduate Research in Biology II
- 50.411 Radiation Biology
- 50.430 Evolution
- 50.431 Developmental Biology
- 50.432 Microbial and Molecular Genetics
- 50.435 Bioinformatics and Genomic Analysis
- 50.442 Virology of Mammals
- 50.444 Plant and Animal Tissue Culture
- 50.450 Mycology
- 50.451 Conservation Biology
- 50.452 Limnology
- 50.457 Entomology
- 50.459 Ornithology
- 50.460 Population Biology
- 50.461 Animal Behavior
- 50.464 Functional Neuroanatomy

- 50.472 Animal Cell Physiology
- 50.474 Vertebrate Systems Physiology
- 50.476 Neurophysiology
- 50.477 Plant Physiology
- 50.478 Microbial Physiology
- 50.481 Senior Seminar in Biology
- 50.484 Methods in Biotechnology
- 50.489 Current Topics in Biology
- 50.490 Internship in Biological and Allied Health Sciences
- 50.493 Honors Independent Study I
- 50.494 Honors Independent Study II
- 52.230 Fundamentals of Organic Chemistry
- 52.341 Biochemistry I
- 52.342 Biochemistry II
- 53.123 Essentials of Calculus
- 53.141 Introduction to Statistics
- 54.111 Introduction to Physics I
- 54.112 Introduction to Physics II
- 55.221 Marine Invertebrates
- 55.241 Marine Biology
- 55.250 Wetland Ecology
- 55.260 Marine Ecology
- 55.298 Physiology of Marine Invertebrates
- 55.300 Behavior of Marine Organisms
- 55.330 Tropical Invertebrates
- 55.342 Marine Botany
- 55.343 Marine Ichthyology
- 55.345 Comparative Physiology of Marine Organisms
- 55.341 Ecology of Marine Plankton
- 55.432 Marine Evolutionary Ecology
- 55.441 Biology of Molluscs
- 55.464 Biological Oceanography
- 55.470 Research Diver Methods
- 55.490 Marine Aquaculture
- 55.491 Coral Reef Ecology
- 55.492 Marine Mammals
- 55.493 Behavioral Ecology

### Biotechnology Option

Administered by Biological and Allied Health Sciences  
Effective Fall, 2004

Requirements for the biotechnology option are similar to those for students in the general biology curriculum leading to a Bachelor of Science. Biotechnology employs living systems in the development or manufacture of a product or in the technological solution to a problem. It has revolutionized agriculture, medical and veterinary diagnostics, pharmacology and even the legal system. Biotechnology applies the cutting edge techniques of the biological and chemical sciences (recombinant DNA, genetic engineering, cell and tissue culture and cloning) to improve the quality of our lives.

A maximum of 3 cr hr of 50.490 may be applied as biology elective credit toward the degree. A maximum of 6 cr hr from among 50.390, 50.391, 50.490, 50.493 and 50.494 may be applied as biology elective credit toward the degree.

Required courses:

- 50.114 Concepts in Biology I
  - 50.115 Concepts in Biology II
  - 50.242 Microbiology
  - 50.271 Cell Biology
  - 50.332 Genetics
  - 50.333 Molecular Biology
  - 50.479 Integrated Physiology Lab (Tissue Culture may be substituted for declared biotechnology majors. It may not substitute and also count as a biology elective)
  - 50.481 Senior Biology Seminar
  - 50.484 Methods in Biotechnology
- And at least one of the following physiology lecture courses:
- 50.472 Animal Cell Physiology

- 50.474 Vertebrate Systems Physiology
- 50.477 Plant Physiology
- 50.478 Microbial Physiology
- 50.480 Comparative Animal Physiology

Choose one of the following two sets:

- 54.111 Introductory Physics I and 54.112 Introductory Physics II
- 54.211 General Physics I and 54.212 General Physics II

- 52.115 Chemistry for the Sciences I
- 52.116 Chemistry for the Sciences II
- 52.230 Fundamentals of Organic Chemistry (Students considering postgraduate education are advised to take 52.231 Organic Chemistry I and 52.232 Organic Chemistry II)
- 52.341 Biochemistry
- 52.442 Biochemistry II

Choose one of the following three sets:

- 53.123 Essentials of Calculus and 53.141 Introduction to Statistics
- 53.125 Calculus I and 53.141 Introduction to Statistics
- 53.125 Calculus I and 53.126 Calculus II

- 50.254 Social Implications of Biology

Electives - Choose a minimum of 12 credit hours of course work from the following list:

- 50.343 Immunology
- 50.351 Ecology
- 50.390 Undergraduate Research in Biology
- 50.431 Developmental Biology
- 50.435 Bioinformatics and Genomic Analysis
- 50.432 Microbial and Molecular Genetics
- 50.442 Virology
- 50.444 Plant and Animal Tissue Culture
- 50.455 Environmental Microbiology
- 50.472 Animal Cell Physiology
- 50.473 Systemic Physiology
- 50.474 Vertebrate Systems Physiology
- 50.477 Plant Physiology
- 50.478 Microbial Physiology
- 50.479 Integrated Physiology Laboratory
- 50.480 Comparative Animal Physiology
- 50.490 Internship in Biology
- 50.493 Honors Independent Study I
- 50.494 Honors Independent Study II

## Marine Science Option

Administered by Department of Biological and Allied Health Sciences  
Effective Fall, 2004

This option provides the biology major with the opportunity to specialize in marine biology while obtaining a foundation in the fundamental principles of biological science. Program specific courses in marine biology are offered at the Marine Science Center, Wallops Island, Va., a field station supported by the department. A total of 12 cr hr of Marine Science courses must be distributed across required course options and electives.

Students in these options should schedule 50.290 Writing in Biology in their sophomore year. If 50.290 cannot be scheduled, 20.201 English Composition II may be substituted.

Foreign language requirement. Choose any one of the following courses: 10.101 French 1, 10.102 French 2, 10.203 French 3; 10.204 French 4; 11.101 German 1, 11.102 German 2, 11.203 German 3, 11.204 German 4; 12.101 Spanish 1; 12.102 Spanish 2, 12.203 Spanish 3, 12.204 Spanish 4; 13.102 Russian 2, 13.203 Russian 3, 13.204 Russian 4; 14.102 Italian 2; or 16.106 Chinese 2.

A maximum of 3 cr hr of 50.490 may be applied as biology elective credit toward the degree. A maximum of 6 cr hr from among 50.445, 50.390, 50.391, 50.490, 50.493 and 50.494 may be applied as biology elective credit toward the degree.

### B.S., Marine Science Option

Biology:

- 50.114 Concepts in Biology I
  - 50.115 Concepts in Biology II
  - 50.211 Invertebrate Zoology or 55.221 Marine Invertebrates
  - 50.242 Microbiology
  - 50.271 Cell Biology
  - 50.332 Genetics
  - 50.351 Ecology or 55.260 Marine Ecology
  - 50.479 Integrated Physiology Laboratory
  - 50.481 Senior Biology Seminar
- And at least one of the following physiology lecture courses:
- 50.472 Animal Cell Physiology
  - 50.474 Vertebrate Systems Physiology
  - 50.477 Plant Physiology
  - 50.478 Microbial Physiology
  - 50.480 Comparative Animal Physiology

Marine Biology:

- 55.241 Marine Biology

Electives (6 cr hr; a total of 12 cr hr of Marine Science courses must be distributed across required (above) course options and electives):

- 50.200 Dendrology
- 50.211 Invertebrate Zoology
- 50.212 Vertebrate Zoology
- 50.222 Comparative Biology of Plants
- 50.233 Human Genetics
- 50.252 Field Zoology
- 50.263 Field Botany
- 50.331 Embryology
- 50.333 Molecular Biology
- 50.342 Medical Microbiology
- 50.343 Immunology
- 50.350 Comparative Vertebrate Anatomy
- 50.364 Vertebrate Histology
- 50.390 Undergraduate Research in Biology I
- 50.391 Undergraduate Research in Biology II
- 50.411 Radiation Biology
- 50.430 Evolution
- 50.431 Developmental Biology
- 50.432 Microbial and Molecular Genetics
- 50.435 Bioinformatics and Genomic Analysis
- 50.442 Virology of Mammals
- 50.444 Plant and Animal Tissue Culture
- 50.450 Mycology
- 50.451 Conservation Biology
- 50.452 Limnology
- 50.457 Entomology
- 50.459 Ornithology
- 50.460 Population Biology
- 50.461 Animal Behavior
- 50.464 Functional Neuroanatomy
- 50.472 Animal Cell Physiology
- 50.474 Vertebrate Systems Physiology
- 50.476 Neurophysiology
- 50.477 Plant Physiology
- 50.478 Microbial Physiology
- 50.481 Senior Seminar in Biology
- 50.484 Methods in Biotechnology
- 50.489 Current Topics in Biology
- 50.490 Internship in Biological and Allied Health Sciences
- 50.493 Honors Independent Study I
- 50.494 Honors Independent Study II
- 55.250 Wetland Ecology
- 55.298 Physiology of Marine Invertebrates
- 55.300 Behavior of Marine Organisms
- 55.320 Marine Microbiology
- 55.330 Tropical Invertebrates
- 55.342 Marine Botany
- 55.343 Marine Ichthyology
- 55.345 Marine Ornithology

- 55.394 Comparative Physiology of Marine Organisms
- 55.431 Ecology of Marine Plankton
- 55.432 Marine Evolutionary Ecology
- 55.441 Biology of Molluscs
- 55.464 Biological Oceanography
- 55.470 Research Diver Methods
- 55.490 Marine Aquaculture
- 55.491 Coral Reef Ecology
- 55.492 Marine Mammals
- 55.493 Behavioral Ecology

Physics. Choose one of the following two sets:

- 54.111 Introductory Physics I and 54.112 Introductory Physics II
- 54.211 General Physics I and 54.212 General Physics II

Chemistry:

- 52.115 Chemistry for the Sciences I
- 52.116 Chemistry for the Sciences II
- 52.231 Organic Chemistry I
- 52.232 Organic Chemistry II
- 52.341 Biochemistry

Mathematics. Choose one of the following three sets:

- 53.141 Introduction to Statistics or 48.160 Basic Statistics, and 53.123 Essentials of Calculus
- 53.141 Introduction to Statistics or 48.160 Basic Statistics, and 53.125 Calculus I
- 53.125 Calculus I and 53.126 Calculus II

### **B.A., Marine Science Option**

Biology:

- 50.114 Concepts in Biology I
- 50.115 Concepts in Biology II
- 50.211 Invertebrate Zoology or 55.221 Marine Invertebrates
- 50.242 Microbiology
- 50.271 Cell Biology
- 50.332 Genetics
- 50.351 Ecology or 55.260 Marine Ecology
- 50.479 Integrated Physiology Laboratory
- 50.481 Senior Biology Seminar

And at least one of the following physiology lecture courses:

- 50.472 Animal Cell Physiology
- 50.474 Vertebrate Systems Physiology
- 50.477 Plant Physiology
- 50.478 Microbial Physiology
- 50.480 Comparative Animal Physiology

Marine Biology:

- 55.241 Marine Biology

Chemistry:

- 52.115 Chemistry for the Sciences I
- 52.116 Chemistry for the Sciences II

Mathematics

- 53.141 Introduction to Statistics

Electives (Choose at least 11 cr hr; a total of 12 cr hr of Marine Science courses must be distributed across required (above) course options and electives):

- 50.200 Dendrology
- 50.211 Invertebrate Zoology
- 50.212 Vertebrate Zoology
- 50.222 Comparative Biology of Plants
- 50.233 Human Genetics
- 50.252 Field Zoology
- 50.263 Field Botany
- 50.331 Embryology
- 50.333 Molecular Biology
- 50.342 Medical Microbiology
- 50.343 Immunology
- 50.350 Comparative Vertebrate Anatomy
- 50.364 Vertebrate Histology
- 50.390 Undergraduate Research in Biology I

- 50.391 Undergraduate Research in Biology II
- 50.411 Radiation Biology
- 50.430 Evolution
- 50.431 Developmental Biology
- 50.432 Microbial and Molecular Genetics
- 50.435 Bioinformatics and Genomic Analysis
- 50.442 Virology of Mammals
- 50.444 Plant and Animal Tissue Culture
- 50.450 Mycology
- 50.451 Conservation Biology
- 50.452 Limnology
- 50.457 Entomology
- 50.459 Ornithology
- 50.460 Population Biology
- 50.461 Animal Behavior
- 50.464 Functional Neuroanatomy
- 50.472 Animal Cell Physiology
- 50.474 Vertebrate Systems Physiology
- 50.476 Neurophysiology
- 50.477 Plant Physiology
- 50.478 Microbial Physiology
- 50.481 Senior Seminar in Biology
- 50.484 Methods in Biotechnology
- 50.489 Current Topics in Biology
- 50.490 Internship in Biological and Allied Health Sciences
- 50.493 Honors Independent Study I
- 50.494 Honors Independent Study II
- 51.259 Oceanography
- 52.230 Fundamentals of Organic Chemistry
- 52.341 Biochemistry I
- 52.342 Biochemistry II
- 55.221 Marine Invertebrates
- 55.241 Marine Biology
- 55.250 Wetland Ecology
- 55.260 Marine Ecology
- 55.298 Physiology of Marine Invertebrates
- 55.300 Behavior of Marine Organisms
- 55.330 Tropical Invertebrates
- 55.342 Marine Botany
- 55.343 Marine Ichthyology
- 55.345 Comparative Physiology of Marine Organisms
- 55.341 Ecology of Marine Plankton
- 55.432 Marine Evolutionary Ecology
- 55.441 Biology of Molluscs
- 55.464 Biological Oceanography
- 55.470 Research Diver Methods
- 55.490 Marine Aquaculture
- 55.491 Coral Reef Ecology
- 55.492 Marine Mammals
- 55.493 Behavioral Ecology

### **Microbiology Option**

Administered by Biological and Allied Health Sciences  
Effective Fall, 2004

The option provides a biology major the opportunity to specialize in microbiology while obtaining a general background in biology.

A maximum of 3 cr hr of 50.490 may be applied as biology elective credit toward the degree. A maximum of 6 cr hr from among 50.445, 50.390, 50.391, 50.490, 50.493 and 50.494 may be applied as biology elective credit toward the degree.

- 50.114 Concepts in Biology I
- 50.115 Concepts in Biology II
- 50.242 Microbiology
- 50.271 Cell Biology
- 50.332 Genetics
- 50.342 Medical Microbiology
- 50.343 Immunology
- 50.351 Ecology
- 50.481 Senior Biology Seminar

50.479 Integrated Physiology Laboratory  
And at least one of the following physiology lecture courses

(50.478 Microbial Physiology is recommended):

- 50.472 Animal Cell Physiology
- 50.474 Vertebrate Systems Physiology
- 50.477 Plant Physiology
- 50.478 Microbial Physiology
- 50.480 Comparative Animal Physiology

Choose one of the following two sets:

- 54.111 Introductory Physics I and 54.112 Introductory Physics II
- 54.211 General Physics I and 54.212 General Physics II

52.115 Chemistry for the Sciences I

52.116 Chemistry for the Sciences II

52.230 Fundamentals of Organic Chemistry

52.341 Biochemistry

Choose one of the following three sets:

- 53.141 Introduction to Statistics or 48.160 Basic Statistics, and 53.123 Essentials of Calculus
- 53.141 Introduction to Statistics or 48.160 Basic Statistics, and 53.125 Calculus I
- 53.125 Calculus I and 53.126 Calculus II

Electives (12 semester hours). Choose from:

- 50.333 Molecular Biology
- 50.350 Plant Pathology
- 50.411 Radiation Biology
- 50.432 Microbial and Molecular Genetics
- 50.435 Bioinformatics and Genomic Analysis
- 50.442 Virology of Mammals
- 50.450 Mycology
- 50.455 Environmental Microbiology
- 50.470 Medical Parasitology
- 50.483 Medical Mycology
- 52.442 Biochemistry II
- 55.320 Marine Microbiology

## Minor in Biology

Administered by Biological and Allied Health Sciences

Effective Fall, 2004

The minor in biology consists of 22 semester hours. Required courses are:

- 50.114 Concepts in Biology I
- 50.115 Concepts in Biology II
- 50.242 Biology of Microorganisms
- 50.271 Cell Biology

and at least two courses (6 semester hours) at the 300-level or above that are chosen from departmental offerings acceptable to the major. These may not include: 50.380, 50.390, 50.490, 50.493 and 50.494

## Clinical Laboratory Science (B.S.)

Department of Biology and Allied Health Sciences, College of Science and Technology

Effective Fall, 2004

Students complete 90 credit hours (3 years) of core science and general education classes at Bloomsburg University followed by 30 credit hours (one calendar year) in an accredited hospital program. Students should work closely with their advisor to organize an efficient plan of study.

**Bloomsburg University.** The following courses are taken prior to the clinical experience. They are required in addition to, or as part of, the general education requirements:

- 50.107 Medical Terminology
- 50.114 Concepts in Biology I
- 50.333 Molecular Biology or 50.233 Human Genetics
- 50.242 Microbiology
- 50.271 Cell Biology

50.343 Medical Microbiology

50.343 Immunology

50.479 Integrated Physiology Laboratory

52.115 Chemistry for the Sciences I

52.116 Chemistry for the Sciences II

52.230 Fundamentals of Organic Chemistry

52.341 Biochemistry

53.141 Introduction to Statistics

56.110 Introduction to Computer Science

**Clinical Experience.** During the one-year clinical experience in a hospital program a total of 30 credit hours are required. These are earned from the following list of clinical courses:

- 86.401 Clinical Microbiology
- 86.402 Clinical Hematology/Coagulation
- 86.403 Clinical Chemistry for Med Tech
- 86.404 Clinical Immunohematology
- 86.405 Clinical Immunology/Serology
- 86.406 Clinical Seminar

## Medical Imaging (B.S.)

Administered by Biological and Allied Health Sciences

Effective Fall, 2004

There are a number of different options in the medical imaging degree program and some variability in specific course requirements. Students should work closely with their advisor to organize an efficient plan of study. In all options the university's 120-hour requirement for a bachelors degree must be met.

**Standard (2+2) Option.** The following courses are required in addition to, or as part of, the general education requirements:

Major core courses

- 50.114 Concepts in Biology I or equivalent
  - 50.173 Anatomy and Physiology I
  - 50.174 Anatomy and Physiology II
  - 52.101 Introductory Chemistry
  - 54.107 Applied Physics for Health Sciences
  - 48.101 General Psychology
  - 48.160 Basic Statistics or 53.141 Introduction to Statistics
  - 25.103 Public Speaking or 15.104 Interpersonal Communication
  - 56.110 Introduction to Computer Science or 92.150 Introduction to Information Technology
  - 89.300 Clinical Experience in Medical Imaging or 89.404 Geisinger Medical Imaging
- Completion of two years of clinical experience in hospital-based certificate programs, and passing of the national registry exams, are required for the standard option. A maximum of 60 clinical credits will count towards the bachelors degree. Some clinical sites/specialty areas also require one or more of the following courses:
- 50.107 Medical Terminology
  - 50.240 Introductory Microbiology
  - 52.108 Physiological Chemistry
  - 53.109 College Algebra or 53.113 Pre-Calculus
  - 28.290 Medical Ethics

**Short Clinical (3+1) Option:**

Students who select clinical programs that are shorter than two years are required to take the courses listed for the standard option outlined above and also complete 15 cr hrs from one of the three emphasis areas.

89.300 Clinical Experience in Medical Imaging. The number of credits awarded varies depending on the length of the clinical experience. Completion of at least 12 months (30 cr hrs) in a hospital-based certificate program, and passing the national registry exam, are required.

Management Emphasis

90.101 Introduction to Business

91.220 Financial Accounting

- 93.244 Principles of Management
- 93.345 Human Resource Management
- 91.498 Special Topics: Intro to Health Care
- Education Emphasis
  - 60.204 Educational Computing and Technology
  - 60.251 Psychological Foundations in Education
  - 60.291 Principles of Teaching
  - 60.311 Classroom Measurement and Evaluation
  - 60.393 Social Foundations in Education
- Science Emphasis (select 15 cr hrs)
  - 50.107 Medical Terminology
  - 50.205 Introduction to Nutrition
  - 50.231 Biology of Aging
  - 50.233 Human Genetics
  - 50.240 Introductory Microbiology
  - 50.254 Social Implications of Biology
  - 52.108 Physiological Chemistry
  - 53.109 College Algebra or 53.113 Pre-Calculus

## Allied Health Preparatory Programs

Administered by Department of Biological and Allied Health Sciences  
Effective Fall, 2004

**Pre-Physical Therapy** - It is strongly recommended that pre-physical therapy students complete the B.A. degree in Biology as this program of study fulfills the requirements for doctoral degree physical therapy schools. Students are encouraged to work closely with their advisor to ensure an efficient plan of study. The following courses are required by many physical therapy schools and these fit into the B.A. Biology curriculum.

- 50.114 Concepts in Biology I
- 50.115 Concepts in Biology II
- 50.173 Anatomy and Physiology I
- 50.174 Anatomy and Physiology II
- 50.474 Vertebrate Systems Physiology
- 50.479 Integrated Physiology Laboratory
- 50.490 Internship in Biology/Allied Health
- 52.115 Fundamentals of Inorganic Chemistry
- 52.116 Chemical Principles and Measures
- 54.111 Introductory Physics I
- 54.112 Introductory Physics II
- 53.141 Introduction to Statistics or 48.160 Basic Statistics
- Take one of the following options in Mathematics:
- Option 1
  - 53.113 Precalculus or 53.123 Essentials of Calculus
- Option 2
  - 53.112 Trigonometry or 53.109 College Algebra
- 20.101 English Composition I
- 20.201 English Composition II
- 45.211 Principles of Sociology or 46.101 Introduction to Anthropology
- 48.101 General Psychology
- 48.110 Life-Span Psychology or 48.335 Abnormal Psychology

**Pre-Occupational Therapy** – Pre-occupational therapy students can follow the B.A. in Biology degree curriculum as this program of study fulfills the requirements for most occupational therapy schools. Students are encouraged to work closely with their advisor to ensure an efficient plan of study. The following courses comprise a two-year sequence that fulfills the admissions requirements for many OT schools.

- 50.114 Concepts in Biology I
- 50.115 Concepts in Biology II
- 50.173 Anatomy and Physiology I
- 50.174 Anatomy and Physiology II
- 52.101 Introduction to Chemistry
- 52.108 Physiological Chemistry
- 53.111 Finite Mathematics or 53.112 Trigonometry or 53.113 Precalculus or 53.114 College Algebra or 53.123 Essentials of Calculus
- 53.141 Introduction to Statistics or 48.160 Basic Statistics

- 54-111 Introductory Physics I
- 54-112 Introductory Physics II
- 20.101 English Composition I
- 20.201 English Composition II
- 45.211 Principles of Sociology
- 46.200 Principles of Cultural Anthropology or 45.215 Racial and Ethnic Minorities
- 48.101 General Psychology
- 48.110 Life-Span Psychology
- 48.335 Abnormal Psychology

**Pre-Pharmacy** - It is strongly recommended that pre-pharmacy students follow the B.S. in Biology degree curriculum as this program of study fulfills the requirements for most colleges of pharmacy in the United States including those at the doctoral level. The courses listed below fulfill admissions requirements for most pharmacy schools granting advanced standing to transfer students. However, pre-pharmacy students are encouraged to work closely with their advisor for guidance in selecting courses for specific institutions.

- 50.107 Medical Terminology
- 50.114 Concepts in Biology I
- 50.115 Concepts in Biology II
- 52.115 Chemistry for the Sciences I
- 52.116 Chemistry for the Sciences II
- 52.231 Organic Chemistry I
- 52.232 Organic Chemistry II
- 53.125 Calculus I
- 53.126 Calculus II
- 54.111 Introductory Physics I
- 54.112 Introductory Physics II
- 20.101 English Composition I
- 20.201 English Composition II
- 25.103 Public Speaking or 25.104 Interpersonal Communication
- 40.121 Principles of Economics I
- The following courses are recommended for specific pharmacy schools
  - 05 Health and Physical Education
  - 28.290 Medical Ethics
  - 40.122 Principles of Economics II
  - 45.211 Principles of Sociology
  - 48.101 General Psychology
  - 50.173 Anatomy and Physiology I
  - 50.174 Anatomy and Physiology II
  - 50.242 Microbiology
  - 50.490 Internship in Biology/Allied Health

Internship and/or volunteer experience in pharmacy is strongly recommended or required by many schools

**Pre-Physician Assistant** – The admissions requirements for physician assistant programs vary considerable from no college courses required to a completed bachelors degree in a science-related field. It is strongly recommended that students follow the B.A. in Biology curriculum and work closely with their advisor to ensure an efficient plan of study. The courses listed below are required by many physician assistant mid-entry and master's degree programs.

- 50.114 Concepts in Biology I
- 50.115 Concepts in Biology II
- 50.173 Anatomy and Physiology I
- 50.174 Anatomy and Physiology II
- 50.240 Introductory Microbiology
- 50.233 Human Genetics
- 52.115 Chemistry for the Sciences I
- 52.116 Chemistry for the Sciences II
- 52.230 Fundamentals of Organic Chemistry
- 52.341 Biochemistry
- 53.114 College Algebra (or higher math)
- 53.141 Introduction to Statistics or 48.160 Basic Statistics
- 56.110 Introduction to Computer Science
- 20.101 English Composition I

20.201 English Composition II  
 28.290 Medical Ethics  
 45.211 Principles of Sociology  
 45 Sociology elective  
 48.101 General Psychology  
 48.210 Life Span Psychology  
 48.253 Social Psychology

## Biology (M.Ed.)

Administered by Biological and Allied Health Sciences  
 Effective Fall, 2004

### Admission

An undergraduate degree in biology with a Level I certification is required. In addition to the requirements of the graduate school, a Bachelor of Science or Bachelor of Arts in biology or its equivalent is required, general GRE scores, and two letters of recommendation (see below) are required. Undergraduate deficiencies must be addressed prior to admission to the program or during the first semester in consultation with the program coordinator. Deficiencies may be addressed by undergraduate course work without credit earned toward the degree, by graduate course work when suitable, or by outside readings. The method of satisfying deficiencies is decided by the student and graduate program coordinator in consultation with the departmental graduate committee. Two letters of recommendation from previous science faculty are required. At least one letter should be from a faculty member who instructed the applicant in an upper-level (junior or senior) biology course. Applicants with research experience should submit at least one letter from a research advisor. Others may submit a letter from any professor with the ability to evaluate the applicant's laboratory abilities. A minimum of two weeks is required for review of a completed application by the department's graduate committee.

### Candidacy

To be admitted to candidacy, every biology graduate student must pass an oral candidacy examination. The purpose of the examination is to assess the breadth of the student's background in biology. The examination will cover general principles and concepts of biology.

The oral candidacy examination must be scheduled before completing 6 credit hours of graduate coursework and be successfully completed before scheduling beyond 12 hours. Candidacy requires, in addition, that the student has a 3.0 or higher QPA. The examination will consist of six oral questions addressed to the student by the examination committee. Each question will be given 10 minutes of the examination.

The Examination Committee is composed of:

- The student's academic advisor and tentative thesis committee (thesis option) or the student's tentative reading committee (non-thesis option);
- At least three-fourths of the departmental graduate committee; and
- Any other departmental graduate faculty member in attendance. All departmental graduate faculty are strongly encouraged to attend candidacy exams.

The outcome of the candidacy examination will be determined by a simple majority vote by the examination committee. Each graduate faculty member present, whether or not they posed a question, shall have one vote. One of three outcomes is possible:

- Unconditional Pass - The student may proceed with the program. The application for candidacy and for transfer credit, if applicable, should be made immediately following successful completion of the oral candidacy exam.
- Conditional Pass - The examination committee decides that the student has an adequate background in biology, except in one or two key areas. A consensus is reached (by simple majority vote) as to conditions. Conditions may include an oral retest of problem areas, a written test in problem areas, or remedial actions. Remedial actions may include taking a

course or readings and study in a specified area, for example. The student will be informed of the conditions decided upon by the committee. If after completing or attempting to complete the conditions, the examination committee decides that the student has not met the conditions set forth by the committee, he or she will be required to retake the entire examination according to the stipulations outlined above under "fail." If the student fails the examination at this retake, the student will be dismissed from the program.

Fail - The student must retake the entire exam at a later date to continue with the master's program. The student has one more chance to pass. In order to continue with the program, the student must pass the examination unconditionally on the second attempt.

**Graduation.** A minimum of 30 semester hours in graduate-level courses is required. A minimum of 18 semester hours must be taken from 500-level courses (see list below), including two required education courses: 60.501 Major Philosophies of Education and 79.591 Research in Education. Either 50.591 Directed Study in Biology or 50.592 Master of Education Thesis is required to fulfill the research component. An oral defense of the research component is required.

### Requirements

A total of 30 semester hours is required for a graduate degree in Biology. There are no required biology courses; all are considered elective courses. Courses are selected in conjunction with the student's adviser and advisory committee.

- 50.411 Radiation Biology
- 50.441 Cytogenetics
- 50.455 Environmental Microbiology
- 50.457 Entomology
- 50.462 Plant Anatomy
- 50.463 Biological Photographic Techniques
- 50.472 Animal Cell Physiology
- 50.474 Vertebrate Systems Physiology
- 50.477 Plant Physiology
- 50.478 Microbial Physiology
- 50.479 Integrated Physiology Laboratory
- 50.530 Evolution
- 50.531 Developmental Biology
- 50.532 Microbial and Molecular Genetics
- 50.550 Mycology
- 50.551 Conservation Biology
- 50.559 Ornithology
- 50.560 Population Biology
- 50.561 Animal Behavior
- 50.570 Medical Parasitology
- 50.571 Endocrinology
- 50.572 Comparative Animal Physiology
- 50.573 Systemic Physiology
- 50.575 Cell Physiology
- 50.576 Neuromuscular Physiology
- 50.590 Current Topics in Biology
- 50.591 Directed Study in Biology
- 50.592 Master of Education Thesis

The following courses are offered at the Marine Science Center, Wallops Island, Va.

- 55.431 Ecology of Marine Plankton
- 55.464 Biological Oceanography
- 55.432 Marine Evolutionary Ecology
- 55.490 Marine Aquaculture
- 55.491 Coral Reef Ecology
- 55.492 Marine Mammals
- 55.500 Problems in Marine Science
- 55.540 Environmental Science Education
- 55.541 Biology of Mollusca
- 55.570 Research Cruise-Biology
- 55.593 Behavior Ecology

## Biology (M.S.)

Administered by Biological and Allied Health Sciences  
Effective Fall, 2004

**Admission.** In addition to the requirements of the graduate school, a Bachelor of Science or Bachelor of Arts in biology, or its equivalent, is required. General GRE scores and two letters of recommendation are also required (see below for details). Undergraduate deficiencies must be addressed prior to admission to the program or during the first semester in consultation with the program coordinator. Deficiencies may be addressed by undergraduate course work without credit earned toward the degree, by graduate course work when suitable, or by outside readings. The method of satisfying deficiencies is decided by the student and graduate program coordinator in consultation with the departmental graduate committee. Two letters of recommendation from previous science faculty are required. At least one letter should be from a faculty member who instructed the applicant in an upper-level (junior or senior) biology course. Applicants with research experience should submit at least one letter from a research adviser. Others may submit a letter from any professor with the ability to evaluate the applicant's laboratory research potential. A minimum of two weeks is required for review of a completed application by the department's graduate committee.

**Candidacy.** To be admitted to candidacy, every biology graduate student must pass an oral candidacy examination. The purpose of the examination is to assess the breadth of the student's background in biology. The examination will cover general principles and concepts of biology.

The oral candidacy examination must be scheduled before completing 6 credit hours of graduate coursework and be successfully completed before scheduling beyond 12 hours. Candidacy requires, in addition, that the student has a 3.0 or higher QPA. The examination will consist of six oral questions addressed to the student by the examination committee. Each question will be given 10 minutes of the examination.

The Examination Committee is composed of:

- The student's academic advisor and tentative thesis committee (thesis option) or the student's tentative reading committee (non-thesis option);
- At least three-fourths of the departmental graduate committee; and
- any other departmental graduate faculty member in attendance. All departmental graduate faculty are strongly encouraged to attend candidacy exams.

The outcome of the candidacy examination will be determined by a simple majority vote by the examination committee. Each graduate faculty member present, whether or not they posed a question, shall have one vote. One of three outcomes is possible:

**Unconditional Pass** - The student may proceed with the program. The application for candidacy and for transfer credit, if applicable, should be made immediately following successful completion of the oral candidacy exam.

**Conditional Pass** - The examination committee decides that the student has an adequate background in biology, except in one or two key areas. A consensus is reached (by simple majority vote) as to conditions. Conditions may include an oral retest of problem areas, a written test in problem areas, or remedial actions. Remedial actions may include taking a course or readings and study in a specified area, for example. The student will be informed of the conditions decided upon by the committee. If after completing or attempting to complete the conditions, the examination committee decides that the student has not met the conditions set forth by the committee, he or she will be required to retake the entire examination according to the stipulations outlined above under "fail." If the student fails

the examination at this retake, the student will be dismissed from the program.

**Fail** - The student must retake the entire exam at a later date to continue with the master's program. The student has one more chance to pass. In order to continue with the program, the student must pass the examination unconditionally on the second attempt.

**Graduation.** A minimum of 30 semester hours of graduate-level courses is required.

A total of 30 credits is required for graduation. Biostatistics (53.546) is required. Master of Science Thesis (50.593) is required for students in the thesis option. All other courses are considered elective courses, but require the approval of the student's adviser and advisory committee.

- 50.411 Radiation Biology
- 50.455 Environmental Microbiology
- 50.457 Entomology
- 50.472 Animal Cell Physiology
- 50.474 Vertebrate Systems Physiology
- 50.477 Plant Physiology
- 50.478 Microbial Physiology
- 50.479 Integrated Physiology Laboratory
- 50.530 Evolution
- 50.531 Developmental Biology
- 50.532 Microbial and Molecular Genetics
- 50.535 Bioinformatics and Genomic Analysis
- 50.550 Mycology
- 50.551 Conservation Biology
- 50.559 Ornithology
- 50.560 Population Biology
- 50.561 Animal Behavior
- 50.570 Medical Parasitology
- 50.571 Endocrinology
- 50.575 Cell Physiology
- 50.576 Neurophysiology
- 50.580 Comparative Animal Physiology
- 50.589 Current Topics in Biology
- 50.591 Directed Study in Biology
- 50.593 Master of Science Thesis
- Marine science courses offered at Wallops Island, Va.
  - 55.431 Ecology of Marine Plankton
  - 55.432 Marine Evolutionary Ecology
  - 55.464 Biological Oceanography
  - 55.490 Marine Aquaculture
  - 55.491 Coral Reef Ecology
  - 55.492 Marine Mammals
  - 55.500 Problems in Marine Science
  - 55.540 Environmental Science Education
  - 55.541 Biology of Mollusca
  - 55.570 Research Cruise-Biology
  - 55.593 Behavioral Ecology

**Thesis Option.** This option is recommended for students planning to continue their graduate studies or professional training. A minimum of 18 semester hours must be taken from 500-level courses. 50.593 Master of Science Thesis accounts for six of these semester hours. An oral defense of the thesis is required.

**Non-Thesis Option.** This option is tailored for students interested in non-research-oriented careers. A minimum of 18 semester hours must be taken from 500-level courses. In addition, one of the following must be completed:

- 50.591 Directed Study in Biology for three semester hours, which must be defended orally.
- A departmental research paper based on the literature must be submitted and defended orally. The departmental paper carries no semester hour credit.

# Department of Business Education and Office Information Systems

## Business Education (B.S.Ed.)

Administered by Department of Business Education and Office Information Systems

Effective Fall, 2004

### General education courses

Included in 50 semester hours of general education requirements (five credits of which must be at the 300 level or higher), the following general education courses are required with a grade of C or better:

- An English or American literature course
- 20.101 Composition I
- 20.201 Composition II
- An English or American Literature course
- 25.103 Public Speaking
- 40.121 Principles of Economics I
- 40.122 Principles of Economics II
- 40.256 Business and Economics Statistics
- 48.101 General Psychology
- 70.101 Introduction to the Exceptional Individual
- 53.118 Matrix Algebra
- 53.123 Essentials of Calculus

### Business BCIT requirements

- 91.221 Principles of Accounting I
- 91.222 Principles of Accounting II
- 91.223 Managerial Accounting
- 93.244 Principles of Management
- 96.313 Corporate Finance
- 97.310 Marketing Principles and Practice
- 98.331 Law and Legal Environment

### Professional Education requirements

A total of 70 semester hours is required for a major in business education. The student must have completed the following courses with a grade of C or better to be considered for certification as a teacher of business subjects:

Choose one of the following two courses:

- 48.211 Child Psychology
- 48.212 Adolescent Psychology
- 60.291 Principles of Teaching
- 90.402 Instructional Strategies and Assessment
- 90.403 BCIT Field Experience
- 90.404 Professional Semester in BCIT
- 90.406 Clinical Studies in BCIT

Choose one of the following two courses:

- 60.251 Psychological Foundations of Education
- 48.251 Psychological Foundations of Education

Choose one of the following three courses:

- 60.393 Social Foundations of Education
- 60.406 Multicultural Education
- 90.350 Valuing Diversity in Business
- 90.101 Introduction to Business
- 90.333 Business Communications and Report Writing
- 94.221 Office Systems Concepts
- 94.302 End User Solutions Development
- 94.330 Telecommunications (spring only)
- 94.340 Networking Design and Administration (spring only) or
- 94.405 Training and Development (fall only)

**Certification** - Upon completion of the curriculum, receipt of a recommendation from the university and successfully passing the PRAXIS Level I and II exams specified for business computer and

information processing certification, students will be issued a K-12, Level I certificate by the Pennsylvania Department of Education.

## Office Information Systems (B.S.B.A.)

Department of Business Education and Office Information Systems, College of Business

Effective Fall, 2004

Students majoring in a B.S.B.A. degree program in the College of Business must take at least 50 percent of the business credit hours required for the business degree at Bloomsburg University.

In addition to 53 semester hours of general education requirements and 7 general education electives, a total of 60 semester hours is required for a major in office information systems. Elective courses complete the balance of the university's 120-hour requirement for a bachelor's degree. Several specific general education courses are required in this major. They include:

- 20.101 Composition I
- 20.201 Composition II
- 25.103 Public Speaking
- 40.121 Principles of Economics I
- 40.122 Principles of Economics II
- 40.256 Business and Economic Statistics
- 53.118 Matrix Algebra

Choose one of the following two courses:

- 40.156 Business and Economic Mathematics
- 53.123 Essentials of Calculus

**Requirements for the Major** - A total of 48 credits in core business courses and office information courses is required. Required courses include:

- 90.333 Business Communications and Report Writing
- 91.220 Financial Accounting
- 91.223 Managerial Accounting
- 92.150 Introduction to Information Technology
- 93.244 Principles of Management
- 93.481 Business Policies and Strategies
- 94.221 Office Systems Concepts
- 94.322 End-User Project Management (fall only)
- 94.302 End-User Solutions
- 94.330 Telecommunications (spring only)
- 94.340 Networking Design and Administration (spring only)
- 94.405 Training and Development in Office Systems (fall only)
- 94.407 Information and Office Environment Management (fall only)
- 96.313 Introduction to Corporate Finance
- 97.310 Marketing: Principles and Practice
- 98.331 Law and Legal Environment
- 300- or 400-level business elective with advisor's approval

**Electives and Free Electives** - Students must choose 12 semester hours at the 300+ level in elective courses from General Business, Accounting, Computer and Information Systems, Management, Office Information Systems, Finance, Marketing and Business Law, with the exception of 90.402, 90.403, 90.404 and 90.406

## Minor in Office Information Systems

Administered by Department of Business Education and Office Information Systems

Effective Fall, 2003

A total of 18 credits consist of four required courses and two electives. Required:

- 94.221 Office Systems Concepts

- 94.302 End User Solutions Development
- 94.330 Telecommunications (spring only)
- 94.407 Information and Office Environment Management (fall only)

Electives:

- 90.333 Business Communications or any 94- departmental courses as approved by advisor

## Business Education (M.Ed.)

Administered by Department of Business Education and Office Information Systems

Effective Fall, 2004

**Admission.** Applicants must satisfy the general admission requirements for the School of Graduate Studies as well as the following requirements for the Master of Education in Business Education:

- Official undergraduate transcript with a recommended minimum QPA of 3.0 or higher on a 4.0 scale.
- Graduate Record Examination results on the general knowledge section with a recommended minimum score of 450 verbal reasoning, 420 for quantitative and 4.0 on analytical writing.
- Current resume to include professional background, education and other experiences.
- Letter of intent stating rationale for seeking admission to the program.
- Two letters of recommendation from persons who have knowledge of the applicant's academic and professional background.
- Test of English as a Foreign Language (TOEFL) for international applicants whose native language is not English, with a minimum score of 550 on paper test and 213 on computer test.

**Retention.** Requirements for this program are the same as those for the School of Graduate Studies.

**Graduation.** A minimum of 30 semester hours in graduate-level courses is required. The program consists of five required core courses and five elective courses with an education emphasis.

**Certification.** Students who wish to receive a K-12, Level I Professional Teaching Certificate in business, computer and information technology from the Pennsylvania Department of Education must fulfill additional requirements in addition to the M.Ed. in Business Education.

Additional coursework in the areas of education and business as determined by the program coordinator after a review of transcripts; complete the requirements for admission to teacher education; complete a semester of student teaching; and pass the Praxis I and II National Teacher Examination tests for business education.

Required Courses

- 94.500 Office Systems and Information
- 94.510 Office Systems Applications
- 94.520 Administrative Communications
- 94.530 Telecommunications
- 94.540 Training and Development

Electives: Choose five courses from the following (all elective selections must be approved by advisor)

60.527 Classroom Management and Effective Discipline  
Choose one of the following three courses:

- 60.565 Advanced Foundations of Education
- 79.593 Studies in Human Diversity
- 60.506 Multicultural Education

63.540 Intro to Teaching of Reading **or** 63.546 Reading in the Content Areas

- 70.516 Psychology of Exceptional Individuals
- 79.591 Foundations of Education Research
- 90.581 Seminar in BCIT
- 90.590 Masters Thesis in Business Education
- Other courses as approved by adviser

# Department of Chemistry`

## Chemistry (B.A.)

Department of Chemistry, College of Science and Technology  
Effective: Fall, 2004

Requirements for the Major for a Bachelor of Arts in Chemistry - In addition to general education requirements of the university, the following courses are required:

- 52.115 Chemistry for the Sciences 1
- 52.116 Chemistry for the Sciences 2
- 52.231 Organic Chemistry I
- 52.232 Organic Chemistry II
- 52.251 Inorganic Chemistry
- 52.321 Analytical Chemistry I
- 52.361 Physical Chemistry I
- Two of the following four courses:
  - 52.322 Instrumental Analytical Chemistry
  - 52.341 Biochemistry
  - 52.362 Physical Chemistry II
  - 52.375 The Chemistry Curriculum and the Teaching Laboratory
- 54.211 General Physics I
- 54.212 General Physics II
- 53.125 Calculus I
- 53.126 Calculus II
- 53.225 Calculus III
- Plus one of the following computer courses:
  - 56.116 Algorithmic Processes
  - 60.204 Educational Computing and Technology
  - 60.350 Instructional Design Systems
  - 60.351 Virtual Learning Communities

## Chemistry (B.S.)

Department of Chemistry, College of Science and Technology  
Effective: Fall, 2004

Requirements for the Major (B.S.) - In addition to meeting general education requirements, the following courses are required:

- 52.115 Chemistry for the Sciences 1
- 52.116 Chemistry for the Sciences 2
- 52.231 Organic Chemistry I
- 52.232 Organic Chemistry II
- 52.251 Inorganic Chemistry
- 52.281 Introduction to Scientific Literature
- 52.321 Analytical Chemistry
- 52.322 Instrumental Analytical Chemistry
- 52.361 Physical Chemistry I
- 52.362 Physical Chemistry II
- 52.452 Advanced Inorganic Chemistry
- 53.125 Calculus I
- 53.126 Calculus II
- 53.225 Calculus III
- 54.211 General Physics I
- 54.212 General Physics II
- 56.116 Algorithmic Processes for Computers

### ACS Certification

Students who want American Chemical Society certification (B.S.-ACS) upon graduation must complete the following additional requirements beyond requirements for the Bachelor of Science:

- 52.341 Biochemistry I
- 52.492 Independent Study II: Introduction to Research
- 52.493 Independent Study III: Chemical Research

A restricted elective selected from any 300 and 400 -level course in chemistry (except Independent Study) or any approved 300 or 400-level course in mathematics or physics.

## Chemistry - Biochemistry Option (B.S.)

Department of Chemistry, College of Science and Technology  
Effective: Fall, 2003

Requirements for the Major - for a B.S. with a biochemistry track: in addition to the general education requirements of the university, the following courses are required:

- 52.115 Chemistry for the Sciences 1
- 52.116 Chemistry for the Sciences 2
- 52.231 Organic Chemistry I
- 52.232 Organic Chemistry II
- 52.233 Organic Spectroscopy
- 52.251 Inorganic Chemistry
- 52.281 Introduction to Scientific Literature
- 52.321 Analytical Chemistry
- 52.341 Biochemistry I
- 52.442 Biochemistry II
- 52.361 Physical Chemistry I
- 54.211 General Physics I
- 54.212 General Physics II
- 53.125 Calculus I
- 53.126 Calculus II
- 53.225 Calculus III
- 56.116 Algorithmic Processes for Computers
- Chemistry electives - choose two of the following five courses:
  - 52.322 Instrumental Analytical Chemistry
  - 52.452 Advanced Inorganic Chemistry
  - 52.362 Physical Chemistry II
  - 52.492 Chemical Research
  - 52.493 Chemical Research II
- Required biology courses:
  - 50.242 Biology of Microorganisms
  - 50.271 Cell Biology
- Choose one of the following three courses:
  - 50.332 Genetics
  - 50.343 Immunology
  - 50.441 Cytogenetics

### ACS Certification

Students who want American Chemical Society certification upon graduation must complete the following courses as part of the B.S.-Biochemistry Curriculum:

- 52.322 Instrumental Analytical Chemistry
- 52.362 Physical Chemistry II
- 52.452 Advanced Inorganic Chemistry

## Clinical Chemistry (B.S.)

Department of Chemistry, College of Science and Technology  
Effective: Fall, 2004

In addition to 53 semester hours of general education requirements, the following are required:

- 52.115 Chemistry for the Sciences 1
- 52.116 Chemistry for the Sciences 2
- 52.231 Organic Chemistry I
- 52.232 Organic Chemistry II

52.321 Analytical Chemistry  
52.341 Biochemistry  
52.361 Physical Chemistry I  
50.271 Cell Biology  
50.343 Immunology  
53.125 Calculus I  
53.126 Calculus II  
53.225 Calculus III  
54.211 General Physics I  
54.212 General Physics II  
One clinical year of study at Geisinger Medical Center  
52.322 Instrumental Analytical Chemistry is strongly recommended

## Minor in Chemistry

Administered by: Department of Chemistry  
Effective: Fall, 2004

The minor in chemistry consists of 20 to 24 semester hours.

A minor in chemistry shall be awarded when a student obtains a 2.0 grade point average in the following prescribed courses:

Option I

52.115 Chemistry for the Sciences 1

52.116 Chemistry for the Sciences 2  
52.230 Fundamentals of Organic Chemistry  
and three 3- or 4-credit 200, 300, 400 level courses within the Chemistry Department excluding independent research, 52.231 and 52.232

Option II

52.115 Chemistry for the Sciences 1  
52.116 Chemistry for the Sciences 2  
52.231 Organic Chemistry I  
52.232 Organic Chemistry II  
and two 3- or 4-credit 200, 300, 400 level courses within the Chemistry Department excluding independent research and 52.230

In addition to meeting the grade point average requirement, the student will be expected to meet with his/her minor adviser before scheduling the electives.

# Department of Computer and Information Systems

## Computer and Information Science (B.S.)

Department of Computer and Information Systems, College of Business  
Effective Fall, 2004

Students who choose to major in Business Computer and Information Science must take 53 required semester hours of credit in General Education and 7 credits of General Education Elective courses. In addition, Computer and Information Systems majors must take 60 semester hours of specific general education required courses to meet the 120-hour necessary for a baccalaureate degree. There is some flexibility permitted in the selection of courses, however, the following must be included in the program of study in order to ensure the exploration of topics in business as well as in Information Systems

### General Education Requirements:

- 20.101 English Composition I
- 20.201 English Composition II
- 25.103 Public Speaking
- 53.141 Introduction to Statistics or 53.241 Probability and Statistics
- 40.121 Principles of Economics I
- 40.122 Principles of Economics II
- Choose one of the following two combinations:
  - 53.123 Essentials of Calculus and 53.118 Applied Matrix Algebra or
  - 53.125 Calculus and 53.126 Calculus II

The other General Education courses allow greater flexibility of choice from among:

Selections from the natural and social sciences, the humanities, exercise science and athletics, values and ethics, and courses designated as culturally diverse.

### CIS Requirements:

- Choose one of the following two combinations:
  - 91.221 Principles of Accounting I and 91.222 Principles of Accounting II or
  - 91.220 Financial Accounting and 91.223 Managerial Accounting
- 92.140 Introduction to Computer Information Systems
- 92.141 Introduction to Business Information Development
- 92.240 Introduction to Programming I
- 92.241 Introduction to Programming II
- 92.252 Business Oriented Programming
- 92.346 Data and Information Structures
- 92.351 Systems Analysis and Design
- 92.354 Data Base Processing Systems
- 92.358 Data Communication Systems
- 92.460 Advanced Systems Development I
- 93.461 Advanced Systems Development II

### CIS Elective Courses:

Choose two CIS courses at the 300 or 400 level.

- 92.310 Decision Support Systems
- 92.352 Advanced Programming
- 92.353 Management Information Systems
- 92.356 Operating Systems
- 92.364 Fundamentals of Electronic Commerce
- 92.432 Internship in Computer Information Systems
- 92.450 Expert Systems and Artificial Intelligence
- 92.498 CIS Special Topics

Information Technology courses offered by other departments can be used as electives with the approval of the advisor and the chairperson of CIS.

While an internship in CIS is not required for a degree, students are strongly encouraged to take 92.432 Internship in Computer and Information Systems. This course may be taken for a maximum of six semester hours, which can only be counted as electives, three each in CIS and Business.

### Restricted Business Elective Courses:

To complete the 60 semester hours needed for the CIS/Business requirement, five courses are to be selected from Business for a total of 15 semester hours. The courses selected must be from the designated list of electives as indicated on the reverse of the Degree Requirements Sheet (available upon request). It is also imperative that the five courses selected are 300 or 400 level courses to the extent necessary to satisfy the 40% rule that 48 of the required 120 credits for graduation are junior (300) and/or senior (400) level.

Students must consult with an adviser when selecting and scheduling courses.

## Minor in Computer and Information Science

Administered by Department of Computer and Information Systems  
Effective Fall, 2003

The minor in Computer and Information Systems consists of 18 credits. The following courses are required:

- 92.140 Introduction to Computer and Information Science
- 92.141 Introduction to Business Information System Development
- 92.240 Introduction to Programming I
- 92.241 Introduction to Programming II
- 92.351 Systems Analysis and Design
- A three-credit CIS elective at the 300 or 400 level
- A minimum QPA of 2.0 in the minor is required.

# Department of Communication Studies and Theatre Arts

## Communication Studies (B.A.)

Administered by Department of Communication Studies and Theatre Arts  
Effective Fall, 2004

Among 53 semester hours of general education requirements of the university, Communication Studies majors must take:

25.103 Public Speaking

Core requirements: A total of 9 semester hours are required from the following:

25.104 Interpersonal Communication

25.207 Investigating Communication

25.220 Intercultural Communication (diversity)

**Areas of Concentration:** All majors are required to take five of six courses in their chosen area of concentration, which must include the appropriate required course for that area, plus a minimum of one course from each of the other two areas of concentration, for a total of 21 semester hours. Students may take additional courses as free electives.

Interpersonal Relationship Management

25.215 Communication Theory (required)

25.309 Gender Issues in Communication (diversity)

25.313 Communication and Conflict

25.419 Communication in the Family

25.425 Communication in Relationships

25.426 Leadership and Team Building

Leadership and Social Influence

25.205 Understanding Social Influence (required)

25.315 Persuasion

25.321 Argumentation

25.413 Community Leadership

25.417 Evaluating Media Influence

25.418 Issue and Image Campaigns

Organizational Communication

25.210 Organizational Communication Theory (required)

25.306 Computer Applications for Professional Communicators

25.307 Communication for Business Professionals

25.407 Interviewing

25.423 Communication Training in Organizations

25.424 Corporate Communication

**Capstone Experience:** The capstone experience is required of all students in the major regardless of the area of concentration. After completing 80 or more semester hours, students with a minimum 2.5 cumulative grade point average are eligible to register for an internship that will serve as their capstone experience. Students may register for 3 to 12 internship semester hours. Additional internship credit beyond the required 3 hours cannot be substituted for other coursework, but would be considered as electives. Students academically ineligible for Internship in Communication should consult their academic advisor to arrange a suitable alternative experience, such as additional specialized coursework.

25.497 Internship in Communication

Elective Courses:

25.108 Forensics Practicum

25.206 Oral Interpretation

25.218 Discussion

25.470 Independent Study

25.492, 25.493, 25.495 Advanced Studies in Communication

25.494 Advanced Studies in Communication (diversity)

## Theatre Arts (B.A.)

Administered by Department of Communication Studies and Theatre Arts  
Effective Fall, 2004

**General Education** - The following course is required for inclusion in the student's course of study as part of the Group A distribution requirement:

26.102 Introduction to Theatre

The following courses from the University's general education requirements are strongly recommended for inclusion in the student's course of study:

25.103 Public Speaking

20.363 Shakespeare

20.377 Modern Drama

30.101 Introduction to Art

35.101 Music Listening

46.200 Principles of Cultural Anthropology

## Core Requirements For All Majors

The core curriculum is designed as a sequence of courses which introduce and investigate the theories and history of theatre and dramatic literature providing a solid background for advanced studies in the student's area of emphasis. It also provides a vehicle for planning and assessing each individual's progress as an artist, scholar, and technician. These courses are required of all majors, regardless of area of emphasis.

26.101 Career Seminar: A Theatre Life in Bloom

26.108 Theatre Practicum

26.202 Understanding Plays: Script Analysis

26.215 History of Theatre

26.270 Fundamentals of Theatre Design

26.325 History of Theatre II

26.416 Modern Theatre

26.401 Career Seminar: A Life in the Theatre

## Areas Of Emphasis

**Performance** - The Performance area of emphasis is provided for students who wish to pursue advanced undergraduate studies as an actor or director. The curriculum offers a sequence of courses which guide the student to augment his or her own abilities by examining and applying techniques and methods of past and current masters. With these explorations, the student is encouraged to develop independently as a critical thinker and risk-taker and as a collaborative creative artist.

26.112 Fundamentals of Acting

26.200 Voice and Movement

26.312 Intermediate Acting

26.411 Play Directing

26.412 Advanced Acting

26.492 Seminar in Performance

One additional course from the Technical/Design Emphasis listed below

05.225 Beginning Ballet

35.203 Class Voice

**Design Technology** - The Design Technology area of emphasis is provided for students who wish to pursue advanced undergraduate studies as scenic, costume, and lighting designers and technicians. The curriculum offers a sequence of courses which examines and applies techniques of design concepts in each major area as well as construction and execution for stage production. With these

explorations, the student is encouraged to develop independently as a critical thinker and risk-taker and as a collaborative creative artist.

- 26.211 Theatre Production
- 26.277 Costume Construction
- 26.311 Scene Design
- 26.314 Stage Light-Theory
- 26.377 Costume Design
- 26.491 Seminar in Tech. Theatre and Design
- and one other design course
- One additional course from the Performance Emphasis listed above
- 32.111 Drawing
- 54.180 Computer Aided Design and Engineering Graphics

**Integrated Theatre Studies** - Integrated Theatre Studies is provided for students who wish to continue the broader course of studies begun in the core curriculum and who wish to pursue advanced studies in each area of production. This option is especially appropriate for students who may wish to pursue careers in stage or theatre management, educational theatre, or theatre for youth. This curriculum offers courses which require theoretical and practical experience in all areas of the discipline.

- 26.219 Children's Theatre
- 26.321 Theatre and Stage Management
- Two additional courses each from the Performance and Design/ Technical Emphases listed above
- One upper level course (300 or 400 level) selected from either Performance or Design

## Minor in Communication Studies

Effective Fall, 2004

Students who hold a minimum 3.0 cumulative grade point average on a minimum of 15 semester hours are eligible for admission to the minor. Students must maintain the minimum 3.0 cumulative grade point average to continue study for a Communication Studies minor. Students who do not maintain the required grade point average will be put on probation for one semester during which they must regain the required grade point average.

### General Education Requirement:

- 25.103 Public Speaking

**Core Course Requirements:** A total of 9 semester hours are required from the following:

- 25.104 Interpersonal Communication
- 25.207 Investigating Communication

- 25.220 Intercultural Communication (diversity)

**Areas of Concentration:** Choose one course from each of three areas of concentration.

### Interpersonal Relationship Management

- 25.215 Communication Theory
- 25.309 Gender Issues in Communication (diversity)
- 25.313 Communication and Conflict
- 25.419 Communication in the Family
- 25.425 Communication in Relationships
- 25.426 Leadership and Team Building**

### Leadership and Social Influence

- 25.205 Understanding Social Influence
- 25.315 Persuasion
- 25.321 Argumentation
- 25.413 Community Leadership
- 25.417 Evaluating Media Influence
- 25.418 Issue and Image Campaigns**

### Organizational Communication

- 25.210 Organizational Communication Theory
- 25.306 Computer Applications for Professional Communicators
- 25.307 Communication for Business Professionals
- 25.407 Interviewing
- 25.423 Communication Training in Organizations
- 25.424 Corporate Communication**

## Minor In Theatre Arts

Effective Fall, 2004

Preparation for a minor in Theatre Arts requires a total of 22 credits, including study in each basic category of the discipline: theory/ criticism, history, performance, technical crafts, design, and practical application. The student may also study in additional areas of his or her own choosing. All required courses are currently offered in the division's program of study. The requirements are as follows:

- 26.102 Introduction to Theatre
- 26.108 Theatre Practicum
- 26.112 Fundamentals of Acting or 26.411 Play Directing
- 26.211 Theatre Production or 26.277 Costume Construction
- 26.215 History of Theatre
- 26.341 Fundamentals of Theatre Design
- Two other courses selected from Division's curriculum

# Department of Developmental Instruction

## Developmental Instruction

### About the Program

The Department of Developmental Instruction provides courses and supportive services available to all students of the University. These services and programs are designed to assist students in achieving their full potential.

The developmental courses are designed to help students improve skills in reading, writing, mathematics, study skills, science and ESOL. Content courses carry graduation credit and developmental courses earn institutional credit.

The Act 101/EOP Program provides access and support for students who have traditionally been under-represented in higher education. Approximately half of the students enrolled in this program are minority group members; sixty percent are women and 20 percent are older than the traditional college student.

University Tutorial Services offers free peer tutoring in a variety of courses and is open to all undergraduate students enrolled at the University.

The Department of Developmental Instruction maintains the following components in its mission to facilitate "...the cognitive and affective growth of all learners, at all levels of the learning continuum" (NADE 1996):

- A centralized program
- Mandatory assessment of students
- Mandatory placement of students
- Tutorial services
- Tutor training
- Advising and counseling services
- Program evaluation

### Mission

The mission of the Department of Developmental Instruction is to provide academic advisement, instruction, tutoring and other support to assist students in their academic endeavors and to maximize their potential for success in college, especially those students who enter through Act 101 and EOP.

### Courses Offered

- 01.001: Reading I (summer only)
- 01.025: Reading II
- 01.041 Writing I (summer only)
- 01.060: Writing II
- 01.080: Introductory Algebra
- 01.090: Intermediate Algebra
- 01.095: Introductory Science (summer only)
- 01.099: Intensive Seminar in ESOL (summer only)
- 01.100 College Study Skills (summer only)
- 01.120: College Reading and Study Skills (carries 3 elective credits toward graduation)

# Department of Early Childhood and Elementary Education

## Elementary Education (B.S.Ed.)

Administered by Early Childhood and Elementary Education  
Effective Fall, 2004

Requirements for Certification in Elementary Education (K-6) develop knowledge of the nature of the child, the nature of the school and center, the learning process, general methods of teaching and methods of teaching particular subjects and to provide student teaching experience. A total of 70 semester hours is taken in required courses. None may be taken on a pass/fail basis. An area of concentration is optional. No free electives are available for this program. In addition to the 120-credit requirement for a Bloomsburg University degree, education majors are subject to background checks and passage of Praxis exams.

### General Education Requirements

Among 50-53 credits of general education requirements some courses are specifically required

- Nine credits of communication, including 20.101 and 20.201
- 25.103 Public Speaking or 25.104 Interpersonal Communication
- 48.101 General Psychology
- 48.211 Child Psychology
- 45.211 Sociology or 46.200 Anthropology
- 70.101 Exceptional Individual
- 53.201 Theory of Arithmetic
- Any biology course
- 54.103 Physical Science or see your adviser

### Professional Education Courses

- 60.204 Educational Computing and Technology
- 60.251 Psychological Foundations of Education or 48.251 Psychological Foundations
- 60.291 Principles of Teaching
- 60.311 Classroom Measurement and Assessment or 79.301 Teaching, Learning and Assessment in Elementary School
- 60.393 Social Foundations of Education or 60.406 Multicultural Education
- 62.302 Teaching Science in the Elementary School
- 62.304 Teaching Environmental Education in the Elementary School
- 62.310 Teaching Fine Arts in the Elementary School
- 62.371 Teaching Reading in the Elementary School
- 62.373 Diagnostic and Inclusionary Practices for Literacy
- 62.390 Teaching Social Studies in the Elementary School
- 62.391 Teaching Language Arts in the Elementary School
- 62.398 Teaching Mathematics in the Elementary School
- 62.497 Teaching Literacy and Literature in Diverse Classrooms

### Field Experiences

- Choose one of the following three courses:
- 62.496 Practicum (America Reads, Bloomsburg, Berwick, Central, Danville, Hazleton and/or Southern)
  - 79.320 Practicum (Central or Danville)
  - 79.312 Internship (Bloomsburg)
  - 62.494 Student Teaching (First Assignment)
  - 62.495 Student Teaching (Second Assignment)

### Suggested Electives

- A minimum of 13 credits is required
- 09.100 University Seminar
  - Any course in fitness and recreation skills
  - 79.312 Internship in Education (1 to 3 semester hours only in this area)

- 62.400 Workshop in Mathematics in ECH/EL (summer only)
- 05.311 Methods and Materials in Elementary School Physical Education
- 05.320 Health and Safety in the Elementary School
- 20.384 Literature for Children
- 30.205 Children's Art
- 35.320 Music in Elementary School
- 60.427 Classroom Management and Effective Discipline
- 62.441 Workshop in Elementary Education
- 62.121 Introduction to Early Childhood Education
- 62.322 Seminar in Learning Experiences with Young Children
- 62.410 Methods and Materials in Early Childhood Education I
- 62.420 Methods and Materials in Early Childhood Education II

### Other requirements

All students are required to complete the following:

- Criminal Record Check (Act 34, renewed yearly)
- Child Abuse Check (Act 151, renewed yearly)
- TB Test - results Negative or Statement of Treatment (yearly)

**Praxis I** - Pre-professional skills test (PSST). All students are required to take the following Praxis Tests. PSSTs must be taken and passed by 48 credits in order to be admitted to teacher education.

- Reading (10710)
- Writing (10720)
- Mathematics (10703)

**Praxis II** - Subject Assessments. Beginning Fall 2004 the Praxis II tests must be taken and passed in order to be eligible for student teaching

- Content Knowledge (30511)
- Elementary Education: Curriculum, Instruction and Assessment (10011)
- Early Childhood Education (10020)

## Early Childhood Education (B.S.Ed.)

Administered by Early Childhood and Elementary Education  
Effective Fall, 2003

Requirements for Early Childhood Education (N-K-3) develop knowledge of the nature of the child, the nature of the school and center, the learning process, general methods of teaching and methods of teaching particular subjects and to provide student teaching experience. A total of 69 semester hours is taken in required courses. None may be taken on a pass/fail basis. An area of concentration is optional. No free electives are available for this program. In addition to the 120-credit requirement for a Bloomsburg University degree, education majors are subject to background checks and passage of Praxis exams.

### General Education Requirements

Among 50-53 credits of general education requirements some courses are specifically required

- Nine credits of communication, including 20.101 and 20.201
- 25.103 Public Speaking or 25.104 Interpersonal Communication
- 48.101 General Psychology
- 48.211 Child Psychology
- 45.211 Sociology or 46.200 Anthropology

70.101 Exceptional Individual

53.201 Theory of Arithmetic

Any biology course

54.103 Physical Science or see your adviser

### Professional Education Courses

60.204 Educational Computing and Technology

60.251 Psychological Foundations of Education or 48.251

Psychological Foundations

60.291 Principles of Teaching

60.311 Classroom Measurement and Assessment or 79.301

Teaching, Learning and Assessment in Elementary School

60.393 Social Foundations of Education or 60.406

Multicultural Education

62.121 Introduction to Early Childhood Education

62.302 Teaching Science in the Elementary School

62.304 Teaching Environmental Education in the Elementary School

62.310 Teaching Fine Arts in the Elementary School

62.322 Seminar in Learning Experiences with Young Children

62.371 Teaching Reading in the Elementary School

62.373 Diagnostic and Inclusionary Practices for Literacy

62.390 Teaching Social Studies in the Elementary School

62.391 Teaching Language Arts in the Elementary School

62.398 Teaching Mathematics in the Elementary School

62.410 Methods and Materials in Early Childhood Education I

62.420 Methods and Materials in Early Childhood Education II  
Required field experiences

Choose one of the following three courses:

62.496 Practicum (America Reads, Bloomsburg, Berwick,  
Central, Danville, Hazleton and/or Southern)

79.320 Practicum (Central or Danville)

79.312 Internship (Bloomsburg)

62.494 Student Teaching (First Assignment)

62.495 Student Teaching (Second Assignment)

### Suggested Electives

A minimum of one credit is required

09.100 University Seminar

Any course in fitness and recreation skills

79.312 Internship in Education (1 to 3 semester hours only in  
this area)

62.400 Workshop in Mathematics in ECH/EL (summer only)

05.311 Methods and Materials in Elementary School Physical  
Education

05.320 Health and Safety in the Elementary School

20.384 Literature for Children

30.205 Children's Art

35.320 Music in Elementary School

60.427 Classroom Management and Effective Discipline

62.441 Workshop in Elementary Education

### Other requirements

All students are required to complete the following:

Criminal Record Check (Act 34, renewed yearly)

Child Abuse Check (Act 151, renewed yearly)

TB Test - results Negative or Statement of Treatment  
(yearly)

**Praxis I** - Pre-professional skills test (PSST). All students are  
required to take the following Praxis Tests. PSSTs must be  
taken and passed by 48 credits in order to be admitted to teacher  
education.

Reading (10710)

Writing (10720)

Mathematics (10703)

**Praxis II** - Subject Assessments. Beginning Fall 2004 the  
Praxis II tests must be taken and passed in order to be eligible  
for student teaching

Content Knowledge (30511)

Elementary Education: Curriculum, Instruction and  
Assessment (10011)

Early Childhood Education (10020)

## Dual Certification (B.S.Ed.)

### Early Childhood and Elementary Education (N-K-3/K-6)

Administered by Early Childhood and Elementary Education  
Effective Fall, 2004

Requirements for Certification in Early Childhood Education (N-K-3) and Elementary Education (K-6) develop knowledge of the nature of the child, the nature of the school and center, the learning process, general methods of teaching and methods of teaching particular subjects and to provide student teaching experience. A total of 65 semester hours is taken in required courses. None may be taken on a pass/fail basis. An area of concentration is optional. No free electives are available for this program. In addition to the 120-credit requirement for a Bloomsburg University degree, education majors are subject to background checks and passage of Praxis exams.

### General Education Requirements

Among 50-53 credits of general education requirements some courses are specifically required. At most, one course which an individual uses to satisfy specific requirements in communication, quantitative/analytical reasoning or values/ethics may be used to satisfy distribution requirements. See your adviser.

Nine credits of communication, including 20.101 and 20.201  
25.103 Public Speaking or 25.104 Interpersonal

Communication

48.101 General Psychology

48.211 Child Psychology

45.211 Sociology or 46.200 Anthropology

70.101 Exceptional Individual

53.201 Theory of Arithmetic

Any biology course

54.103 Physical Science or see your adviser

### Professional Education Courses

60.204 Educational Computing and Technology

60.251 Psychological Foundations of Education or 48.251

Psychological Foundations

60.291 Principles of Teaching

60.311 Classroom Measurement and Assessment or 79.301

Teaching, Learning and Assessment in Elementary School

60.393 Social Foundations of Education or 60.406

Multicultural Education

62.121 Introduction to Early Childhood Education

62.302 Teaching Science in the Elementary School

62.304 Teaching Environmental Education in the Elementary

School

62.310 Teaching Fine Arts in the Elementary School

62.322 Seminar in Learning Experiences with Young Children

62.371 Teaching Reading in the Elementary School

62.373 Diagnostic and Inclusionary Practices for Literacy

62.390 Teaching Social Studies in the Elementary School

62.391 Teaching Language Arts in the Elementary School

62.398 Teaching Mathematics in the Elementary School

62.410 Methods and Materials in Early Childhood Education I

62.420 Methods and Materials in Early Childhood Education II

62.497 Teaching Literacy and Literature in Diverse Classrooms

### Field Experiences

Choose one of the following three courses:

62.496 Practicum (America Reads, Bloomsburg, Berwick,  
Central, Danville, Hazleton and/or Southern)

79.320 Practicum (Central or Danville)

79.312 Internship (Bloomsburg)

62.494 Student Teaching (First Assignment)

62.495 Student Teaching (Second Assignment)

### Suggested Electives

A minimum of one credit is required

09.100 University Seminar  
 Any course in fitness and recreation skills  
 79.312 Internship in Education (1 to 3 semester hours only in this area)  
 62.400 Workshop in Mathematics in ECH/EL (summer only)  
 05.311 Methods and Materials in Elementary School Physical Education  
 05.320 Health and Safety in the Elementary School  
 20.384 Literature for Children  
 30.205 Children's Art  
 35.320 Music in Elementary School  
 60.427 Classroom Management and Effective Discipline  
 62.441 Workshop in Elementary Education

### Other requirements

All students are required to complete the following:  
 Criminal Record Check (Act 34, renewed yearly)  
 Child Abuse Check (Act 151, renewed yearly)  
 TB Test - results Negative or Statement of Treatment (yearly)

**Praxis I** - Pre-professional skills test (PSST). All students are required to take the following Praxis Tests. PSSTs must be taken and passed by 48 credits in order to be admitted to teacher education.

Reading (10710)  
 Writing (10720)  
 Mathematics (10703)

**Praxis II** - Subject Assessments. Beginning Fall 2004 the Praxis II tests must be taken and passed in order to be eligible for student teaching

Content Knowledge (30511)  
 Elementary Education: Curriculum, Instruction and Assessment (10011)  
 Early Childhood Education (10020)

## Elementary Education (M.Ed.)

Administered by the Department of Early Childhood and Elementary Education

Effective Fall, 2004

**Admission.** Applicants must satisfy the general admission requirements for the School of Graduate Studies. Those applying for certification must complete the following additional requirements:

Meet with the program coordinator to clarify program requirements, review academic records and outline a plan for completing degree work.  
 Students must take the Miller Analogies Test (minimum score of 30). Waivers may be granted to students who score lower but have excellent academic records.  
 Students will be required to complete five days of classroom observation and 14 days of on-site, in-the-classroom participation working with a teacher(s).  
 Students will also complete and pass a screening examination, have three letters of recommendation on file, complete Act 34 and 151 clearances and possess recent TB test results.

**Retention.** Students must maintain a minimum QPA of 3.0 throughout their program. Courses in which a B- or lower are obtained must be repeated with a grade of B or higher. Nine graduate credits may be transferred into the program. Students must complete at least six to nine credits per calendar year (July 1 to June 30 of the preceding year) for retention in the master's program.

**Graduation.** A minimum of 30 semester hours is required to complete this master's program.

Core courses (15 credits)

60.501 Major Philosophies of Education **or** 60.584 Curriculum Theory, Design and Development

Choose one of the following five courses:

60.504 Technology for Teachers  
 60.512 Educational Media and Software  
 60.515 Integrating Technology into Teaching  
 60.516 Computers in the Curriculum  
 60.522 Internet for Teachers

60.506 Multicultural Education **or** 79.593 Human Diversity  
 60.514 Home, School and Community Relations **or** 60.502 School and Society  
 79.591 Research in Education **or** 62.590 Current Research and Development in ECE

Specialty Core (15 credits)

62.510 Methods and Materials in ECE (Mathematics and Science)  
 62.520 Methods and Materials in ECE (Language Arts and Social Studies)  
 62.521 Elementary School Curriculum **or** 62.524 Knowledge and the Curriculum  
 62.522 Curriculum Trends in ECE  
 62.523 Practices in Teaching the Young Child  
 62.525 Current Practices in Elementary School Science  
 62.526 Methods and Materials in Science and Mathematics  
 62.527 Social Studies in the Elementary School  
 62.528 Language Arts in the Modern Elementary School  
 62.529 Literature for Children in the Elementary Grades  
 62.530 Environmental Education for Elementary Teachers  
 62.531 Environmental Education Experiences  
 62.533 Values Clarification in the Elementary School  
 62.537 Methods and Materials in Language Arts and Social Studies  
 62.539 Current Topics in Elementary Education  
 62.581 Independent Study in Elementary Education  
 62.583 Seminar in Elementary Education  
 62.590 Current Research and Development in Early Childhood Education  
 62.591 Learning and Development of the Young Child  
 62.592 Identification and Prescription of the Needs of Young Children  
 62.593 Organization and Administration of Program for Young Children  
 62.594 Practicum in Elementary and Early Childhood Education (Student Teaching) 1-6 credits  
 62.595 Individualized Instruction - Principles and Practices for the Classroom  
 62.596 Practicum Elementary and Early Childhood Education (field experience only) 3-6 credits  
 79.501 Teaching, Learning and Assessment  
 79.599 Thesis (3-6 credits)

**Area of Professional Interest Requirement (optional):** Students may elect to enroll in 6-12 hours of course work related to an area of interest. Students are also encouraged to select courses that will meet their teaching needs as well as the needs of their school districts.

**Thesis or Departmental Paper:** Students are required to prepare a written document that demonstrates their ability to develop and complete a research project. Students who elect to prepare a thesis will follow the guidelines developed by the School of Graduate Studies.

The thesis will demonstrate the individual student's abilities to select, prepare, conduct and analyze data from one or more sources. Prior approval is required. A five-chapter format and use of APA as the style guide are strongly recommended. Final preparation of the thesis will be: seven copies on 100 percent cotton bond paper complete with a signed signature page indicating the names and titles of the adviser, members of the thesis committee, and the assistant vice president for Graduate Studies and Research.

The departmental paper demonstrates the ability of a graduate student to develop and complete a research project. The graduate student selects an adviser and one additional faculty member to critique his/her work. A five-chapter format and use of APA as the style guide are strongly recommended. The graduate student is directed to the guidelines for thesis preparation for the title, signature, etc., pages. Final preparation of the departmental paper will be: two copies on 100 percent cotton bond paper complete with a signed signature page indicating the adviser, additional faculty reader, and the assistant vice president for Graduate Studies and Research. The Departmental paper will be placed into a folder that contains a "pressure clip" to hold the papers. No holes are permitted in the final copies.

## Elementary Education (M.Ed.) - With Certification

### (Instructional Level I Teaching Certificate in Elementary Education (K-6))

Core courses (15 credits)

60.501 Major Philosophies of Education **or** 60.584 Curriculum Theory, Design and Development

Choose one of the following five courses:

60.504 Technology for Teachers

60.512 Educational Media and Software

60.515 Integrating Technology into Teaching

60.516 Computers and Curriculum

60.522 Internet for Teachers

60.506 Multicultural Education **or** 79.593 Human Diversity

60.514 Home, School and Community Relations **or** 60.502 School and Society

79.590 Research in Education **or** 62.590 Current Research and Development in ECE

Specialty Core (30 credits)

62.521 Elementary School Curriculum **or** 62.524 Knowledge and the Curriculum in the Elementary School

62.530 Environmental Education for Elementary Teachers

62.526 Methods and Materials in Science and Mathematics

62.527 Social Studies in the Elementary School

62.528 Language Arts in the Modern Elementary School

62.537 Methods and Materials in Language Arts and Social Studies

60.533 Measurement and Evaluation in the Elementary School

**or** 79.501 Teaching, Learning, Assessment

63.540 Introduction to the Teaching of Reading

70.506 Introduction to Early Intervention **or** 70.516

Introduction to Exceptional Individuals

Elective

Practicum (6 credits)

62.594 Practicum - Students may have one or two teaching experiences: primary and intermediate, depending on their levels of expertise or certification. This may result in one eight-week experience or two eight-week experiences. Each student will develop a practicum proposal and have it reviewed by the program coordinator a semester prior to student teaching. A student may elect to take 12 credits at the undergraduate level if student teaching has not been previously taken. In either situation, the graduate student must prepare a plan for the practice of teaching portion of the program.

All students seeking a master's degree in elementary education with instructional level I teaching certificate (K-6) are required to demonstrate competency in writing skills by completing an in-depth research paper. This may take the form of a departmental paper or thesis. The research paper must follow the style format of the publication manual of the American Psychological Association (APA). A five-chapter format is preferred.

Departmental papers must be read and approved by the student's adviser and one other member of the graduate faculty. A thesis may be completed as a six-credit elective option or additional course work beyond the 51-credit minimum, making the candidate's total graduate program equal 57 credits. All theses must meet the requirements of the School of Graduate Studies.

The Pennsylvania Department of Education requires all certification applicants to pass the Praxis Series of Examinations (NTEs) for certification. It is the graduate student's responsibility to register, complete and earn a passing score on the examinations.

All program requirements are to be completed within six years after admission into the program. Courses older than six years will not meet degree requirements. All deficiencies, tests if applicable, monetary and academic requirements must be satisfied before the degree can be granted.

## Early Childhood Education (M.S.)

Administered by the Department of Early Childhood and Elementary Education  
Effective Fall, 2004

**Admission.** The following admission requirements, which apply to both the Master of Science in Early Childhood Education program and to the master's program with an Early Childhood Education Certification, must be met in addition to the general admission requirements for the School of Graduate Studies. Undergraduate work need not be in a specific field of study.

An interview and a review of academic credentials are required. Applicants who lack an undergraduate QPA of 3.0 will be admitted on a provisional basis.

All applicants will take the Miller Analogies Test. A minimum score of 30 is required. Waivers may be granted to graduate students that score lower but have excellent academic records.

### Certification Requirements

Three recommendations from any of the following persons: undergraduate or graduate faculty, direct-line supervisors, administrators, and other individuals who are familiar with the applicant's academic abilities and personal qualities.

Recommendation forms are available from the program coordinator for early childhood education.

Written completion of a 10-day field experience. Forms are available from the observation/program coordinator.

Written completion of a 14-day participation experience.

Forms are available from the program coordinator.

Passing and/or remediation of speech and hearing tests, and vision tests. TB tests are required. Forms are available from the program coordinator.

Passing the National Teacher Examination core battery and the specialty area of early childhood education.

Pennsylvania Department of Education requires all certification applicants to pass the Praxis Series of Examinations (NTEs) for certification. It is the graduate student's responsibility to register, complete and earn a passing score on the examinations.

**Retention.** Students must maintain a QPA of 3.0 throughout their program. Courses in which a grade of B- or lower is obtained must be repeated with a grade of B or higher. Nine graduate credits may be transferred into the program.

State Police checks (Criminal, Act 34 and Abuse, Act 151) required by the Department of Health and Welfare and the Bureau of Certification must be obtained prior to student teaching in private and public schools, Head Start programs, and day care centers in Pennsylvania.

All students will take and pass a comprehensive examination, which is administered when they have completed 12 to 15 semester hours

of graduate work. The examination consists of written and oral requirements. An appointment is made with the program coordinator.

**Graduation.** The Master of Science in Early Childhood program consists of 30 semester hours; 12 additional semester hours in course work and practicum are required for the Level I Certification, N, K-3. Students must complete 6 semester hours in foundation courses, 18 to 30 semester hours in early childhood education core courses, and 6 semester hours in related studies courses.

### Required Courses

Students seeking a Master of Science in Early Childhood Education must complete 30 semester hours with a 3.0 QPA. Students seeking a Master of Science in Early Childhood Education with N, K-3 certification must complete 42 semester hours with a QPA of 3.0.

A departmental paper, thesis, comprehensive project, or the comprehensive examination is required for completion of the degree program. Specific guidelines are available from the program coordinator. All papers must be written following the American Psychological Association (APA) style guide. A five chapter format is preferred.

All program requirements must be completed within six years after admission into the program. Students are required to complete their programs within four years after passing their comprehensive exam. Extensions may be granted in certain situations. Students who fail to enroll and complete a course within a two-year period are placed in an inactive file. Inactive students must reapply for admission, retake the comprehensive examination. Courses older than six years will not meet the degree requirements. All deficiencies, tests, if applicable, monetary and academics, must be satisfied before the degree can be granted.

#### I. Foundation Courses (6 credits required)

- 60.501 Major Philosophies of Education
- 60.502 School and Society
- 60.512 Educational Media and Software (required by all N, K-3 - other computer courses may be substituted based upon the graduate student's skills and interests.)
- 60.514 Home, School and Community Relations
- 60.527 Classroom Management and Effective Discipline
- 79.501 Teaching, Learning and Assessment in Elementary Classrooms

Other courses may be selected based upon the needs, educational background or deficiencies of each individual student. Approval of the coordinator for ECE and the dean of the graduate school is required.)

#### II. Early Childhood Education Studies (18 credits required for

M.S. in Early Childhood Education; 30 credits required for M.S. in Early Childhood Education with N, K-3 Certification).

- 62.510 Methods and Materials in Early Childhood Education I
- 62.520 Methods and Materials in Early Childhood Education II
- 62.522 Curriculum Trends in Early Childhood Education
- 62.523 Practices in Teaching the Young Child
- 62.590 Current Research and Development in Early Childhood Education
- 62.591 Learning and Development of the Young Child
- 62.592 Identification and Prescription of the Needs of Young Children
- 62.593 Organization and Administration of Educational Programs for Young Children
- 62.594 Practicum in Early Childhood Education - 6 credits, one semester

#### III Related Courses (6 credits required)

- 60.534 Creativity for Teachers
- 62.510 Methods and Materials in Early Childhood Education I
- 62.520 Methods and Materials in Early Childhood Education II
- 62.251 Elementary School Curriculum

62.524 Knowledge and the Curriculum in the Elementary School

62.525 Current Practices in Elementary School Science

62.526 Methods and Materials in Elementary School Science and Mathematics

62.527 Social Studies in the Elementary School

62.528 Language Arts in the Modern School

62.529 Literature for Children in Elementary Grades

62.530 Environmental Education for the Elementary Teacher

62.531 Environmental Education Experiences

62.533 Values Clarification in the Elementary School

62.537 Methods and Materials in Elementary School Language Arts and Social Studies

62.539 Current Topics in Elementary Education

62.581 Independent Topics in Elementary Education

62.583 Seminar in Elementary Education

62.595 Individualized Instruction: Principles and Practices for the Classroom

63.540 Introduction to the Teaching of Reading

63.541 Diagnosis and Prescription in Reading

63.543 Reading Clinic I

63.548 Reading Instruction for the At-Risk Student

63.549 Teaching Reading to the Hearing Impaired/ Language Handicapped Child

63.550 Literature, Literacy and Culture

79.599 Thesis (3-6 credits)

# Department of Educational Studies and Secondary Education

## Secondary Education (B.S.Ed.)

Administered by Educational Studies and Secondary Education  
Effective Fall, 2003

Requirements for the Major in Secondary Education (7-12) include general education courses, education courses, plus courses specified for various specializations. Some courses which satisfy the university's general education requirement are included in the course listings for the individual areas of specialization under secondary education. Students are required to take six credits of math and six credits of composition and literature as part of their general education requirements. Students should consult their secondary education adviser and area of specialization content adviser to plan a course of study.

### Admissions, Monitoring and Advisement

Students must submit a completed application packet to the faculty advisor. The faculty advisor will review the packet, interview the student, and submit a recommendation to the department chairperson indicating that the student be admitted or not be admitted to the program. Enrollment in upper division Teacher Education coursework (300 and 400 level courses) is contingent upon admission to the Teacher Education program.

For admission to candidacy, students must:

- Obtain current Pennsylvania Qualifying Scores for the Praxis I: Academic Skills Assessments:
  - 10710 PPST Reading
  - 20720 PPST Writing
  - 10730 PPST Mathematics (calculators prohibited)
- Possess an overall cumulative grade point average of: 3.0
- Possess a grade of C or better in all professional education courses and courses of specialization.  
(C- does not meet this criteria)
- Complete 6 semester hours in college level mathematics.
- Complete at least 6 hours in college level English Composition and Literature.
- Successfully complete a five-day noncredit field experience.
- Submit two recommendations from Teacher Education faculty.
- Submit the results from a current Tuberculosis Screening administered within the last two years.
- Present evidence of liability insurance
- Submit a completed resume
- Submit current and valid ACT 34 (Criminal Record Check) and ACT 151 (Child Abuse History Check) clearances.(Valid one year)
- Students must see Karen Murtin (1211 McCormick) to sign-up for student teaching.
- Completion of the Student Teaching Eligibility Packet is due by April 1 for Fall Student Teaching and October 1 for Spring Student Teaching.
- Students should visit Carol Barnett, Director at Career Development Center, 201 Student Service Center. All students should have a Placement File at the Career Development Center.
- Visit Pennsylvania Department of Education at: [www.pde.state.pa.us](http://www.pde.state.pa.us) for career information.
- Each semester all students should see their Education advisor and their Content advisor

before scheduling

For more detailed information see Admission Policy PRP3810

### Secondary Education Specialization Areas

Each area of specialization develops scholarship basic to teaching the content subject in secondary schools. Beginning with fall 2002 semester, all secondary education majors will be admitted as dual majors in secondary education and the content major.

- Biology
- Chemistry
- Citizenship
- Communication - Applied
- Communication - Interpersonal Relationship Management
- Communication - Leadership and Social Influence
- Earth and Space Science
- English
- French
- General Science
- German
- Mathematics
- Physics
- Spanish

### Secondary Education - Biology

A total of 124 credits is required to earn a bachelor of science in education degree with specialization in Biology. Required courses include:

#### Biology Courses

- 50.114 Concepts in Biology I
- 50.115 Concepts in Biology II
- 50.242 Biology of Microorganisms
- 50.271 Cell Biology
- 50.332 Genetics
- 50.351 Ecology
- Physiology Requirement (3 credits) - choose one of the following five (5) courses:
  - 50.472 Animal Cell Physiology
  - 50.474 Vertebrate Systems Physiology
  - 50.477 Plant Physiology
  - 50.478 Microbial Physiology
  - 50.480 Comparative Animal Physiology

#### Electives (17 Credits)

- Choose one biology field course from the following six courses:
  - 50.200 Dendrology
  - 50.252 Field Zoology
  - 50.253 Freshwater Biology
  - 50.263 Field Botany
  - 50.457 Entomology
  - 50.459 Ornithology
- Choose one of the following two courses:
  - 50.333 Molecular Biology or
  - 52.341 Biochemistry I
- 54.111 Introduction to Physics I

Students should select remaining credits from the approved list of Biology electives available in the Department of Educational Studies and Secondary Education. Of these, 50.430 Evolution is strongly recommended.

### Secondary Education

- Choose one of the following three courses:
  - 60.204 Educational Computing and Technology

- 60.350 Instructional Design Systems
- 60.351 Virtual Learning Communities
- 60.206 Teachers, Schools and Society
- 60.251 Psychological Foundations of Education.
- 60.291 Principles of Teaching
- 60.311 Classroom Measurement and Assessment
- Choose one of the following two courses:
  - 60.393 Social Foundations of Education
  - 60.406 Multicultural Education
- 65.353 Teaching of Science
- 60.497 Teaching in Education: First Experience
- 60.498 Teaching in Education: Second Experience

### General Education

Among 53 credits of general education courses, the following are required:

- 20.101 Composition I
- 50.290 Writing in Biology
- 53.141 Introduction to Statistics
- Choose one of the following two courses
  - 25.103 Public Speaking
  - 25.104 Interpersonal Communication
- 45.211 Principles of Sociology
- 48.101 General Psychology
- 48.212 Adolescent. Psychology
- 70.101 Introduction to Exceptional Individuals
- 52.115 Fundamentals of Inorganic Chemistry
- 52.116 Chemical Principles and Measurements
- 50.479 Physiology Lab

Among courses chosen to meet humanities requirement, three departments must be represented from Art and Art History, Communication Studies and Theatre Arts, English, Languages and Cultures, Music History, and Philosophy, including one of the following:

- 10.102 French II
- 11.102 German II
- 12.102 Spanish II
- 13.102 Russian II
- 14.102 Italian II
- 16.106 Chinese II

Among courses to meet the natural sciences and mathematics requirement, students must select one Earth or Space Science course from the following five courses:

- 51.100 Environmental Geology
- 51.101 Physical Geology
- 51.102 Historical Geology
- 51.255 Meteorology
- 51.259 Oceanography

### Secondary Education - Chemistry

A total of 120 Credits is required for a bachelor of science in education with a specialization in chemistry. Required courses include:

#### Chemistry

- 52.115 Fundamentals of Inorganic Chemistry
- 52.116 Chemical Principles and Measurements
- 52.231 Organic Chemistry I
- 52.232 Organic Chemistry II
- 52.321 Analytical Chemistry I
- 52.341 Biochemistry
- 52.361 Physical Chemistry I
- 52.375 The Chemistry Curriculum and the Teaching Lab
- 54.211 General Physics I
- 54.212 General Physics II

#### Secondary Education

- Choose one of the following three courses:
- 60.204 Educational Computing and Technology
  - 60.350 Instructional Design Systems

- 60.351 Virtual Learning Communities
- 60.206 Teachers, Schools and Society
- 60.251 Psychological Foundations of Education.
- 60.291 Principles of Teaching
- 60.311 Classroom Measurement and Assessment
- Choose one of the following two courses:
  - 60.393 Social Foundations of Education
  - 60.406 Multicultural Education
- 60.353 Teaching of Science
- 60.497 Teaching in Education: First Experience
- 60.498 Teaching in Education: Second Experience

### General Education

Among 53 credits of general education courses, the following are required:

- 20.101 Composition I
- 20.201 Composition II or a Writing Intensive Course:
  - 20.131 The Bible as Literature
  - 20.151 Introduction to Literature
  - 20.152 Literature and Society
  - 20.156 Popular Literature
  - 20.226 European Literature I
  - 20.227 European Literature II
  - 20.236 American Literature I
  - 20.237 American Literature II
  - 20.246 British Literature I
  - 20.247 British Literature II
  - 20.256 Non-Western Literature I
  - 20.257 Non-Western Literature II

Choose one of the following two courses

- 25.103 Public Speaking
- 25.104 Interpersonal Communication

- 53.125 Calculus I
- 41.105 Environmental Issues and Choices
- 45.211 Principles of Sociology
- 48.101 General Psychology
- 48.212 Adolescent. Psychology
- 70.101 Introduction to Exceptional Individuals

Choose one of the following two courses

- 51.120 Physical Geology or
- 51.130 Historical Geology

- 52.251 Inorganic Chemistry
- 53.126 Calculus II
- 53.225 Calculus III

Among courses chosen to meet humanities requirement, three departments must be represented from Art and Art History, Communication Studies and Theatre Arts, English, Languages and Cultures, Music History, and Philosophy. Among natural sciences and mathematics requirements, three departments must be represented from Biological and Allied Health Sciences, Chemistry; Geography and Geosciences; Mathematics, Computer Science and Statistics, and Physics and Engineering Technology.

### Secondary Education - Citizenship (History)

A total of 121 Credits is required for a bachelor of science in education with a specialization in citizenship. Required courses include:

#### History

- 41.100 World Regional Geography
- 42.125 Western Civilization to 1650
- 42.126 Western Civilization since 1650
- 42.298 Historiography
- Two Regional or Non-Western History Courses from the following list:
  - 42.131 Asian Civilization To 1500
  - 42.132 Asian Civilization Since 1500
  - 42.141 Modern China and Japan

- 42.142 Latin America
- 42.143 Black Africa
- 42.216 Africa and Black Atlantic 1790
- 42.217 Africa and Black Atlantic Since 1790

For a list of the courses suitable for the remaining history requirements consult the 300/400 level course guide from the History Department

- Any upper division (300/400) level course in U.S. History (Pennsylvania History is recommended)
- Any upper division (300/400) level course in European History
- Any upper division (300/400) level course in Non-Western or Regional History
- Six (6) Credits 300-400 level electives in History

- 44.101 Elements of Political Science
- 44.120 U.S. Government

## Secondary Education

Choose one of the following three courses:

- 60.204 Educational Computing and Technology
- 60.350 Instructional Design Systems
- 60.351 Virtual Learning Communities

- 60.206 Teachers, Schools and Society
- 60.251 Psychological Foundations of Education.
- 60.291 Principles of Teaching
- 60.311 Classroom Measurement and Assessment
- 65.355 Teaching Social Studies

Choose one of the following two courses:

- 60.393 Social Foundations of Education
- 60.406 Multicultural Education

- 60.497 Teaching in Education: First Experience
- 60.498 Teaching in Education: Second Experience

## General Education

Among 53 credits of general education courses, the following are required:

- 20.101 Composition I
- 42.398 Research and Writing Skills (Required of all History/Citizenship majors)

- 25.103 Public Speaking or 25.104 Interpersonal Communication
- 42.121 U.S. History
- 42.122 U.S. History  
A Literature Course
- A mathematics course

- 46.121 Principles of Economics
- 48.101 General Psychology
- 48.212 Adolescent. Psychology

70.101 Introduction to Exceptional Individuals  
Among courses chosen to meet humanities requirement, three departments must be represented from Art and Art History, Communication Studies and Theatre Arts, English, Languages and Cultures, Music History, and Philosophy. Among natural sciences and mathematics requirements, three departments must be represented from Biological and Allied Health Sciences, Chemistry; Geography and Geosciences; Mathematics, Computer Science and Statistics, and Physics and Engineering Technology.

## Secondary Education - Applied Communication

A total of 121 credits is required for a bachelor of science in education with a specialization in applied communication.

Requirements include:

### Communication

- 20.306 Theory and Practice of Writing
- 20.311 Structures of English

- 20.312 History of the English Language  
World Literature course

- 25.104 Interpersonal Communication
- 25.207 Investigating Communication
- 25.220 Intercultural Communication
- 25.210 Organizational Communication

Select 4 courses (12 credits) from the following:

- 25.306 Computer Applications for Professional Communicators
- 25.307 Communications For Business Professionals
- 25.407 Interviewing
- 25.423 Communications Training in Organizations
- 25.424 Corporate Communication

Select electives from other areas of specialization (3 credits) from interpersonal relationship management:

- 25.309 Gender Issues in Communication
- 25.313 Communication and Conflict
- 25.419 Communication in the Family
- 25.425 Communication in Relationships
- 25.426 Leadership and Team Building

## Secondary Education

Choose one of the following three courses:

- 60.204 Educational Computing and Technology
- 60.350 Instructional Design Systems
- 60.351 Virtual Learning Communities

- 60.206 Teachers, Schools and Society
- 60.251 Psychological Foundations of Education.
- 60.291 Principles of Teaching
- 60.311 Classroom Measurement and Assessment
- 60.351 Teaching Communication

Choose one of the following two courses:

- 60.393 Social Foundations of Education
- 60.406 Multicultural Education

- 60.497 Teaching in Education: First Experience
- 60.498 Teaching in Education: Second Experience

## General Education

Among 53 credits of general education courses, the following are required:

- 20.101 Composition I
- 20.203 Approaches to Literary Study
- 25.103 Public Speaking  
An American Literature Course  
An English Literature Course
- 26.102 Introduction to Theatre Arts

- 25.417 Evaluating Media Influence  
A mathematics course
- 46.211 Principles of Sociology
- 48.101 General Psychology
- 48.212 Adolescent. Psychology
- 70.101 Introduction to Exceptional Individuals

Among courses chosen to meet humanities requirement, three departments must be represented from Art and Art History, Communication Studies and Theatre Arts, English, Languages and Cultures, Music History, and Philosophy. Among natural sciences and mathematics requirements, three departments must be represented from Biological and Allied Health Sciences, Chemistry; Geography and Geosciences; Mathematics, Computer Science and Statistics, and Physics and Engineering Technology.

## Secondary Education - Interpersonal Relationship Management Communication

A total of 121 credits are required for a bachelor of science in secondary education with a specialization in communications - interpersonal relationship management.

Required courses include:

### Communication

- 20.306 Theory and Practice of Writing
- 20.311 Structures of English
- 20.312 History of the English Language
- World Literature course
- 25.104 Interpersonal Communication
- 25.207 Investigating Communication
- 25.220 Intercultural Communication
- 25.215 Communication Theory
- Select 4 courses (12 credits) from the following:
  - 25.309 Gender Issues in Communication
  - 25.313 Communication and Conflict
  - 25.419 Communication in the Family
  - 25.425 Communication in Relationships
  - 25.426 Leadership and Team Building
- Select electives from other areas of specialization (3 credits) from interpersonal relationship management:
  - 25.306 Computer Applications for Professional Communicators
  - 25.307 Communications For Business Professionals
  - 25.407 Interviewing
  - 25.423 Communications Training in Organizations
  - 25.424 Corporate Communication

### Secondary Education

- Choose one of the following three courses:
  - 60.204 Educational Computing and Technology
  - 60.350 Instructional Design Systems
  - 60.351 Virtual Learning Communities
- 60.206 Teachers, Schools and Society
- 60.251 Psychological Foundations of Education.
- 60.291 Principles of Teaching
- 60.311 Classroom Measurement and Assessment
- 60.351 Teaching Communication
- Choose one of the following two courses:
  - 60.393 Social Foundations of Education
  - 60.406 Multicultural Education
- 60.497 Teaching in Education: First Experience
- 60.498 Teaching in Education: Second Experience

### General Education

Among 53 credits of general education courses, the following are required:

- 20.101 Composition I
- 20.203 Approaches to Literary Study
- 25.103 Public Speaking
- An American Literature Course
- An English Literature Course
- 26.102 Introduction to Theatre Arts
- 25.417 Evaluating Media Influence
- A mathematics course
- 46.211 Principles of Sociology
- 48.101 General Psychology
- 48.212 Adolescent. Psychology
- 70.101 Introduction to Exceptional Individuals

Among courses chosen to meet humanities requirement, three departments must be represented from Art and Art History, Communication Studies and Theatre Arts, English, Languages and Cultures, Music History, and Philosophy. Among natural sciences and mathematics requirements, three departments must be represented from Biological and Allied Health Sciences,

Chemistry; Geography and Geosciences; Mathematics, Computer Science and Statistics, and Physics and Engineering Technology.

## Secondary Education - Leadership and Social Influence Communication

A total of 121 credits is required for a B.S. Ed. in Secondary Education with a specialization in Communication/Leadership and Social Influence. Required courses include:

### Communication

- 20.306 Theory and Practice of Writing
- 20.311 Structures of English
- 20.312 History of the English Language
- World Literature course
- 25.104 Interpersonal Communication
- 25.207 Investigating Communication
- 25.220 Intercultural Communication
- 25.205 Understanding Social Influence
- Select 4 courses (12 credits) from the following:
  - 25.315 Persuasion
  - 25.321 Argumentation
  - 25.406 Evaluating Communication
  - 25.413 Community Leadership
  - 25.417 Evaluating Media Influence
- Select electives from other areas of specialization (3 credits) from interpersonal relationship management:
  - 25.306 Computer Applications for Professional Communicators
  - 25.307 Communications For Business Professionals
  - 25.407 Interviewing
  - 25.423 Communications Training in Organizations
  - 25.424 Corporate Communication

### Secondary Education

- Choose one of the following three courses:
  - 60.204 Educational Computing and Technology
  - 60.350 Instructional Design Systems
  - 60.351 Virtual Learning Communities
- 60.206 Teachers, Schools and Society
- 60.251 Psychological Foundations of Education.
- 60.291 Principles of Teaching
- 60.311 Classroom Measurement and Assessment
- 60.351 Teaching Communication
- Choose one of the following two courses:
  - 60.393 Social Foundations of Education
  - 60.406 Multicultural Education
- 60.497 Teaching in Education: First Experience
- 60.498 Teaching in Education: Second Experience

### General Education

Among 53 credits of general education courses, the following are required:

- 20.101 Composition I
- 20.203 Approaches to Literary Study
- 25.103 Public Speaking
- An American Literature Course
- An English Literature Course
- 26.102 Introduction to Theatre Arts
- 25.417 Evaluating Media Influence
- A mathematics course
- 46.211 Principles of Sociology
- 48.101 General Psychology
- 48.212 Adolescent. Psychology
- 70.101 Introduction to Exceptional Individuals

Choose one of the following five courses:

- 25.306 Computer Applications for Professional Communicators
- 25.307 Communications For Business Professionals

- 25.407 Interviewing
- 25.423 Communications Training in Organizations
- 25.424 Corporate Communication

Among courses chosen to meet humanities requirement, three departments must be represented from Art and Art History, Communication Studies and Theatre Arts, English, Languages and Cultures, Music History, and Philosophy. Among natural sciences and mathematics requirements, three departments must be represented from Biological and Allied Health Sciences, Chemistry; Geography and Geosciences; Mathematics, Computer Science and Statistics, and Physics and Engineering Technology.

## Secondary Education - Earth and Space Science

A total of 120 Credits is required for a bachelor of science in education with a specialization in Earth and Space Science. Required courses include:

### Science

- 50.101 General Biology
- 51.120 Physical Geology
- 51.121 Physical Geology Lab
- 51.130 Historical Geology
- 51.131 Historical Geology Lab
- 51.255 Meteorology
- 51.259 Oceanography
- 52.115 Fund. Of Inorganic Chem.
- 52.216 Chemical Principles and Measurements
- 54.110 Astronomy
- 54.111 Introductory Physics I
- 54.112 Introductory Physics II

### Secondary Education

Choose one of the following three courses:

- 60.204 Educational Computing and Technology
  - 60.350 Instructional Design Systems
  - 60.351 Virtual Learning Communities
  - 60.206 Teachers, Schools and Society
  - 60.251 Psychological Foundations of Education.
  - 60.291 Principles of Teaching
  - 60.311 Classroom Measurement and Assessment
- Choose one of the following two courses:
- 60.393 Social Foundations of Education
  - 60.406 Multicultural Education
  - 60.353 Teaching of Science
  - 60.497 Teaching in Education: First Experience
  - 60.498 Teaching in Education: Second Experience

### General Education

Among 53 credits of general education courses, the following are required:

- 20.101 Composition I
  - 20.201 Composition II or a Writing Intensive Course:
    - 20.131 The Bible as Literature
    - 20.151 Introduction to Literature
    - 20.152 Literature and Society
    - 20.156 Popular Literature
    - 20.226 European Literature I
    - 20.227 European Literature II
    - 20.236 American Literature I
    - 20.237 American Literature II
    - 20.246 British Literature I
    - 20.247 British Literature II
    - 20.256 Non-Western Literature I
    - 20.257 Non-Western Literature II
- Choose one of the following two courses
- 25.103 Public Speaking
  - 25.104 Interpersonal Communication

- 56.110 Introduction to Computer Science
- 45.211 Principles of Sociology
- 48.101 General Psychology
- 48.212 Adolescent Psychology
- 70.101 Introduction to Exceptional Individuals

Among courses chosen to meet humanities requirement, three departments must be represented from Art and Art History, Communication Studies and Theatre Arts, English, Languages and Cultures, Music History, and Philosophy.

Among natural sciences and mathematics requirements, three departments must be represented from Biological and Allied Health Sciences, Chemistry; Geography and Geosciences; Mathematics, Computer Science and Statistics, and Physics and Engineering Technology, including one mathematics course from the following:

- 53.113 Precalculus
- 53.123 Essentials of Calculus
- 53.125 Calculus I
- 53.126 Calculus II

Students should select remaining credits from approved list of Earth and Space Science electives available in the Sec. Education Department

## Secondary Education - English

A total of 120 credits is required for a bachelor of science degree with a specialization in English. Required courses include:

### English

- 20.246 British Literature I
- 20.236 American Literature I
- 20.237 American Literature II
- 20.256 Non-Western Literature I or 20.257 Non-Western Literature II
- 20.311 Structure of English
- 20.312 History of English Language

One of the following media courses:

- 20.307 Writing for the Internet
- 20.391 Literature and Film
- 26.102 Introduction to Theater Arts
- 26.209 Theater Appreciation
- 27.110 Mass Communication and the Popular Arts
- 27.190 History of Film
- 27.275 Cinema Appreciation
- 27.315 Social Foundations of Mass Communications
- 42.226 Popular Culture in America
- 45.400 Sociology of Mass Communications

20.363 Shakespeare

- 20.306 Theory and Practice of Writing
- 20.385 Literature for Young Adults

Electives - six credits. Three credits may be at the 100/200 level (excluding 20.151); remainder must be 300/400 level and may include English Internship

### Secondary Education

Choose one of the following three courses:

- 60.204 Educational Computing and Technology
- 60.350 Instructional Design Systems
- 60.351 Virtual Learning Communities
- 60.206 Teachers, Schools and Society
- 60.251 Psychological Foundations of Education.
- 60.291 Principles of Teaching
- 60.311 Classroom Measurement and Assessment
- 60.351 Teaching Communication

Choose one of the following two courses:

- 60.393 Social Foundations of Education
- 60.406 Multicultural Education
- 60.497 Teaching in Education: First Experience
- 60.498 Teaching in Education: Second Experience

## General Education

Among 53 credits of general education courses, the following are required:

- 20.101 Composition I
- 20.203 Approaches to Lit. Study Required of all Secondary English Majors
- 25.103 Public Speaking or 25.104 Interpersonal Communication
- 20.226 European Literature I
- 20.247 British Literature II
- A mathematics course
- 46.200 Principles of Cultural Anthropology
- 48.101 General Psychology
- 48.212 Adolescent. Psychology
- 70.101 Introduction to Exceptional Individuals

Among courses chosen to meet humanities requirement, three departments must be represented from Art and Art History, Communication Studies and Theatre Arts, English, Languages and Cultures, Music History, and Philosophy. Among natural sciences and mathematics requirements, three departments must be represented from Biological and Allied Health Sciences, Chemistry; Geography and Geosciences; Mathematics, Computer Science and Statistics, and Physics and Engineering Technology.

## Secondary Education - French

A total of 120 credits is required for a bachelor of science in education with a specialization in French. Required courses include:

### French

Required Linguistics (3 Credits) - choose one of the following three courses

- 10.401 Advanced French
- 20.311 Structure of the English Language
- 20.411 Modern Linguistic Theory

Required Core Courses (27 Credits)

- 10.203 French III
- 10.204 French IV (Offered Fall Semester Only)
- 10.205 Applied Phonetics and Pronunciation
- 10.206 Structure of the French Language.
- 10.207 Conversation: French Daily Life and Customs
- 10.211 Foundations. Of French Culture and Civilization
- 10.402 Contemporary Issues in Francophone media
- 10.422 Masterpieces of French Literature
- 10.423 Black Franco Phone Writers and Culture

Electives (6 credits) - choose from the following:

- 10.281/9 Special Topics
- 10.290 French Studies Abroad
- 10.295 Art and Culture of France
- 10.309 Commercial French I
- 10.331 Selected 20th Century Writers
- 10.401 Advanced French Language (3 credits if not chosen for Linguistics)
- 10.409 Commercial French II
- 10.490 Independent Study in French

## Secondary Education

16.350 Foreign Language Methodology and Research

Choose one of the following three courses:

- 60.204 Educational Computing and Technology
- 60.350 Instructional Design Systems
- 60.351 Virtual Learning Communities
- 60.206 Teachers, Schools and Society
- 60.251 Psychological Foundations of Education.
- 60.291 Principles of Teaching
- 60.311 Classroom Measurement and Assessment

Choose one of the following two courses:

- 60.393 Social Foundations of Education
- 60.406 Multicultural Education
- 60.497 Teaching in Education: First Experience
- 60.498 Teaching in Education: Second Experience

## General Education

Among 53 credits of general education courses, the following are required:

20.101 Composition I  
20.201 Composition II or a writing intensive course chosen from the following:

- 20.131 The Bible as Literature
- 20.151 Introduction to Literature
- 20.152 Literature and Society
- 20.156 Popular Literature
- 20.226 European Literature I
- 20.227 European Literature II
- 20.236 American Literature I
- 20.237 American Literature II
- 20.246 British Literature I
- 20.247 British Literature II
- 20.256 Non-Western Literature I
- 20.257 Non-Western Literature II

Choose one of the following two courses

- 25.103 Public Speaking
- 25.104 Interpersonal Communication

A mathematics course

- 46.200 Principles of Cultural Anthropology
- 48.101 General Psychology
- 48.212 Adolescent. Psychology
- 70.101 Introduction to Exceptional Individuals

Among courses chosen to meet humanities requirement, three departments must be represented from Art and Art History, Communication Studies and Theatre Arts, English, Languages and Cultures, Music History, and Philosophy. Among natural sciences and mathematics requirements, three departments must be represented from Biological and Allied Health Sciences, Chemistry; Geography and Geosciences; Mathematics, Computer Science and Statistics, and Physics and Engineering Technology.

## Secondary Education - German

A total of 120 credits is required for a bachelor of science in education degree with a specialization in German. Required courses include:

### German

Choose one of the following two courses:

- 20.311 Structure of the English Language
  - 20.411 Modern Linguistic Theory
  - 11.203 German III (satisfies diversity requirement)
  - 11.204 German IV (satisfies diversity requirement)
  - 11.205 Applied Phonetics and Pronunciation
  - 11.206 Structure of the German Language
  - 11.207 Conversation: Daily Life and Customs
  - 11.211 Culture and Civilization I
  - 11.311 Selected Twentieth Century Writers
  - 11.402 Contemporary Issues in German Media
  - 11.422 Masterpieces of German Literature
- Electives 6 Credits minimum by advisement:
- 11.212 Culture and Civilization II\*
  - 11.281-289 Special Topics
  - 11.290 German Studies Abroad
  - 11.309 Commercial German I
  - 11.403 Workshop
  - 11.420 Seminar: Mass Culture and High Culture
  - 11.490 Independent Study

- 16.400 Studies Abroad
- 38.498 Internship in the Humanities

### Secondary Education

16.350 Foreign Language Methodology and Research  
Choose one of the following three courses:

- 60.204 Educational Computing and Technology
- 60.350 Instructional Design Systems
- 60.351 Virtual Learning Communities

- 60.206 Teachers, Schools and Society
- 60.251 Psychological Foundations of Education.
- 60.291 Principles of Teaching
- 60.311 Classroom Measurement and Assessment

Choose one of the following two courses:

- 60.393 Social Foundations of Education
- 60.406 Multicultural Education

- 60.497 Teaching in Education: First Experience
- 60.498 Teaching in Education: Second Experience

### General Education

Among 53 credits of general education courses, the following are required:

- 20.101 Composition I
- 20.201 Composition II or a Writing Intensive Course:
  - 20.131 The Bible as Literature
  - 20.151 Introduction to Literature
  - 20.152 Literature and Society
  - 20.156 Popular Literature
  - 20.226 European Literature I
  - 20.227 European Literature II
  - 20.236 American Literature I
  - 20.237 American Literature II
  - 20.246 British Literature I
  - 20.247 British Literature II
  - 20.256 Non-Western Literature I
  - 20.257 Non-Western Literature II

Choose one of the following two courses

- 25.103 Public Speaking
- 25.104 Interpersonal Communication

A mathematics course

- 46.200 Principles of Cultural Anthropology
- 48.101 General Psychology
- 48.212 Adolescent. Psychology
- 70.101 Introduction to Exceptional Individuals

Among courses chosen to meet humanities requirement, three departments must be represented from Art and Art History, Communication Studies and Theatre Arts, English, Languages and Cultures, Music History, and Philosophy. Among natural sciences and mathematics requirements, three departments must be represented from Biological and Allied Health Sciences, Chemistry; Geography and Geosciences; Mathematics, Computer Science and Statistics, and Physics and Engineering Technology.

### Secondary Education - Mathematics

A total of 120 credits is required for a bachelor of science in education degree with a specialization in Mathematics. Requirements include:

#### Mathematics

- 53.185 Discrete Mathematics
- 53.225 Calculus III
- 53.226 Calculus IV
- 53.231 College Geometry
- 53.310 Introduction to Abstract Algebra
- 53.314 Linear Algebra
- 53.360 Number Theory
- 56.121 Computer Science

Select one computer course which must be numbered 56.122 or higher

Any two (2) Mathematics courses numbered 53.311 or higher

### Secondary Education

Choose one of the following four courses:

- 56.305 Computer Applications
- 60.204 Educational Computing and Technology
- 60.350 Instructional Design Systems
- 60.351 Virtual Learning Communities

- 60.206 Teachers, Schools and Society
- 60.251 Psychological Foundations of Education.
- 60.291 Principles of Teaching
- 60.311 Classroom Measurement and Assessment

65.352 Teaching of Mathematics

Choose one of the following two courses:

- 60.393 Social Foundations of Education
- 60.406 Multicultural Education

- 60.497 Teaching in Education: First Experience
- 60.498 Teaching in Education: Second Experience

### General Education

Among 53 credits of general education courses, the following are required:

- 20.101 Composition I
- 20.201 Composition II or a Writing Intensive Course:
  - 20.131 The Bible as Literature
  - 20.151 Introduction to Literature
  - 20.152 Literature and Society
  - 20.156 Popular Literature
  - 20.226 European Literature I
  - 20.227 European Literature II
  - 20.236 American Literature I
  - 20.237 American Literature II
  - 20.246 British Literature I
  - 20.247 British Literature II
  - 20.256 Non-Western Literature I
  - 20.257 Non-Western Literature II

Choose one of the following two courses

- 25.103 Public Speaking
- 25.104 Interpersonal Communication

- 53.141 Introduction To Statistics
- 46.200 Principles of Cultural Anthropology
- 48.101 General Psychology
- 48.212 Adolescent. Psychology
- 70.101 Introduction to Exceptional Individuals
- 50.115 Concepts Biology II
- 52.116 Chemical Principles and Measurements
- 54.112 Introductory Physics II or 54.212 General Physics II

Among courses chosen to meet humanities requirement, three departments must be represented from Art and Art History, Communication Studies and Theatre Arts, English, Languages and Cultures, Music History, and Philosophy. Among natural sciences and mathematics requirements, three departments must be represented from Biological and Allied Health Sciences, Chemistry; Geography and Geosciences; Mathematics, Computer Science and Statistics, and Physics and Engineering Technology.

- 28.303 Philosophy of Science (Recommended)
- 42.250 History of Science (Recommended)

### Secondary Education - Physics

A total of 121 credits is required for a bachelor of science in education degree with a specialization in Physics. Required courses include:

#### Physics

- 52.116 Chemical Principles and Measurements

- 53.322 Differential Equations
- 54.211 General Physics I
- 54.212 General Physics II
- 54.302 Mechanics: Dynamics
- 54.310 Modern Atomic Physics
- 54.314 Electricity and Magnetism
- 54.315 Electronics
- 54.318 Optics
- Physics Electives (300 Level and above) - 4 credits
- 56.116 Algorithmic Processes for Computers

### Secondary Education

- Choose one of the following three courses:
- 60.204 Educational Computing and Technology
  - 60.350 Instructional Design Systems
  - 60.351 Virtual Learning Communities
- 60.206 Teachers, Schools and Society
- 60.251 Psychological Foundations of Education.
- 60.291 Principles of Teaching
- 60.311 Classroom Measurement and Assessment
- Choose one of the following two courses:
- 60.393 Social Foundations of Education
  - 60.406 Multicultural Education
- 60.353 Teaching of Science
- 60.497 Teaching in Education: First Experience
- 60.498 Teaching in Education: Second Experience

### General Education

Among 53 credits of general education courses, the following are required:

- 20.101 Composition I
- 20.201 Composition II or a Writing Intensive Course:
  - 20.131 The Bible as Literature
  - 20.151 Introduction to Literature
  - 20.152 Literature and Society
  - 20.156 Popular Literature
  - 20.226 European Literature I
  - 20.227 European Literature II
  - 20.236 American Literature I
  - 20.237 American Literature II
  - 20.246 British Literature I
  - 20.247 British Literature II
  - 20.256 Non-Western Literature I
  - 20.257 Non-Western Literature II

Choose one of the following two courses

- 25.103 Public Speaking
- 25.104 Interpersonal Communication
- 41.105 Environmental Issues and Choices
- 53.125 Calculus I
- 53.126 Calculus II
- 53.225 Calculus III
- 46.200 Principles of Cultural Anthropology
- 48.101 General Psychology
- 48.212 Adolescent. Psychology
- 70.101 Introduction to Exceptional Individuals
- 52.115 Fundamentals of Inorganic Chemistry
- 54.400 Advanced Physics Lab.

Among courses chosen to meet humanities requirement, three departments must be represented from Art and Art History, Communication Studies and Theatre Arts, English, Languages and Cultures, Music History, and Philosophy. Among natural sciences and mathematics requirements, three departments must be represented from Biological and Allied Health Sciences, Chemistry; Geography and Geosciences; Mathematics, Computer Science and Statistics, and Physics and Engineering Technology.

- 42.250 History of Science (Recommended)

## Secondary Education - General Science

A total of 120 credits is required for a bachelor of science in education with specialization in general science. Required courses include:

### Science

- 50.114 Concepts Biology I
  - 51.120 Physical Geology
  - 51.130 Historical Geology
  - 51.255 Meteorology
  - 51.259 Oceanography
- Choose one of the following two courses:
- 51.121 Physical Geology Lab or
  - 51.131 Historical Geology Lab
- 52.115 Fundamentals of Inorganic Chemistry
- Choose one of the following two courses:
- 53.123 Essentials of Calculus or
  - 53.125 Calculus I
- Choose one of the following two courses:
- 54.105 Energy Sources and Environmental .Effects or
  - 51.100 Environmental Geology
- 54.110 Astronomy
- Choose one of the following two courses:
- 54.111 Introductory Physics I or
  - 54.211 General Physics I
- One additional science course numbered 200 or above

### Secondary Education

- Choose one of the following three courses:
- 60.204 Educational Computing and Technology
  - 60.350 Instructional Design Systems
  - 60.351 Virtual Learning Communities
- 60.206 Teachers, Schools and Society
- 60.251 Psychological Foundations of Education.
- 60.291 Principles of Teaching
- 60.311 Classroom Measurement and Assessment
- Choose one of the following two courses:
- 60.393 Social Foundations of Education
  - 60.406 Multicultural Education
- 60.353 Teaching of Science
- 60.497 Teaching in Education: First Experience
- 60.498 Teaching in Education: Second Experience

### General Education

Among 53 credits of general education courses, the following are required:

- 20.101 Composition I
- 20.201 Composition II or a Writing Intensive Course:
  - 20.131 The Bible as Literature
  - 20.151 Introduction to Literature
  - 20.152 Literature and Society
  - 20.156 Popular Literature
  - 20.226 European Literature I
  - 20.227 European Literature II
  - 20.236 American Literature I
  - 20.237 American Literature II
  - 20.246 British Literature I
  - 20.247 British Literature II
  - 20.256 Non-Western Literature I
  - 20.257 Non-Western Literature II

Choose one of the following two courses

- 25.103 Public Speaking
- 25.104 Interpersonal Communication
- 53.141 Introduction To Statistics
- 46.200 Principles of Cultural Anthropology
- 48.101 General Psychology
- 48.212 Adolescent. Psychology
- 70.101 Introduction to Exceptional Individuals
- 50.115 Concepts Biology II
- 52.116 Chemical Principles and Measurements

54.112 Introductory Physics II or 54.212 General Physics II

Among courses chosen to meet humanities requirement, three departments must be represented from Art and Art History, Communication Studies and Theatre Arts, English, Languages and Cultures, Music History, and Philosophy. Among natural sciences and mathematics requirements, three departments must be represented from Biological and Allied Health Sciences, Chemistry; Geography and Geosciences; Mathematics, Computer Science and Statistics, and Physics and Engineering Technology.

28.303 Philosophy of Science (Recommended)

42.250 History of Science (Recommended)

## Secondary Education - Spanish

A total of 120 credits is required for a bachelor of science in education degree with a specialization in Spanish. Required courses include:

### Spanish

12.204 Spanish IV

12.206 Structure of the Spanish Language (12.250 Spanish for Heritage Speakers I replaces for Spanish speakers or advanced language students the required course 12.206)

12.207 Conversation and Composition I

12.214 Hispanic World Culture and Civilization.

12.305 Applied Phonetics and Pronunciation.

12.306 Conversation & Composition II (12.350 Spanish for Heritage Speakers II replaces for Spanish speakers or advanced language students the required. course 12.306)

12.402 Advanced Conversation

12.403 Advanced Structure and Composition

12.420 Spanish Literature

Electives 3 Credits Minimum by Advisement - Substitution with these courses requires chair approval

Note: A student exempted from a required course must substitute the course with an advanced elective in Spanish with the chair's approval:

12.208 Spanish for Health Professions

12.209 Spanish for Social Services

12.211 Spanish Culture & Civilization

12.212 Spanish Amer. Culture & Civ.

12.213 Hispanic Culture & Literature

12.281-9 Special Topics

12.290 Study Abroad

12.309 Commercial Spanish

12.331 Literary Analysis

12.390 Internship in Spanish

12.335 Communicative Spanish for Teachers

12.430 Hispanic Short Story

12.422 Hispanic Theater and Poetry

12.490 Independent Study

### Secondary Education

16.350 Foreign Language Methodology and Research

Choose one of the following three courses:

60.204 Educational Computing and Technology

60.350 Instructional Design Systems

60.351 Virtual Learning Communities

60.206 Teachers, Schools and Society

60.251 Psychological Foundations of Education.

60.291 Principles of Teaching

60.311 Classroom Measurement and Assessment

Choose one of the following two courses:

60.393 Social Foundations of Education

60.406 Multicultural Education

60.497 Teaching in Education: First Experience

60.498 Teaching in Education: Second Experience

### General Education

Among 53 credits of general education courses, the following are required:

20.101 Composition I

20.201 Composition II or a Writing Intensive Course:

20.131 The Bible as Literature

20.151 Introduction to Literature

20.152 Literature and Society

20.156 Popular Literature

20.226 European Literature I

20.227 European Literature II

20.236 American Literature I

20.237 American Literature II

20.246 British Literature I

20.247 British Literature II

20.256 Non-Western Literature I

20.257 Non-Western Literature II

Choose one of the following two courses:

25.103 Public Speaking

25.104 Interpersonal Communication

A mathematics course

12.203 Spanish III

46.200 Principles of Cultural Anthropology

48.101 General Psychology

48.212 Adolescent. Psychology

70.101 Introduction to Exceptional Individuals

Among courses chosen to meet humanities requirement, three departments must be represented from Art and Art History, Communication Studies and Theatre Arts, English, Languages and Cultures, Music History, and Philosophy. Among natural sciences and mathematics requirements, three departments must be represented from Biological and Allied Health Sciences, Chemistry; Geography and Geosciences; Mathematics, Computer Science and Statistics, and Physics and Engineering Technology.

## Curriculum and Instruction (M.Ed.)

Administered by Educational Studies and Secondary Education  
Effective Fall, 2003

**Admission** -Applicants must satisfy the general admission requirements for the School of Graduate Studies. In addition, applicants to this degree program must:

Have a 3.0 undergraduate QPA.

Submit scores on the PRAXIS in your subject matter field or GRE or MAT scores or teaching credential.

Students who do not meet the minimum requirements for admission may be admitted non-degree upon the approval of the Graduate Advisory Board. The non-degree designation must be eliminated after completion of 12 semester hours in which a QPA of 3.0 or better is earned. No C's may be earned during this period.

Schedule an interview with the program coordinator, Dr. Mary Harris, to clarify program requirements, discuss goals, evaluate academic records, and outline a long-range program.

**Retention.** Graduate students must take a minimum of 9 semester hours per calendar year and a QPA of 3.0 or higher must be maintained. Students not taking a minimum of 9 semester hours per calendar year will be considered inactive after two years.

Only courses with a minimum grade of C are considered applicable to this program.

**Transfer Credits.** Up to nine semester hours from accredited institutions, other than Bloomsburg University may, upon approval, be accepted toward completing the degree requirements of this program. However, no courses will be transferred in which a grade less than a B was earned. Pass/fail grades are not acceptable.

**Graduation.** Graduate students complete 30 semester hours of approved course work, complete 6 semester hours for the thesis or

36 semester hours of approved course work and a departmental paper, and apply for graduation. All deficiencies, monetary and academic, must be satisfied before the degree can be granted.

### Program Completion and Graduation

A candidate for a master's degree must complete the student portion of the Application for Graduation, sign the form and submit it to your program coordinator for verification of degree requirements. After approval, the application is submitted to the Registrar by the following deadlines for each graduation:

- May graduation - March 15
- August graduation - April 1
- December graduation - October 15

The form must be received in the Registrar's Office on or before those dates. After the deadlines, names will not appear in the commencement program and the diploma may be delayed. The form is available in the Office of Graduate Studies, Registrar's Office, or the office of your program coordinator.

### Registration for Classes

You may register for classes by emailing your program coordinator at mharris@bloomu.edu or you may complete the Graduate Scheduling Form found in the back of the School of Graduate Studies Class Schedule booklet and submitting it to your program coordinator.

### Program of Study: (Certification Track)

A minimum of 33 credits are required for the certification track of the M.Ed. in Curriculum and Instruction. The following courses are required:

- 60.527 Classroom Management and Effective Discipline
- 60.561 Measurement and Evaluation in Secondary Schools
- 60.565 Advanced Foundations of Education or 60.531 Adapting Teaching Strategies
- 60.584 Curriculum and Instruction Theory, Design and Development
- 65.530 Curriculum Development and Instructional Strategies in the Middle and Junior High Schools
- 65.597 Practicum (6 credits)
- 70.516 Psychology of Exceptional Individuals
- 79.591 Research in Education
- 79.593 Studies in Diversity or 60.506 Multicultural Education
- Any 500 level Educational Technology course such as:
  - 60.504 Computers and Teaching
  - 60.515 Integrating Technology in Teaching
  - 60.516 Computers and the Curriculum
  - 60.512 Computer Media
  - 60.522 Internet for Teachers
- Elective

### Admission to Certification

Students are required to take the PRAXIS test in their subject matter field, and the Core Battery tests before registering for more than 12 credits in the program.

Possess a cumulative grade point average of 3.0.

Obtain current Pennsylvania Qualifying Scores for the Praxis 1: Academic Skills Assessments:

Session/Test Code:

- 10710 PPST Reading
- 20720 PPST Writing
- 10730 PPST Mathematics (calculators prohibited)

Submit the results from a current Tuberculosis Screening administered within the last two years.

Possess professional liability insurance. The policy shall be a minimum of \$1,000,000 per claim and \$3,000,000 aggregate. This is

a state requirement which can be satisfied through membership in PSEA.

Obtain current ACT 34 (Request for Criminal Record Check) and ACT 151 (Child Abuse History Check) clearances. Clearances are valid for one year from date issued on the form.

### Student Teaching Practicum

Students need to sign up for student teaching one year in advance. It is the student's responsibility to attend signup meetings held in January and September. Meeting dates will be posted in the Student Teaching Placement Office located in 1211 McCormick. Eligibility for Student Teaching packets will be discussed at that time.

In order to register for the required practicum, a full semester of student teaching, you must have completed all the requirements for admission to certification.

### Program of Study: (no certification)

A minimum of 30 credits are required for the master of education in curriculum and instruction. The following courses are required:

- 79.593 Studies in Human Diversity or 50.506 Multicultural Education
- 60.565 Advanced Foundations of Education or 60.532 Adapting Teaching Strategies
- 60.584 Curriculum and Instructional Theory, Design and Development
- 79.591 Research in Education
- Individualized Curriculum (12 credits)
- 79.599 Thesis (6 credits)
- OR a departmental paper and six additional credits of course work

### Graduate Assistantships

A limited number of graduate assistantships are available each academic year. The application for a graduate assistant can be obtained in the Office of Graduate Studies.

### Supervisory Certificate Programs

Professional educators who hold supervisory certificates provide leadership in specific areas. Applicants for admission to a Supervisory program must have a valid Pennsylvania teaching certificate and five years of satisfactory teaching experience. Bloomsburg University offers Supervisory Certificate Programs in four areas (to see requirements click on the following links):

- Supervisory Certificate in Elementary Education
- Supervisory Certificate in Early Childhood Education
- Supervisory Certificate in Curriculum and Instruction
- Supervisory Certificate in Special Education

### Supervisory Certificate in Elementary Education

Prerequisites:

1. Valid Pennsylvania Teaching Certificate
2. Evidence of at least five years of satisfactory teaching experience. (Emergency certificate or intern teaching certificates are not acceptable)

### Program of Study: 24 credits

- 62.521 Elementary School Curriculum (3)
- 62.524 Knowledge and Curriculum in the Elementary Schools (3)
- 60.573 Introduction to Educational Administration (3)
- 60.576 School Law and Finance (3)
- 60.579 Supervision of Curriculum and Instruction (3)
- 60.580 Practicum in Supervision of Curriculum and Instruction (3)
- 60.584 Curriculum and Instructional Theory, Design and Development (3)
- 79.591 Research in Education (3)

**Application for Certification:**

1. Achieve passing score on PRAXIS test 10410 Educational Leadership: Administration and Supervision
2. Completion of forms PDE 338G, PDE 338C, PDE338 V (one 338 V for each employer)

**Supervisory Certificate in Early Childhood Education**

**Prerequisites:**

1. Valid Pennsylvania teaching certificate
2. Evidence of at least five years of satisfactory teaching experience. (Emergency certificate or intern teaching certificates are not acceptable)

**Program of Study: 21 credits**

- 62.522 Curriculum Trends in Early Childhood Education (3)
- 62.590 Current Research and Development in Early Childhood Education (3) OR 79.591 Research in Education (3)
- 62.593 Organization and Administration of Programs for Young Children (3) OR 60.579 Supervision of Curriculum and Instruction (3)
- 60.573 Introduction to Educational Administration (3)
- 60.576 School Law and Finance (3)
- 60.580 Practicum in Supervision of Curriculum and Instruction (3)
- 60.584 Curriculum and Instructional Theory Design and Development (3)

**Application for Certification:**

1. Achieve passing score on PRAXIS test 10410 Educational Leadership: Administration and Supervision
2. Completion of forms PDE 338G, PDE 338C, PDE338 V (one 338 V for each employer)

**Supervisory Certificate in Curriculum and Instruction**

**Prerequisites:**

1. Valid Pennsylvania teaching certificate
2. Evidence of at least five years of satisfactory teaching experience. (Emergency certificate or intern teaching certificates are not acceptable)

**Program of Study: 21 credits**

- 60.530 Curriculum and Instruction Strategies (3)
- 60.573 Introduction to Educational Administration (3)
- 60.576 School Law and Finance (3)
- 60.579 Supervision of Curriculum and Instruction (3)
- 60.580 Practicum in Supervision of Curriculum and Instruction (3)
- 60.584 Curriculum and Instructional Theory, Design and Development (3)
- 60.585 Curriculum and Instruction Evaluation (3)

**Application for Certification:**

1. Achieve passing score on PRAXIS test 10410 Educational Leadership: Administration and Supervision
2. Completion of forms PDE 338G, PDE 338C, PDE338 V (one 338 V for each employer)

**Supervisory Certificate in Special Education**

**Prerequisites:**

1. Valid Pennsylvania teaching certificate
2. Completion of an appropriate master's degree program (The supervisory program can be imbedded within the program of study of the Master of Science in Special Education)
3. Evidence of at least five years of satisfactory teaching experience. (Emergency certificate or intern teaching certificates are not acceptable)

**Program of Study: 21 credits**

- 60.573 Introduction to Educational Administration (3)
- 70.501 Special Education Administration (3)
- 70.502 Principles of Special Education Law (3)
- 70.503 Curricular Design and Instruction for Inclusive Education (3)
- 70.575 Current Issues in Special Education (3)
- 70.595 Internship (6)

**Application for Certification:**

1. Achieve passing score on PRAXIS test 10410 Educational Leadership: Administration and Supervision
2. Completion of forms PDE 338G, PDE 338C, PDE338 V (one 338 V for each employer)

# Department of English

## English (B.A.)

Administered by Department of English, College of Liberal Arts  
Effective Fall, 2004

A total of 39 semester hours is required for a major in English. No course may be used to satisfy more than one requirement. With the addition of general education requirements and elective courses of at least 32 semester hours, the 120-hour requirement for a baccalaureate degree is satisfied.

A currently enrolled Bloomsburg University student wishing to declare English as a major must have a minimum of 15 credits completed and must have completed an English course other than 20.101, 20.201 or 20.205 with a grade of B- or better.

Beginning with the end of the Fall 2004 semester, an English major with 45 or more credits completed must have a minimum GPA of 2.5 in English courses to maintain academic good standing in the major. If the student's English GPA is below 2.5, that student will have one semester in which to (re)gain the required 2.5. Failure to do so will result in dismissal from the major.

For an English course to count toward the fulfillment of requirements in the English major, the minimum grade is a C-.

Specific requirements within general education for all tracks are:

### Communication courses

- 20.101 Composition I
- 20.203 Approaches to Literary Study

### Humanities area course

- 20.226 European Literature I

### English Track

- 20.246 British Literature I
- 20.247 British Literature II
- 20.236 American Literature I
- 20.237 American Literature II
- 20.256 Non-Western Literature I or 20.257 Non-Western Literature II

One of the following linguistics courses:

- 20.311 Structure of English
- 20.312 History of the English Language
- 20.411 Modern Linguistic Theory
- 20.413 Language in American Society

One elective in pre-1660 British Literature from:

- 20.341 Medieval Literature
- 20.342 The Renaissance
- 20.346 Studies in British Literature (pre-1660 topic)
- 20.347 Studies in British Literature (pre-1660 topic)
- 20.363 Shakespeare
- 20.364 Chaucer
- 20.375 Renaissance Drama
- 20.481 Special Topics (pre-1660 British Literature topic)

One elective in post-1660 British Literature from:

- 20.344 Restoration and Eighteenth Century
- 20.345 Romantic and Victorian Literature
- 20.346 Studies in British Literature (post-1660 topic)
- 20.347 Studies in British Literature (post-1660 topic)
- 20.348 British Modernism
- 20.365 Milton
- 20.378 English Novels
- 20.481 Special Topics (post-1660 British literature topic)

Two elective courses in American literature from:

- 20.334 Studies in American Literature
- 20.345 Studies in American Literature
- 20.431 American Romanticism
- 20.432 American Realism

- 20.433 American Modernism
- 20.434 Contemporary American Literature
- 20.436 African-American Literature
- 20.481 Special Topics (American literature topic)

One of the following two courses:

- 20.492 Literary Criticism
- 20.491 Topics in Criticism

Six credits of electives, three of which may be 200 level and three of which must be 300/400 level

### Secondary Education Track

- 20.246 British Literature I
- 20.247 British Literature II
- 20.236 American Literature I
- 20.237 American Literature II
- 20.256 Non-Western Literature I or 20.257 Non-Western Literature II

Choose one from the following

- 20.307 Writing for the Internet
- 20.391 Literature and Film
- 26.102 Introduction to Theater Arts
- 26.209 Theater Appreciation
- 27.110 Mass Communications and Popular Arts
- 27.190 History of Film
- 27.275 Cinema Appreciation
- 27.315 Social Foundations of Mass Communications
- 42.226 Popular Culture in America
- 45.400 Sociology of Mass Communications

20.236 Shakespeare

20.306 Theory and Practice of Writing (offered fall semester only)

20.385 Literature for Young Adults (offered spring semester only)

Six credits of electives, three of which may be 100/200 level (excluding 20.151) and three of which must be 300/400 level

### Creative Writing Track

- 20.246 British Literature I or 20.247 British Literature II
- 20.236 American Literature I or 20.237 American Literature II
- 20.256 Non-Western Literature I or 20.257 Non-Western Literature II

20.204 Introduction to Creative Writing

One of the following linguistics courses:

- 20.311 Structure of English
- 20.312 History of the English Language
- 20.411 Modern Linguistic Theory
- 20.413 Language in American Society

Three from the following writing electives

- 20.301 Creative Writing: Fiction
- 20.302 Creative Writing: Non-Fiction
- 20.303 Creative Writing: Poetry
- 20.300 Writing Children's Literature
- 26.340 Scriptwriting

20.306 Theory and Practice of Writing (offered fall semester only)

20.404 Creative Writing Seminar (offered fall semester only)

Three elective courses; two must be 300/400 literature, remaining one may be any English course

### Minor in English

The minor in English consists of 18 semester hours: 9 hours from courses on the 100 or 200 level except 20.101, 20.200 and 20.201 and 20.205; 9 hours from courses on the 300 or 400 level; and approval of the department chair.

# Department of Exceptionality Programs

## American Sign Language/English Interpreting (B.S.)

Administered by Exceptionality Programs  
Effective Fall, 2004

In addition to 53 semester hours in general education requirements, the major in interpreting requires 24 semester hours in Sign Language and 24-27 semester hours in interpreting; the remaining 16-19 semester hours required for a bachelor's degree come from elective courses.

### Sign Language Requirements

- 74.153 Introduction to Sign Language
- 75.225 American Sign Language I
- 75.225 Linguistics of ASL
- 75.226 American Sign Language II
- 75.257 American Sign Language III
- 75.330 The Deaf Culture
- 75.327 American Sign Language IV
- 75.358 American Sign Language V

### Interpreter Training Requirements:

- 75.235 Introduction to Interpreting
- 75.265 Pre-Interpreting Skills
- 75.335 Translation
- 75.365 Consecutive Interpreting
- 75.420 Simultaneous Interpreting
- 75.450 Transliteration
- 75.460 Practicum Seminar
- 75.480 Practicum

### Related Course Requirements for ITP

- 25.103 Public Speaking
- 74.301 History, Education, and Guidance of the Deaf
- 20.112 Practical Grammar and Usage

### Electives or Area of Concentration (Upon approval of advisor)

- 75.101 Visual/Gestural Communication
- 74.260 Interpreting in the Education Setting
- 75.275 Oral Interpreting
- 75.370 Tactile Interpreting

### Area of Concentration in Education of Deaf/Hard of Hearing -

Interpreting students may choose to take an area of concentration in education of the deaf/hard of hearing. The undergraduate curriculum in education of the deaf/hard of hearing lays the foundation for the training and education needed to prepare classroom teachers and itinerant hearing therapists to work in educational settings with deaf/hard of hearing children and adults. Students supplement the curriculum for their majors with an area of concentration in education of the deaf/hard of hearing that requires a minimum of 18 semester hours.

## Special Education (B.S.Ed.)

Administered by Exceptionality Programs  
Effective Fall, 2004

**General Education Requirements** - The university requires a minimum of 50 hours of general education requirements, some of which are specifically required for this major. Core courses designated by the department as applicable to the general education requirements may be elected in partial fulfillment of that requirement. The following general education courses are required for completion of the program:

- 20.101 Composition I and 20.201 Composition II (or any of the writing intensive literature courses)
- 25.103 Public Speaking or 25.104 Interpersonal Communication
- 48.101 General Psychology
- 48.210 Life-Span Psychology
- 50.100 Cells, Genes, Molecules
- 05.321 First Aid and Safety
- 53.141 Introduction to Statistics or 48.160 Basic Statistics

To meet state certification requirements, special education majors must have six credits of mathematics, composition and an American or English literature course.

**Requirements for the Major** - A total of 70 semester hours is required for a major in special education including professional education courses, those required for special education and electives.

Professional Education courses include:

Choose one of the following three courses:

- 60.251 Psychological Foundations in Education or
- 48.251 Psychological Foundations in Education or
- 60.393 Social Foundations of Education

60.406 Multicultural Education

62.302 Teaching of Science in the Elementary School or 62.390

Teaching Social Studies in the Elementary School

62.371 Teaching Reading in the Elementary School

62.398 Teaching Mathematics in the Elementary School

Choose one of the following four courses:

- 62.373 Diagnostic and Inclusive Practices
- 74.305 Introduction to Instructional Methods for the Deaf/Hard of Hearing (reserved for Deaf/Hard of Hearing area of concentration only).
- 60.497 Teaching Literacy and Literature in Diverse Classrooms
- 65.374 Teaching Reading in Academic Subjects

Special Education Courses include:

- 70.101 Introduction to Exceptional Individual
- 70.202 Technology for Exceptionalities
- 70.206 Introduction to Early Intervention
- 70.240 Foundations in Special Education
- 70.250 Behavior Disorders
- 70.340 Educating Individuals with Moderate/Severe Disabilities
- 70.353 Assessment and Planning
- 70.357 Vocational Programming
- 70.401 Student Teaching With Exceptional Individuals
- 70.433 Language Arts for Students with Special Needs
- 70.450 Methods for Elementary Special Education
- 70.451 Methods for Secondary Special Education
- 70.461 Problems in Special Education

**Elective Courses** - A total of five semester hours may be taken as electives for this major.

### Area of Concentration in Education of the Deaf/Hard of Hearing

Special education students may choose to take an area of concentration in education of the deaf/hard of hearing. The undergraduate curriculum in education of the deaf/hard of hearing lays the foundation for the training and education needed to prepare classroom teachers and itinerant hearing therapists to work in educational settings with deaf/hard of hearing children and adults. Students supplement the curriculum for their majors with an area of

concentration in education of the deaf/hard of hearing that requires a minimum of 24 semester hours.

Certification to teach deaf/hard of hearing students in school programs is granted by the Pennsylvania Department of Education upon completion of a related graduate program.

All applicants to the graduate program in Education of the Deaf/Hard of Hearing must have completed the courses listed below. Students without an education background will need to take five education courses agreed upon by the curriculum coordinator in education of the deaf/hard of hearing.

#### Required Courses

The following is a suggested time sequence for courses required in the area of concentration of the deaf/hard of hearing.

#### Freshman Year

- 70.101 Introduction to Exceptional Individuals
- 74.201 History, Education and Guidance of the Deaf/Hard of Hearing
- 74.153 Introduction to Sign Language

#### Sophomore Year

- 72.200 Introduction to Audiology
- 75.155 American Sign Language I
- 75.226 American Sign Language II

#### Junior/Senior Years

- 74.305 Introduction to Instructional Methods for the Deaf/Hard of Hearing
- 74.461 Deaf/Hard of Hearing Based Observation

## Elementary Education and Special Education (Dual Certification)

Administered by Exceptionality Programs  
Effective Fall, 2004

**General Education Requirements** - The university requires 53 hours of general education requirements, some of which are specifically required for this major. Core courses designated by the department as applicable to the general education requirements may be elected in partial fulfillment of that requirement. The following general education courses are required:

- 20.101 Composition I and 20.201 Composition II (or any of the writing intensive literature courses) Those testing out of 20.101 and 20.201 will schedule 20.104 Honors Composition and are required to take only six of the nine hours required under Communication
- 25.103 Public Speaking or 25.104 Interpersonal Communication
- 48.101 General Psychology
- 48.210 Life-Span Psychology
- 45.211 Sociology or 46.200 Anthropology
- 70.101 Introduction to Exceptional Individuals
- 53.141 Introduction to Statistics or 48.160 Basic Statistics
- Any American history course
- Any literature course
- 50.101 General Biology
- 54.103 Physical Science
- 53.201 Theory of Arithmetic
- 05.321 First Aid and Safety

**Requirements for the Major** - A total of 77 semester hours is required for dual certification in elementary education and special education

Professional Education courses include:

- 60.251 Psychological Foundations of Education or 48.251 Psychological Foundations of Education
- 60.393 Social Foundations of Education or 60.406 Multicultural Education
- 62.302 Teaching of Science in the Elementary School
- 62.390 Teaching Social Studies in the Elementary School
- 62.371 Teaching Reading in the Elementary School
- 62.398 Teaching Mathematics in the Elementary School
- 62.373 Diagnostic and Inclusive Practices
- 05.311 Methods and Materials in Elementary School Physical Education or 05.320 Health and Safety in Elementary School
- 60.291 Principles of Teaching
- 62.310 Teaching Fine Arts
- 70.202 Technology for Exceptional Individuals
- 70.206 Introduction to Early Intervention
- 70.240 Foundations of Special Education
- 70.250 Behavior Disorders
- 70.340 Educating Individuals with Moderate/Severe Disabilities
- 70.353 Assessment and Planning
- 70.357 Vocational Programming
- 70.401 Student Teaching with Exceptional Individuals
- 70.433 Language Arts for Students with Special Needs
- 70.450 Methods for Elementary Special Education
- 70.451 Methods for Secondary Special Education
- 70.461 Problems in Special Education

## Education of the Deaf/Hard of Hearing (M.S.)

Administered by the Department of Exceptionality Programs  
Effective Fall, 2004

Students graduating with an M.S degree in education of the deaf/hard of hearing from Bloomsburg University are eligible, upon completion of the application process, for national Council on Education of the Deaf (CED) certification, Pennsylvania Department of Education (PDE) Certification and licensure as a teacher of the deaf/hard of hearing from the Pennsylvania State Board of Examiners in Speech-Language and Hearing.

**Admission.** Applicants with bachelor's degrees in early childhood education, elementary education, secondary education and special education have appropriate educational backgrounds for entry into the program. Those students without education courses in their background are required to take 15 core credits of education courses. Prerequisite coursework in the following areas must be completed either before or during the graduate program.

Undergraduate area of concentration in education of the deaf/hard of hearing:

- 70.101 Introduction to Exceptional Individuals
- 72.200 Introduction to Audiology
- 74.201 History, Education and Guidance of the Deaf/Hard of Hearing
- 74.153 Introduction to Sign Language
- 75.155 American Sign Language I
- 75.226 American Sign Language II
- 74.305 Introduction to Instructional Methods for the Deaf/Hard of Hearing
- 74.461 Deaf Hard of Hearing Technology-based Observations/ Interactions Across the Country

Students who anticipate applying for admission to the graduate program in education of the deaf/hard of hearing are strongly urged to elect the following elective courses:

- 74.325 Practicum with the Deaf/Hard of Hearing at Camp Hero
- 74.254 The Deaf Culture
- 74.255 American Sign Language III
- 74.256 American Sign Language IV

All applicants to the graduate program in education of the deaf/hard of hearing are encouraged to complete an introductory course in statistics or its equivalent and the following: (Students may take these, some as general education electives)

A bachelor's degree with a QPA of 2.8 in the education of the deaf/hard of hearing area of concentration and an overall QPA of 2.8 are required. If either QPA is below 2.8, the student may be admitted on a provisional basis and must earn a QPA of 3.0 or better upon completion of 9 to 12 semester hours in graduate-level courses. No Cs may be earned during the provisional period.

Applicants must submit a one-page, handwritten letter, stating professional background, experience and rationale for wanting to be admitted to this master's program. Three letters of reference from individuals who have knowledge of the applicant's academic and teaching background are required. For confirmation purposes, the letters must contain the name, address, position and telephone number of the writer.

Applicants must make arrangements with the program coordinator for an interview.

The National Teacher Examination or the Graduate Record Examination will be required of all applicants.

There is one entry point for full-time enrollment in this graduate program - summer semester. The application deadline for summer enrollment is March 15. Application for admission as a part-time student is not restricted and may be made at any time. There is no quota for students interested in entering the program on a part-time basis. Part-time students are required to meet with the program coordinator to design a curriculum sequence and time line.

**Retention.** Graduate students are required to earn a QPA of 3.0 with a maximum of two Cs for retention in this master's program. If a C is earned in a practicum course, the course must be repeated and a grade of B or better earned.

## Requirements

All graduate students must complete a departmental paper (thesis or non-thesis) and successfully pass a comprehensive examination administered during the semester the student plans to graduate. Upon graduation, students are academically prepared to apply for licensure in Pennsylvania and to pursue state and national certification as a teacher of the deaf/hard of hearing. Additionally, students are granted a provisional national certification by the Council on Education of the Deaf (CED) upon formal application.

The following is an example of a full-time curriculum sequence:

### Summer Session (total of 12 weeks)

- 74.560 Practicum with the Deaf/Hard of Hearing
- 74.564 Speech for the Deaf/Hard of Hearing
- 74.566 Language for the Deaf/Hard of Hearing I
- 74.567 Language for the Deaf/Hard of Hearing II

### Fall Semester

- 72.500 Auditory Training and Speechreading
- 70.575 Seminar in Current Issues in Special Education
- 74.569 Curricular Subjects for the Deaf/Hard of Hearing
- 74.562 ASL and Signed English in Educational Settings

### Spring Semester

- 74.570 Student Teaching with the Deaf/Hard of Hearing

### Summer Session (total of 6 weeks)

- 74.575 Counseling Individuals with Special Needs and Their Families
- 74.584 Research in Education of the Deaf/Hard of Hearing

## Reading (M.Ed.)

Administered by Department of Exceptionality Programs  
Effective Fall, 2004

**Admission:** Applicants must satisfy the general admission requirements for the School of Graduate Studies. In addition, applicants to this degree program must:

- Hold a baccalaureate degree and a Level I teaching certificate from an accredited college or university.
- Submit a 1-2 page, typed letter of intent stating professional background, experience, and rationale for wanting to be admitted to the program.
- Submit two letters of recommendation from professionals who can attest to the candidate's promise as a graduate student and professional leader.
- Schedule an interview with the program coordinator to clarify program requirements, discuss goals, evaluate academic records, and outline a long-range program.

**Retention:** Students must maintain a QPA of 3.0 to remain in the program.

**Transfer credits:** A maximum of nine semester hours of graduate-level coursework may be transferred from an accredited institution; a maximum of 12 semester hours may be transferred from graduate courses completed at Bloomsburg University. Transfer courses must carry a grade of B or higher and must be completed no more than six years from the date of graduation. Transfer credits may be requested or submitted at any time during the student's six-year program, but require prior approval from the student's advisor and the assistant vice president and dean of graduate studies and research.

**Graduation and Certification:** Students seeking an M.Ed. in Reading must complete 36 semester hours with a cumulative QPA of 3.0. All requirements must be completed within six years from the date of admission into the program. Students must reenroll for all courses that exceed the six-year program completion deadline outlined in the Graduate Catalog. Students seeking reading specialist certification must earn a minimum score of 570 on the Praxis specialty area test for reading specialists.

### Required Courses for Reading Specialist Certification (24 credits)

- 63.540 Introduction to the Teaching of Reading
- 63.541 Reading Assessment and Intervention
- 63.553 Practicum in Reading, Writing, and Word Study (6 credits)
- 63.545 Organization and Administration of Reading Programs
- 63.546 Reading in the Content Areas
- 63.550 Literature, Literacy, and Culture
- 63.551 Early Literacy Learning

### Required Courses for M.Ed. in Reading (36 credits)

- All of the above courses plus:
- 60.584 Curriculum and Instructional Theory, Design, and Development
- Either 79.591 Research in Education or 70.565 Reading and Interpreting Research in Special Education

**Three Electives:** Students may choose the following electives from the reading program, or they may choose courses from a related field if approved by the faculty advisor.

- 63.548 Reading Instruction for the At-Risk Learner
- 63.552 Reading and Writing Across the Curriculum
- 63.547 Seminar in Reading

## Special Education (M.S.)

Administered by the Department of Exceptionality Programs  
Effective Fall, 2004

**Admission.** Applicants seeking admission to the master's degree programs must satisfy the general admission requirements for the

School of Graduate Studies. The following additional criteria are also required:

- A one-page, handwritten letter of intent stating professional background, experience and rationale for wanting to be admitted to the department
- Two letters of recommendation
- Resume
- An interview with the chair or program coordinator
- An undergraduate cumulative QPA of 2.8. If average is below 2.8, the student may be admitted provisionally. No Cs may be earned during a probationary period.

**Retention.** Students must complete the criteria listed in the Teacher Education - Special Education packet prior to the completion of 12 graduate credits. Required GPA, licensing exams, field experience and liability information is described within the packet.

**Graduation.** Students seeking the M.S. in Special Education or the M.S. in Exceptionalities without certification must complete requirements as listed below.

### Requirements - Special Education (M.S.)

- Choice A: Thesis option - 24 hours course work plus six credits for thesis
- Choice B: Department paper option - 30 hours of course work plus department paper
- Choice C: Course work option - 36 hours course work.

### Core requirements (9 credits)

- 70.565 Reading and Interpreting Research in Special Education; OR
- 79.591 Research in Education
- 70.575 Seminar in Current Issues in Special Education
- 70.591 Practicum in Special Education

**Electives** (a minimum of 12 credits must be taken in special education):

- 70.501 Administration and Supervision in Special Education
- 70.502 Principles of Special Education Law
- 70.503 Curricular Design and Instruction for Inclusive Education
- 70.506 Introduction to Early Intervention
- 70.516 Psychology of Exceptional Individuals
- 70.522 Mathematics for Students with Special Needs
- 70.526 Transition Services for Individuals with Special Needs
- 70.533 Language Arts for Students with Special Needs
- 70.540 Education of Individuals with Moderate/Severe Disabilities
- 70.544 Diagnostic and Remedial Techniques (recommended if previous assessment course is older than five years)
- 70.547 Technology and Exceptional Individuals
- 70.550 Elementary Methods for Individuals with Mild Disabilities
- 70.551 Secondary Methods for Individuals with Mild Disabilities
- 70.552 Project in Special Education
- 70.559 Seminar in Special Education
- 70.570 Foundations of Behavior Disorders
- 70.572 Seminar in Behavior Disorders
- 70.595 Internship
- 70.596 Special Workshop 1 (1-6 credits)
- 70.597 Special Workshop 2 (1-6 credits)
- 70.598 Special Workshop 3 (1-6 credits)
- 70.599 Master's Research Paper
- 72.572 Augmentative Communication
- 74.501 Introduction to Sign Language

With adviser approval, students may also choose additional elective graduate courses in related fields such as reading, early childhood, elementary and secondary education, psychology and sociology. Coursework for a special education supervisory certificate may be incorporated into the M.S. in special education.

### Exceptionalities (M.S.)

Administered by Exceptionality Programs  
Effective Fall, 2004

(This program does **not** lead to certification in Teaching the Mentally/Physically Handicapped)

### Graduation requirements

- Choice A: Thesis option - 24 hours course work plus six credits for thesis
- Choice B: Department paper option - 30 hours of course work plus department paper
- Choice C: Course work option - 36 hours course work

Core requirements (9 credits)

- 70.516 Psychology of Exceptional Individuals
- 70.565 Reading and Interpreting Research in Special Education; OR
- 79.591 Research in Education
- 70.575 Seminar in Current Issues in Special Education

Electives (a minimum of 12 credits must be taken in special education)

- 70.501 Administration and Supervision in Special Education
- 70.502 Principles of Special Education Law
- 70.503 Curricular Design and Instruction for Inclusive Education
- 70.506 Introduction to Early Intervention
- 70.522 Mathematics for Students with Special Needs
- 70.526 Transition Services for Individuals with Special Needs
- 70.533 Language Arts for Students with Special Needs
- 70.540 Education of Individuals with Moderate/Severe Disabilities
- 70.544 Diagnostic and Remedial Techniques
- 70.547 Technology and Exceptional Individuals
- 70.550 Elementary Methods for Individuals with Mild Disabilities
- 70.551 Secondary Methods for Individuals with Mild Disabilities
- 70.552 Project in Special Education
- 70.559 Seminar in Special Education
- 70.570 Foundations of Behavior Disorders
- 70.572 Seminar in Behavior Disorders
- 70.595 Internship
- 70.596 Special Workshop 1 (1-6 credits)
- 70.597 Special Workshop 2 (1-6 credits)
- 70.598 Special Workshop 3 (1-6 credits)
- 70.599 Master's Research Paper
- 72.572 Augmentative Communication
- 74.501 Introduction to Sign Language

With adviser approval, students may also choose additional elective graduate courses in related fields such as reading, early childhood, elementary and secondary education, psychology and sociology.

### Exceptionalities (M.S.)

Administered by the Department of Exceptionality Programs  
Effective Fall, 2004

### With Certification in Teaching the Mentally/Physically Handicapped

**Graduation Requirements.** The M.S. and teacher certification require two separate applications. Students are required to complete a minimum of 36 credits (M.S.) and a maximum of 45 credits or 42 credits plus student teaching (M.S. plus certification).

Core Requirements

- 70.516 Psychology of Exceptional Individuals
- 70.565 Reading and Interpreting Research in Special Education; OR
- 79.591 Research in Education
- 60.501 Major Philosophies of Education

Certification Courses (equivalent courses may be considered)

70.506 Introduction to Early Intervention  
70.522 Mathematics for Students with Special Needs  
70.526 Transition Services for Individuals with Special Needs  
70.533 Language Arts for Students with Special Needs  
70.540 Education of Individuals with Moderate/Severe Disabilities  
70.544 Diagnostic and Remedial Techniques  
70.547 Technology and Exceptional Individuals  
70.550 Elementary Methods for Individuals with Mild Disabilities  
70.551 Secondary Methods for Individuals with Mild Disabilities  
70.559 Seminar in Special Education  
70.570 Foundations of Behavior Disorders  
70.591 Practicum in Special Education; OR  
70.509 Student Teaching with Exceptional Individuals; and  
70.561 Problems in Special Education

70.501 Administration and Supervision in Special Education  
70.502 Principles of Special Education Law  
70.503 Curricular Design and Instruction for Inclusive Education  
70.552 Project in Special Education  
70.572 Seminar in Behavior Disorders  
70.575 Seminar in Current Issues in Special Education  
70.596 Special Workshop 1 (1-6 credits)  
70.597 Special Workshop 2 (1-6 credits)  
70.598 Special Workshop 3 (1-6 credits)  
72.572 Augmentative Communication  
74.575 Counseling Needs of Communicatively Disordered Individuals and Their Families  
74.501 Introduction to Sign Language

With adviser approval, students may also choose additional elective graduate courses in related fields such as reading, early childhood, elementary and secondary education, psychology and sociology.

Electives

# Department of Finance and Legal Studies

## Finance (B.S.B.A.)

Administered by Department of Finance and Legal Studies  
Effective Fall, 2004

Students majoring in a B.S.B.A. degree program in the College of Business must take at least 50 percent of the business credit hours required for the business degree at Bloomsburg University.

In addition to 68 semester hours of general education requirements, the program in finance requires 24 hours of core business courses, 15 hours of courses specific to finance, plus 21 hours of business electives to meet the university requirement for a bachelor of science in business administration degree.

Among general education courses specifically required are:

- 20.101 English Composition I
- 20.102 English Composition II (or 20.104 Honors Composition)
- 25.103 Public Speaking
- 40.121 Principles of Economics I
- 40.122 Principles of Economics II
- 53.118 Applied Matrix Algebra
- 40.256 Business and Economics Statistics

Choose one of the following two courses or a higher level calculus course:

- 40.156 Business and Economics Math
- 53.123 Essentials of Calculus

Business Core:

- 91.220 Financial Accounting
- 91.223 Managerial Accounting
- 92.150 Introduction to Computer and Information Science
- 93.244 Principles of Management
- 93.481 Business Policies and Strategies
- 96.313 Introduction to Corporate Finance
- 97.310 Marketing: Principles and Practice
- 98.331 Law and Legal Environment

Finance Specialization

- 96.323 Financial Markets and Institutions
- 96.343 Investment Management
- 96.454 Advanced Corporate Finance
- 96.413 International Finance
- Plus one upper-level finance elective

Electives - Students must choose 21 semester hours in elective courses from General Business, Accounting, Computer and Information Systems, Management, Office Systems, Finance, Marketing and Business Law. Some additional courses are available as well; students should consult their adviser.

## Minor in Legal Studies

Administered by Department of Finance and Legal Studies  
Effective Fall, 2004

The minor in Legal Studies consists of 21 semester hours, 15 of which must be taken at Bloomsburg University. Required, but not a prerequisite for other courses, is 98.331 Law and the Legal Environment

Take at least one course from each of the following four groups: law and the humanities, law and the social sciences, rhetoric and theory, and legal regulation doctrine.

Humanities:

- 20.152 Literature and Society (when focussed on law and legal issues)
- 98.340 Law and Literature
- 20.481 Special Topics in English
- 98.499 Special Topics in Law

Social sciences:

- 44.244 Introduction to Criminal Justice
- 44.446 Constitutional Law I
- 44.447 Constitutional Law II
- 44.448 The Judicial Process
- 44.487 International Law and Organization
- 45.342 Penology
- 48.254 Psychological Aspects of Social Issues

Rhetoric, theory and jurisprudence:

- 25.321 Argumentation
- 28.292 Contemporary Moral Problems
- 28.305 Philosophy of Law
- 28.307 Contemporary Political Philosophy

Legal environment, regulation and doctrine:

- 27.310 Media Law
- 41.301 Water Resources Management
- 41.302 Land Business Management
- 98.332 Business and Commercial Law
- 98.407 International Legal Environment
- 98.450 Legal Environment
- 98.460 Employment and Discrimination Law
- 48.499 Special Topics in Law

Electives - Two courses from the following options, totaling six semester hours:

- Any two additional courses from two of the four categories above;
- An independent study course, internship in legal studies, honor seminar or international exchange course or program, with the approval of the Legal Studies Minor coordinator.
- Two courses in the first year of law school at Widener School of Law, Harrisburg, if a participant in the "3+3" B.A./J.D. program. See coordinator for details.

## Concentration in International Finance

Administered by Department of Finance and Legal Studies  
Effective Fall, 2004

The career concentration is an interdisciplinary program designed to assist students develop appropriate skills and knowledge to prepare them for entry into and mobility within professions or careers related to international business. Completion of the concentration will be recognized on the student's official transcript.

The career concentration in international business finance requires the completion of 18 credit hours of related course work plus a demonstrated proficiency in a foreign language (which may be English for international students for whom English is a second or foreign language).

Required courses include:

- 93.456 International Management
- 96.413 International Finance
- 97.380 International Marketing
- 98.407 International Legal Environment

These courses may also be applied to completing majors or minors in business as requirements, electives and/or diversity courses.

Elective credits include:

- 40.433 International Economics
- 40.434 Economic Growth of Underdeveloped Areas
- 44.280 International Relations

Or other 300/400 level courses in economics or political science with the approval of the adviser.

Or an internship experience and/or course work while participating in a foreign exchange program, with the approval of the advisor or appropriate department chair.

Language competency: a student must satisfy a foreign language competency to the intermediate level, either by completing up to a Level IV in course work or demonstrating proficiency by examination in the foreign language. Any courses taken are in addition to the 18 credit hours in the concentration and may also count toward the students humanities general education requirement.

# Department of Economics

## Economics (B.A.)

Administered by Department of Economics  
Effective Fall, 2004

In addition to 50 credit hours of general education requirements and 31 credits in free electives, 15 credit hours of economics core courses and 21 credit hours of economics electives and 3 credit hours of either 40.156 Business and Economics Mathematics or 53.123 Essentials of Calculus or 53.125 Calculus I are required to meet the University's 120-credit hour requirement for a Bachelor of Arts degree.

### Economics Core Courses

- 40.121 Principles of Economics I
- 40.122 Principles of Economics II
- 40.222 Intermediate Micro-Theory and Managerial Economics
- 40.221 Intermediate Macroeconomic Theory
- 40.256 Business and Economics Statistics I

### Economics Electives

A total of 21 credit hours are required, including the following:  
40.356 Business and Economic Statistics II or 40.456 Introduction to Econometrics

## Economics with Business Minor (B.S.)

Administered by Economics  
Effective Spring, 2004

In addition to 50 credit hours of general education requirements and 22 credit hours in free electives, 48 credits in economics core courses, economics electives and business courses are required to meet the university's 120-credit requirement for a Bachelor of Science degree.

### Economics Core courses

- 40.121 Principles of Economics I
- 40.122 Principles of Economics II
- 40.221 Intermediate Macroeconomic Theory
- 40.222 Intermediate Micro-Theory and Managerial Economics
- 40.256 Business and Economics Statistics I

### Economics electives

A total of 15 credits are required, including the following:  
56.110 Introduction to Computer Science or 92.150 Introduction to Information Technology  
40.356 Business and Economic Statistics II or 40.456 Introduction to Econometrics

### Business Core courses

Majors choose from one of two tracks, each totaling 18 credit hours:

#### Track 1

- 91.221 Principles of Accounting I
- 91.222 Principles of Accounting II
- 93.244 Principles of Management
- 96.313 Business Finance
- 97.310 Marketing: Principles and Practice
- One 300 level Business Elective in Accounting/Finance/Management or Marketing

#### Track 2

- 91.220 Financial Accounting
- 91.223 Managerial Accounting
- 93.244 Principles of Management
- 96.313 Business Finance
- 97.310 Marketing: Principles and Practice

One 300 level Business Elective in Accounting/Finance/Management or Marketing

## Political Economics (B.A.)

Administered by Department of Economics  
Effective Fall, 2004

In addition to 50 credit hours of general education requirements and 31 credits of free electives, 15 credit hours of economics core courses and 24 credit hours of economics and political science courses are required to meet the University's 120-credit hour requirement for a Bachelor of Arts degree.

### Core economics courses

- 40.121 Principles of Economics I
- 40.122 Principles of Economics II
- 40.221 Intermediate Macroeconomic Theory
- 40.222 Intermediate Micro-Theory and Managerial Economics
- 40.256 Business and Economics Statistics I

### Core political economics courses

- 40.315 Business and Government or 40.326 Public Finance
- 40.322 Contrasting Economics or 40.460 Advanced Political Economy

### Core political science courses

- 44.120 United States Government
- 44.336 Public Administration Theory

### Electives

- Six credit hours in economics electives
- Six credit hours in political science electives

## Minor in Economics

Administered by Department of Economics  
Effective Fall, 2004

The minor provides a basic competence in economics for non-economics majors and constitutes 18 semester hours. Courses required for a minor in economics are:

### Core courses in economics

- 40.121 Principles of Economics I
- 40.122 Principles of Economics II
- 40.221 Intermediate Macroeconomic Theory
- 40.222 Intermediate Micro-Theory and Managerial Economics

### Electives in economics

Choose two courses from the following three areas:

#### General Economics Theory

- 40.313 Labor Economics
- 40.315 Business and Government
- 40.316 Urban Economics
- 40.326 Public Finance
- 40.327 Money and Banking
- 40.329 Environmental Economics
- 40.333 International Economics

#### Statistical Analysis

- 40.256 Business and Economic Statistics I
- 40.356 Business and Economic Statistics II
- 40.456 Introduction to Econometrics

#### Economic History and Systems

- 40.322 Contrasting Economics
- 40.323 History of Economic Thought
- 40.324 Economic Theory of the Western World
- 40.334 Economic Growth in Underdeveloped Areas
- 40.460 Advanced Political Economy

# Department of Geography and Geosciences

## Earth Science (B.S)

Administered by Department of Geography and Geosciences  
Effective Fall, 2004

In addition to 53 semester hours of general education requirements, a total of 59 semester hours is required for a major in earth science.

The balance of the university's 120-semester hour requirement for a bachelor's degree come from electives. Required courses are:

- 51.120 Physical Geology
  - 51.130 Historical Geology
  - 54.110 Introduction to Astronomy
  - 51.121 Physical Geology Laboratory
  - 51.131 Historical Geology Laboratory
  - 51.255 Meteorology
  - 51.259 Oceanography
  - 51.260 Earth Materials
- Choose four from the following 13 courses:
- 51.261 Mineralogy
  - 51.262 Petrology
  - 51.265 Geomorphology
  - 51.320 Remote Sensing of the Earth
  - 51.355 Synoptic Meteorology
  - 51.360 Introduction to Paleontology
  - 51.369 Structural Geology
  - 51.370 Hydrology
  - 51.460 Aqueous Geochemistry
  - 51.468 Stratigraphy and Sedimentation
  - 51.470 Groundwater Hydrology
  - 51.475 Independent Study
  - 51.480 Geophysics
  - 51.493 Bibliography and Research
  - 51.496 Internship in Earth Science

Approved courses offered by the Marine Science Center, Wallops Island, Va. (Courses in marine science are offered during the summer by the Marine Science Consortium. The consortium is a joint program sponsored by several Pennsylvania state universities. A maximum of 9 semester hours from the Marine Science Consortium may be applied toward this bachelor's degree.)

Choose two from the following six courses:

- 53.113 Pre-Calculus
- 53.123 Essentials of Calculus
- 53.124 Essentials of Calculus II
- 53.125 Analysis I
- 53.126 Analysis II
- 53.141 Introduction to Statistics

Required Chemistry courses:

- 52.115 Chemistry for Sciences I
- 52.116 Chemistry for Sciences II

Choose one of the following two combinations:

- 54.111 Introductory Physics I and
- 54.112 Introductory Physics II or
- 54.211 General Physics I and
- 54.212 General Physics II

## Environmental Science Option

The option in Environmental Science requires a total 66 to 68 credits in addition to General Education requirements, depending on choices of electives. Required courses include:

- 51.100 Environmental Geology
- 51.120 Physical Geology
- 51.121 Physical Geology Lab
- 51.255 Meteorology
- 51.259 Oceanography

41.105 Environmental Issues and Choices

Choose at least 15 credits from the following:

- 51.260 Earth Materials
  - 51.265 Geomorphology
  - 51.320 Remote Sensing of the Earth
  - 51.360 Paleontology
  - 51.369 Structural Geology
  - 51.370 Surface Hydrology
  - 51.460 Aqueous Geochemistry
  - 51.468 Stratification and Sedimentation
  - 51.470 Groundwater Hydrology
  - 51.480 Applied Geophysics
  - 51.496 Internship in Earth Science
- or up to nine credits from approved Marine Science courses

Choose two courses from the following:

- 41.242 Map Skills
- 41.258 Environmental Conservation
- 41.301 Water Resources Management
- 41.302 Land Resources Management
- 41.304 Environmental Valuation
- 41.342 Geographical Information Systems
- 41.462 Techniques of Geographic Measurement

Required Biology courses:

- 50.114 Concepts in Biology I
- 50.115 Concepts in Biology II

Choose one course from the following

- 50.351 General Ecology
- 50.451 Conservation Biology

Choose two from the following three courses:

- 52.115 Chemistry for Sciences I
- 52.116 Chemical for Sciences II
- 52.231 Organic Chemistry I

Required Physics course:

- 54.111 Introductory Physics I or 54.211 General Physics I

Choose two math courses: A maximum of one of the following two courses:

- 53.112 Trigonometry
- 53.114 College Algebra

Choose a minimum of one course from (both may be chosen from this group):

- 53.113 Pre-Calculus
- 53.123 Essentials of Calculus
- 53.125 Analysis I
- 53.126 Analysis II
- 53.141 Introduction to Statistics

## Geology (B.S.)

Administered by Geography and Geosciences

Effective Fall, 2004

General Education Requirements - In addition to 54 semester hours of general education requirements, 72 semester hours is required for a major in geology. The balance of the university's 120-hour requirement for an undergraduate degree comes from elective courses. The degree program in geology requires the following courses:

- 51.101 Physical Geology
- 51.102 Historical Geology
- 51.111 Physical Geology Laboratory
- 51.112 Historical Geology Laboratory
- 51.261 Mineralogy
- 51.262 Petrology
- 51.360 Introduction to Paleontology

- 51.265 Geomorphology
  - 51.369 Structural Geology
  - 51.468 Stratigraphy and Sedimentation
  - 51.470 Groundwater Hydrology
  - 51.493 Bibliography and Research
  - 51.460 Aqueous Chemistry
  - 51.480 Geophysics (highly recommended)
  - 51.451 Field Techniques in Earth Science or equivalent 4 to 6 semester hours field course
- Choose one of the following two sets of courses:
- 53.123 Essentials of Calculus and 53.141 Introduction to Statistics
  - or 53.125 Analysis I and 53.126 Analysis II
- Choose two of the following three courses:
- 52.115 Fundamentals of Inorganic Chemistry
  - 52.131 Fundamentals of Organic Chemistry
  - 52.216 Chemical Principles and Measurements (highly recommended as the second course)
- Choose one of the following two sets of courses:
- 54.111 Introductory Physics I and 54.112 Introductory Physics II
  - or 54.211 General Physics I and 54.212 General Physics II

Note: 51.480 Geophysics may be substituted for the second semester of physics.

## Geography (B.A.)

### General Geography Option

Administered by Geography and Geosciences  
Effective Fall, 2004

Also see...

Urban and Regional Planning Option  
Environmental Planning Option

In addition to 54 semester hours of general education requirements, a total of 30 to 60 semester hours is required for a major in geography. The balance of hours toward the 120-hour university requirement for a bachelor's degree is made up of elective courses

Core Courses:

- 41.101 World Physical Geography
- 41.102 World Cultural Geography
- 41.221 Economic Geography
- 41.242 Map Skills
- 41.462 Techniques of Geographic Measurement
- 41.492 Geography Seminar

18 semester hours to be selected from electives. The elective courses are divided into areas of specialization for your information. A minimum of 9 semester hours are to be selected from 300- and 400-level courses.

Physical:

- 41.125 Weather and Climate
- 41.303 Soil Resources Management

Human:

- 41.250 Elements of Planning
- 41.310 Population Geography
- 41.363 Urban Geography

Regional:

- 41.200 Geography of the United States and Canada
- 41.203 Geography of Australia
- 41.204 Geography of South Asia
- or any regional geography course that may be offered

Environmental:

- 41.105 Environmental Issues and Choices
- 41.258 Environmental Conservation

- 41.301 Water Resources Management
- 41.302 Land Resources Management
- 41.304 Environmental Valuation
- 41.315 Geography of Recreation, Tourism & Sport
- 41.305 Environmental Risks and Hazards

Techniques:

- 41.264 Applied Cartography
- 41.342 Geographic Information Systems
- 51.320 Remote Sensing of the Earth

Special Topic: Title changes depending on topic

Optional Elective: 41.496 Internship in Geography

Upon departmental approval a student may choose to undertake an internship of 3 to 12 semester hours of which a maximum of 3 semester hours may be applied to the required elective credits.

## Geography

### Urban and Regional Planning Option

Administered by Geography and Geosciences  
Effective Fall, 2004

Also see...

General Geography Option  
Environmental Planning Option

In addition to 54 semester hours of general education requirements, a total of 30 to 60 semester hours is required for a major in geography. The balance of hours toward the 120-hour university requirement for a bachelor's degree is made up of elective courses

Core Courses:

- 41.101 World Physical Geography
- 41.221 Economic Geography
- 41.250 Elements of Planning
- 41.350 Advanced Planning
- 41.497 Internship in Planning
- 41.498 Applied Planning Seminar

Electives (choose 3 from the following six courses)

- 41.258 Environmental Conservation
- 41.302 Land Resources Management
- 41.304 Environmental Valuation
- 41.315 Geography of Recreation, Tourism and Sport
- 41.363 Urban Geography
- 51.100 Environmental Geology

Skills and Tools

- 09.231 Technical Writing
  - 25.103 Public Speaking
  - 53.141 Introduction to Statistics
  - 56.110 Introduction to Computer Science
- Choose two from the following four courses:
- 41.242 Map Skills
  - 41.264 Applied Cartography
  - 41.342 Geographic Information Systems
  - 51.320 Remote Sensing of the Earth

Cognate Areas

Economics (choose at least one from the following four courses)

- 40.121 Principles of Economics I
- 40.122 Principles of Economics II
- 40.316 Urban Economics
- 40.410 Public Finance

Political Science

- 44.120 United States Government
- 44.452 State and Local Government

Also recommended are:

44.438 Public Personnel Administration

44.452 Public Policy

Sociology (choose at least one from the following five courses)

45.211 Principles of Sociology

45.213 Contemporary Social Problems

45.316 Urban Sociology

45.457 Sociology of Community

45.468 Social Service Planning

## Geography

Environmental Planning Option

Administered by Geography and Geosciences

Effective Fall, 2004

Also see...

Urban and Regional Planning Option

General Geography Option

In addition to 54 semester hours of general education requirements, a total of 30 to 60 semester hours is required for a major in geography. The balance of hours toward the 120-hour university requirement for a bachelor's degree is made up of elective courses

Core Courses: All Required

41.101 World Physical Geography

41.105 Environmental Issues and Choices

41.250 Elements of Planning

41.258 Environmental Conservation

41.301 Water Resources Management

41.302 Land Resources Management

41.350 Advanced Planning

41.497 Internship in Planning

41.498 Applied Planning Seminar

Electives (choose a minimum of three from the following six courses)

41.303 Soil Resources Management

41.304 Environmental Valuation

41.315 Geography of Recreation, Tourism and Sport

41.305 Environmental Risks and Hazards

51.100 Environmental Geology

51.370 Hydrology

Skills and Tools All Required

09.231 Technical Writing

25.103 Public Speaking

44.452 State and Local Government \*

53.141 Introduction to Statistics

92.150 Introduction to Computer and Information Science

\*44.120 United States Government (strongly recommended as a prerequisite for 44.452)

Choose two from the following four courses

41.242 Map Skills

41.264 Applied Cartography

41.342 Geographic Information Systems

51.320 Remote Sensing of the Earth

## Minor in Geography

Administered by Geography and Geosciences

Effective Fall, 2004

The minor in geography constitutes 18 semester hours and must include the following courses:

41.105 Environmental Issues and Choices

41.250 Elements of Planning

41.258 Environmental Conservation

41.301 Water Resources Management

41.302 Land Resources Management

Choose one from the following three courses:

41.315 Geography of Recreation, Tourism and Sport

41.242 Map Skills

41.264 Applied Cartography

# Department of History

## History (B.A.)

Department of History, College of Liberal Arts  
Effective Fall, 2004

In addition to general education requirements, a total of 39 semester hours is required for a major in history with at least 18 semester hours drawn from 300 and 400 level courses. Some history major requirements also satisfy select general education requirements

42.121 United States History Survey: Colonial Period to 1877

42.122 United States History Survey: 1877 to the Present

42.125 Western Civilization to 1650

42.126 Western Civilization since 1650

42.298 Historiography and Historical Methods

42.398 Research and Writing Skills

Choose two from the following seven courses:

42.131 Asian Civilization to 1500

42.132 Asian Civilization since 1500

42.141 Modern China and Japan

42.142 Latin America: From European Colonization to the Present

42.143 Black Africa

42.216 Africa and the Black Atlantic to 1790

42.217 Africa and the Black Atlantic since 1790

One 300-400 level U.S. history course

One 300-400 level European history course

One 300-400 level regional history course

Two 300-400 level history electives

## Minor in History

Department of History, College of Liberal Arts  
Effective Fall, 2003

This program requires 18 semester hours of history courses with at least 6 semester hours in 300 or 400 level courses. The minor includes:

Two 100 level history courses - 6 credits

One 200 or 300 level history course - 3 credits

42.298 Historiography and Historical Methods

One 300 or 400 level history course

42.398 Research and Writing Skills

The program for the history minor provides the following features: at least one directed exercise in independent historical research (42.398); a minimal background in those courses at the 100 level that are basic to and required of history majors; flexibility in framing a minor pertinent to the student's academic interest; and at least one course, in addition to 42.398, at an advanced level.

## Minor in Ethnic Studies in the United States

Department of History, College of Liberal Arts  
Effective Fall, 2004

### General Information

**Contact:** Nancy Gentile-Ford, Director, 206 Centennial Hall, 389-4410, ford@bloomu.edu

The minor provides student with an opportunity to take an interdisciplinary approach to the study of ethnicity. This allows students to analyze and compare the experiences of various ethnic groups within the United States.

The minor's comparative perspective gives students a unique opportunity to select and link courses from a variety of departments within the College of Liberal Arts.

The program also encourages students to connect the experiences of people of various ethnicities within the United States to those in other countries both from a current and historical context.

The minor includes 18 credits, two courses from each of three categories.

**Core courses** provide students with a broad background in the study of ethnicity. These courses help students develop a critical framework for analysis. Courses address the complex national and international forces that have shaped ethnicity in the U.S., as they relate to gender, class, generation, race, religion, regional, urban, rural, sexual and political identity.

**Focus courses** allow students to pursue a concentrated examination of particular ethnic groups. Classes examine the oppressive forces of discrimination and racism. However, they also explore ethnic group empowerment by studying creative strategies used to negotiate and construct ethnic identity. This includes the creation of kinship networks, ethnic enclaves and ethnic community associations.

**Global/Elective** courses allow students to develop an individualized program of study based upon their own interests.

The minor is overseen by an advisory committee with representatives from the Multicultural Center and Departments of English, Political Science, Languages and Cultures, Educational Studies and Secondary Education, Sociology, Social Work and Criminal Justice, History, Communication Studies and Theatre Arts and Anthropology.

### Requirements

**Core Courses** - designed to provide students with a broad background of ethnicity in the United States.

Choose two from the following nine courses:

20.388 Gender/Race/Class

26.490 Playwrights of Color

42.224 The Immigrant Experience

42.404 History of the American West

44.375 Multiculturalist Theory

45.215 Race and Ethnic Minorities

46.333 Ethnic Identity in the United States

08.302 Ethnic and Racial Studies (Honors course)

08.302 Diversity Seminar (Honors course)

**Focus Courses** - designed to provide students with a concentrated study of the various ethnic groups within the United States.

Choose two from the following courses:

12.213 U.S. Hispanics: Culture and Literature

12.214 The Hispanic World Today (in Spanish)

20.152 Literature and Society: African-Americans in Rural Pennsylvania

20.287 Black Women Writers

20.436 African-American Literature

42.228 African-American History

42.395 African-American Radicalism and the 20th Century

42.404 Slavery in Colonial America

42.404 Native American History

42.430 Caribbean Slave Society

42.431 The Caribbean in the Post-Emancipation Era  
46.340 Native North Americans  
08.220 The Caribbean Community in the Trans-Atlantic World (Honors course - Cultures and Literature  
08.302 The Caribbean Community in the Trans-Atlantic World (Honors course - History)

**Global and Elective Courses** - students may:

Select or petition global courses  
Select additional elective courses from the core or focus lists  
Design an ethnic studies internship

Global courses allow students to link their knowledge in the United States with those in other countries.

Courses approved to date:

12.212 Spanish-American Culture and Civilizations  
42.131 Asian Civilization to 1500  
42.132 Asian Civilization since 1500  
42.141 Modern China and Japan  
42.143 Black Africa

42.354 Modern Japan  
42.405 The Jews of Europe  
44.371 Political Systems of Africa  
46.102 Anthropology and World Problems  
46.200 Principles of Cultural Anthropology  
46.310 Aztecs and Mayas  
46.450 People and Cultures of South America

To petition additional global courses not approved above, provide the director of the Ethnic Studies Minor with a course syllabus. The Ethnic Studies Committee must approve all global courses and internships.

# Honors Program

## About the Honors Program

The Bloomsburg University Honors Program offers opportunities for an enriched college experience to students seeking academic challenge.

The Honors Program's goals are: to challenge students to perform at the highest level of excellence to encourage independent thinking and learning

- to create a supportive environment that encourages the aspirations and achievements of students and fosters their dignity, self esteem and sense of initiative
- to encourage creativity, intellectual independence, analytical thinking and problem solving and the growth of communication skills through a strong emphasis on reading, writing and research
- to provide opportunities for students to develop a broader perspective on national and global issues
- to provide forums for symposia, experiential learning and independent study
- to create a meaningful learning community
- to develop students' leadership potential
- to enable students to engage in a rigorous, coherent, integrated academic experience with a high degree of student-faculty interaction

The Honors Program encourages students to explore opportunities for post-graduate work and professional study. The Honors Program is proud of the high rate of acceptance of Bloomsburg honors students to professional and graduate programs.

Typically, honors classes are smaller, offering students opportunities to discuss in greater depth the subject being taught. Honors classes are often enriched through field trips, guest speakers, films and special projects.

New freshmen applying for admission to the program must have a minimum of 1100 SAT and rank in the top 20 percent of their high school class. Admittance to the program for students already at Bloomsburg is based on academic performance at Bloomsburg University.

The Honors Program awards merit scholarships on a competitive basis to entering freshmen. Some upper-level competitive merit scholarships are also available each year. Many honors students also qualify for other merit scholarships, such as the Mitrani and Presidential awards.

Honors students at Bloomsburg take 25 hours of honors courses that include honors general education courses, honors upper division seminars and two semesters of honors independent study culminating in an honors thesis.

# Department of Exercise Science and Athletics

## Exercise Science (B.S.)

Department of Exercise Science and Athletics, College of Liberal Arts  
Effective Fall, 2004

In addition to general education requirements totaling 53 semester hours, a minimum of 42 semester hours are required for a major in exercise science, with the remaining 18 required credits for area of concentration/minor.

- 48.101 General Psychology
- 45.211 Principles of Sociology
- 50.173 Anatomy and Physiology I
- 50.174 Anatomy and Physiology II
- 50.205 Introduction to Nutrition
- 50.231 Biology of Aging
- 52.101 Introduction to Chemistry
- 05.270 Exercise and You or 05.298 Fitness and Wellness
- 09.230 Human Sexuality
- 05.305 Aquatic Fitness Programming
- 05.321 First Aid Safety
- 05.351 Kinesiology
- 05.476 Exercise Physiology
- 05.477 Exercise Prescription/Prog.
- 59.498 Internship in Exercise Science

Choose one of the following two courses:

- 05.411 Exercise Prescription and Programming for Special Populations
- 05.380 Research Methods in Exercise Science

Choose one of the following two courses:

- 93.344 Principles of Management or 05.430 current Issues in Health Promotion
- 91.498 Introduction to Health Care Administration

Choose one of the following four courses:

- 48.253 Social Psychology
- 48.311 Adulthood and Aging
- 48.380 Physiological Psychology
- 48.476 Principles of Behavior Modification

Choose one of the following:

- 05.305 Aquatic Fitness Prog.
- 05.304 Principles Resistance Tr.
- 05.300 Group Fitness Instructor
- 05.290 Resistance Training Techniques

## Exercise Science and Adult Fitness (M.S.)

Administered by Department of Exercise Science and Athletics, College of Liberal Arts  
Effective Fall, 2004

**Admission.** A bachelor's degree in the biological or allied health sciences or a related field is recommended. Undergraduate deficiencies may be addressed while working towards the master's degree (without credit earned toward the degree). Additionally, applicants must have an undergraduate QPA of at least 2.5, provide Miller Analogy Test or Graduate Record Examination scores, three letters of recommendation and a statement describing goals and objectives of their graduate study.

### Graduation:

Applied exercise physiology track - At total of 39 semester hours of which 3-6 semester hours of thesis are required to graduate.

Clinical exercise physiology - A minimum of 33 semester hours, of which 3-6 semester hours in a practicum experience are required to graduate.

### Applied Physiology track

- 05.500 Instrumentation and Laboratory Techniques
- 05.510 Research Methods in Exercise Science
- 05.511 ECG Interpretation and Clinical Exercise Testing
- 05.512 Current Research in Exercise Science
- Choose one of the three following courses:
  - 05.551 Mechanics of Human Movement
  - 05.576 Neuromuscular Physiology
  - 05.595 Practicum in Exercise Science
- 05.557 Legal and Ethical Issues in Conducting Research
- 05.559 Scientific Evaluation of the Elite Athlete
- 05.575 Exercise Physiology I
- 05.576 Exercise Physiology II
- 05.599 Master's Thesis
- 50.474 Vertebrate Systems Physiology or 50.573 Systemic Physiology

**Thesis Requirement.** Graduate students admitted to candidacy for the Master of Science degree are required to complete a thesis. The student must confer with the assigned graduate adviser to select a thesis adviser. The thesis adviser serves as chairperson of the thesis committee. A second faculty member is selected from either the Health, Physical Education and Athletics or the Biological and Allied Health Sciences departments. The third faculty member may be selected from any discipline within the university as appropriate to the thesis topic. The thesis topic must be approved by the thesis adviser and the graduate program coordinator. Students may select either the thesis or the publishable manuscript option. The completed thesis will be presented to the thesis committee, peers, and the university community.

### Clinical Exercise Physiology

- 05.500 Instrumentation and Laboratory Techniques
- 05.510 Research Methods in Exercise Science
- 05.511 ECG Interpretation and Clinical Exercise Testing
- 05.512 Current Research in Exercise Science
- 05.555 The Physiology of Training
- 05.551 Mechanics of Human Movement or 50.576 Neuromuscular Physiology
- 05.553 Exercise in Chronic Disease Rehabilitation
- 05.555 Physiology of Training
- 05.561 Exercise and Aging
- 05.575 Exercise Physiology I
- 05.577 Worksite Health and Fitness
- 05.595 Practicum in Exercise Science

**Practicum Requirement.** Graduate students in the clinical exercise physiology track must complete a practicum experience approved by the advisor and the graduate program coordinator. This capstone experience will typically occur in the final semester of study during the summer.

# Department of Instructional Technology

## Instructional Technology (M.S.)

Administered by Instructional Technology  
Effective Fall 2004

### Admission

An individual with a bachelor's degree from an accredited four-year college, who earned an undergraduate grade point average of at least 2.8 on a 4.0 scale, may apply for admission to the MSIT program.

#### Admission requirements:

- A completed application form for graduate studies at Bloomsburg University
- \$30 application fee paid in full
- Official transcripts from all undergraduate institutions attended
- Three letters of recommendation

A one to two page essay describing the applicants interest in instructional technology.

International applicants must complete a separate application form for the Office of Graduate Studies and Research and must take the Test of English as a Foreign Language (TOEFL). A minimum score of 570 on the paper test or 213 on the computer-based test is required for admission to the program.

An individual may begin taking courses in the MSIT program on a part-time non-degree basis prior to admission but completion of such courses does not guarantee admission. No more than twelve graduate credits are allowed in this category.

### Graduation

Persons who hold a bachelor's degree in any discipline from an accredited college or university may become degree candidates and proceed to the master's degree by completing a minimum of 33 semester hours of coursework concluding in either an internship or master's thesis. All courses are 3 semester hours unless otherwise indicated.

### Courses of Study

#### Required Courses for Corporate Option

The Master of Science in Instructional Technology - Corporate Option requires 33 semester hours.

Required Courses (27 semester hours):

- 57.550 Instructional Design
- 57.551 Advanced Instructional Design
- 57.560 Multimedia Productions
- 57.570 Intro. To Website Development

- 57.572 Authoring Tools for Cross Platforms
- 57.575 Managing Multimedia Projects
- 57.577 Advanced Authoring
- 57-584 Online Course Design or 57.585 eLearning Concepts and Techniques
- 57.590 Graduate Internship (3 sem. hrs.) or 57.599 Graduate Thesis (6 sem.hrs.)

Elective Courses (6 semester hours):

- 57.535 Instructional Applications of Robotics
- 57.540 Technology Planning Across the Curriculum
- 57.542 Technology Applications for the Classroom
- 57.556 Applying Theories of Learning to Interactive Technologies
- 57.562 Digital Imagery
- 57.574 Authoring Tools for Networks
- 57.586 Blended eLearning
- 57.584 Online Course Design
- 57.585 eLearning Concepts and Techniques
- 32.595 Directed Study in Studio Art  
Math Department Class  
Business Department Class

#### Required Course for Instructional Technology Specialist Option

The Master of Science in Instructional Technology - Instructional Technology Specialist Option requires 33 semester hours.

Required Courses (27 semester hours)

- 57.540 Technology Planning Across the Curriculum
  - 57.542 Technology Applications for the Classroom
  - 57.546 Research in Instructional Technology
  - 57.550 Instructional Design
  - 57.551 Advanced Instructional Design
  - 57.560 Multimedia Productions
  - 57.570 Intro. To Website Development
  - 57.586 Blended E-Learning
  - 57-590 Graduate Internship
- Elective Courses (6 semester hours)
- 57.535 Instructional Applications of Robotics
  - 57.556 Applying Theories of Learning for Instructional Technology (summer)
  - 57.574 Authoring Tools for Networks (spring, summer)
  - 57.576 Networks: Configuration and Implementation (fall)
  - 57.584 Online Course Design (fall, spring)
  - 57.595 Directed Study in Studio Art (fall, summer)

Note: Completion of all required courses for The Instructional Technology Specialist option satisfies the requirements for Instructional Technology Specialist Certification from the Pennsylvania Department of Education.

# Department of Languages and Cultures

## French (B.A.)

Administered by Department of Languages and Cultures  
Effective Fall, 2004

### Required Courses

A total of 33 semester hours is required for a major in French in addition to 53 semester hours of general education requirements. Students must receive a minimum grade of C in every course required for the major. Other than the General Education distribution requirements, the department does not restrict the choice of courses in this area. Students are encouraged to choose general education courses in consultation with their advisers. The balance of courses to meet the university's requirement for a bachelor's degree come from elective courses. Required courses for the major include:

- 10.203 French III
- 10.204 French IV
- 10.205 Applied Phonetics and Pronunciation
- 10.206 Structure of the French Language
- 10.207 Conversation: French Daily Life and Customs
- 10.401 Advanced French Language
- 10.402 Contemporary Issues in Francophone Media
- 10.422 Masterpieces of French Literature
- 10.423 Black Francophone Writers and Culture

Students will choose 6 credits of electives by advisement to fulfill the requirement.

**Education Majors** – Students majoring in Secondary Education and German must declare a major in German and complete the full major sequence. Students majoring in early childhood education and elementary education may elect an area of concentration in German. Students should consult their advisers in the Department of Languages and Cultures about course selection. Students are required to take the methods course, 16.350 Foreign Language Teaching Methods and Research.

**Study Abroad in Nancy, France** – All language students are urged to seek opportunities to study abroad. An exchange and internship program with the University of Nancy's Faculté des Lettres and the Commercial Institute in Nancy, France affords Bloomsburg University students the opportunity to study in France, regardless of their major. French majors, minors and/or business majors with a strong concentration in French, are especially encouraged to take part in this program.

## German (B.A.)

Administered by Department of Languages and Cultures  
Effective Fall, 2004

### Required Courses

A total of 33 semester hours is required for a major in German in addition to 53 semester hours of general education requirements. Students must receive a minimum grade of C in every course required for the major. Other than the General Education distribution requirements, the department does not restrict the choice of courses in this area. Students are encouraged to choose general education courses in consultation with their advisers. The balance of courses to meet the university's requirement for a bachelor's degree come from elective courses. Required courses for the major include:

- 11.203 German III
- 11.204 German IV
- 11.205 Applied Phonetics and Pronunciation
- 11.206 Structure of the German Language

- 11.207 Conversation: Daily Life and Customs
- 11.211 Culture and Civilization I
- 11.331 Selected Twentieth Century Writers
- 11.402 Contemporary Issues in the German Media
- 11.422 Masterpieces of German Literature

Students will choose 6 credits of electives by advisement to fulfill the requirement.

**Education Majors** – Students majoring in Secondary Education and German must declare a major in German and complete the full major sequence. Students majoring in early childhood education and elementary education may elect an area of concentration in German. Students should consult their advisers in the Department of Languages and Cultures about course selection. Students are required to take the methods course, 16.350 Foreign Language Teaching Methods and Research.

**Study Abroad in Jena, Germany** - Bloomsburg University offers an exchange program with the Friedrich-Schiller-Universität in Jena, Germany. The Jena program is open to all Bloomsburg University students who have had at least two years of college German or the equivalent. Jena offers a broad range of courses for exchange students, such as German Language, Culture, Literature, Intercultural Business and Communication. Students are placed in courses after taking a placement test in Jena. The exchange usually takes place in spring semester. Students are encouraged to participate in their sophomore or junior years.

## Spanish (B.A.)

Administered by Department of Languages and Cultures  
Effective Fall, 2004

**Career Opportunities:** In addition to a career in teaching (see below), advanced proficiency in Spanish (expected of students with a Major in Spanish) provides students with a wide range of career opportunities, often by coupling Spanish with other courses of study, some of which include business, marketing, communications, translation / interpretation, journalism, tourism, hotel management, social services, banking, publishing, political science (law), public relations, etc. Since Spanish is spoken virtually world-wide, skilled bilingual graduates boast employment opportunities that reach beyond the borders of the U.S. into the international business community.

**Study Abroad Opportunities:** The department offers an exchange program with the University of Puerto Rico, Cayey Campus. The UPR is open to all university students who have had at least two years of college Spanish. A Summer Abroad program is also offered, the first seven days at Bloomsburg University and then four weeks at the Universidad Pontificia of Salamanca, Salamanca, Spain. The program includes excursions to a number of cultural sites.

**Internship Opportunities:** Students can enroll in 38.498 Internship in the Humanities, transferred as an elective in the Spanish program. Internships in Spanish require total cultural immersion and must be designed to take place in a Spanish-speaking country. Internships are tailored to the students' interest and according to the skills gained in the language. Interns have both an on-site and a faculty supervisor to oversee and guide their work.

**Annual Spanish Section Award** - This award is presented to a senior who: excels in the Spanish language, has rendered language-related service to the department and the university, and is recommended by the majority of the faculty in the Spanish section

Scheduling basic language courses: Students and Advisors should adhere to the following guidelines when scheduling:

With no background in the language, schedule 12.100

- With one year of high school study or equivalent, schedule 12.101
  - With two years of high school study or equivalent, schedule 12.102
  - With three years of high school study or equivalent, schedule 12.203
  - With four years of high school study or equivalent, schedule 12.204
- Spanish Major

A minimum of 36 credit hours is required for the major. 12.102 or the equivalent is required before entering the major sequence. Students must receive a minimum grade of C in every course required for the major.

### Required Core - 33 Credits

- 12.203 Spanish III
- 12.204 Spanish IV
- 12.206 Structure of the Spanish Language
- 12.207 Conversation and Composition I
- 12.250 Spanish for Heritage Speakers I (requires approval of instructor)
- 12.214 Hispanic Culture and Civilization
- 12.305 Applied Phonetics and Pronunciation
- 12.306 Conversation and Composition II
- 12.350 Spanish for Heritage Speakers II (requires approval of instructor)
- 12.402 Advanced Conversation
- 12.403 Advanced Structure and Composition
- 12.420 Spanish Literature
- 12.421 Spanish American Literature

Note: Exemptions from required courses are allowed only through consultation with a Spanish advisor and must be substituted with an advanced elective in Spanish.

Electives - Choose 3 credits minimum by advisement.

- 12.208 Spanish for Health Professions
- 12.209 Spanish for Social Services
- 12.211 Spanish Culture and Civilization
- 12.212 Spanish American Culture and Civilization
- 12.213 Hispanic Culture and Literature
- 12.281-9 Special Topics
- 12.290 Study Abroad
- 12.309 Commercial Spanish
- 12.331 Literary Analysis of Hispanic Texts
- 12.325 Spanish for Educators
- 12.335 Communicative Spanish for Teachers
- 12.390 Internship in Spanish
- 12.422 Hispanic Theater and Poetry
- 12.430 Hispanic Short Story
- 12.490 Independent Study

### Education / Spanish Majors

Students with a Major in Secondary Education with Spanish as their area of specialization must complete the requirements for a Spanish Major AND the core requirements in Secondary Education:

- 60.210 Field Studies in Education I
- 60.204 Educational Computing and Technology
- 60.251 Psychological Foundations of Education
- 60.291 Principles of Teaching
- 60.301 Field Studies II
- 60.311 Classroom Measurement and Assessment
- 60.393 Social Foundations of Education OR 60.394 Education in Urban Society
- 60.450 Methods of Teaching Foreign Language in the Elementary School
- 65.358 Methods of Teaching Foreign Language in the Secondary School
- 65.374 Teaching of Reading in Academic Subjects
- 60.497 Student Teaching - First Experience

### 60.498 Student Teaching - Second Experience

Secondary Education / Spanish majors must consult with both their Education and their Spanish advisors .

### Spanish Concentration

Only for Majors in Early Childhood and Elementary Education. A Concentration in Spanish consists of 18 credits. Students having completed the basic language sequence and requiring additional courses to complete the concentration should choose from: Teaching of Foreign Language in the Elementary School; 12.211, 12.212, 12.206, 12.207, 12.305; appropriate literature course. Students seeking a Spanish concentration for Early Childhood Education or Elementary Education should do so in close consultation with their Education and Spanish advisors.

### Minor in French

Administered by the Department of Languages and Cultures  
Effective Fall, 2004

Requirements for the minor in French total 18 credit hours

- 10.203 French III
  - 10.204 French IV
  - 10.206 Structure of the French Language
- Plus 9 credits in French above the level of French II.

### Minor in German

Administered by the Department of Languages and Cultures  
Effective Fall, 2004

A total of 18 credit hours is required for a minor in German:

- 11.203 German III
  - 11.204 German IV
  - 11.206 Structure of the German Language
- Plus 9 credits in German above the level of German III

### Minor in Spanish

Administered by the Department of Languages and Cultures  
Effective Fall, 2004

A total of 18 credit hours is required for a minor in Spanish:

- 12.203 Spanish III
  - 12.204 Spanish IV
  - 12.206 Structure of the Spanish Language
- Plus 9 credits in Spanish above the level of Spanish III

### Career Concentration in Chinese Studies

Administered by Department of Languages and Cultures  
Effective Fall, 2004

The concentration program requires 18 credit hours of study, with 12 credits in core courses and 6 credits in elective courses. Bloomsburg University maintains academic relationships with several universities in China. Currently, QingHai Normal University, Northeast Normal University and ShenYang Teacher's College offer study-abroad programs to our students. Students taking courses through programs with these universities may have credits applied to the concentration.

Required Courses:

- 16.105 Chinese I
- 16.106 Chinese II
- 16.211 Foundations of Chinese Civilization
- 16.212 China Today

Elective Courses:

- 42.141 The Modern Far East
- 31.346 Art History of the Far East
- 44.160 Nations, States and Governments

# Department of Mathematics, Computer Science and Statistics

## Mathematics (B.A.)

Administered by: Department of Mathematics, Computer Science and Statistics

Effective Fall, 2004

Advisement should be considered before selecting general education courses in this major. In addition to 53 general education credits and electives to meet the university's 120-credit requirement for a bachelor's degree, the following courses are required:

Core Courses (all majors)

- 53.125 Calculus I
- 53.126 Calculus II
- 53.185 Discrete Mathematics
- 53.225 Calculus III
- 53.226 Calculus IV
- 53.241 Probability and Statistics
- 53.310 Introduction to Abstract Algebra
- 53.314 Linear Algebra
- 53.410 Math Modeling
- 56.121 Computer Science I

Bachelor of Arts in Mathematics - Required courses:

At least one 3-semester-hours computer science course numbered 56.122 or above.

At least two 3-semester-hours mathematics courses at the 300 level, including at least one from the classical core consisting of:

- 53.322 Differential Equations
- 53.331 Modern Geometry
- 53.341 Statistical Methods
- 53.360 Number Theory
- 53.411 Introduction to Group Theory
- 53.421 Advanced Calculus
- 53.422 Complex Variables
- 53.451 Introduction to Topology

In addition, at least 6 semester hours in a discipline to which mathematics is traditionally applied (as approved by the adviser). Courses 53.311 and 56.305 may not be counted as requirements for the major.

**B.A. Statistics Track** - The Statistics track prepares students for a variety of careers in statistics in research, industry and government and provides a base for work at the graduate level. Students planning to continue with graduate studies should take 53.225, 53.226 and 53.462. The track provides a foundation in mathematics as well as courses in statistical methodology, computer programming and statistical software.

Required courses:

- 53.141 Introduction to Statistics
  - 56.121 Computer Science I
  - 56.122 Computer Science II
  - 53.125 Calculus I
  - 53.126 Calculus II
  - 53.185 Discrete Mathematics
  - 52.240 Statistical Methods
  - 53.241 Probability and Statistics
  - 53.314 Linear Algebra
  - 53.340 Statistical Software
  - 53.342 Design and Calculus of Experiments
  - 53.343 Applied Regression Calculus
- Select two courses from Mathematics numbered 53.225 or above

Recommended choices for electives:

- 53.225 Calculus III

- 53.226 Calculus IV
  - 53.243 Nonparametric Statistics
  - 53.373 Numerical Methods
  - 53.374 Introduction to Discrete Systems Simulation
  - 53.441 Mathematics and Sports
  - 53.461 Probability Models and Applications
  - 53.462 Mathematical Statistics
  - 53.491 Special Topics in Mathematics
- Select two courses from one area in which statistics is applied, with advisor's approval (Biology, Economics, Geography, Geology, Psychology)

## Mathematics (B.S.)

Administered by: Department of Mathematics, Computer Science and Statistics ;Effective Fall, 2004

Advisement should be considered before selecting general education courses in this major. A 9-semester-hours concentration in a special interest area within mathematics or in a related discipline; areas of concentration available upon request. In addition to general education courses and electives, these courses meet the university's 120-credit requirement for a bachelor of science degree:

Core Courses (all majors)

- 53.125 Calculus I
- 53.126 Calculus II
- 53.185 Discrete Mathematics
- 53.225 Calculus III
- 53.226 Calculus IV
- 53.241 Probability and Statistics
- 53.310 Introduction to Abstract Algebra
- 53.314 Linear Algebra
- 56.121 Computer Science I
- 54.211 General Physics I
- 54.212 General Physics II

Bachelor of Science in Mathematics - Required courses:

At least one 3-semester-hours computer science course numbered 56.122 or above.

At least three 3-semester-hours mathematics courses at the 300 level including at least one from the classical core consisting of:

- 53.322 Differential Equations
- 53.331 Modern Geometry
- 53.341 Statistical Methods
- 53.360 Number Theory
- 53.411 Introduction to Group Theory
- 53.421 Advanced Calculus
- 53.422 Complex Variables
- 53.451 Introduction to Topology

Courses 53.311 and 56.305 may not be counted as requirements for the major.

## Computer Science (B.S.)

Administered by: Department of Mathematics, Computer Science and Statistics; Effective Fall, 2004

A total of 54 semester hours is required for a major in computer science, as well as 54 hours of general education requirements, to include:

- 25.103 Public Speaking

Requirements for the major:

- 53.125 Calculus I
- 53.126 Calculus II
- 53.185 Discrete Mathematics

- 56.121 Computer Science I
- 56.122 Computer Science II
- 56.221 Computer Science III
- 56.240 Assembly Language Programming
- 56.250 Programming Language Paradigms
- 56.330 Digital Design
- 56.350 Organization of Programming Languages
- 56.355 Analysis of Algorithms and Data Structures
- 56.386 Concurrent Programming and Foundations of Operating Systems

#### Specialized Requirements

Select five courses totaling 15 semester hours from the following 11 courses:

- 56.356 Windows Programming
- 53.361 Coding and Signal Processing
- 56.373 Numerical Methods in Computing
- 53.374 Introduction to Discrete Systems Simulation
- 56.471 Numerical Analysis
- 56.472 Matrix Computation
- 56.491 Special Topics in Computer Science
- 56.323 Artificial Intelligence
- 56.357 Principles of Database Design
- 56.450 Compiler Construction
- 56.375 Local Area Networks
- 56.497 Internship in Computer Science

At most, one of the following three courses:

- 53.241 Probability and Statistics
- 53.225 Calculus III
- 53.314 Linear Algebra

At least one of the following three courses:

- 56.410 Computer Graphics
- 56.430 Computer Architecture
- 56.444 Parallel Processing

## Minor in Computer Science

Administered by: Department of Mathematics, Computer Science and Statistics; Effective Fall, 2004

The Department of Mathematics, Computer Science and Statistics offers a minor in computer science, which requires completion of six courses in computer science and mathematics.

- 56.121 Computer Science I
- 56.122 Computer Science II
- 56.221 Computer Science III

Three elective courses chosen from a list of 17 specific courses offered by the department.

## Minor in Mathematics

Administered by: Department of Mathematics, Computer Science and Statistics  
Effective Fall, 2004

The program requires 21 hours of mathematics courses. The quality point average of all courses applied to the minor in Mathematics must be at least 2.0 based on a 4.0 system. Required courses are:

- 53.125 Calculus I
- 53.126 Calculus II
- 53.185 Discrete Mathematics
- 53.225 Calculus III

At least three courses (9 semester hours) chosen a list of upper-level courses:

- 53.231 College Geometry
- 53.226 Calculus IV
- 53.241 Probability and Statistics
- 53.310 Introduction to Abstract Algebra
- 53.314 Linear Algebra
- 53.322 Differential Equations
- 53.331 Modern Geometry
- 53.341 Statistical Methods
- 53.360 Number Theory

- 53.361 Coding and Signal Processing
- 53.381 Introduction to Operations Research
- 53.421 Advanced Calculus
- 53.422 Complex Variables
- 53.451 Introduction to Topology

## Minor in Statistics

Administered by Mathematics, Computer Science and Statistics  
Effective Fall, 2004

This program requires 18 semester hours of credit, at least 15 of which must be in the Department of Mathematics, Computer Science and Statistics. Students within the Department of Mathematics, Computer Science and Statistics may apply the following courses toward the minor:

- 53.240 Statistical Methods
  - 53.342 Design and Analysis of Experiments
  - 53.343 Applied Regression Analysis
  - 53.461 Probability Models and Applications
  - 53.462 Introduction to Mathematical Statistics
  - 53.491 Special Topics in Mathematics
- One course related to applications of statistics from other departments, with approval of adviser.

Students from departments other than mathematics and computer science may apply the following courses to the minor:

- 53.241 and courses listed above for students with the Department of Mathematics, Computer Science and Statistics; or select courses from the following list (select one of):
- 53.141 Introduction to Statistics
- 45.260 Basic Social Statistics
- 48.160 Basic Statistics
- 40.346 Business and Economic Statistics
- 53.123 Essentials of Calculus
- 53.125 Calculus I
- 53.342 Design and Analysis of Experiments
- 53.343 Applied Regression Analysis
- 53.491 Special Topics in Mathematics
- 53.492 Independent Study in Mathematics

Courses outside the department recommended for the minor are:

- 40.400 Introduction to Econometrics
- 40.446 Business and Economic Statistics II
- 48.464 Advanced Experimental Design
- 50.351 General Ecology
- 82.306 Methods of Inquiry
- 45.466 Social Research

## Minor in Computer Science (Web Development)

Administered by Department of Mathematics, Computer Science and Statistics  
Effective Fall 2004

This program requires 18 semester hours of credit.

Choose one introductory course from the following:

- 56.110 Introduction to Computer Science
- 56.116 Algorithmic Processes for Computers
- 56.121 Computer Science I
- 56.491 Visual Basic I
- 57.470 Introduction to Web Site Development
- 56.212 Web Programming

Choose one Digital Media course from the following:

- 56.213 Elementary Topics in Computer Graphics and Multimedia
- 57.460 Multimedia Productions

Choose two courses from the following:

- 56.476 Introduction to Computer Networks
- 56.357 Principles of Database Design
- 57.474 Authoring for Networks
- 57.472 Authoring for Cross Platforms

# Department of Mass Communications

## Mass Communications (B.A.)

Administered by Department of Mass Communications  
Effective Fall, 2004

In addition to general education requirements, a total of 36 semester hours is required for a major in Mass Communications. The balance of the university's 120-semester hour requirement for a bachelor's degree comes from elective courses. The department's curriculum ensures better preparation for today's changing communications industry. Graduates are broadly trained for careers in public relations, advertising, journalism and telecommunications. It is organized around three competency areas: theoretical knowledge, writing proficiency and professional development. Required courses include:

- 27.110 Mass Communications and the Popular Arts
- 27.230 Newswriting
- 27.241 Media Graphics or 27.271 Media Operations
- 27.310 Media Law
- 27.315 Social Foundations of the Mass Media
- 27.360 Mass Media Processes and Effects

Choose two from the following six courses:

- 27.334 Editing
- 27.336 Video Editing

- 27.340 Feature Writing
- 27.352 Publicity and Public Relations
- 27.366 Design in Advertising
- 27.371 Broadcast Journalism
- 27.440 Public Affairs Reporting
- 27.485 RTF Authorship Theory and Practice

Choose three from the following eleven courses:

- 27.251 PR Theory & Practice
- 27.261 Principles of Advertising
- 27.297 Mass Communications Practicum
- 27.367 TV Acting and Directing
- 27.375 Broadcast Programming and Management
- 27.390 Film and Video Production
- 27.435 Journalism Workshop
- 27.446 Magazine Editing and Production
- 27.455 Public Relations Cases and Problems
- 27.466 Advertising Media and Campaigns
- 27.480 Telecommunications Workshop

Choose one from the following three courses:

- 27.420 Audience Analysis
- 27.482 Mass Communications Seminar
- 27.497 Internship

# Department of Management

## Management (B.S.B.A.)

Department of Management, College of Business  
Effective Fall, 2004

Students majoring in a B.S.B.A. degree program in the College of Business must take 60 (out of 120) credit hours in the College of Business at Bloomsburg University.

The four year (120 credit hours) bachelor's degree consists of 60 semester hours of general education requirements and free non-business electives, 24 hours of Business Core, 24 hours of specialized Management requirements, and 12 hours of Elective Courses in Business. Students are allowed 4 hours of free electives while meeting communication, natural, and social sciences, humanities, physical education, values and ethics, and cultural diversity requirements of General Education and 3 credit hours of Business Statistics requirement.

While some flexibility exists in the selection of courses, the management program requires students to complete the following courses as part of general education requirements.:

- 20.101 English Composition I and 20.201 English Composition II (or 20.205 Honors Composition)
  - 25.103 Public Speaking
  - 40.121 Principles of Economics I
  - 40.122 Principles of Economics II
  - 40.256 Business and Economic Statistics
- Choose one of the following two courses:
- 40.156 Business and Economics Mathematics
  - 53.123 Essentials of Calculus

### Business Core:

- 92.150 Introduction to Information Technology
- 91.220 Financial Accounting
- 91.223 Managerial Accounting
- 93.244 Principles of Management
- 97.310 Marketing: Principles and Practices
- 96.313 Introduction to Corporate Finance
- 98.331 Law and Legal Environment
- 93.481 Business Policies

Specialized Management Requirements (subject to change due to continuous improvement of curriculum. Check with department chair)

- 93.343 Applied Managerial Statistics
  - 93.345 Human Resource Management
  - 93.348 Operations Management
  - 93.445 Managerial Communications
  - 93.449 Organizational Behavior
  - 93.456 International Management
  - 93.457 Business and Society
- Plus one management elective at 300/400 level

### Elective Courses in Business

Select four courses in business to complete the balance of 60 semester hours.

Courses must be selected from the designated list of electives (available upon request).

Students must consult with their advisors when selecting and scheduling elective courses.

Human Resources Concentration

Students with a Human Resources Management Concentration are required to take the following courses:

- 93.345 Human Resource Management
- 98.460 Employment Discrimination and Affirmative Action

93.463 Employee Staffing (normally offered in fall semester)

93.464 Compensation Management (normally offered in fall semester)

93.432 Internship in Management (must choose an HR field/department)

Choose one of the following two courses:

93.346 Labor and Industrial Relations

94.405 Training and Development in Office Systems

## Minor in Management

Administered by Management  
Effective Fall, 2004

Students majoring in disciplines other than management both within and outside the College of Business are provided a broad exposure to management principles and techniques. The minor is designed to prepare students with knowledge and skills necessary to be successful in management/supervisory roles in their major disciplines and/or occupation.

**General Education-** As part of their general education, students are required to take the following courses:

- 40.211 Principles of Economics I
- 53.141 Introduction to Statistics (or equivalent)
- 20.101 English Composition I
- 20.201 English Composition II
- 25.103 Public Speaking

**Minor in Management-** The minor consists of 18 semester hours. The following courses are required:

- 93.344 Principles of Management
- 93.345 Human Resource Management
- 93.348 Operations Management
- 93.445 Managerial Communications
- 93.449 Organizational Behavior
- 93.456 International Management

## Minor in Entrepreneurship

Administered by Management  
Effective Fall, 2004

Students majoring in disciplines other than management both within and outside the College of Business are provided a broad exposure to the operation of small businesses, as well as the non-profit, private and human services organizations. The minor is designed to prepare students with knowledge and skills necessary to set up and operate small businesses and enable them to apply for jobs requiring supervisory and management skills.

**General Education -** As part of general education, students are required to take the following courses:

- 40.211 Principles of Economics I
- 40.212 Principles of Economics II

**Minor in Entrepreneurship -** The minor consists of 24 semester hours. The following courses are required:

- 91.120 Small Business Accounting
- 93.244 Principles of Management
- 93.391 Small Business Management
- 93.400 Entrepreneurship and Venture Capital
- 93.440 Small Business Institute Seminar
- 96.300 Entrepreneurial Finance (or equivalent)
- 97.310 Principles of Marketing
- 98.331 Introduction to Law and Legal Environment

## Certificate in Entrepreneurship

Administered by Management  
Effective Fall, 2004

Area residents and members of the local business community with the required undergraduate admission qualifications are eligible for the Certificate Program in Entrepreneurship. The program is designed to prepare students with knowledge and skills necessary to set up, operate and succeed in small business ventures.

**Certificate Requirements** – The certificate program consists of 24 semester hours. The following courses are required:

- 93.244 Principles of Management
- 93.391 Small Business Management
- 93.400 Entrepreneurship and Venture Capital
- 93.440 Small Business Institute Seminar
- 97.310 Principles of Marketing
- 98.331 Introduction to Law and Legal Environment
- 91.120 Small Business Accounting
- 96.300 Entrepreneurial Finance (or equivalent)

## Business Administration (M.B.A.)

Administered by Department of Management  
Effective Spring 2004

All MBA program courses are taught by College of Business graduate faculty. Graduate faculty are dedicated teachers with doctoral degrees who have demonstrated subject area expertise by extensive experience and/or scholarship. MBA faculty provide an active learning experience with a variety of teaching methods, such as, case studies, applied research, problem solving, and team projects.

One of the strengths of the MBA program is the high quality of students enrolled. Recent graduates scored an average of 500 on the GMAT. Most bring considerable business experience to the classroom. As of Spring 2001, the 70 active students were comprised of 31 percent female and 69 percent male, with an average age of 36. About 10 percent of the MBA students are foreign nationals. The program has about 500 alumni pursuing careers around the world.

### Admission

The program admits students based on an evaluation of past academic achievement, aptitude for advanced study, professional accomplishments, and motivation to succeed. Applicants must provide a completed application to the Dean of Graduate Studies and Research (570) 389-4015. The MBA Coordinator will evaluate MBA applicants with complete applications. Complete applications include the following items:

Official transcripts from an accredited academic institution indicating an earned baccalaureate degree.

Official transcripts from all institutions where the applicant earned undergraduate or graduate college credit must be provided. Degrees earned from non-United States universities will be judged individually.

- Official Graduate Management Admission Test (GMAT) scores within the 5 prior years.
- Three letters of recommendation.
- A current resume.

International applicants whose native language is not English must achieve a minimal TOEFL (Test of English as a Foreign Language) score of 550 (old test) or 215 (new electronic test). The score must have been earned within the prior year. International students must also provide current evidence of financial capability.

### Required Courses

The curriculum consists of 36 graduate credit hours delivered in eight required and four elective courses. Students without sufficient preparation also complete prerequisite foundation courses.

Foundation Courses - Students must possess the common body of knowledge essential for the advanced study in business. Students with an undergraduate degree in business will likely have taken course covering those areas. Students with non-business undergraduate degrees will usually be lacking a least some of these courses and therefore must take foundation courses to make up for this deficit. Foundation courses are not included in the 36 hours of credit required for the MBA degree.

The following chart lists foundation courses and their undergraduate equivalents. Students who have earned a C or better in an undergraduate equivalent course are exempt from taking the foundation course

<u>Foundation Course</u>	<u>Undergraduate Equivalent</u>
40.512 Economic Theory Economics and Macro Economics	Micro
91.504 Introduction to Financial Accounting Accounting	Financial
93.500 Managerial Principles of Management	Principles
93.511 Statistical Analysis and Design and a college-level math course	Inferential Statistics
97.510 Marketing Foundations Marketing	Principles of

**Core Courses** - All students are required to take the eight core courses. These courses cover the core of knowledge of a business education in the basic function areas of accounting, finance, management and marketing and the supporting field of management information systems. Strategic management is the capstone course of a business education program and is the major integrative force in an MBA program. It is here that specific information from the functional areas is put together to address the concerns of the total firm.

- 91.524 Managerial Accounting
- 92.554 Management Information Systems
- 93.558 Social Responsibility and Business Ethics
- 93.560 Operations Management
- 93.566 Organizational Behavior
- 93.581 Strategic Management
- 96.535 Financial Management
- 97.551 Marketing Management

Elective Courses - select four courses from the following list:

- 91.501 Financial Accounting
- 91.521 Advanced Cost Accounting
- 91.522 Advanced Auditing Theory
- 91.523 Advanced Tax Accounting
- 91.551 International Accounting
- 91.552 Controllorship
- 93.532 Professional Development Skills
- 93.545 Human Resource Management
- 93.547 Quantitative Models for Management
- 93.548 Decision Models for Managers
- 93.556 International Management
- 93.562 Organizational Theory
- 93.567 People Management Skills
- 93.582 Human Resource Skills for Managers
- 93.583 Human Resources Development
- 93.584 Seminar in Leadership
- 96.540 International Finance
- 96.550 Security Analysis and Portfolio Management
- 97.552 Marketing Research
- 98.507 International Legal Environment of Business

## Special Topics

**Concentrations** - While the MBA is a generalist degree, preparing graduates to be able to understand a broad overview of the workings of a firm, the program provides students the opportunity to take their four elective courses in a single area, thus “concentrating” their studies in that field. The provision of a concentration thus allows a student to develop greater depth in a particular area. Concentrations include Leadership and Managerial Skills, Management Science/Operations Management, and Accounting.

**Leadership and Managerial Skills** - Many of the students enrolled in the MBA program seek to become managers, executives, administrators or program directors in their chosen professions, such as advertising, banking, finance, health, hotels, manufacturing, restaurants, transportation and utilities. The possession of strong leadership and people management skills is a crucial prerequisite for success in these fields.

The concentration consists of four required courses:

- 93.584 Seminar in Leadership
- 93.567 People Management Skills
- 93.582 HR Skills for Managers
- 93.532 Professional Development Skills

Seminar in Leadership introduces the students to leadership theory and its application to business management. Specifically the course covers theories of leadership and sources and uses of power in the organization. People Management Skills and HR Skills for Managers are experiential type courses that focus on developing interpersonal skills needed by managers, such as communication, motivation, conflict management, leading teams, employee staffing, employee development and performance appraisal. Professional Development Skills, also an experiential course, focuses on developing the students’ personal skills that are necessary for effective leadership, like developing self-awareness and confidence, effective decision-making, business etiquette, stress and time management.

**Management Science/Operations Management** - This concentration is designed to develop the quantitative and decision-making skills necessary for managers working in a manufacturing setting. The courses are designed to enhance the students’ competencies in the areas of database decision making.

The concentration consists of four required courses:

- 93.520 Business Research Methods
- 93.547 Quantitative Models for Management
- 93.548 Decision Models for Managers
- 93.550 Quality Management

These courses build significantly on the foundation courses of 93.500 Managerial Principles and 93.511 Statistical Analysis and Design, and the core course of 93.560 Operations Management. Each course brings a unique and different blend of management theory and applied mathematical models to the students.

**Accounting** - This concentration is designed to enhance the MBA student’s ability to move into and advance in the accounting/finance area.

Students with an accounting concentration will take the following courses:

Required:

- 91.521 Advanced Cost Accounting
- 91.523 Advanced Tax Accounting
- 91.552 Controllershship

Elective - Choose one of the following:

- 91.551 International Accounting
- 91.522 Advanced Auditing Theory
- 91.501 Financial Accounting

These courses provide the student with advanced knowledge of accounting processes within organizations, including cost systems, tax policies and finance/accounting department management. The elective option provides students with advanced knowledge of a particular area of interest.

# Department of Marketing

## Marketing (B.S.B.A.)

Administered by Department of Marketing  
Effective Fall, 2004

Students majoring in a B.S.B.A. degree program in the College of Business must take at least 50 percent of the business credit hours required for the business degree at Bloomsburg University.

Among 60 semester hours of general education requirements, English 20.101 and 20.201 and 25.103 Public Speaking are required.

A total of 60 semester hours is required for a major in marketing under the business administration degree program.

Required general education courses for the Marketing curriculum include:

- 40.121 Principles of Economics I
- 40.122 Principles of Economics II
- 40.256 Business and Economic Statistics I or 53.141 Introduction to Statistics
- 48.101 General Psychology
- 53.118 Applied Matrix Algebra

Choose one of the following two courses:

- 40.156 Business and Economics Mathematics
- 53.123 Essentials of Calculus

College of Business Core

- 91.220 Financial Accounting
- 91.223 Managerial Accounting
- 92.150 Introduction to Information Technology
- 93.244 Principles of Management
- 93.481 Business Policies and Strategies
- 96.313 Introduction to Corporate Finance
- 97.310 Marketing Principles and Practice
- 98.331 Law and Legal Environment

Marketing Requirements

- 97.330 Consumer Motivation and Behavior
  - 97.340 Advertising Management
  - 97.370 Sales Management
  - 97.380 International Marketing
  - 97.440 Marketing Research
  - 97.460 Marketing Management
- 3 semester hours of a marketing elective that may also be used as a business elective from the following seven courses:
- 97.320 Marketing for Nonprofit Organizations

- 97.331 E-Marketing
- 97.341 Principles of Selling
- 97.350 Retail Management Concepts
- 97.432 Internship in Marketing
- 97.480 B2B Marketing
- 97.490 Contemporary Problems and Issues

**Electives in Business** - Select courses in business to complete a minimum 60 semester hours. In selecting an elective, the student is reminded to have the proper prerequisites.

Courses designated with a 90, 91, 92, 93, 94 96, 97 or 98 prefix are business courses.

**General education electives** - Select general education courses needed to meet the 120-semester hour graduation requirement.

## Minor in Marketing

Administered by Department of Marketing  
Effective Fall, 2003

The minor in marketing provides students both within and outside of the College of Business with a broad exposure to marketing theory and technique. The minor is designed for students to apply marketing practices successfully to their major discipline. The minor consists of 18 semester hours, 12 of which must be taken at Bloomsburg University. Required courses include:

- 97.310 Marketing Principles and Practices
- 97.330 Consumer Motivation and Behavior
- 97.440 Marketing Research
- 97.460 Marketing Management

Choose two from the following eight courses:

- 97.320 Marketing for Nonprofit Organizations
- 97.331 E-Marketing
- 97.340 Advertising Management
- 97.341 Principles of Selling
- 97.350 Retail Management Concepts
- 97.370 Sales Management
- 97.380 International Marketing
- 97.432 Internship in Marketing
- 97.480 B2B Marketing
- 97.490 Contemporary Problems and Issues

# Department of Music

## Music (B.A.)

Administered by: Department of Music

Effective: Fall, 2004

### Applied Music Track

In addition to 50 hours of general education requirements and the 40 credits of requirements of the major, students choose electives to complete the 120-credit requirement for a bachelor of arts degree. Students with a concentration in applied music will be capable of presenting a full-length recital reflective of their progress in applied music studies (technique and interpretation). This performance should also exhibit a synthesis of the cognate areas of music history and music theory.

**Assessment Criteria and Procedures:** A committee of three faculty members from the department of music will evaluate these presentations according to the procedures and criteria for assessment of the recital projects as delineated in Music Department Policy 5. The student will be evaluated at a recital preview, which will consist of the repertoire from the student's recital program and will be presented in the same manner in which it is intended to be presented at the final recital. The results of this recital preview will determine if the student may proceed with the recital.

Required courses include:

### Music Theory

- 35.201 Sight Singing
- 35.210 Music Theory I (counted as general ed. requirement)
- 35.211 Music Theory II (counted as general ed. requirement)
- 35.300 Music Theory III: Form and Analysis
- 35.301 Music Theory IV: Twentieth Century Practice
- 35.411 Music Theory VI: Orchestration

### Ensemble Participation

A total of eight semesters of the student's choice (vocal or instrumental) are required. At least four semesters must be at one credit per semester; remaining four semesters at one or zero credit.

- 35.106/306 Maroon and Gold Band (Marching in fall, Concert in spring)
- 35.107/307 University-Community Orchestra
- 35.108/308 Concert Choir
- 35.109/309 Women's Choral Ensemble
- 35.110/310 Husky Singers (male chorus)
- 35.111/311 Chamber Singers
- 35.112/312 Jazz Ensemble
- 35.170/370 Chamber Orchestra

### Music History

- 35.105 Music Literature
- 35.321 Music History to 1750
- 35.322 Music History 1750 to Present
- 35.305 Special Topics in Music Education (taken twice, one election must be "World Music")

(See special requirements below for voice)

### Concentration Courses: Applied Music

8 semesters of the same instrument or voice (one hour of lessons per week for two credits per semester) for a total of 16 credits. Choices include violin, viola, violoncello, double bass, organ, voice, piano, trumpet, horn, trombone, baritone, tuba, flute, oboe, clarinet, bassoon and saxophone. Applied majors must perform a junior year "half" recital and a senior year full recital, each at zero credit. A pre-recital hearing will be held by a faculty member committee before public presentation.

Choose from

- 35.270/470 Violin
- 35.271/471 Viola
- 35.272/472 Violoncello
- 35.273/473 Double Bass
- 35.274.474 Organ
- 35.275/475 Voice
- 35.276/476 Piano
- 35.277/477 Trumpet
- 35.278/478 Horn
- 35.279/479 Trombone
- 35.280/480 Baritone
- 35.281/481 Tuba
- 35/282/482 Flute
- 35/283/483 Oboe
- 35.284/484 Clarinet
- 35.285/485 Bassoon
- 35.286/486 Saxophone

### Piano proficiency examination

All Applied track students must exit with an acceptable level of keyboard proficiency. Course 35.302 Keyboard Skills II must be taken to aid in the passage of the required Piano Proficiency exam, but election of 35.302 may not be sufficient in itself to guarantee passage of the exam. Contact the professor of piano at the beginning of the freshman year to sign up for a placement exam.

35.302 Keyboard Skills II

### General Education, Free electives

Instrumental majors are encouraged to elect acoustics, 54.106, The Science of Sound, to meet the natural sciences general education requirement.

Either 35.239 Instrumental Conducting or 35.328 Choral Conducting are encouraged.

Majors are also encouraged to take classes outside their specialty to broaden their skills, such as:

- 35.203 Voice Methods
- 35.206 String Methods I
- 35.220 String Methods II
- 35.207 Brass Methods I
- 35.208 Brass Methods II
- 35.209 Percussion Methods
- 35.232 Woodwinds Methods I
- 35.232 Woodwinds Methods II

### Special requirements for voice students

Voice majors are required to elect nine credits from **Languages and Cultures**. Other course levels may be recommended instead, as appropriate, for demonstrated language proficiency.

Required:

- 10.100 French I or 10.101 French II
- 11.100 German I or 11.101 German I
- 14.101 Italian I
- 35.305 Special Topics in Music Education- "Diction for Singers"

Additionally, voice majors are encouraged to take 35.235 Opera/Music Theater.

### Music Education Certification, K-12, Track

In addition to 50 credits of general education requirements and the 40 credits of requirements of the major, students are required to take

30 credits of professional teacher courses to complete the university's 120-credit requirement for a bachelor of arts degree.

Students with a concentration in Music Education Certification K-12 will:

- comprehend the principles of music theory and display aural acuity
- understand the historical period contribution to music in both cultural and artistic context
- participate in ensembles
- meet the performance requirements of applied study
- apply voice, strings, brass, percussion and woodwinds pedagogical methodologies
- display functional keyboard skills
- develop a music curriculum including strategies for diverse learners
- conduct choral and/or instrumental ensembles
- present a recital
- use music technology
- compose and critique
- write daily lesson plans and thematic units in preparation for the teaching profession

**Assessment Criteria and Procedures:** The culmination of the Music Education Certification, K-12 track is one semester of student teaching experience. Because the certification is K-12, the student teaching experience will include both elementary and secondary assignments. The student will be evaluated by the cooperating teacher and the university supervisor.

### General Education

- 20.101 Composition I
- 25.103 Public Speaking
- A British or American Literature course
- Two Mathematics (53) courses
- 48.211 Child Psychology or 48.212 Adolescent Psychology
- 70.101 Introduction to the Exceptional Individual
- 48.101 General Psychology
- 45.211 Principles of Sociology or 46.200 Principles of Cultural Anthropology

### Core Courses

- 35.201 Sight Singing
- 35.210 Music Theory I (counted as general education requirement)
- 35.211 Music Theory II (counted as general education requirement)
- 35.300 Music Theory III: Form and Analysis
- 35.301 Music Theory IV: Twentieth Century Practice
- 35.411 Music Theory VI: Orchestration

### Ensemble Participation

A total of ten semesters of ensemble approved by the adviser from the list below are required. At least three semesters must be at one credit per semester; remaining seven semesters at one or zero credit.

- 35.106/306 Maroon and Gold Band (Marching in fall, Concert in spring)
- 35.107/307 University-Community Orchestra
- 35.108/308 Concert Choir
- 35.109/309 Women's Choral Ensemble
- 35.110/310 Husky Singers (male chorus)
- 35.111/311 Chamber Singers
- 35.112/312 Jazz Ensemble
- 35.170/370 Chamber Orchestra

### Music History

- 35.105 Music Literature
- 35.321 Music History to 1750
- 35.322 Music History 1750 to Present

### Methods Courses

- 35.203 Voice Methods

- 35.206 String Methods I
- 35.220 String Methods II
- 35.207 Brass Methods I
- 35.208 Brass Methods II
- 35.209 Percussion Methods
- 35.231 General Conducting
- 35.232 Woodwinds Methods I
- 35.233 Woodwinds Methods II

### Applied Instruction

Seven semesters (ten credits) of applied instruction on the same instrument. First four semesters one half hour lesson at one credit; last three semesters before student teaching, one hour lesson at two credits.

Before student teaching, during the seventh semester of applied study, in the senior year, Music Education majors must perform a half hour recital on the same instrument chosen for seven semesters of applied instruction.

### Professional Teacher Education

- 35.229 Music Technology
- 60.311 Classroom Measurements and Assessments
- 35.305 Special Topics in Music Education (elected three times, one must be World Music)
- 60.406 Multicultural Education
- 35.331 Elementary Methods and Curriculum in Music
- 35.319 Secondary Methods and Curriculum in Music
- 35.328 Choral Conducting and Methods or 35.329 Instrumental Conducting and Methods
- 35.495 Student Teaching
- 35.496 Student Teaching

### Piano proficiency examination

All Music Education students must exit with an acceptable level of keyboard proficiency. Course 35.302 Keyboard Skills I must be taken to aid in the passage of the required Piano Proficiency exam, but election of 35.302 may not be sufficient in itself to guarantee passage of the exam. Contact the professor of piano at the beginning of the freshman year to sign up for a placement exam.

- 35.302 Keyboard Skills II

### Music History and Literature Track

In addition to 50 credits of general education requirements, and 40 credits of requirements of the major, sufficient elective courses are selected by the student to reach the university's 120-credit requirement for a bachelor of arts degree.

**Assessment Criteria and Procedures** - Through their work in two music history seminars, students will select a research topic. They will prepare a written paper, as well as a presentation, which will be delivered on presentation day to department faculty and students. The professor and audience will provide feedback and ask for clarification of issues, which are not fully illuminated in the lecture or paper. The written paper will be judged for its suitability for publication in scholarly journals, which publish undergraduate student research in music history and literature.

### Core courses (required)

- 35.201 Sight Singing
- 35.210 Music Theory I (counted as general ed requirement)
- 35.211 Music Theory II (counted as general ed requirement)
- 35.300 Music Theory III: Form and Analysis
- 35.301 Music Theory IV: Twentieth Century Practice
- 35.411 Music Theory VI: Orchestration

### Ensemble participation (required)

Total of eight semesters (at least 4 at 1 credit) of the student's choice of ensemble participation is required

- 35.106/306 Maroon and Gold Band (Marching in fall, Concert in spring)

- 35.107/307 University-Community Orchestra
- 35.108/308 Concert Choir
- 35.109/309 Women's Choral Ensemble
- 35.110/310 Husky Singers (male chorus)
- 35.111/311 Chamber Singers
- 35.112/312 Jazz Ensemble
- 35.170/370 Chamber Orchestra

### Concentration Courses (required)

Required courses include:

- 35.105 Music Literature
- 35.305 Special Topics in Music Education (taken twice, one election must be "World Music")
- 35.321 Music History to 1750
- 35.322 Music History 1750 to Present
- 35.324 American Music
- 35.325 Opera and Music Theater
- 35.327 Survey of Popular Music
- 35.430 Seminar in Music History I
- 35.431 Seminar in Music History II

### Applied Instruction

Choice of applied instruction over four semesters (at one credit each semester) - need not be the same, voice or instrument.

### Piano proficiency examination

All Music History and Literature track students must exit with an acceptable level of keyboard proficiency. Course 35.302 Keyboard Skills II must be taken to aid in the passage of the required Piano Proficiency exam, but election of 35.302 may not be sufficient in itself to guarantee passage of the exam. Contact the Professor of Piano at the beginning of the freshman year to sign up for a placement exam.

35.302 Keyboard Skills II

### Audio-Video Recording Track

In addition to 50 credits of general education requirements and the 40 credits of requirements of the major, students choose electives to complete the 120-credit requirement of the university for a bachelor of arts degree.

**Assessment Criteria and Procedures:** Students will submit a cumulative portfolio, which will exhibit the breadth and depth of their experiences throughout their studies at the university. Summaries of the three required internships and a log of the work required for the audio-video recording concentration are to be included. The faculty member supervising the internship experiences will review the portfolio to determine that the student has a sufficient variety and content of experiences to be both current and successful in the workplace. Required courses include:

### General Education

- 27.271 Media Operations
- 54.104 Elementary Electronics
- 54.106 The Science of Sound (Acoustics)

### Music Theory

- 35.201 Sight Singing
  - 35.210 Theory I (counted as general ed. requirement)
  - 35.211 Theory II (counted as general ed. Requirement)
  - 35.411 Theory VI - Orchestration
- Choose one of the following two courses
- 35.300 Theory III
  - 35.301 Theory IV

### Music History

- 35.105 Music Literature
  - 35.305 Special Topics in Music Education (World Music)
  - 35.322 Music History: 1750 to Present
- Choose from the following three courses:
- 35.321 Music History to 1750
  - 35.324 American Music
  - 35.327 Survey of Popular Music

### Ensemble Participation

A total of six semesters of the student's choice (vocal or instrumental) are required. At least two semesters must be at one credit per semester; remaining four semesters are at one or zero credit:

- 35.106/306 Maroon and Gold Band (Marching in fall, Concert in spring)
- 35.107/307 University-Community Orchestra
- 35.108/308 Concert Choir
- 35.109/309 Women's Choral Ensemble
- 35.110/310 Husky Singers (male chorus)
- 35.111/311 Chamber Singers
- 35.112/312 Jazz Ensemble
- 35.170/370 Chamber Orchestra

### Applied Study

35.204 Class Piano I or appropriate level  
Choose one of the following two sets of options that total four credits:

- 35.205 Class Piano II and 35.212 Class Piano III (or Class Piano II and 2 semesters 35.235 at one credit or Class Piano III and two semesters of 35.235 at one credit, or four semesters 35.235 at one credit)
- Four semesters of voice or instrument at one credit per semester

### Recording Specialization

- 35.219 Basic Audio Recording
- 35.332 Audio Recording II
- 35.333 Audio Recording Lab (elect twice at one credit)

All Audio-Video majors must complete three internship experiences. These internships are an integral part of the degree program, providing professional experience in the student's field. During these experiences, students represent the university to the business community. Their work ethic, attitude and professionalism are a direct reflection upon the music department.

- 35.497 Internship I (Basic workshop, summer after first year, fee to studio required).
- 35.497 Internship II (summer after second year)
- 35.497 Internship III (summer after third year)

All Audio-Video majors are required to act as recording technicians for events sponsored by the Music Department as specified by the adviser. The requirement is for a minimum of three events each semester.

### Minor in Music

Administered by Music  
Effective Fall, 2003

The minor provides an emphasis in areas designated "applied voice", "applied instrumental", "keyboard", "music history-literature", "theory" (harmony and application), "music skills" (general music development) and "audio recording technique".

The minor in music is a 22 credit hour musical emphasis that may be selected by students who major in a program other than the Bachelor of Arts in Music. The minor, which may be completed in eight or fewer semesters, is built from courses that include music theory, ear training, music history and style, applied study and performing ensembles.

All audio recording technique minors are required to act as recording technicians for events sponsored by the Music Department as specified by the adviser. The requirement is for a minimum of three events each semester. Additionally, audio recording minors must complete three internships.

# Department of Nursing

## Nursing (B.S.N.)

Administered by Department of Nursing  
Effective Fall, 2004

A total of 61 semester hours is required for a major in nursing. In addition to the major, all students must satisfy 53 semester hours of general education requirements; a bachelor's degree at Bloomsburg requires a total of 120 semester hours of study. A number of the prescribed courses in the physical sciences and social sciences, required as prerequisites for the nursing curriculum, may also apply toward general education requirements.

### Requirements for the Major - Generic Students

#### Prerequisite courses

- 48.101 General Psychology
  - 48.210 Life-Span Psychology
  - 50.173 Anatomy and Physiology I
  - 50.174 Anatomy and Physiology II
  - 50.240 Introductory Microbiology
  - 52.101 Introductory Chemistry
  - 52.108 Physiological Chemistry
- Choose one of the following three courses:
- 45.211 Principles of Sociology
  - 45.213 Contemporary Social Problems
  - 46.200 Principles of Cultural Anthropology

#### Professional Courses

- 82.210 Professional Nursing
- 82.211 Nutrition
- 82.212 Pharmacology
- 82.213 Foundations of Nursing Practice
- 82.214 Health Assessment
- 82.215 Pathophysiology for Nursing Practice
- 82.306 Introduction to Nursing Research (a statistics course, either 48.160 Statistics or 53.141 Introduction to Statistics is prerequisite)
- 82.310 Family Nursing
- 82.311 Adult Health I
- 82.312 Maternal and Child Health Nursing
- 82.410 Community Health Nursing
- 82.411 Psychiatric/Mental Health Nursing
- 82.412 Adult Health II
- 82.414 Nursing Management/Leadership

Elective Courses - Additional courses must be taken as necessary to complete the minimum graduation requirement of 120 semester hours.

### Requirements for the Major - R.N. to BSN

Students in this program receive 36 credits for their R.N. status, but must complete general education requirements and electives in addition to courses listed below. The total of 120 credits is required for a bachelor of science in nursing degree from Bloomsburg.

- 82.305 Role Development for the Nurse Generalist (RN)
- 82.306 Introduction to Nursing Research (a statistics course, either 48.160 Statistics or 53.141 Introduction to Statistics is prerequisite and is included in general education requirements)
- 82.410 Community Health Nursing
- 82.414 Nursing Management/Leadership in Nursing

## Nursing (M.S.N.)

Administered by Nursing  
Effective Fall, 2004

**Admission** - All admission requirements must be fulfilled no later than 3 credits or one semester of study into the program. All application materials should be submitted to the Office of Graduate Studies.

**I. B.S.N.-M.S.N. Program:** In addition to meeting the general admission requirements for the School of Graduate Studies, applicants with a B.S.N. must comply with the following criteria:

- A baccalaureate degree in nursing from a nationally-accredited school program
- A license to practice professional nursing in the state of Pennsylvania
- A minimum of one year of direct care clinical practice (post baccalaureate) within the past two years in the selected clinical specialty area (for the adult nurse practitioner option, this direct care experience must be in adult health)
- An undergraduate quality point average (QPA) of at least 3.0 on a 4.0 scale
- Satisfactory completion of the following undergraduate courses: statistics, research and health assessment (as a separate course or integrated concept)
- Three current letters of professional and/or academic recommendation
- A resume which includes description of professional nursing or clinical experience
- A narrative describing personal and professional goals for graduate education (rationale and goals for the selected area of advanced practice must be included)
- Personal interview following submission of admission materials with option adviser and/or program coordinator.

**II. R.N.-M.S.N. Program:** The Nursing Department also offers an R.N.-M.S.N. program. Applicants with an R.N. must meet criteria 2-4 and 7-9 above and must also meet the following criteria:

- Placement according to Bloomsburg University articulation model.
- Submission of an application that includes an official secondary school transcript and official college transcript from each school attended, regardless of whether credit was earned at the other institution(s).

**III. M.S.N. to N.P. Program:** Post master's applicants may apply to the nurse practitioner program in one of the following ways:

- If M.S.N. is from Bloomsburg University, write a letter requesting reactivation as a student. A narrative explaining the student's goals is required.
- If M.S.N. is from another university, follow admissions requirements for B.S.N.-M.S.N. applicant.

**IV. C.R.N.A., C.R.N.P., C.N.M. to M.S.N. Program:** C.R.N.A.'s, C.R.N.P.'s and C.N.M.'s may apply to the M.S.N. program by meeting all of the criteria stated under the B.S.N. to M.S.N. program above. Additionally, documentation of successful completion of a nurse anesthetist, nurse practitioner or nurse midwifery program must be submitted.

Applicants to the MSN/MBA option should submit application materials to both nursing and business simultaneously.

Applicants who have not fulfilled the identified requirements for admission will be considered on an individual basis. Applicants may be admitted on a provisional basis until potential abilities for graduate education are demonstrated. After students have been notified of admission to the graduate program, they are required to schedule a program planning session with their assigned graduate faculty adviser.

**Progression and Retention.** In order to progress within the program, students must receive a minimum grade of B in advanced clinical courses and maintain the QPA of 3.0 specified by the university. The department retention policy is the same as that of the university except any grade of C in a clinical course must be repeated.

**Transfer of Credit.** A maximum of nine semester hours in graduate courses taken at other approved colleges or universities may be transferred and credited toward the program if they are applicable to the requirements and are approved by the specialty area adviser and the assistant vice president and dean for graduate studies and research. Courses being transferred must have been taken in residence; must have been assigned a grade of B or higher; and must have covered content which is required for a particular program option or recommended by the clinical adviser for elective credit.

Graduate students must request permission for transfer of credit from the assistant vice president and dean for graduate studies and research once written approval has been obtained from the clinical option adviser.

**Dismissal from the nursing program.** The graduate faculty reserve the right to counsel or dismiss any student who, in their judgment, does not satisfy the requirements of scholarship, health, and personal suitability for advanced practice nursing. Students unable to continue in the program are those who do not meet the Department of Nursing's Performance Standards for Admission and Progression as stated in the preceding section or who are deemed unsuitable for personal reasons. Personal behaviors expected of students are based on standards from the American Nurses' Association Code for Nurses. Examples of nursing activities reflecting expected personal behaviors (not inclusive) include the following:

- Demonstrates personal responsibility, accountability, integrity and honesty;
- Demonstrates respect for clients and their rights;
- Avoids behavior inconsistent with professional standards such as chemical dependency and abuse or engaging in or supporting criminal behavior.

**Graduation Requirements.** Upon fulfillment of the following, the student is awarded a master of science in nursing degree:

- Completion of all coursework, attaining the grades required and maintaining a minimum cumulative QPA of 3.0
- Completion of a comprehensive examination offered at the conclusion of the final clinical course in each of the specialty areas. The exam is not included as part of any course grade and meets university guidelines.
- Completion of a comprehensive program assessment exit interview held with the program coordinator for the purposes of providing student input for program evaluation.

### Degree requirements

Students may select either full-time or part-time study depending on their individual needs. Classes are scheduled in late afternoon and evening to facilitate progression in either type of study. In addition, many courses are offered online. Clinical courses usually require experiences held during the day as dictated by the work schedules of the clinical preceptors and the hours of operation of the clinical facility.

Core courses are required for all areas of specialization. This reflects the philosophy that advanced nursing practice shares a common theoretical basis regardless of specialization.

### Core courses for all program options (12 credits)

- 82.501 Theoretical Bases for Role Development in Advanced Nursing Practice - 3
- 82.502 Epidemiology: Concepts for Advanced Nursing Practice - 3
- 82.503 Bases of Research for Advanced Nursing Practice - 3
- 82.520 Community Assessment and Planning - 3

### Sequence for Adult and Family Nurse Practitioner Specialization ( 30-41 additional credits)

- Additional Core Courses for Adult and Family NP (12 credits)
- 82.504 Pathophysiology for Advanced Nursing Practice - 3
  - 82.507 Pharmacology for Advanced Nursing Practice - 3
  - 82.508 Adult Health Assessment and Promotion (clinical) - 6
- Clinical Sequence for Adult and Family Nurse Practitioner (18 credits)
- 82.515 Diagnosis and Management of Health Problems in Adults I (clinical) - 6
  - 82.516 Diagnosis and Management of Health Problems in Adults II (clinical) - 6
  - 82.534 Adult Nurse Practitioner Practicum and Seminar (clinical) - 6
- Additional courses for Family Nurse Practitioner (11 credits)
- 82.517 Diagnosis and Management of Children and Pregnant Women (clinical) - 8
  - 82.522 Family Health Nursing Theory - 3

### Sequence for Community Health Specialization (27 additional credits)

- EITHER :
- Required for Public Health Administration:
- 91.524 Managerial Accounting - 3
  - 93.545 Human Resource Management - 3
- OR:
- Required for School Health:
- 70.516 Psychology of Exceptional Individuals - 3
  - 82.509 Theory in School Nursing - 3
  - 82.521 Nurse as Health Educator Within School System - 3
- AND:
- 82.511 Community Health Nursing I (clinical) - 6
  - 82.531 Community Health Nursing II (clinical) - 6

**Elective** - Graduate-level courses to fulfill elective requirements are chosen by the student and an adviser based on career needs, clinical requirements and role development of a clinical nurse specialist. Electives may be selected from graduate courses in psychology, political science, business, communication disorders, speech communication, education and nursing. (6-9)

### Adult Health and Illness Specialization (15 additional credits)

- Additional Core Courses for Adult Health and Illness CNS (12 credits)
- 82.504 Pathophysiology for Advanced Nursing Practice - 3
  - 82.507 Pharmacology for Advanced Nursing Practice - 3
  - 82.508 Adult Health Assessment and Promotion (clinical) - 6
- Clinical Courses (12 credits)
- 82.512 Adult Health and Illness I (clinical) - 6
  - 82.532 Adult Health and Illness II (clinical) - 6

**Elective** - Elective requirements are as described under the community health specialization - 3

### **Nursing Administration Specialization (30 credits)**

Business Courses (18 credits):

- 40.512 Economic Theory - 3
- 93.566 Organizational Behavior - 3
- 91.504 Introduction to Financial Accounting -3
- 93.500 Managerial Principles - 3
- 91.524 Managerial Accounting - 3
- 92.554 Management Information Systems - 3

Clinical Practicum (12 credits):

- 82.513 Management and Organizational Behavior in Nursing Administration (clinical) - 6
- 82.533 Management and Organizational Behavior in Health Care Delivery Systems (clinical) - 6

Optional Completion of Master's in Business Administration (15 additional credits)

- 97.551 Marketing Management - 3
- 93.560 Operational Management - 3

- 96.535 Financial Management - 3
- 93.558 Business Ethics - 3
- 93.581 Strategic Management - 3

### **Options for Certified Nurse Anesthetists, Nurse Practitioners and Nurse Midwives - (30 credits total)**

Advanced placement credits are awarded to those individuals already certified and practicing as a CRNA, CRNP, or CNM.

Completion of the MSN requires 30 credits as described below.

- 82.501 Theoretical Bases for Role Development in Advanced Nursing Practice - 3
- 82.502 Epidemiology: Concepts for Advanced Nursing Practice - 3
- 82.503 Bases of Research for Advanced Nursing Practice - 3
- 82.520 Community Assessment and Planning - 3
- Education/Management Electives - 9
- Independent Study, Clinical Project(s)/Thesis - 3-6
- Electives - Elective requirements are as described under the community health specialization. - 3-6

# Department of Philosophy

## Philosophy (B.A.)

Administered by Philosophy  
Effective Fall, 2004

In addition to 53 semester hours of general education requirements, a total of 30 semester hours is required for a major in philosophy. The balance of the university's 120-hour requirement for a bachelor's degree comes from free elective courses. The following courses are required:

Logic requirement

28.270 Logic

Historical requirement

28.321 Plato and Aristotle

28.324 Descartes to Kant

Choose one of the following two courses:

28.328 Existentialism

28.329 20th Century Philosophy

Six courses in philosophy must also be selected in addition to the required courses for this degree program. Two courses must be from the 300 or above level sequence:

28.110 Critical Thinking

28.111 Introduction to Philosophy

28.290 Medical Ethics

28.292 Contemporary Moral Problems

28.295 Business Ethics

28.297 Ethics

28.403 Philosophy of Science

28.404 Philosophy of the Social Sciences

28.405 Philosophy of Law

28.406 Philosophy of Religion

28.407 Contemporary Political Philosophy

28.408 Feminist Philosophy

28.418 Contemporary Philosophy of Mind

28.419 Theory of Knowledge

28.420 Metaphysics

28.477 Philosophy of Ecology

## Minor in Philosophy

Administered by Philosophy  
Effective Fall, 2003

A total of 18 semester hours is required for a minor in philosophy. Required courses are:

28.111 Introduction to Philosophy

28.297 Ethics

Choose one of the following courses:

28.270 Logic

28.110 Critical Thinking

Choose three elective courses, including one from:

28.321 Plato and Aristotle

28.324 Descartes to Kant

28.328 Existentialism

28.329 20th Century Philosophy

or one systematic course (a 300 level or above course)

## Humanities (B.A.)

Administered by: Department of Philosophy  
Effective Fall, 2004

In addition to 53 credits of general education requirements, the interdisciplinary studies student completes a core of 33 credits, plus 15 hours of humanities electives to complete a total of 48 credits of study. The balance of the university's 120-hour requirement for a bachelor of arts degree comes from elective courses.

20.302 Advanced Composition

20.363 Shakespeare

26.102 Introduction to Theater Arts

25.321 Argumentation

28.111 Introduction to Philosophy

28.212 Logic

Art history elective

Music history/literature/theory elective

History - choose two courses

Languages and Cultures option - choose from:

Intermediate foreign language course

Foreign literature course (in original or translation)

Foreign culture and civilization course

# Department of Physics and Engineering Technology

## Physics (B.A.)

Administered by the Physics and Engineering Technology Department  
Effective Fall, 2004

The bachelor of arts program requires 54 semester hours; 15 of the required semester hours count toward general education requirements. Thus, in addition to the above program requirements, students must complete an additional 35 to 44 semester hours in general education plus free electives to reach 120 semester hours required for graduation

Bachelor of Arts required courses include:

- 54.211 General Physics I
- 54.212 General Physics II
- 54.302 Mechanics: Dynamics
- 54.310 Modern Atomic Physics
- 54.314 Electricity and Magnetism
- 54.400 Advanced Physics Laboratory

12 semester hours chosen from other physics courses numbered above 300

- 53.125 Calculus I
- 53.126 Calculus II
- 53.225 Calculus III
- 53.322 Differential Equations
- 56.116 Algorithmic Processes for Computers
- 52.115 Chemistry for the Sciences I
- 52.216 Chemistry for the Sciences II

## Physics (B.S.)

Administered by the Physics and Engineering Technology Department  
Effective Fall, 2004

For a major in Physics, the bachelor of science program requires 71 semester hours; 15 of the required semester hours count toward general education requirements. Thus, in addition to the above program requirements, students must complete 35 to 44 semester hours in general education. The balance of the university's 120 semester hours requirements for a bachelor's degree comes from electives.

Bachelor of Science required courses include:

- 54.211 General Physics I
- 54.212 General Physics II
- 54.302 Mechanics: Dynamics
- 54.310 Modern Atomic Physics
- 54.314 Electricity and Magnetism
- 54.315 Electronics
- 54.318 Optics
- 54.400 Advanced Physics Laboratory
- 54.422 Thermodynamics
- 54.450 Introduction to Quantum Mechanics

12 semester hours chosen from other physics courses numbered above 300

- 52.115 Chemistry for the Sciences I
- 52.216 Chemistry for the Sciences II
- 53.125 Calculus I
- 53.126 Calculus II
- 53.225 Calculus III
- 53.322 Differential Equations
- 56.116 Algorithmic Processes for Computers

3 semester hours chosen from the following three courses:

- 53.226 Analysis IV
- 53.314 Linear Algebra
- 56.373 Numerical Methods in Computing

## Electrical and Electronic Engineering Technology (B.S.)

Administered by the Physics and Engineering Technology  
Effective Fall, 2004

For a major in EEET, the bachelor of science program requires 77 semester hours in courses shown below. Fifteen of these required semester hours count toward general education. Students must complete an additional 35 to 44 semester hours in general education. The balance of the 124 semester-hour graduation requirement comes from electives.

- 52.115 Chemistry for the Sciences I
- 53.113 Precalculus (if needed)
- 53.125 Calculus I
- 53.126 Calculus II
- 53.225 Calculus III
- 53.322 Differential Equations
- 54.211 General Physics I
- 54.212 General Physics II
- 54.315 Electronics
- 54.316 Digital Electronics
- 54.317 Microprocessor Electronics
- 56.116 Algorithmic Processes for Computers
- 58.101 Introduction to EEET
- 58.141 Circuit Analysis
- 58.180 Computer Aided Design and Engineering Graphics
- 58.231 Electric Power and Machinery
- 58.241 Electronic Instrumentation and Data Acquisition
- 58.300 Career Orientation
- 58.321 Manufacturing Processes
- 58.331 Linear Signals and Systems
- 58.380 Cooperative Education in Industry I
- 58.381 Engineering Applications in Industry I
- 58.431 Industrial Process Control
- 58.441 Communications Systems
- 58.451 Digital Signal Processing
- 58.461 Radio Frequency Effects and Measurements
- 58.480 Cooperative Education in Industry II
- 58.481 Engineering Applications in Industry II

## Health Physics (B.S.)

Department of Physics and Engineering Technology, College of Science and  
Technology  
Effective Fall, 2004

The bachelor of science program in health physics requires 68 semester hours, 15 of which count toward general education requirements. Thus in addition to program requirements, students must complete 35 to 44 semester of hours of general education requirements. A total of 120 hours of study is required for a bachelor's degree. Required courses:

- 54.211 General Physics I
- 54.212 General Physics II
- 54.310 Modern Atomic Physics
- 54.315 Electronics
- 54.320 Nuclear Radiation I
- 54.330 Radiation Physics
- 54.360 Health Physics
- 54.420 Nuclear Radiation II
- 54.460 Applied Health Physics
- 59.488 Internship in Health Physics
- 53.125 Calculus I
- 53.126 Calculus II

53.225 Calculus III  
 53.241 Probability and Statistics  
 56.116 Algorithmic Processes for Computers  
 52.115 Chemistry for the Sciences I  
 52.216 Chemistry for the Sciences II  
 50.114 Concepts in Biology I  
 50.115 Concepts in Biology II  
 50.411 Radiation Biology  
 53.322 Differential Equations

## Engineering Science 3+2 (B.A.)

Administered by the Physics and Engineering Technology Department  
 Effective Fall, 2004

**General Education Requirements** - All candidates must satisfy the General Education requirements of Bloomsburg University and the specific requirements for the B.A. degree in either chemistry, physics or mathematics. Students should consult the program coordinator each semester as they plan their schedules. With careful planning, it is possible to satisfy all of the requirements indicated during the student's three-year residence at Bloomsburg University

### Requirements for the Major

54.211 General Physics I  
 54.212 General Physics II  
 54.310 Modern Atomic Physics  
 52.115 Chemistry for the Sciences I  
 52.116 Chemistry for the Sciences II  
 53.125 Calculus I  
 53.126 Calculus II  
 53.225 Calculus III  
 53.226 Calculus IV  
 53.322 Differential Equations  
 53.314 Linear Algebra  
 56.116 Algorithmic Processes  
 54.301 Mechanics: Statics  
 54.302 Mechanics: Dynamics  
 58.180 Computer Aided Design and Engineering Graphics

For a few particular engineering degree options, additional discipline-specific courses may also be required while the student is at Bloomsburg University.

## Natural Sciences and Mathematics (B.S.)

Administered by: Department of Physics and Engineering Technology  
 Effective Fall 2004

General education requirements of the university apply to this interdisciplinary studies major, with the exception that all 12 credits of the Group C distribution requirement plus the three credits of the quantitative-analytical reasoning requirement may be drawn from the

core courses of the major. A total of 120 credits is required for a bachelor of science degree.

The following specific core courses are required.

53.125 Calculus I  
 53.126 Calculus II  
 56.121 Introduction to Computer Science or 56.116 Algorithmic Processes  
 54.211 General Physics I or 54.111 Introductory Physics I  
 54.212 General Physics II or 54.112 Introductory Physics II  
 52.115 Chemistry for the Sciences I  
 52.231 Organic Chemistry I or 52.116 Chemistry for the Sciences II  
 50.114 Concepts in Biology I  
 50.115 Concepts in Biology II  
 51.120 Physical Geology  
 51.121 Physical Geology Laboratory  
 51.130 Historical Geology  
 51.131 Historical Geology Laboratory

Students are also required to complete additional credits so as to satisfy the equivalent of two academic minors, chosen from the following:

Minor in Mathematics, Statistics or Computer Science (12-15 credits)  
 Minor in Physics or Electronics (10 credits)  
 Minor in Chemistry (11-13 credits)  
 Minor in Biology (14 credits)  
 Minor in Geology (12 credits)

## Minor in Electronics

Administered by the Physics and Engineering Technology Department  
 Effective Fall, 2004

These courses must be taken in sequence:

54.211 General Physics I  
 54.212 General Physics II  
 54.315 Electronics  
 54.316 Digital Electronics  
 54.317 Computer Electronics

## Minor in Physics

Administered by the Physics and Engineering Technology Department  
 Effective Fall, 2004

A minimum of 18 semester hours is required, including the following:

54.211 General Physics I  
 54.212 General Physics II  
 54.310 Modern Atomic Physics  
 Plus seven semester hours from upper-level physics courses (300 and higher)

# Department of Political Science

## Political Science (B.A.)

Administered by Department of Political Science  
Effective Fall, 2003

In addition to the 53 semester hours of general education requirements, a total of 30 semester hours is required for a major in political science; the balance of the university's 120-semester hour requirement for a bachelor's degree come from free elective courses.

### Core courses

The following four courses, totaling 12 credit hours, are required of all students in the major:

- 44.120 United States Government
- 44.360 Nations, States and Governments
- 44.210 Introduction to Political Theory
- 44.280 Introduction to International Relations

### Elective courses

18 semester hours in Political Science, 12 semester hours of which must be chosen from upper division courses, i.e., at the 300 level or above.

### Law option

A total of 30 semester hours is required for this option. In addition to the core courses above, 18 hours are taken from the following eight courses:

- 44.440 President and Congress

- 44.446 Constitutional Law I
- 44.447 Constitutional Law II
- 44.448 Judicial Process
- 44.452 State and Local Government
- 44.456 Public Policy
- 44.487 International Law and Organization
- 44.497 Internship in a legal or judicial setting (only 3 hours count toward the option)

### Career concentration in public administration

A total of 27 credit hours (nine courses) is required. A student must take one course in each of the following areas: organization theory, policy, social psychology, communication, computer science, statistics, personnel, budgeting and planning.

## Minor in Political Science

Administered by Department of Political Science  
Effective Fall, 2003

A total of 18 semester hours (six courses) is required for a minor in political science. There are two required courses: 44.120 U.S. Government and 44.360 Nations, States, Government. Students should consider building a minor around one of the fields of political science: namely, American politics, comparative government, international politics, political theory and law.

# Department of Psychology

## Psychology (B.A.)

Administered by Department of Psychology  
Effective Fall, 2004

In addition to university general education requirements, the program of study in psychology requires a minimum of 36 semester hours from the courses specified below:

**Freshman/Sophomore years:** core courses (18 semester hours)  
(Note: 48.281 and 48.282 must be taken sequentially. A grade of C or higher is required in 48.101, 48.160 and 48.281)

- 48.101 General Psychology
- 48.160 Basic Statistics
- 48.281 Experimental Psychology: Methodology
- 48.282 Experimental Psychology: Applications

Choose two from the following four courses:

- 48.211 Child Psychology or 48.212 Adolescence
- 48.253 Social Psychology
- 48.311 Adulthood and Aging

**Junior/Senior years** - content courses (12 semester hours)

Choose two from the following three courses:

- 48.360 Cognitive Psychology
- 48.375 Psychology of Learning
- 48.380 Behavioral Neuroscience

Choose one of the following three courses:

- 48.335 Abnormal Psychology
- 48.337 Developmental Psychopathology
- 48.436 Theories of Personality

Choose one from the following six courses:

- 48.321 Psychological Tests and Measurements
- 48.340 Community Psychology
- 48.350 Psychology of Sex and Gender
- 48.451 Laboratory Training in Group Processes
- 48.453 Organizational Psychology
- 48.476 Principles of Behavior Modification

**Senior year** - capstone courses (6 semester hours)

Choose two courses from the following seven courses:

- 48.341 Theory and Practice of Academic Psychology
- 48.356 Psychology of Motivation
- 48.401 History of Psychology
- 48.406 Psychology Seminar
- 48.464 Advanced Experimental Design
- 48.466 Independent Study in Psychology
- 48.497 Practicum in Psychology

## Minor in Psychology

Administered by Department of Psychology  
Effective Fall, 2004

A minimum of 18 semester hours in psychology is required for the minor in Psychology, as specified:

- 48.101 General Psychology
- 48.160 Basic Statistics
- 48.281 Experimental Psychology: Methodology

9 semester hours of Psychology courses, 6 of which must be at the 300 or 400 level.

# Department of Sociology, Social Work and Criminal Justice

## Criminal Justice (B.A.)

Administered by Department of Sociology, Social Work and Criminal Justice  
Effective Fall, 2004

In addition to general education, the criminal justice major requires 33 to 39 credits: 30 credits of classes and three to nine credits of internship. Students cannot use criminal justice courses, beyond requirements, to fulfill their free elective courses. Required courses:

### General Education

- 45.211 Principles of Sociology
- 48.101 General Psychology
- 44.120 U.S. Government

### Foundation Courses

- 43.101 Introduction to Criminal Justice
- 43.200 Criminology
- 43.210 Criminal Justice Statistics
- 43.220 Criminal Justice Research

### Substantive Core Courses

Choose six courses from the following nine:

- 43.300 Juvenile Delinquency
- 43.310 Penology
- 43.320 Victimology
- 43.330 White Collar Crime
- 44.446 Constitutional Law
- 43.400 Mass Media and Crime
- 43.410 Criminal Law
- 43.420 Crime, Social Inequality and Social Identity
- 43.430 Special Topics

### Applied Experience

- 43.495 Criminal Justice Internship

## Sociology (B.A.)

Administered by the Department of Sociology, Social Work and Criminal Justice  
Effective Fall, 2004

In addition to 53 semester hours of general education requirements, a total of 36 semester hours is required for a major in sociology. The balance of the university's 120-semester hour requirement for a bachelor's degree comes from elective courses.

### Core courses:

- 45.211 Principles of Sociology
- 45.255 Research Methods for Social Inquiry
- 45.260 Basic Social Statistics
- 45.462 Sociological Theory

**Sociology Major** - Students also must select eight additional courses, 24 semester hours, from Sociology courses; four of these must be drawn from 300 and 400 level courses. The sociology internship and social work courses may not be counted as part of these eight courses. Sociology offers an Applied Sociology option.

### Applied Sociology option

- 45.211 Principles of Sociology
- 45.255 Research Methods for Social Inquiry
- 45.260 Basic Social Statistics
- 45.462 Sociological Theory
- 45.316 Urban Sociology
- 45.461 Social Problems of Urban/Rural Communities

Choose three from the following six courses:

- 45.213 Contemporary Social Problems
- 45.490 Sociology of Aging
- 45.345 Medical Sociology
- 45.465 Computer Applications
- 45.468 Social Service Planning
- 45.441 Social Indicators

Three additional courses within the department, all of which must be sociology courses

An internship (6-12 semester hours)

## Social Work (B.A.)

Administered by Department of Sociology, Social Work and Criminal Justice  
Effective Fall, 2004

In addition to 53 semester hours of general education requirements, a total of 46 to 54 semester hours is required for a major in social work. The balance of the university's 120-semester hour requirement for a bachelor's degree comes from free elective courses. For information about admission criteria and details on the course sequence, see Charles Lauderemilch, director of the social work program. Required courses for this degree program include:

- 40.121 Principles of Economics
- 44.120 United States Government
- 45.133 Introduction to Social Work and Social Welfare
- 45.211 Principles of Sociology
- 45.221 Social Work and Diversity
- 45.255 Research Methods for Social Inquiry
- 45.260 Basic Social Statistics
- 45.297 Introductory Practice in Social Work
- 45.334 Social Work Practice with Individuals and Families
- 45.450 Social Work Practice with Small Groups
- 45.452 Social Work Practice With Organizations and Communities
- 45.453 Social Work Policy and Services
- 45.462 Sociological Theory
- 45.497 Social Work Internship
- 45.498 Integrative Seminar in Social Work and Social Welfare
- 48.101 General Psychology
- 48.210 Life-Span Psychology
- One additional three credit course in psychology.
- 50.101 General Biology I

## Minor in Criminal Justice

Administered by Sociology, Social Work and Criminal Justice  
Effective Fall, 2004

The minor in Criminal Justice includes six courses totaling 18 credit hours plus an optional internship.

Required Courses include:

- 43.101 Introduction to Criminal Justice
- 43.201 Criminology

Choose three of the following courses

- 43.300 Juvenile Delinquency
- 43.310 Victimology
- 43.320 Penology
- 43.300 White-Collar Crime

Choose any other 300 or 400 level course:

- 43.400 Mass Media and Crime
- 43.410 Crime, Social Identity and Status
- 43.420 Criminal Law

- 43.430 Special Topics
- Optional course:
- 43.492 Criminal Justice Internship

## Minor in Sociology

Administered by the Department of Sociology, Social Work and Criminal Justice  
Effective Fall, 2004

A student is required to take 18 credit hours from the Department of Sociology, Social Work and Criminal Justice Sociology courses for the Sociology minor. All students are required to take one course (45.211 Principles of Sociology) and then select five additional courses, according to areas of interest of the student and with the advice and **consent** of his or her adviser.

Required:

- 45.211 Principles of Sociology

Choose five from the following list of courses:

- 45.213 Contemporary Social Problems
- 45.215 Racial and Ethnic Minority Groups
- 45.217 Sociology of Sport
- 45.231 Marriage and Family
- 45.255 Research Methods of Social Inquiry

- 45.260 Basic Social Statistics
- 45.316 Urban Sociology
- 45.318 Social Stratification
- 45.319 Religion and Society
- 45.320 Sociology of Women
- 45.345 Medical Sociology
- 45.375 Science and Society
- 45.400 Sociology of Mass Communication
- 45.441 Social Indicators
- 45.443 Sociology of Deviant Behavior
- 45.457 Sociology of Community
- 45.461 Social Problems in Rural/Urban Communities
- 45.462 Sociological Theory
- 45.465 Computer Applications in the Social Sciences
- 45.467 Population Problems
- 45.468 Social Service Planning
- 45.470 Senior Seminar
- 45.474 Contemporary Environmental Issues
- 45.477 Community Land Use Planning
- 45.478 Sociology of Work
- 45.490 Sociology of Aging

# Army ROTC

## Army ROTC

Director: LTC Nathan D. Smyth  
Instructor: SFC Garrison McCue

Military Science, or ROTC, is a four-year program divided into basic courses (freshman and sophomore years) and the advanced courses (junior and senior years). Bloomsburg University's ROTC program is a partnership program under Bucknell University.

The program is designed to prepare college graduates for Army service as commissioned officers. Program goals are to strengthen responsibility and integrity and develop leadership skills and the moral courage to apply those skills.

Freshmen and sophomore students may enroll in the program on a trial basis with no commitment to either the program or to the military. Students may choose to leave the program or continue with advanced courses to earn a commission as an officer. Although the program is designed to start with freshman students each fall, it is possible to make special arrangements to enter the program as late as the end of the spring semester of the sophomore year. Students with prior military service may validate the basic course and enter directly into the advanced course (with requisite undergraduate credit).

ROTC scholarship students and those enrolled in the advanced courses receive a monthly subsistence allowance. All enrolled students receive books, uniforms, and equipment at no cost. Enrolled freshman and sophomore students may apply for a ROTC merit scholarship, which can pay the cost of tuition and fees, with an additional \$600 each year for books.

Program requirements include a 32-day summer training course between the junior and senior years. Students receive a salary for the duration of training, as well as travel, lodging, and meals at no cost to the student. Those students who wish to enroll in the advanced courses (at the start of the junior year), and have no prior military service/basic course completion must attend a 28-day training course during the summer prior to their junior year of school. Students receive pay, travel, lodging for this training as well.

Scholarship cadets and those in the advanced courses are required to attend physical fitness training sessions for one hour, three times weekly. In addition to classroom requirements, all enrolled students attend approximately 20 hours of laboratory time throughout the semester. There is also one weekend field-training event each semester.

Upon graduation, and successful completion of the advanced courses, students can be commissioned in the Active Army as a full-time officer, or in the Army Reserve or National Guard as a part-time officer.

### Course Descriptions

67.110 Introduction to Military Science (1) - Provides an overview of the organization of the ROTC program. Students learn fundamental concepts of professional leadership in both classroom and field environments. Introduces skills such as rappelling, marksmanship, military customs, preparing military correspondence, and practical field training. One-hour class per week, approximately 20 hours of laboratory time per semester.

67.120 Introduction to Military Issues (1) – Provides background in basic field craft skills essential to leaders. Learn/apply principles of effective leading. Develops communication skills to improve individual performance and group interaction. Additional instruction includes marksmanship, first aid, and land navigation. One-hour class per week, approximately 20 hours of laboratory time per semester.

67.210 Applied Leadership and Management I (1) – Provides an overview of the Army rank structure and a specific survey of the junior officer's duties and responsibilities within that rank structure. Develops skills through oral presentations, writing concisely, planning events, and coordination of group efforts. Two-hour class per week, approximately 20 hours of laboratory time per semester.

67.220 Applied Leadership and Management II (1) – Presents the fundamentals of small unit leadership, mission planning, and problem solving techniques. Students learn through case studies and field training how to evaluate and apply leadership styles and techniques. Two-hour class per week, approximately 20 hours of laboratory time per semester.

67.230 ROTC Leaders' Training Course (4) – End of sophomore summer semester summer training offered in lieu of the basic courses (freshman/sophomore years) for students who want to enter the advanced program (Jr/Sr years). The course is approximately 28-days long, held at Fort Knox, Kentucky. Students receive pay during training as well as travel, meals and lodging expenses.

67.310 Advanced Military Science I (3) – Students learn through a series of practical opportunities to lead groups, receive personal assessments and leading again in situations of increasing complexity. Students plan and conduct training for younger students to reach and develop leadership skills. One 3-hour class per week, approximately 20 hours of laboratory time per semester.

67.320 Theory and Dynamics of the Military Team (3) – Practical application of the skills learned in 67.310. Students learn how to apply planning and management skills properly in conjunction with small unit tactics. One 3-hour class per week, approximately 20 hours of laboratory time per semester.

67.330 ROTC Leader Development and Assessment Course (LDAC) (6) – A 32 day practical application and evaluation phase required of each cadet prior to commissioning. LDAC places cadets in leadership positions where they must put into practice the techniques learned on campus in both tactical and non-tactical situations. Students receive pay during training as well as travel, meals and lodging expenses.

67.410 Advanced Leadership and Management I (3) – Presents advanced leadership and management skills required of a manager in a military environment. Students plan, conduct, and evaluate activities of the ROTC cadet organization. Students articulate goals, put plans into action to attain them. One 3-hour class time, approximately 20 hours of laboratory time per semester.

67.420 Advanced Leadership and Management II (3) – Continues the methodology from 67.410. Students learn basic procedures of military law and their application in a military environment, identify and resolve ethical dilemmas, refine counseling and motivating techniques. One 3-hour class time per week, approximately 20 hours of laboratory time per semester.

# Course Descriptions

## Developmental Instruction - DVS (01)

Administered by Department of Developmental Instruction

Effective Fall, 2004

01.011 Reading I (Summer) (3) - Designed to improve a student's reading ability to a level where he/she can compete at the next level. Instruction given in a laboratory and lecture format. Weekly contacts provide individualized prescriptions. Three semester hours toward full-load status; grade counted in GPA. Does not apply toward graduation.

01.025 Reading II (3) - Course presents major components of the reading process and emphasizes basic reading skills. A prerequisite for College Reading and Study Skills for students scoring below the established cutoffs on the Nelson Denny Reading Test. Three semester hours towards full-load status; grade counted in GPA. Does not apply toward graduation.

01.041 Writing I (Summer) (3) - Fundamentals of standard written English for students who test extremely low on SAT-V and whose writing samples confirm need. Emphasis on language activities such as conferencing, revising and editing of papers and reading response journals to improve basic skills in context and reduce anxiety about writing. Numerous and varied short writing assignments. Three semester hours towards full-load status; grade counted in the GPA. Does not apply toward graduation.

01.060 Writing II (3) - Required of students whose SAT-V scores fall below a standard set by the university and whose writing samples confirm need. Students refine basic writing skills in context of varied writing assignments that address given rhetorical situations. Assignments call for specific evidence and responsible generalization from that evidence. Classwork may include conferencing, collaborative work, student presentations, reading and discussion as well as writing. Three semester hours towards full-load status; grade counted in GPA. Does not apply toward graduation.

01.071 Pre Algebra (Summer) (3) - Geared for students with inadequate arithmetic skills. Study skill techniques and problem-solving strategies explored. Emphasizes basic computer literacy and uses computer-assisted instruction. Three semester hours toward full-load status; grade counted in GPA. Does not apply toward graduation.

01.080 Introductory Algebra (3) - Recommended for students with minimal algebraic skills as evidenced by student preparation and results obtained in diagnostic tests. A program designed for each student may include operations of rational numbers, ratio, proportion, percent, geometric concepts, basic algebraic concepts and skills. Concepts may include beginning linear equations. Three semester hours toward full-load status; grade counted in GPA. Does not apply toward graduation.

01.090 Intermediate Algebra (3) - Emphasizes intermediate algebraic skills necessary if success is to be obtained in College Algebra. Topics include linear equations and functions, exponents and polynomials, factoring, rational expressions and quadratic equations. Provides concepts and skills necessary for college-level math courses that build on a limited algebraic background. Three semester hours toward full-load status; grade counted in GPA. Does not apply toward graduation.

01.095 Introductory Science (Summer) (3) - Acquaints the student with scientific terminology and methodology; familiarizes the student with the study skills unique to the mastery of science; prepares the student for subsequent courses in science; and makes

the student more comfortable with the nature and characteristics of science. Three semester hours toward full-load status; grade counted in GPA. Does not apply toward graduation.

01.099 Intensive English Seminar (Summer) (6) - Designed for entering international students who score at least at the ACTFL level 1+ on a departmentally-administered oral placement test, but who have low TOEFL scores or who wish to improve English skills preparatory to enrollment in other classes. Provides 90 hours of conversation and acculturation in the company of native English speakers, together with some practice in writing and grammar. Credit does not apply toward graduation.

01.100 College Study Skills (1) - Designed to provide, formulate and apply the methods and models of learning strategies. Principle focus on content area reading and study skills. Outside readings and discussion focus on the nature of learning and the individual's responsibility to learning. Product and process discussed and compared to various approaches to learning. Credit applies toward graduation. Usually restricted to the summer freshmen program or offered upon special request.

01.120 College Reading and Study Skills (3) - Develops the complex reading and study skills essential for college learning. Focuses on content area reading and study strategies, reading flexibility and critical reading skills. Outside readings focus on the nature of learning and the individual's responsibility to learning. Students may be required to use the reading lab for computerized vocabulary lessons and speed reading exercises. Credit applies toward graduation.

## HPE (05) Health, Physical Education and Athletics

Administered by Department of Health, Physical Education and Athletics

Effective Fall, 2003

05.112 Varsity Athletics (1) - Open to any student who is a member in good standing of a Bloomsburg University athletic team. Course is graded pass/fail.

05.113 Varsity Athletics II (1) - Open to any student who is a member in good standing of a Bloomsburg University athletic team. Course is graded pass/fail.

05.149 Aquatics (1) - Provides an opportunity for non-swimmers to make a proper physical and mental adjustment to water. Introduces basic skills as provided by the American Red Cross with specific emphasis on becoming safe in, on or about a body of water.

05.150 Aquatics (1) - Contains same content as 05.149 but adapted for beginning skills.

05.155 Swimastics (1) - Assists students to attain and maintain physical fitness through water activities.

05.200 CPR and Safety (1) - Designed for completion of Red Cross CPR certification and to develop a safety awareness expertise for accident prevention. Fee may be required.

05.214 Fencing (1) - Lecture aspect covers a study of the history of fencing, the weapons and equipment involved, rules of the sport and safety procedures. Emphasis on learning and practicing the skills (encompassing practice bouts) and a tournament.

05.217 Bicycling (1) - An introductory course for novice cyclists who have access to a variable speed bicycle. Local touring is part of the course. Must provide bicycle and helmet.

05.219 Tennis (1) - A beginning course that teaches basic stroke execution, strategy and court etiquette.

05.220 International Folk Dance (1) - Teaches the basic elements of folk dancing that can be combined to form limitless numbers of dances. A wide variety of dances will be taught incorporating these elements.

05.220 International Folk Dance (1) Teaches the basic elements of folk dancing that can be combined to form limitless numbers of dances. A wide variety of dances will be taught incorporating these elements.

05.221 Jazz Dance (1) - Develops fundamentals of jazz dance.

05.222 Creative Dance (1) - Develops the individual's capability for communication of thoughts, feelings and ideas through the medium of dance. Acquaints students with the basic elements of dance and guides them toward technique mastery with emphasis on expressive or creative movement.

05.224 Fitness Dance (1) - Attempts to provide a method of cardiovascular endurance in a particular interest area.

05.225 Beginning Ballet (1) - Develops the fundamentals of beginning ballet dancing. Elements, skills and the language of ballet will be introduced. This history and popularity of this art form along with the personal and creative benefits from ballet are included.

05.226 Jogging/Walking (1) - Explores the relationship of physical activity (jogging/walking) to the components of wellness and healthy lifestyles. Also provides sound exercise principles for successful, personalized fitness programs.

05.228 Gymnastics (1) - A co-ed introductory course that works primarily on floor exercise and includes instruction on a variety of apparatus including: the balance beam, pommel horse, parallel bars.

05.229 Water Polo (1) - Develops skills, understanding and appreciation of water polo as recreational aquatic sport. Provides activity and instruction in individual fundamentals and their incorporation into a team concept. Recommended for students with basic swimming ability.

05.230 Weight Training and Fitness (1) - Develops knowledge, skill and appreciation of weight training and conditioning programs.

05.231 Archery (1) - Course develops knowledge of, skill in and appreciation of target archery as a recreational pursuit.

05.232 Bowling (1) - Students learn the mechanics of bowling in this beginner's course that meets off-campus. Students begin with appropriate ball selection, learn acceptable styles, practice proper etiquette and bowl under the instructor's close supervision. Fee required.

05.233 Badminton (1) - Deals with the strokes, strategies and game of badminton from a beginner's viewpoint. Also valuable to the intermediate player.

05.234 Golf (1) - An introductory course that develops basic skills. Rules, techniques, etiquette and an emphasis on skill practice are stressed. Fee may be required.

05.235 Riflery (1) - Develops the skills, safety, understanding and appreciation of riflery as a recreational pursuit.

05.236 Volleyball (1) - Develops the skills, understanding and appreciation of volleyball as a recreational activity as well as a vigorous, competitive sport.

05.238 Racquetball-Handball (1) - An introductory course that teaches history, etiquette, strokes, serves and strategy in singles and doubles.

05.239 Square Dancing (1) - Develops skill in square and folk dances. Covers the sociological, physiological and psychological values of square dancing. Students acquire a repertoire of western square dance moves and dance techniques.

05.240 Slimnastics and Fitness (1) - Develops an awareness and understanding of physical self and capabilities; teaches students how

to improve their physical condition. Includes exercise and body mechanics.

05.241 Judo Self-Defense (1) - Provides a better understanding of the sport and a competency of judo and self-defense techniques. Should be used as an elective within the physical education service program requirements.

05.243 Backpacking (1) - Reviews backpacking equipment and first aid procedures; includes how to select trails, menus and cooking methods; teaches safety procedures; discusses how to adjust to the seasons and how to protect the environment.

05.244 Orienteering (1) - Practical application of the knowledge and skills needed to satisfactorily follow a designated course through the wilderness with use of a watch, a compass and a map.

05.245 Canoeing (1) - Offers instruction in the basics of canoeing, including skills that can be used recreationally in one's lifetime. Lake and river canoeing will be taught and experienced.

05.247 Rock Climbing (1) - Provides rock climbing experiences for the beginning rock climbing enthusiast. Introduces basic knowledge, skills and practical application of climbing. Serves as a foundation for further experiences in this area of recreation.

05.248 Basic Sailing (1) - A beginning course that includes terminology, maneuvering under normal and severe weather conditions, seamanship, boating and safety. Swimming ability required.

05.250 Lifeguarding (2) - Provides an opportunity to attain an American Red Cross Lifeguarding Certificate. CPR is taught as part of this course.

05.251 Techniques of Coaching and Officiating Baseball (3) - Classroom-laboratory provides an overview of baseball administration organization, fundamental skills, drills and techniques of umpiring.

05.252 Techniques of Coaching and Officiating Basketball (3) - Instruction in techniques of coaching, player-coach relationship, team strategy, program organization and officiating.

05.253 Techniques of Coaching and Officiating Football (3) - Instruction in techniques of coaching, player-coach relationship, program organization and administration and officiating.

05.254 Techniques of Coaching and Officiating Field Hockey (3) - Instruction in techniques of coaching and officiating all the phases of field hockey.

05.256 Techniques of Coaching and Officiating Cross Country, Track and Field (3) - Analysis of technique and the development of personal skills. Knowledge provided for development of a track program. Discusses rules, starting, officiating, scoring and facility use.

05.257 Techniques of Coaching and Officiating Wrestling (3) - Gives prospective coaches an insight into problems and situations that may be encountered; prepares the individual to teach as well as coach wrestling.

05.260 Techniques of Coaching and Officiating Swimming (3) - Presents techniques of coaching, swimming, diving; covers rule interpretations and duties of officials.

05.265 Basketball (1) - Provides activity and instruction in the development of individual offensive and defensive fundamentals and their incorporation into a team concept. Reviews basic strategy and current trends at all competition levels.

05.270 Exercise and You (2) - Studies appropriate physiological functions, exercise physiology, mechanical implications and fitness measurement. Reviews procedures and practical application through programmed exercise. Successful completion of course fulfills two credits of physical education requirement. (3 contact hours).

05.271 Intermediate Archery (1) - Provides the opportunity for the student to develop shooting skills.

- 05.272 Intermediate Bowling (1) - Attempts to develop advanced skill and knowledge of bowling. Fee required.
- 05.273 Intermediate Golf (1) - Provides instruction in the techniques and strategy involved in improving the individual skills of the student. Fee may be required.
- 05.274 Intermediate Tennis (1) - Focuses on improving tennis skills.
- 05.275 Intermediate Volleyball (1) - Studies the development and history of volleyball. Attempts to improve fundamental skills, team play and strategy through participation.
- 05.276 Intermediate Judo (1) - Provides an opportunity to develop higher levels of skill competencies in judo.
- 05.277 Advanced Sailing (1) - Intended for students who have sailing experience. Includes maneuvering, race tactics, sail tune, severe weather conditions, docking and anchoring. Prerequisites: Sailing and swimming ability required.
- 05.278 Yoga (1) - An introductory course in the basic principles and techniques of Hatha Yoga. Various postures, breathing and relaxation exercises will be covered. The emphasis is on individual growth and progress throughout the course.
- 05.280 Current Issues in Health Promotion (3) - Assesses major problems which concern communities today: drugs, sexually transmitted diseases, pollution, alcohol and suicide.
- 05.282 Care and Prevention of Musculoskeletal Injuries (3) - This course serves as an introductory course in the care and prevention of common musculoskeletal injuries. Prevention, recognition and the care of trauma to the musculoskeletal systems will be discussed in detail. Prerequisite: 50.173
- 05.290 Special Topics (1-3) - Topics announced in the scheduling bulletin prior to each semester.
- 05.291 Hiking, Backpacking and Orienteering (3) - This course is designed to provide students with the opportunity to learn skills and gain knowledge in the areas of hiking on and off trail, backpacking, and the sport of orienteering. These practices will hopefully enhance and promote participation in the outdoors so that the student recognizes this as a lifetime interest. Two credits can be used toward the physical education general requirement.
- 05.298 Fitness and Wellness (3) - Provides learners with the tools for lifelong healthful living. Personal health profiles, mental health, personal fitness programs, stress management, nutritional and environmental health topics are explored. Successful completion of course fulfills one credit of the physical education requirement.
- 05.300 Methods in Fitness Dance (3) - The purpose of this course is to introduce exercise science majors to the teaching principles and current techniques involved in aerobic-dance and step training. Several methods of designing physical and motivational programs will be incorporated to properly teach aerobic-dance/step classes to those in corporate or similar fitness areas.
- 05.304 Principles of Resistance Training (3) - Advanced study of the principles, techniques and associated physiological effects of resistance training. Detailed analysis of various resistance training equipment and training methods to gain expertise in developing exercise prescriptions for different populations. Previous experience in weight training is necessary. Prerequisites: 50.173, 50.174, 05.230 or consent of instructor.
- 05.305 Aquatic Fitness Programming (2) - Develops fitness management leadership skills in an aquatic setting; covers physiological principles of exercise applied to swimming and other water activities. No prior swimming experience necessary.
- 05.306 Psychology of Sport (3) - Aims to familiarize the student with psychological components of human performance related to sport and exercise. Focuses on sport participation and includes psychological assessment, intervention techniques and a brief introduction to the predominant research methods used in sport psychology. Course has particular value to coaches, teachers, psychologists and exercise specialists and other sport-affiliated professions.
- 05.308 Exercise and Mental Health (3) - Provides a strong base of knowledge of theory, research and practice in exercise and mental health. Also provides prospective fitness and exercise professionals (exercise science) with essential information and suggestions of practical value in leadership roles in exercise, wellness, health promotion, corporate fitness, cardiac rehabilitation and other areas.
- 05.309 Decisions for Healthy Behavior (3) - Focuses on personal health issues, the consequences of decisions made about health choices and the societal implications, locally and globally, of those decisions. Approved for general education requirement.
- 05.311 Methods, Materials in Elementary School Physical Education (3) - Provides principles and procedures to meet the needs and interests of elementary-age children in the area of physical education.
- 05.320 Health and Safety in the Elementary School (3) - Covers health knowledge, training and health appraisal techniques for teaching elementary school health; the elementary school health program; and safety education in the elementary school.
- 05.321 First Aid Safety (3) - Provides training in first aid and safety. Red Cross standard, advanced and cardiopulmonary resuscitation certifications may be earned. One credit may be applied to the Fitness and Recreational Skills area. .
- 05.330 Introduction to Coaching (3) - An overview of basic theories and coaching applications in sport philosophy, sport psychology, sport pedagogy, first aid and sport management resulting in American Coaching Effectiveness Program Certificate.
- 05.331 Recreation Education (3) - Presents discussion of and practice in, recreation activities used in school and playground situations. Emphasizes techniques of leadership, recreation planning, legal liability and trends in recreation programming.
- 05.333 School Camping and Outdoor Education (3) - Acquaints students with the scope of organized camping and the acquisition of and practices in the basic skills required of individuals involved in camping and outdoor education training. Requires field experiences.
- 05.334 Women in Sport (3) - Surveys aspects of the historical and contemporary role of women in sport. Encourages an awareness in students regarding the differences between sport for men and women in various contexts, including social, psychological and biophysical. by examining the past and current practices and cultural norms in light of evolving research findings, students are expected to increase their understanding of issues germane to sport. Approved as a cultural diversity course.
- 05.370 Measurement and Evaluation in Human Performance (3) - Acquaints future exercise science majors with techniques of evaluating and measuring the progress of physical fitness and exercise testing components. Includes descriptive statistics, knowledge tests, grading, physical performance tests and tests of sport skills. Prerequisite: 53.114 College Algebra or consent of the instructor.
- 05.380 Research Methods in Exercise Science (3) - Introduces fundamental concepts of research methodology, statistical tools and concepts commonly employed in the exercise sciences. Discusses application of measuring and evaluating human performance with a special emphasis on developing competency in the use of available software packages.
- 05.397 Adult Health Development Program (3) - An intergenerational and multicultural health program that trains students to work one-on-one with older adults to promote health and well-being.
- 05.414 Exercise Prescription and Programming for Special Populations (3) - Provides students with a basic overview of theoretical, scientific and applied perspectives of exercise prescriptions of special populations. Practical experience, physical fitness programs and modified fitness programs will be introduced

and incorporated in working with special populations. Prerequisites: 05.278, 05.476.

05.450 ECG Interpretation/Exercise Testing (3) - Provides students with both theoretical and practical knowledge of exercise testing in a research/clinical environment. Students gain knowledge in basic electrocardiogram interpretation for the normal and the diseased heart. A survey of cardiorespiratory structure and function will be provided. Prerequisite: 50.174 or equivalent or permission of the instructor.

05.451 Kinesiology: The Analysis of Human Motion (3) - Introduces students to the fundamentals of human movement. After a survey of the musculoskeletal system, students will engage in a detailed analysis of the primary articulations. The fundamentals of biomechanics will be examined to provide students with an appreciation of movement. Prerequisites: 50.173 and 50.174.

05.452 Cardiac Rehabilitation (3) - Provides student with both a theoretical and practical knowledge of cardiac rehabilitation. Students study the etiology, epidemiology, patient differences, logistical and administrative considerations, treatments, as well as the education of the cardiac patient.

05.476 Exercise Physiology (4) - Study of adult physiological functions under stress and the adjustment and regulatory activities of the body during exercise; development of a working knowledge of assessments, motor characteristics and physical performance. Prerequisites: 50.173 and 50.178.

05.477 Methods and Materials in Adult Physical Education (3) - Emphasizes the academic and technical knowledge necessary to conduct health and fitness programs in public and private agencies. Students are prepared to assume leadership and management positions within the health and fitness industries. Prerequisite: 05.476.

05.478 Exercise Physiology II (3) - This is an advanced undergraduate course in the physiology of exercise dealing with acute and chronic responses of various systems to exercise and training. Special emphasis will be given to environmental physiology (altitude, temperature, underwater and microgravity environments) and its impact on human performance. Prerequisite: 05.476.

05.479 Clinical Exercise Physiology (3) - The course is designed to provide students with the knowledge, skills and abilities developed to address the role of the clinical exercise physiologist in the exercise management of patients with chronic diseases and disabilities. Practice areas will include cardiovascular, pulmonary, metabolic, musculoskeletal, neuromuscular, neoplastic, immunologic and hemotologic disorders. Prerequisites: 50.174 or equivalent or permission of the instructor.

05.498 Internship in Exercise Science (6-15) - Provides the student with a practical on-site work experience in which technical skills and abilities are applied. Site is selected by the student with the approval of the major director. Required experience is designed to be the culminating experience of undergraduate course work and facilitates the transition from the role of student to employee. Prerequisites: 50.173, 50.174, 05.476, 05.477.

05.500 Instrumentation and Laboratory Techniques (3) - Provides experiences in the use of conventional technology and procedures in the measurement and assessment of physiological functioning and the maintenance and calibration of such equipment.

05.510 Research Methods in Exercise Science (3) - Provides a complete overview of the research process employed in exercise science. Specific emphasis is given to conceptualization of the research problem, hypothesis development, literature review and basic statistical procedures. Alternative research paradigms and methodologies (qualitative, survey) are also discussed.

05.511 ECG Interpretation and Exercise Testing (3) - Includes basic ECG theory and interpretation and the theory and applied physiology of exercise testing.

05.512 Current Research in Exercise Science (3) - Sharpens students' critical thinking and writing skills while interpreting and analyzing recent research in exercise science. Critically studies the most recent research in the area of exercise science and its subdisciplines, including exercise physiology, epidemiology and biochemistry. Deepens students' understanding of the development of a line of inquiry in exercise science and integrates and extends the information covered in the prerequisite courses.

05.551 Mechanics of Human Movement (3) - A quantitative approach to movement analysis. The mechanical principles and laws that govern motion will be reviewed, studied and applied to the human body as it engages in exercise, sport performance and daily living tasks. Prerequisite: 05-451.

05.553 Exercise in Chronic Disease Management (3) - The purpose of this course is to examine the use of exercise as a diagnostic, evaluative and rehabilitative tool for individuals with chronic diseases or disabilities. The underlying physiologic causes of various diseases and the identification of clinical symptoms will be examined, as well as the utility of exercise training to monitor and evaluate clinical progress. Prerequisites: 05.575, 05.576 or permission of the instructor.

05.555 Physiology of Training (3) - This course will examine the physiologic adaptations associated with increased maximal oxygen consumption ( $V_{O2}$  max) and submaximal, prolonged exercise performance. Emphasis will be placed on an examination of potential mechanisms associated with exercise-induced adaptations. The physiology of strength development and associated mechanism will also be explored. Prerequisites: 05.575, 05.576 or permission of the instructor.

05.557 Ethical and Legal Issues in Conducting Research (3) - The purpose of this course is to identify ethical and legal issues that may emerge during the process of conducting research in Exercise Science. A historical view of the development of ethical codes will be studied which relate to the formation, conduct, analysis and presentation of research problems. Prerequisite: 05.510 or permission of the instructor.

05.559 Scientific Evaluation of the Elite Athlete (3) - This course is designed to provide students with both a theoretical and practical knowledge of the evaluation procedures used to profile the elite athlete. Students will have the opportunity to visit the various laboratories located within an Olympic Training Center and discuss specific testing and training procedures with the Center's professionals. Prerequisites: 50.173, 50.174, 05.510, 05.500, 05.576, 05.575 or permission of the instructor.

05.561 Exercise Science and Aging (3) - This course is designed to provide students with both a theoretical and practical knowledge of the relationship between exercise science and the aging process. Following classroom instruction students will visit selected senior citizen facilities and have an opportunity to work directly with older adults. Prerequisite 05.575, 05.576 or permission of instructor.

05.575 Exercise Physiology I (3) - Provides a continuation of basic and advanced exercise physiology principles. Intended to develop student's knowledge of the physiology of human performance, the effects of ergogenic aids, aging, and the environment on physical performance.

05.576 Exercise Physiology II (3) - Concentrates on the physiological responses and adaptations that result during and after exercise. Focuses on energy metabolism, the structure and function of skeletal muscles and cardiovascular dynamics during exercise.

05.577 Worksite Health and Fitness Programming (3) - Detailed study of the information and expertise pertaining to health fitness assessment and exercise programming, in accordance with requirements for nationally accredited certification examinations (e.g., American College of Sports Medicine Health Fitness Instructor certification).

## Honors Courses - HON (08)

Administered by Honors Advisory Committee, Academic Affairs  
Effective Fall, 2003

08.101 Honors Humanities I (3) - Allows freshmen and sophomore level students to focus on a specific topic or related topics in the humanities for in-depth study and analysis. Topics vary from semester to semester. Requires extensive reading on a chosen topic, the development of the students' own ideas on the topic and the expression of those ideas in written and oral form. Fulfills general education requirement for humanities.

08.110 Honors Math and Science I (3-4) - Allows students to focus on a specific topic or related topics in math or science for in-depth study and analysis, including laboratory experience. Topics vary from semester to semester. Requires extensive reading on a chosen topic, the development of the students' own ideas on the topic and the expression of those ideas in written and oral form. Fulfills general education requirement for math/natural science.

08.130 Honors Social Science I (3) - Allows students to focus on a specific topic or related topics in the social sciences for in-depth study and analysis. Topics vary from semester to semester. Requires extensive reading on a chosen topic, the development of the students' own ideas on the topic and the expression of those ideas in written and oral form. Fulfills general education requirement for social science and approved as a diversity course.

08.201 Honors Humanities II (3) - Allows freshmen and sophomore level students to focus on a specific topic or related topics in the humanities for in-depth study and analysis. Topics vary from semester to semester. Requires extensive reading on a chosen topic, the development of the students' own ideas on the topic and the expression of those ideas in written and oral form. Fulfills general education requirement for humanities.

08.210 Honors Math and Science II (3-4) - Allows students to focus on a specific topic or related topics in math or science for in-depth study and analysis, including laboratory experience. Topics vary from semester to semester. Requires extensive reading on a chosen topic, the development of the students' own ideas on the topic and the expression of those ideas in written and oral form. Fulfills general education requirement for math/natural science.

08.230 Honors Social Science II (3) - Allows students to focus on a specific topic or related topics in the social sciences for in-depth study and analysis. Topics vary from semester to semester. Requires extensive reading on a chosen topic, the development of the students' own ideas on the topic and the expression of those ideas in written and oral form. Fulfills general education requirement for social science.

08.300 Introduction to Honors Research (1) - Serves as an introduction to research and includes guest lectures from library staff, university faculty across the disciplines and from other university personnel concerned with undergraduate research. Required of all honors students before beginning honors research. The student chooses an honors mentor and begins planning research. In the pass/fail course, the student must produce a proposal for honors thesis research that meets the approval of the Honors Advisory Committee.

08.301 Honors Seminar on Values (3) - Features study of a selected topic that will change with each offering. Upper division seminar focuses on values and ethical issues and may be taught by professors from any of the colleges or Arts and Sciences divisions. Seminar fulfills the general education requirement for values courses.

08.302 Honors Seminar on Diversity (3) - Features study of a selected topic that changes with each offering. Upper division seminar focuses on diversity issues and may be taught by professors from any of the colleges or Arts and Sciences divisions. Seminar fulfills the general education requirement for diversity courses.

08.303 Honors Seminar on Quantitative and Analytical Reasoning (3) - Features study of a selected topic that changes with each offering. Upper division seminar focuses on diversity issues and may be taught by professors from any of the colleges or Arts and Sciences divisions.

08.304 Honors Interdisciplinary Seminar (3) - Features study of a selected topic that changes with each offering. Upper division seminar focuses on diversity issues and may be taught by professors from any of the colleges or Arts and Sciences divisions.

## Interdisciplinary Studies - IDS (09)

Administered by various colleges.

Effective Spring 2004

09.100 University Seminar (1) - Promotes a successful transition to college life for new freshmen through the presentation of critical information about the university's academic program.

09.111 Introduction to the Peoples of the Third World (3) - Examines the peoples of the Far and Middle East, Africa and Latin America; their art, literature, philosophy, cultural geography and history, sketching their importance in the world.

09.150 Introduction to Library Research (1) - In this self-paced online course, students learn to effectively assess their research needs, evaluate information resources in electronic and print formats, and retrieve reliable information relevant to their research. Students learn to convey their research findings in compliance with the academic integrity policy of the university. Students learn to properly cite information (e.g., APA, MLA) and under what circumstances to do so.

09.211 History of Natural Scientific Thought (3) - Reviews the historical development of the natural sciences and mathematics, the nature of scientific and mathematical thought and methods, characteristics of these disciplines and their significance to human progress.

09.213 Science, Technology and Human Values (3) - Compares the interaction of science and technology with human values. Studies past, present and future technological developments and their impact on personal and social values.

09.230 Human Sexuality (3) - Presents a two (2) gender perspective of the roles of sexuality in the life of humans. Considered are anthropological, biological, psychological and sociological aspects of sexuality and their relation to popular culture and diversity. Addresses current public health issues, ethics, responsible decision-making and values.

09.231 Technical Writing (3) - Presents the principles of technical writing in the physical, natural and social sciences and in technology and industry. Promotes effectiveness in communicating technical information to specialized and general audiences. Uses seminar approach involving class participation and individualized instruction.

09.311 Seminar in American Studies I (3) - Provides a thorough appreciation of our varied heritage and research materials and resources available for deepening the knowledge of this growing area of inquiry.

09.312 Seminar in American Studies II (3) - continuation of 09.311.

09.330 Free Enterprise (1-4) - This is an applied interdisciplinary course in the development and dissemination of the values of the free enterprise system. Students will perform demographic, marketing studies and set up free enterprises; disseminate the values of free enterprise in the local and the international community. Participants will acquire leadership, national and international competitions sponsored annually by Students in Free Enterprise (SIFE), an international organization and are supported by about 800 institutions of higher education. Time management skills, project management skills, assessing project performance, impact and evaluation in the ethical and global contexts are some of the

competencies in addition to superior presentation skills sought by the judges in all competitions, will be taught in this course.

09.487 THIS Internship Experience (9) - Internship provides outstanding students with enriching academic experience as an intern in the executive or legislative branches of state government or with state boards, agencies or commissions.

09.488 THIS Research Project (3) - The student intern completes an individualized directed project involving substantial analysis and research. The project is related to the internship experience.

09.489 THIS Academic Seminar (3) - Student interns participate in a seminar coordinated by the resident director. The seminar is structured to integrate the student's work experience with a rigorous academic component and an exposure to multiple facets of state government.

09.491 Honors Independent Study in Humanities I (1-3) - An independent study course in which, under the guidance of a faculty mentor, the student completes the initial project(s) in the first stage of his/her proposed honors work.

09.492 Honors Seminar in the Humanities (3) - Allows for continued in-depth study of a particular research project of the student's choice and provides honor students the opportunity to discuss with peers and interested faculty concepts in the humanities related to the project and to the student's major field. Seminars organized around general themes selected by the humanities honors committee and announced in advance.

09.493 Honors Independent Study in the Humanities II (1-3) - Independent study in an area previously approved as part of the student's overall honors program.

09.495 Honors Seminar in the Natural Sciences and Mathematics (1) - Offers a cross-disciplinary perspective to students in the honors program with emphasis on student presentation and discussion of important topics in a student's area of expertise.

09.496 Honors Independent Study in the Social Sciences I (1-3) - Involves the student's selection of an honors adviser and project, initial exploratory reading and a proposal for a major Honors Independent Study Project. Reserved for students who qualify for and wish to pursue an honors course of study in their last two years. Usually taken in the junior year.

09.497 Honors Seminar in the Social Sciences (3) - Allows for continued in-depth study of a particular research project and provides honor students the opportunity to discuss with peers and interested faculty concepts in the social sciences which relate to the research project and the student's major field. Focus of the seminar is interdisciplinary.

09.498 Honors Independent Study in Social Sciences II (3) - Provides for an on-site work experience and training program designed to give selected interns an opportunity to apply theoretical and descriptive knowledge acquired in multiple humanities disciplines. Requires approval of the internship coordinator and the dean of Arts and Sciences.

09.580-589 Special Topics (1-3) - Provides an opportunity for graduate students from any graduate program to expand their knowledge from a previously learned experience or to explore a new learning experience not offered on a regular basis. Each course carries from 1 to 3 semester hours. Prerequisites are determined by the instructor.

09.590 Graduate Internship (1-6) - Provides a work-study experience initially administrated by an academic faculty member and a sponsoring employer. Provides the opportunity for an internship experience across disciplines at a graduate level.

09.599 Master's Thesis (3-6)

## French - FRE (10)

Administered by Department of Languages and Cultures  
Effective Fall, 2003

10.100 Foundations of French Language and Culture (3) - Seeks to develop novice proficiency with emphasis on intercultural communication in the context of the Francophone world. Language laboratory activities required.

10.101 French I (3) - Seeks to develop the four language skills and acquaint students with elements of francophone culture. For students with no more than two years of French. Practice in the language laboratory required.

10.102 French II (3) - Continuation of 10.101. Prerequisite: 10.101 or equivalent.

10.203 French III (3) - Continuation of development of the four language skills. Emphasis on reading. Study of francophone culture. Practice in the language laboratory. Prerequisite: 10.102 or equivalent.

10.204 French IV (Fall) (3) - Continuation of 10.203. Emphasis on culture and oral communication skills. Practice in the language laboratory. Prerequisite: 10.203 or equivalent.

10.205 Applied Phonetics and Pronunciation (3) - Analyzes French sound system. Drills on pronunciation and intonation. Selections of prose, poetry and songs for imitation. Not offered every semester. Prerequisite: 10.102 or equivalent.

10.206 Structure of the French Language (3) - Thorough study of grammar and syntax and use of idioms through applied exercises. Introduction to French morphology. Not offered every semester. Prerequisite: 10.204 or equivalent.

10.207 Conversation: French Daily Life and Customs (3) - Prepared and free speaking activities about everyday life and customs in francophone countries. Not offered every semester. Prerequisite: 10.204 or equivalent or concurrently with 10.204 with consent of the chairperson.

10.211 Foundations of French Culture and Civilization (Fall) (3) - Reviews major developments of French culture from an historical point of view. Taught in English; knowledge of French unnecessary. Special projects for French majors. Approved as a diversity course.

10.212 France Today (3) - Presents major aspects of life in France today. Taught in English; knowledge of French unnecessary. Special projects for French majors. Not offered every semester. Approved as a diversity course.

10.281 - 10.289 Special Topics (1-3) - Provides knowledge and training in fields usually not covered in regular courses. Content determined by instructor and varies each time course is offered. Topics may include French for travelers, French gastronomy, Quebec culture. Not offered every semester.

10.290 French Studies Abroad (1-6) - Prerequisite: Minimum two semesters of French or equivalent or consent of the chairperson.

10.295 Art and Culture of France (3) - Provides a study-tour of France with attention to French art as seen in relation to its social and cultural environment. Visits to places of artistic and cultural interest in and around Paris and the provinces. Not offered every semester. Prerequisite: Consent of the instructor.

10.309 Commercial French (3) - Acquisition of French business language and terminology in reading, writing and speaking. Includes cultural content of francophone culture. Provides an introduction to business correspondence. Not offered every semester. Prerequisite: 10.204 or equivalent.

10.331 Selected 20th Century Writers (Fall) (3) - Students study French for reading and cultural knowledge; selected modern works. Prerequisite: 10.204 or equivalent.

10.401 Advanced French Language (3) - Presents a thorough review of phonology, morphology, syntax and semantics. Practical application in advanced speaking including activities with development of cultural proficiency. Not offered every semester. Prerequisite: 10.206 or consent of the chairperson.

10.402 Contemporary Issues in Francophone Media (3) - Presents further development of language fluency through discussion of

current topics and issues selected from francophone newspapers and magazines. Not offered every semester. Prerequisite: 10.207 or equivalent.

10.409 Commercial French II (3) - Studies French business life aiming at preparing students for internships in business in France, Quebec or a branch of a French company in the U.S. Reviews business correspondence and cultural content. Not offered every semester. Prerequisite: 10.309.

10.422 Masterpieces of French Literature (3) - Studies the most significant writers and playwrights of France. Not offered every semester. Prerequisite: 10.206 or consent of the chairperson.

10.423 Black Francophone Writers and Culture (3) - Presents major aspects of life in Black francophone countries and major writers in those countries. Taught in French. Not offered every semester. Prerequisite: 10.204 or consent of the chairperson.

10.490 Independent Study in French (1-9) - Provides for individual study of a particular aspect of French civilization, language or literature under faculty supervision. Prerequisites: Consent of the instructor and the chairperson.

## GER (11) German

Administered by Department of Languages and Cultures

Effective Fall 2004

11.100 Foundations in German Language and Culture (3) - Seeks to develop novice proficiency with emphasis on intercultural communication in the context of the German-speaking world. Language laboratory activities required.

11.101 German I (3) - Develops the four language skills and acquaints students with elements of German-speaking cultures. For students with no more than two years of German. Requires practice in the language laboratory.

11.102 German II (3) - Continuation of 11.101. Reading and writing given additional emphasis. Prerequisite: 11.101 or equivalent.

11.121 German Authors of the 20th Century I (3) - Examines works of major German authors such as Hesse, Brecht, Mann, Kafka, Durrenmat and Boll. Taught in English; knowledge of German unnecessary. Readings in German and special projects for German majors. Not offered every semester.

11.122 German Authors of the 20th Century II (3) - Continuation of 11.121. Taught in English; knowledge of German unnecessary. Readings in German and special projects for German majors. Not offered every semester.

11.203 German III (3) - Development of the four language skills. Basic grammar reviewed and new grammatical concepts presented. Reading and study of the culture given additional emphasis. Not offered every semester. Prerequisite: 11.102 or equivalent.

11.204 German IV (3) - Continuation of 11.203. Emphasizes culture and communication. Not offered every semester. Prerequisite: 11.203 or equivalent.

11.205 Applied Phonetics and Pronunciation (3) - Analysis of the German sound systems. Drills on pronunciation and intonation. Selections of prose, poetry and songs for imitation. Prerequisite: 11.102 or two years of high school German. Not offered every semester.

11.206 Conversation and Composition I (3) - A comprehensive intermediate German course, which develops writing, reading, speaking and listening skills in the German language, and which expands knowledge of German-speaking cultures. Not offered every semester. Prerequisite: 11.204 or equivalent.

11.207 Conversation and Composition II (3). A continuation of Composition and Conversation I (11.206), comprehensive intermediate German course, which develops writing, reading, speaking and listening skills in the German language, and which

expands knowledge of German-speaking cultures. Intended to develop German language skills to a level that would allow students to function in a university or professional setting in a German-speaking country. Not offered every semester. Prerequisite: 11.206.

11.211 German Culture and Civilization I (3) - Provides an understanding of the geography, government, customs, education, arts and history of the German-speaking countries, as well as a vivid sense of the current scenes in these countries. Taught in English; knowledge of German not required. Special projects for German majors. Not offered every semester. Approved as a diversity course.

11.212 German Culture and Civilization II (3) - Continuation of 11.211. Taught in English; knowledge of German not required. Not offered every semester. Approved as a diversity course.

11.281-11.289 Special Topics (1-3) - Provides knowledge and training in fields not usually covered in regular courses. Content is determined by instructor and varies. Not offered every semester.

11.290 German Studies Abroad (1-6) - Prerequisite: Minimum of two semesters of German or consent of the chairperson.

11.309 Commercial German (3) - Acquisition of German commercial language and terminology in reading, writing and speaking. Background of business life in Germany today, in German culture and society. Not offered every semester. Prerequisite: 11.206 or equivalent.

11.331 Selected 20th Century Writers (3) - Current German writers for reading and cultural knowledge. Development of the four skills continues. Not offered every semester. Prerequisite: 11.204 or equivalent.

11.402 Contemporary Issues in German Media (3) - Further language development, especially of conversation, through discussion of current topics and issues selected from German language newspapers and magazines. Not offered every semester. Prerequisite: 11.207 or equivalent.

11.403, 11.503 Workshop(3) - Presents selected materials for practical use. Offered on demand only. Prerequisite: 11.206 or 11.207 or consent of the instructor.

11.420 Seminar: Mass Culture and High Culture (3) - Readings and discussion of cultural issues from 1870 to 1933. Background in culture, society and methods of cultural critique. Not offered every semester. Prerequisite: 300 level German or consent of the instructor.

11.422 Masterpieces of German Literature (3) - Examines selected masterpieces of German literature from the Middle Ages to the present with excursions in historic and socio-cultural contexts. Prerequisite: 11.206 or permission of the instructor. Not offered every semester.

11.490 Independent Study in German (1-9) - Provides for individual study of a particular aspect of German civilization, language or literature under supervision of a faculty member. Prerequisite: Consent of the instructor and the chairperson.

## SPN (12) Spanish

Administered by Languages and Cultures

Effective Fall, 2004

12.100: Foundations in Spanish Language and Culture (3) - Develops novice proficiency with emphasis on intercultural communication in the context of the Spanish-speaking world. Language laboratory activities required.

12.101: Spanish I (3) - Develops the four language skills; acquaints students with elements of Hispanic culture. For students with 1 year of high school Spanish or equivalent. Requires practice in language lab.

12.102: Spanish II (3) - Continuation of 12.101. Reading and writing given additional emphasis. For students with 2 years of high school Spanish or equivalent. Prerequisite: 12.101 or equivalent.

12.203: Spanish III (3) - Continued development of skills and culture. Increased emphasis on reading and writing. For students

with 3 years of high school Spanish or equivalent. Prerequisite: 12.102 or equivalent. Diversity course.

12.204: Spanish IV (3) - Continuation of 12.203. For students with 4 years of high school Spanish or equivalent. Prerequisite: 12.203 or equivalent. Diversity course.

12.206: Structure of the Spanish Language (3) - Study of Spanish grammar and syntax through applied exercises and introduction to Spanish morphology. Not offered every semester. Prerequisite: 12.204 or equivalent.

12.207: Spanish Conversation and Composition I (3) – Development of speaking and writing skills at the intermediate level; prepares students for transition to upper level language courses. Not offered every semester Prerequisite: 12.204 or equivalent.

12.208: Conversation for Health Professionals (3) - Emphasizes development of speaking and comprehension for communication with Spanish-speaking health care clients. For health services students and other interested persons. Not offered every semester. Prerequisite: 12.102 or equivalent.

12.209: Spanish for Social Services (3) - Emphasizes development of speaking and comprehension for communication with Spanish-speaking clients in social services. Prerequisite: 12.102 or permission of the instructor. Diversity course.

12.211: Spanish Culture and Civilization (Fall) (3) - Provides an understanding and appreciation of Spain through geography, history, current events, arts and customs. Taught in English. Diversity course.

12.212: Spanish-American Culture and Civilization (Spring) (3) Provides an understanding and appreciation of Spanish America through geography, history, current events, arts and customs. Taught in English. Diversity course.

12.213: U.S. Hispanic Culture and Literature (3) - Studies the literature and cultures of Hispanic groups in the United States from the Spanish Colonial Period to the present. Taught in English. Diversity course.

12.214: Hispanic Culture and Civilization (3) - Provides an understanding and appreciation of the present Spanish-speaking world (Spain, Spanish America and the U.S.) through geography, history, economics, politics, education, customs and arts. Taught in Spanish. Not offered every semester. Prerequisite: 12.204 or consent of instructor.

12.250: Spanish for Heritage Speakers I (3) - Studies structure and usage of oral and written Spanish from the perspective of the heritage speaker (native or near native speakers who have learned the language without formal training). Develops linguistic and cultural literacy through actualized authentic materials (both literary and audiovisual). Substitutes 12.206 when approved by instructor. Prerequisite: 12.204 or permission of instructor.

12.281-12.289: Special Topics (1-3) - Provides knowledge and training in fields not usually covered in regular courses. Content is determined by instructor and varies. Topics may include Spanish for Travelers and Women in Spanish Literature. Not offered every semester. Prerequisite: Varies according to the nature of the topic.

12.290: Spanish Study Abroad (1-9) - Prerequisite: 12.101 or permission of instructor.

12.305: Phonetics: Applied Phonetics and Pronunciation (3) – Develops ability to communicate effectively in spoken Spanish. Provides a detailed study of Spanish sound and intonation patterns through group and individual practice. Attends to individual pronunciation problems. Not offered every semester. Prerequisite: 12.206 or equivalent.

12.306: Spanish Conversation and Composition II (3) – Continued development of speaking and writing skills (see 12.207); required before advancing to advanced language courses. Not offered every semester. Prerequisite: 12.206 and 12.207, or consent of instructor.

12.309: Commercial Spanish (3) - Acquaints students with basic skills in Spanish trade correspondence and commercial reading.

Emphasizes vocabulary, idioms and elementary knowledge of business practices. For business students and others who desire to enhance their knowledge of Spanish. Not offered every semester. Prerequisite: 12.102 or permission of instructor.

12.325: Spanish for Educators (3) - For educators and other students interested in reviewing their proficiency in Spanish. Prerequisite: 12.102 or permission of the instructor. Diversity course.

12.335: Communicative Spanish for Teachers (3-6)- Intensive practice of advanced of language skills, culture, history and geography for teachers and students preparing to be teachers. Administered in language lab. Summer sessions. Permission of Instructor required.

12.331: Literary Analysis of Hispanic Texts. (3) - Reading and discussion of selected modern works. Not offered every semester. Prerequisite: 12.207 or an equivalent proficiency.

12.350: Spanish for Heritage Speakers II (3) - Studies advanced structure and usage Spanish for heritage speakers (native or near native speakers who have learned the language without formal training). Develops linguistic and cultural literacy through actualized authentic materials (both literary and audiovisual). Substitutes 12.306 when approved by instructor. Prerequisite: 12.250 or permission of the instructor.

12.390: Internship in Spanish (3-9) - Students apply the theory learned in the classroom to situations occurring in the workplace. Careful planning with the department's internship coordinator enables the students to schedule these experiences to complement their academic program. Participation in the university's internship adds an important dimension to student's educational experience and future career plans.

12.402: Advanced Conversation (3) – Focuses on development of fluency in speaking through discussion of topics pertinent to native speakers of Spanish. Not offered every semester. Prerequisite: 12.306 or permission of the instructor.

12.403: Advanced Structure and Composition (3) – Study of advanced syntax and structure with application in composition. Prerequisites: 12.306 or permission of the instructor.

12.420: Spanish Literature (3) – Survey of Spanish literature from the early lyric (XI Century) to the present, including historic and socio-cultural contexts. Prerequisites: 12.306 or permission of the instructor.

12.421: Spanish American Literature. (3) – Survey of Spanish American literature from the Colonial Period to the present, including historic and socio-cultural contexts. Prerequisites: 12.306 or permission of the instructor.

12.422: Hispanic Theater and Poetry (3) - Reading and discussion of plays and poetry by selected Spanish and Spanish American writers, concentrating on 20th century authors. Taught in Spanish. Not offered every semester. Prerequisite: 12.306 or permission of the instructor.

12.430: Hispanic Short Story (3) - Acquaints students with the short story as an expression of culture by Spanish, Spanish American and U.S. authors; sensitizes students to cultural values in the Hispanic world. Not offered every semester. Prerequisite: 12.306 or permission of the instructor.

12.490: Independent Study in Spanish (1-9) - Provides for individual study of a particular aspect of Hispanic civilization, language or literature under the supervision of a faculty member. Prerequisites: Consent of the instructor and the chairperson.

## Russian - RUS (13)

Administered by Department of Languages and Cultures  
Effective Fall, 2003

13.101 Russian I (Fall) (3) - Develops the four language skills and studies elements of Russian culture. Requires practice in the language laboratory. Also offered in spring on demand.

13.102 Russian II (Spring) (3) - Continuation of 13.101. Prerequisite: 13.101 or equivalent.

13.103 Russian III (3) - Continued development of four skills. Emphasis on reading and culture. Not offered every semester. Prerequisite: 13.102.

13.104 Russian IV (3) - Continuation of 13.103. Not offered every semester. Prerequisite: 13.103.

13.290 Independent Study in Russian (1-9) - Individual study of a particular aspect of Russian civilization, language or literature under faculty supervision. Prerequisite: Consent of the instructor and the chairperson.

## Italian- ITL (14)

Administered by Department of Languages and Cultures  
Effective Fall, 2003

14.101 Italian I (3) - Develops the four language skills and studies the Italian culture. Stresses basic grammar. Not offered every semester.

14.102 Italian II (3) - Continuation of 14.101. Emphasizes reading and writing. Not offered every semester.

## Chinese - CHI (16)

Administered by Languages and Cultures  
Effective Fall, 2004

16.105 Chinese I (3) - Basic elements of Mandarin Chinese, with emphasis on spoken language. Introduces the Chinese culture. Requires practice sessions in language lab.

16.106 Chinese II (3) - Continuation of 16.105. Begin study of the Chinese characters. Requires practice sessions in language laboratory. Prerequisite: 16.105 or equivalent.

16.211 Foundations of Chinese Civilization (Fall) (3) - Chinese culture and civilization in historical perspective, with emphasis on art and philosophy. Taught in English. Approved as a diversity course.

16.212 China Today (Spring) (3) - Chinese culture and civilization today, with focus on art, political philosophy, customs and new directions. Taught in English. Approved as a diversity course.

16.350 Foreign Language Teaching Methodology and Research (3) - Covers evolution of methodology, new trends and theories, latest quantitative and qualitative research. Required for foreign language education majors. Not offered every semester.

16.400 Study Abroad (1-8) - by consent of the chairperson.

## Latin - LAT (18)

Administered by Language and Cultures  
Effective Fall, 2003

18.101 Latin I (3) - Develops reading and writing skills; emphasizes correct classical pronunciation. Introduction to Roman culture and civilization. Not offered every semester.

18.102 Latin II (3) - Continuation of 18.101. Develops reading and translation skills; teaches classical references through selected readings. Not offered every semester. Prerequisite: 18.101 or equivalent.

## English - ENG (20)

Administered by Department of English

When 20.203 is listed as a prerequisite, any 100-level or 200-level literature course may be substituted as the prerequisite.

20.101 Composition I (3) - Study and practice of the principles of composition to improve proficiency in writing skills.

20.111 Language and Social Interaction (3) - A study of varieties of language, verbal and non-verbal and their communicative and social functions.

20.112 Practical Grammar and Usage (3) - A study of grammatical forms, rules and accepted usage of current written standard English, with practical application to improve diction, sentence structure and style.

20.131 The Bible as Literature (3) - Examination of literary types found in the Old and New Testaments and their profound influence on Western culture.

20.151 Introduction to Literature (3) - Exploration of literature as experience and the techniques by which it communicates in short story, novel, drama and poetry.

20.152 Literature and Society (3) - Readings selected for consideration of purposes, characteristics, issues and values of specific areas (such as business, psychology or science) from a humanistic perspective.

20.153 Folklore (3) - A survey of such traditional forms of oral literature as epic, ballad, folksong, folktale and superstitions examined in terms of origin, transmission and influence on literature.

20.154 Folklore of the American West (3) - A study of folklore genres, including legends, tall tales, ballads and customs of Native Americans, English, French and Spanish of the Trans-Mississippi West.

20.156 Popular Literature (3) - Study of one type of popular literature (such as detective fiction, science fiction, literature of terror or popular drama) and examination of its forms, conventions and ideas. Course content varies with each presentation of the course.

20.200 Writing Proficiency Examination (3) - A series of compositions written under examination conditions on topics provided by the staff. Faculty consultations and a writing laboratory are available for students in the course. Not for English majors. Prerequisite: 20.101.

20.201 Composition II (3) - Intermediate-level study and practice in composition, reinforcing and expanding basic writing skills. Instruction in short and long essays and in research-supported writing. Prerequisite: 20.101 or consent of department chairperson.

20.203 Approaches to Literary Study (3) - An introduction to writing about literature; a consideration of research techniques and types of literary analysis. Satisfies requirement for Composition II. Required for all English majors. Prerequisite: 20.101; open to all students. When 20.203 is listed as a prerequisite, any 100-level or 200-level literature course may be substituted as the prerequisite.

20.204 Introduction to Creative Writing (3) - An introductory course that covers theory and methods of creative writing in prose and poetry forms. Students create and revise their own imaginative works using models by established writers, exercises and peer and instructor comments. Prerequisite: 20.101 or permission of the instructor.

20.205 Honors Composition (3) - Similar to 20.101 but offered only to freshmen exempted from 20.101 on the basis of admission criteria. Study and practice in short and long essays and in research-supported writing. Prerequisite: 20.101.

20.226 European Literature I (3) - Major Continental literary works in translation from the classical Greek period through the Renaissance, including Biblical backgrounds.

20.227 European Literature II (3) - Major Continental literary works in translation from the 17th century to the present.

20.236 American Literature I (3) - Survey of American literature from its colonial beginnings through the Civil War.

20.237 American Literature II (3) - Survey of American literature from the Civil War through the modern era.

20.246 British Literature I (3) - Survey of British literature from Beowulf through Samuel Johnson.

20.247 British Literature II (3) - Survey of British literature from the Romantics through the modern era.

20.256 Non-Western Literature I (3) - Study of a literature or literatures outside the traditions of European-American cultures. Approved for diversity requirement.

20.257 Non-Western Literature II (3) - Study of a literature or literatures outside the traditions of European-American cultures, differing from 20.256 by either the literature(s) or the works studied. Approved for diversity requirement.

20.280 Poetry (3) - Exploration of the nature of poetry in terms of its aims, forms and substance. Not offered every semester.

20.287 Black Women Writers (3) - Introduces students to a wide range of black women writers from the United States, Caribbean and Africa. Approved for diversity requirement. Not offered every semester.

20.288 Feminist Reading of Culture (3) - Teaches students to “read” culture through a wide range of “texts,” including television and film and to analyze sexism, racism, classism and homophobia. Approved for diversity requirement. Not offered every semester.

20.300 Writing Children’s Literature (3) - Approaches to and practice in writing children’s books for publication. Consideration of various literary types and techniques with discussion of field research in writing nonfiction, fiction and poetry for children. Prerequisite: 20.384 or 20.385 or consent of the instructor. Not offered every semester.

20.301 Creative Writing: Fiction (3) - Original creative work in fiction; critical analysis by the instructor and the class in group discussion. Prerequisite: permission of the instructor. Not offered every semester.

20.302 Creative Writing: Non-fiction (3) - Advanced study of writing nonfiction prose: form, style, audience, editing, evaluation. Prerequisite: 60 semester hours. Not offered every semester.

20.303 Creative Writing: Poetry (3) - Lecture and discussion concerning the fundamental theory and techniques of poetry writing together with writing and evaluation of poems in a workshop situation. Prerequisite: permission of the instructor. Not offered every semester.

20.306 Theory and Practice of Writing (3) - Introduction to new theories of writing and the teaching of writing including both study of and practice in the methods the theories require. Recommended for secondary education students in English, but open to all students interested in advanced work in writing. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Offered in fall semester only.

20.307 Writing for the Internet (3) - An advanced course, open to all majors but particularly oriented toward those interested in publishing, e-commerce and media studies. Students will demonstrate critical awareness of rhetorical conventions on the Internet as well as producing websites, both individually and in collaboration with other members of the class. Previous experience with word-processing and web-browsing programs is assumed; no other computer experience is necessary. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.308 Advanced Expository Writing (3) - An advanced course in the essay, with emphasis on expository writing. Readings will explore the history and contemporary trends in the genre. Students will also study theory, and write essays with an emphasis on the writing process (drafting, revision, polishing) to develop clear, mature prose. The course will be beneficial for students who enter graduate or professional school, whose professional lives will include writing, and who enter the teaching profession. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor.

20.311 Structure of English (3) - Study of the sound patterns, morphology, word formation processes, semantics and syntax of modern English and of children’s acquisition of their first language.

Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor.

20.312 History of the English Language (3) - Survey of the major developments in the English language from its Anglo-Saxon origins to the present. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor.

20.334, 20.335 Studies in American Literature (3) - Major American writers instrumental in shaping and interpreting the American experience. Writers vary with each presentation of the course. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.341 Medieval Literature (3) - Major works of the Old and Middle English periods (the former in translation) that relate to a common theme, period or genre (such as drama or metrical romance), generally excluding the works of Chaucer. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.342 The Renaissance (3) - The poetry and non-dramatic prose of the 16th and 17th centuries (to 1660), excluding the works of Milton. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.344 Restoration and Eighteenth Century (3) - The prose, poetry and drama of the period from 1660 through the end of the 18th century. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.345 Romantic and Victorian Literature (3) - The poetry and prose of the late 18th and 19th centuries. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.346, 20.347 Studies in British Literature (3) - Major writers instrumental in shaping and interpreting the British experience. Writers vary with each presentation of the course. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.348 British Modernism (3) - A study of British Modernism from 1890 to 1939, including authors, movements, themes, as well as social, political and philosophical contexts. Emphasis will be on literature but links with architecture, cinema and the visual arts may also be explored. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.363 Shakespeare (3) - Study of Shakespeare’s plays with emphasis on Shakespeare as poet and playwright and attention to conditions of the Elizabethan theater and history of the Shakespearean text. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor.

20.364 Chaucer (3) - Chaucer’s major poetry (with practice in speaking and reading Middle English) including consideration of the medieval social and intellectual contexts of his work. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.365 Milton (3) - The poetry and prose of John Milton considered in the contexts of his age, his Puritanism and his learning. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.370 The English Novel (3) - History and development of the novel in England from its inception to the end of the 19th century. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.372 Modern Novel (3) - Major modern novels, with emphasis on developments in fictional art. Writers vary with each presentation of the course. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.374 Short Story (3) - The history, characteristics and techniques of the modern short story. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Offered summer only.

20.375 Renaissance Drama (3) - The plays of Shakespeare's predecessors and contemporaries and those of later Jacobean and Caroline dramatists. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.377 Modern Drama (3) - Major Continental, English and American plays from Ibsen to the present with emphasis on contemporary attitudes, themes and style. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.379 Modern Poetry (3) - A survey of contemporary poetry and poetic movements. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.384 Literature for Children (3) - Studies the development of literature for children, including consideration of criteria for selecting literature for the classroom and library and methods for presenting literary works in an elementary classroom. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor.

20.385 Literature for Young Adults (3) - Critical discussion of literature aimed at young adult readers or popular with them, by such writers as S.E. Hinton, Robert Cormier, Judy Blume and Paul Zindel. Consideration of literary works for the secondary classroom with attention to the subject of censorship. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Offered spring semester only.

20.386, 20.387 Studies in Contemporary Literature (3) - Study of a topic, author or movement significant in post-World War II literatures. Course content will vary. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.388 Gender/Race/Class (3) - Analyzes identity-construction and cultural processes in constructing categories of gender, race and class. Approved for diversity requirement. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.391 Literature and Film (3) - Film translations of literary texts, focusing on cinematic techniques, genre constructions, the formal codes and conventions of film, and critical vocabulary. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.401 Writing in the Professions (3) - An advanced course, open to all majors but designed for students in the humanities and social science, in which students will complete writing projects geared toward on-the-job writing, e.g., proposals, reports, market surveys. Students are expected to enter the class with specific career objectives in mind. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.404 Creative Writing Seminar (3) - An advanced course in creative writing. Through revision and editing, students have the opportunity to create a publishable body of work in a genre of their choosing, and create a portfolio suitable for job/graduate school interviewing. This course will enable students to develop a significant creative writing project while in a workshop setting and under the guidance of an instructor. Exercises to hone craft and essays to articulate theory are also included. Prerequisite: 20.404 and 90 earned credits. Not offered every semester.

20.411 Modern Linguistic Theory (3) - A survey of modern developments in linguistics, including transformational-generative grammar; applications of theory to patterns of language acquisition; current adaptations of theory for presentation as grammar in schools. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.413 Language in American Society (3) - Review of social, political and philosophical perspectives on the historical development and current status of English and other languages in

American society. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.431 American Romanticism (1820-1865) (3) - An advanced course in the significant literary and cultural movements and writers of the period 1820-1865. Special emphasis given to the works of Irving, Cooper, Emerson, Hawthorne, Poe, Thoreau, Melville, Douglass, Whitman and Dickinson. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.432 American Realism (1865-1914) (3) - Study of American literature between the Civil War and 1914. Content varies, but will include Twain, Howells, James, Wharton, Crane and Dreiser. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.433 American Modernism (1914-1945) (3) - Consideration of significant fiction, drama and poetry written between 1914 and 1945, with emphasis on writers and texts reflecting the social, political, intellectual and artistic diversity of the period. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.434 Contemporary American Literature (3) - Consideration of significant fiction, drama and poetry since World War II, with emphasis on writers and texts reflecting the social, political, intellectual and artistic diversity of the period. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.436 African-American Literature (3) - A detailed study of one of the three major areas in African-American literature: the African-American novel, the Harlem Renaissance or African-American Writers. Prerequisite: 45 semester hours, including 20.203. Not offered every semester. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor.

20.480 Special Topics (3) - Study of a topic in literature; topic varies with each presentation of the course. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor.

20.481 Special Topics (3) - Study of a topic in literature; topic varies with each presentation of the course. Not offered every semester.

20.488, 20.489 Seminar (3) - An opportunity to explore, at an advanced level, a literary or linguistic subject not offered in regularly scheduled courses. Content determined by the instructor. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor.

20.491 Topics in Criticism (3) - An examination of a selected topic in literary-critical practice in light of contemporary theoretical debate. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Not offered every semester.

20.492 Literary Theory and Criticism (3) - Study of traditional literary criticism from Aristotle to the present, as well as of contemporary trends in literary theory, at an advanced level. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor. Offered spring semester only.

20.493 Bibliography and Literary Research (3) - Investigation of methods of literary scholarship and study of book history and production with practice in preparing specialized bibliographies and planning scholarly projects. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor.

20.495 Independent Study in English (3-6) - Prerequisite: 60 semester hours.

20.497 English Internship (1-12) - A work-study program. Open to English majors; others by departmental consent. Prerequisite: 45 credits and either 20.201 or 20.203 or permission of the instructor.

## Communication Studies - COM (25)

Effective Fall, 2004

25.103 Public Speaking (3) - Introduces students to the essentials of effective oral communication and techniques for acquiring it and provides practical experience wherein these principles and techniques may be applied.

25.104 Interpersonal Communication (3) - Introduces students to the process of interpersonal communication. Students explore the role of conversations and relationships to enhance their participating in daily interactions and their critical awareness of the process.

25.108 Forensic Practicum(0-1) - Participation in forensics: debate or individual speaking events. Grades awarded each semester. May be repeated for maximum of 3 semester hours of credit. First semester register for 25.108.01. Second semester register for 25.108.02. Participation for two semesters for one semester hour of credit.

25.205 Understanding Social Influence (3) - Highlights major trends in the study and practice of influence-seeking communication from the ancient Greek sophists to the contemporaries and the post modern.

25.206 Oral Interpretation of Literature (3) - Provides practice in skills necessary for conveying intellectual and emotional meanings in poetry and prose read to an audience.

25.207 Investigating Communication (3) - Introduces students to topics that communication scholars study, research questions that are typically posed, planning and design of studies, various methodologies, analysis of results and how to report these results in a meaningful manner.

25.210 Organizational Communication Theory (3) - Explores the theoretical and the practical aspects of how communication patterns develop in organizations and what effect these patterns have on various organizational processes and outcomes.

25.215 Communication Theory (3) - Surveys the dominant theories of interpersonal relationship management, both general theories and those specific to particular interests.

25.218 Discussion (3) - Presents a survey of and practice in types and patterns of public discussion and study of informal discussion characteristics and application. .

25.220 Intercultural Communication (3) - Explores communicating in cultural contexts and general principles for communication across cultures with the goal of becoming competent communicators. Approved for diversity requirement.

25.306 Computer Applications for Professional Communicators (3) - Introduces students to how computers are used in the field of communication. Students learn how to design and present effective electronic presentations, the theory and procedures of desktop publishing and how to use the Internet. Prerequisite: 25.103

25.307 Communication for Business Professionals (3) - Studies business and professional communication, salesmanship (selling skills and methods), conference and interviewing. Prerequisites: 25.103 or 25.104; at least one of 25.205, 25.210, 25.215 or permission of the instructor.

25.309 Gender Issues in Communication (3) - Presents a broad range of theories concerning the nature of differences in communication behavior between the sexes and the presumed origins of such differences. Examines communication theories about relationships between the sexes in families and other intimate associations, in business roles and in society at large. Primary focus is on contemporary U.S. society, but some historical and cross-cultural contrasts will be explored. Prerequisites: 25.103 or 25.104; at least one of 25.205, 25.210, 25.215 or permission of the instructor.

25.313 Communication and Conflict (3) - Analyzes the role of communication in the generation, process and management of destructive and constructive conflict on interpersonal, small group organizational and societal levels. Prerequisites: 25.103 or 25.104; at least one of 25.205, 25.210, 25.215 or permission of the instructor.

25.315 Persuasion (3) - Examines the way people use symbols to influence other people. Provides practice in presenting and evaluating persuasive messages. Prerequisites: 25.103 or 25.104; at least one of 25.205, 25.210, 25.215 or permission of the instructor.

25.321 Argumentation (3) - Examines basic principles of argument and evidence. Provides practice through presentation and refutation of arguments in debates on controversial issues. Prerequisites: 25.103 or 25.104; at least one of 25.205, 25.210, 25.215 or permission of the instructor.

25.407 Interviewing (3) - Students explore the interview as a specific communication event, with its own rules, procedures and strategies. Acquaints students with a variety of interviewing contexts, such as selection, performance appraisal, informational, helping, sales and health care, by blending current theory and research with practical skills and applications. Students prepare and conduct interviews and receive feedback on oral and written performances. Prerequisites: 25.103 or 25.104; at least one of 25.205, 25.210, 25.215 or permission of the instructor.

25.413 Community Leadership (3) - Identifies the communication skills that leaders need to influence the information environment and the collective action of organizational members. Special attention is given to the flexibility necessary for functional leadership in a diverse society. by developing communication skills, students are empowered to accept leadership positions in personal, business, community, government and media contexts. Prerequisites: 25.103 or 25.104; at least one of 25.205, 25.210, 25.215 or permission of the instructor.

25.417 Evaluating Media Influence (3) - Develops and applies a media perspective for criticism. Examines the ways in which the structural and formatting tendencies of communication technologies privilege different perceptual modes, behaviors and lifestyles. Students explore and examine the ways in which each medium of communication structures and formats experiences and understandings. Prerequisites: 25.103 or 25.104; at least one of 25.205, 25.210, 25.215 or permission of the instructor.

25.418 Issue and image Campaigns (3) - Image, or the face one presents to the public, is an important part of everyday life. Image-making, or the cultivation of public face, is an ever-present necessity in a mass consumer economy. In this course students participate in the planning of an actual issue and image campaign proposal to gain experience as persuasive strategists. Course content encompasses the role of campaigns in shaping social, cultural and political agendas; theoretical foundations of persuasive campaigns; and effective strategies for creating, maintaining and restoring image as a fitting response to emergent issues.

25.419 Communication in the Family (3) - by promoting awareness of family communication issues and practices and providing training in relationship enhancement, the course offers students the knowledge and skills necessary to build, adjust and maintain more functional family interaction processes. Considers the communication processes within the family as well as the extent to which they influence or are influenced by larger social systems. Special attention given to the diversity of family experience. Prerequisites: 25.103 or 25.104; at least one of 25.205, 25.210, 25.215 or permission of the instructor.

25.423 Communication Training in Organizations (3) - Advanced presentation skills for students exploring career opportunities as communication trainers in an organization or as independent training consultants. Includes information about such topics as needs assessment and task analysis, theories of adult learning, systems for developing instructional objectives, preparation and presentation of workshop sessions and evaluation of outcomes. Prerequisites: 25.103 or 25.104; at least one of 25.205, 25.210, 25.215 or permission of the instructor.

25.424 Corporate Communication (3) - Advanced writing skills for students exploring career opportunities as a publicist or corporate writer in an organization or as an independent communication

consultant. Includes information about organizational planning, audience analysis, professional guidelines and writing standards, qualitative and quantitative research, design and layout of publications and use of computers in publication and presentation. Prerequisites: 25.103 or 25.104; at least one of 25.205, 25.210, 25.215 or permission of the instructor.

25.425 Communication in Relationships (3) - Acquaints students with the theories and methods used to examine the processes of communication in interpersonal relationships. Students review general principles of human communication, address communication skills considered important for effective communication in relationships, analyze communication behavior in the formation, maintenance and dissolution of interpersonal relationships, explore interpersonal communication theory in specific settings and discuss several philosophical orientations to interpersonal communication. Prerequisites: 25.103 or 25.104; at least one of 25.205, 25.210, 25.215 or permission of the instructor.

25.426 Leadership and Team Building (3) - An intensive survey of theory and research pertaining to working in small groups. Includes a focus on practical knowledge required to become a productive participant and leader in small group contexts. Prerequisites: 25.103 or 25.104; at least one of 25.205, 25.210, 25.215 or permission of the instructor.

25.470 Independent Study (1-3) - Provides for individual work and study in one of the areas of rhetoric and communication. Student finds a faculty sponsor, prepares a written proposal that requires departmental recommendation and the dean's approval, arranged through the chairperson. See section on Independent Study.

25.492 / 25.493 / 25.495 Advanced Studies in Communication (3) Investigates significant aspects of communication studies. Topics vary by semester and include nonverbal communication, political communication and cultural foundations of the information society. Consult the schedule booklet or the listed instructor for further information. Prerequisites: 25.103 or 25.104; at least one of 25.205, 25.210, 25.215 or permission of the instructor.

25.494 Advanced Studies in Communication: Diversity Focus (3) - Investigates significant aspects of communications studies. Topics are approved as diversity courses. Consult the schedule booklet or the listed instructor for further information. Prerequisites: 25.103 or 25.104; at least one of 25.205, 25.210, 25.215 or permission of the instructor.

25.497 Internship in Communication (3-9) - Integrates classroom experience with practical work experience in industrial, business or government work settings. Students must establish academic integrity of their proposed experience and its relevance to coursework in the major. Contact departmental internship coordinator to obtain detailed information and forms.

## Theatre Arts - THE (26)

Administered by Department of Communication Studies and Theatre Arts

Effective Fall, 2003

26.101 Career Seminar: A Theatre Life in Bloom (2) - Presents an introduction to the theater professions and to general theater practice. Individual goal-setting for participation in the major and in the profession. Required for theater majors.

26.102 Introduction to Theatre Arts (3) - Presents a survey of the literature, production and criticism of the theater. Required for theater majors.

26.108 Theatre Practicum (0-1) - Participation in plays: acting or technical work. Grade awarded each semester. Participation for two semesters for 1 semester hour of credit. May be repeated for maximum of 3 semester hours.

26.112 Fundamentals of Acting (3) - Introduces the theories and techniques of acting. Provides for individual and group exercises.

26.200 Voice and Movement (3) - Second in a series of courses designed for performance training. Explores the concepts of kinesthetic awareness, proper use of the voice for the state and vocal interpretation of text.

26.202 Understanding Plays: Script Analysis (3) - An introduction to the tools and methods used to develop an approach to understanding plays. Provides the basis for theatrical criticism and for an aesthetic appreciation of theater through development of the critical skills of script analysis expressed in both written and oral form.

26.209 Theatre Appreciation (3) - Presents a survey of all aspects of theater: acting, criticism, design, directing, history and production.

26.211 Theatre Production/Stagecraft (3) - Studies basic stagecraft: scene construction, painting, drafting and crewing of a show. Laboratory work required.

26.215 Theatre History I (Spring) (3) - Surveys structures, production practices, plays and the theater's function in societies from ritual beginnings through the 19th century.

26.219 Children's Theatre (3) - A survey of history, theory and production of theater for young audiences.

26.270 Fundamentals of Theatre Design (3) - An introduction to the elements and design for theatrical production, including scenery, costumes, make-up, lighting and sound. First in a series of courses designed for training in design technology for theater. For theater majors and other interested students.

26.277 Costume Construction (3) - Introductory studio course in the tools and techniques of producing costumes for the stage. Provides a basic working knowledge of the construction of costumes. For theater majors and other interested students.

26.311 Screen Design (3) - An introduction to basic movements and the methods, approaches, tools, materials and visual concepts of scene design.

26.312 Intermediate Acting (3) - Explores the relationship between the personalized actor, his/her ensemble of fellow artists and the script. Prerequisite: 26.112

26.314 Theory of Stage Lighting and Design (3) - Provides for intensive study of theory and design of lighting of a production supplemented by applied work on productions. Laboratory hours required.

26.321 Theatre and Stage Management (3) - Prepares students for professionalism in production of plays and the management of a theater company.

26.325 Theatre History II (3) - Provides an intensive examination of structure, production practices, plays and the theater's function in societies from the Renaissance to the mid 19th century. Required course for theater majors as well as a course for others interested in the art form of the theater and its history. Prerequisite: 26.215.

26.340 Scriptwriting (3) - Studies dramatic structure, types and styles of drama. Students are required to write scripts for stage, film, radio or television. Prerequisite: One writing course or consent of the instructor.

26.370 Stage Makeup (3) - Studio course covering aspects of stage makeup from basic modeling with paint to creating complex characterizations. Provides a basic working knowledge of the design and application of makeup for the stage. For theater majors and other interested students. Prerequisite: 26.270

26.377 Costuming for the Stage (3) - The study and application of costume design for the theater including methods, tools, materials and visual concepts.

26.401 Career Seminar: A Life in the Theatre (2) - Preparation for the move from college to the professional theater environment. Portfolio presentation. Evaluation of professional goals to the theater. Required for theater majors. Prerequisite: 26.101, senior standing, permission of the instructor.

26.411 Play Directing (3) - An overview of the principles and techniques of directing and the collaborative process with an

introduction to script analysis needed for concept development. Prerequisite: One course in theater. Prerequisites: 26.112 or 26.270 and one other design or performance course.

26.416 Modern Theatre (3) - Continues the study of theater history from 19th century through the theater of today. Prerequisite: 26.215 or consent of instructor.

26.412 Advanced Acting (3) - Character analysis based on scriptwork. Students begin to focus on particular areas of development. Prerequisites 26.112, 26.312

26.470 Independent Study (1-3) - Provides for individual work and study in one of the areas of theater. Student finds faculty sponsor and prepares a written proposal, which requires departmental recommendation and dean's approval, arranged through the chairperson. See Independent Study.

26.490 Seminar: Theatre (3) - Provides for a concentrated study of an individual artist, a period or a movement in theater. Offered on demand. Prerequisite: 9 semester hours in theater or consent of the instructor.

26.491 Seminar in Technical Theatre and Design (3) - Provides opportunities for advanced studies and application of special topics as selected by the instructor. Examples might include advanced studies in lighting, costume or scene design or technical theater management. Prerequisites: 26.270 and one other design or technical course and permission of the instructor.

26.492 Seminar in Performance Studies (3) - Provides opportunities for advance studies and application of special topics as selected by the instructor. Examples might include advanced studies in audition techniques, acting styles or performance theory. Prerequisites: 26.112, 26.312 and permission of the instructor.

## Mass Communications - MSC (27)

Administered by Department of Mass Communications  
Effective Fall, 2003

Note: Prerequisites may be waived by an instructor subject to the concurrence of the departmental chairperson.

27.110 Mass Communications and the Popular Arts (3) - A comprehensive overview of mass communications and their relative impacts on society and culture. Covers magazines, newspapers, motion pictures, radio, television, public relations, advertising, ethical codes and media regulations.

27.190 History of Film (Spring) (3) - An overview of the history and growth of the motion picture. Studies film genres, historical figures, technicians and performers. Students must view approximately 15 films during the course in laboratory showings.

27.230 Newswriting (3) - Outlines the "theory" and techniques of news reporting; the historical development of reporting, its practices and principles and the organizational patterns of news stories and gathering of news. An elementary outline of defamation and libel is included. Student should be able to type 30 to 40 words per minute before enrolling in this course.

27.241 Mediagraphics (3) - Computer-generated design and layout problems and applications for printed and visual material including newspaper and magazine pages as well as advertising layouts and visual presentations for video and television material.

27.251 PR: Theory and Practice (3) - An introduction to the development, principles, theories and practice of public relations as a social and organizational implement. Looks briefly at the communication process, publicity, community relations and public affairs practice.

27.261 Principles of Advertising (3) - Introduces students to the basic objectives and procedures of advertising in a modern economy. Examines the variety of components and methods used to achieve specific objectives in advertising campaigns and the type of instruments used for advertising.

27.271 Media Operations (3) - Concentrates on the knowledge and physical use of technical requirements that operate the growing range of equipment needed to produce contemporary radio, television and video programs.

27.275 Cinema Appreciation (Fall) (3) - Examines film form, theory and criticism to bring about a better understanding and greater appreciation of the motion picture. Enhances the visual appreciation required in modern media. Approximately 15 films viewed.

27.297 Mass Communications Practicum (3) - Requires participation in film, television, radio or print productions in any of the sequences offered in the department or other departments on campus having similar needs relevant to mass communications.

27.310 Media Law (3) - Surveys legal restraints that influence the nature and content of mass media messages and business practices. Covers historical developments, criminal libel, sedition, defamation, privacy, copyright, obscenity, shield law, freedom of information, free press-free trial, unique broadcast policies, advertising and antitrust problems.

27.315 Social Foundations of Mass Communications (3) - An interdisciplinary study of the historical, philosophical, social, economic and legal foundations of American mass media as a base for study of contemporary mass media. Examines media from the perspective of journalists, owners, audience and government.

27.334 Editing (3) - Designed to improve writing for newspapers, magazines and brochures. Indicates particular types of styles most used; emphasizes good, tight copy in news stories; offers practice in headline writing and some elementary layout and design including photo editing. Suggests some defenses to possible defamation and libel problems for copy editors. Prerequisite: 27.230.

27.336 Video Editing (3) - Provides instruction in practices, theory and technology of video and audio editing. Includes both linear and non-linear editing techniques. Prerequisite: 27.271.

27.340 Feature Writing (3) - Outlines basic requirements for feature-type articles for newspapers and magazines. Studies various techniques used to gather information and to develop a range of feature articles. Includes practical work as well as the study and discussion of published articles and marketing strategies. Prerequisite: 27.230.

27.352 Publicity and Public Relations (3) - Comprehensive study of various publicity techniques used in public relations efforts of business, government and nonprofit organizations. Students prepare press releases, public service announcements, speeches, slide programs or other appropriate communication vehicles. Prerequisite: 27.251.

27.360 Mass Media Processes and Effects (3) Locates specific issues in mass media exposure, identifying various ways in which individuals and the whole body of society depend on information provided by the mass media. Prerequisite: junior standing.

27.366 Design in Advertising (3) - Principles of advertising layout and design in print and broadcasting. Includes hands-on experience in layout, typography and paste-up in addition to theory. Prerequisite: 27.261.

27.367 Television Acting and Directing (3) - Provides instruction in acting and directing for television. Includes laboratory hours. Prerequisite: 27.271.

27.371 Broadcast Journalism (3) - Studies technical elements of broadcast writing, script formats and nondramatic material; provides opportunities to study, write and announce news, commercials and other broadcast material. Prerequisite: 27.271 and 27.230.

27.375 Broadcast Programming and Management (3) - Studies television and radio management and programming; examines each medium as a business and the elements of success or failure. Studies some basic economics of media and methods of handling this material as well as codes, laws and community interests. Prerequisite: Junior standing.

27.390 Film and Video Production (3) - Reviews the basic processes of filmmaking in an introductory but comprehensive manner. Concentrates on making short silent films and requires laboratory hours and field work by arrangement. Students provide their own film stock for shooting and pay film processing costs. Prerequisite: 27.271.

27.420 Audience Analysis (3) - Explores the theoretical distinction between the social world of actual audiences and the discursive constructs of mass media audiences. Charts the development of an ethnographic understanding of mass media audiences that focuses on the diverse, the particular and unpredictable in everyday life. Stresses design and construction of various research methods on mass media audiences. Prerequisites: junior standing.

27.435 Journalism Seminar: Special Topics (3) - Studies a variety of ethical and practical problems in journalism. Topics may vary each semester. May be repeated with different topics to a maximum of three seminars with approvals of adviser and chairperson. Prerequisite: 27.230.

27.440 Public Affairs Reporting (4) - An advanced reporting course on the role of public affairs in news reporting in mass media. Concentrates on a number of governmental "beats" most susceptible to news generation. Students learn basic abilities consistent with entry-level professional reporting requirements in public affairs coverage, including courts, police and government. Prerequisite: 27.340.

27.446 Magazine Editing and Production (4) - Acquaints students with principles and techniques of magazine production including manuscript selection and editing, advertising, design, production, circulation, promotion and various business operations. Study of the nature of magazines as part of a mass communications system. Each semester students produce a community/regional consumer magazine. Prerequisites: 27.334, 27.340 or consent of the instructor.

27.455 Public Relations Cases and Problems (3) - A study of the use of publicity as a particular element of public relations. Examines specific publicity cases and requires practical hands-on production of written material. Prerequisite: 27.352.

27.466 Advertising Media and Campaigns (3) - Study of the use of advertising media, methods of selection and the skills and background required for media buying and traffic planning. Basic principles and applications of advertising research and campaign planning, preparation and presentation are taught in a problem-solving format. Prerequisite: 27.366.

27.478 Independent Study (1-3) - Provides for individual work and study in an area of mass communications concentration. Students find a faculty sponsor/adviser and prepare a written proposal, which must have departmental approval and approval of the dean, College of Arts and Sciences.

27.480 Telecommunications Production Workshop: Special Topics (3) - A practical workshop program in which telecommunications majors undertake specific instruction on the technical aspects of their major. Topics may change from semester to semester and students may be required to work on specific projects, such as telethons or television news, as part of their workshop programs. Workshops may be repeated provided topics change. Instructor's and department chairperson's approvals required.

27.482 Mass Communications Seminar (3) - A seminar program that studies ethical and social problems resulting from the pervasiveness of new technologies. Topics may change from semester to semester. Students may repeat seminars, subject to a change in topic and with the approvals of the instructor and department chairperson.

27.485 RTF Authorship Theory and Practice (3) - A study of the construction of documentary and dramatic material in terms of telecommunications/film semiotics with an overall survey of production and business problems. A project course designed primarily for film, television and radio majors moving into mass communications production seminars. Prerequisite: 27.271.

27.497 Mass Communications Internship (3-9) - Open to junior and senior majors with a GPA of 2.75 in the major, although consideration will be given for other practical experience students may have. May include on-campus or off-campus study of a particular project arranged by the student, adviser and department chairperson. Interns are expected to have completed several of their basic specialist courses prior to applying for internships. Projects must be submitted in writing at least a month before the project is expected to begin and must be approved by the student's adviser and department chairperson. Course may be repeated within catalog regulations. Internships will become a compulsory part of the mass communications program. Credit is based on 3 semester hours for each 10 hours of work undertaken per week per semester. Limit is 9 total semester hours for internships. Special arrangements must be made for summer internships.

## Philosophy - PHL (28)

Administered by Department of Philosophy

Effective Spring, 2003

28.110 Critical Thinking (3) - Designed for students to learn how to think critically. Emphasis is on the construction and evaluation of arguments. Surveys several forms of argument including inductive, deductive, analogical and legal reasoning.

28.111 Introduction to Philosophy (3) - Presents reflective inquiry into selected problems of general philosophic interest. Considers the types of knowledge, individual and social values, the nature of reality and the existence of God.

28.270 Logic (3) - The study of formal deductive reasoning, course covers the nature of argument, Aristotelian term logic, stentential logic, predicate logic and quantification and proof theory. Students construct formal proofs and translate from natural language into logical formulas.

28.290 Medical Ethics (3) - Investigates moral issues that arise in such medical contexts as human experimentation, death and dying, medical care and its distribution, genetic engineering and the definition of health and illness.

28.292 Contemporary Moral Problems (3) - Investigates some of the major contemporary (and perennial) moral problems: abortion and the rights of the fetus; pornography and its control; crime and its punishment; obedience to laws; discrimination based on race and sex; decision-making procedures; social justice; drugs, suicide and euthanasia; freedom and its limits.

28.295 Business Ethics (Spring) (3) - Review of moral canons in relation to business practice. Moral concepts are applied in analyzing situations. Utilitarianism, Kantianism and contemporary Egalitarianism are introduced as aids in decision making. General principles and concrete cases considered.

28.297 Ethics (3) - Studies ethical theory focusing on such issues as ethics as a branch of knowledge, egoism vs. altruism and role of intentions and consequences in moral judgments. Reviews theories such as relativism, utilitarianism and Kantianism. Investigates concepts of "rights" and "justice."

28.321 Plato and Aristotle (Fall) (3) - Studies the origins of Western philosophy in ancient Greece. Examines Plato's philosophical writings in light of pre-Socratic speculation on one hand and in terms of Aristotle's criticisms and developments on the other.

28.324 Descartes to Kant (Spring) (3) - Examines the writings of the 17th and 18th century philosophers: Descartes, Hobbes, Locke, Berkeley, Hume, Kant and others. Topics include: the nature of reality, the sources and limits of knowledge, the relation between mind and body and the possibility of a rational basis for religious belief.

28.328 Existentialism (Spring/even-numbered years) (3) - Studies the writings of philosophers and theologians such as Kierkegaard, Nietzsche, Husserl, Sartre and Tillich. Major themes include human subjectivity, human freedom, alienation and meaning.

28.329 20th Century Philosophy (Fall/odd-numbered years) (3) - Examines 20th century philosophical movements. Emphasizes the relation between language and philosophy, particularly views about truth, free will, the nature of morality and religion and the nature of mind.

28.404 Philosophy of the Social Sciences (3) - Examines philosophical problems in the social sciences including objectivity, classification, explanation, the nature of laws and the nature of social facts.

28.405 Philosophy of Law (Fall/even-numbered years) (3) - Examines the theoretical background of the law and legal systems. Encourages students to develop their own views about the proper use of the law. Topics include the concepts of "law" and "legal system", limits of the law and justification of punishment.

28.406 Philosophy of Religion (3) - Presents a critical analysis of the origins and nature of faith. Emphasizes types of religion, evidence supporting religious belief and problems in and challenges to religion.

28.407 Contemporary Political Philosophy (Fall/odd-numbered years) (3) - Studies the nature of the good and just state, the limits and powers of the state. Investigates competing theories of neo-Aristotelianism, utilitarianism, contractarianism, libertarianism, Marxism and anarchism. Addresses questions concerning the obligations of an individual citizen to the state.

28.408 Feminist Philosophy (3) - Explores the major trends in feminist philosophy including liberal, Marxist, socialist, radical and psychoanalytic approaches. Explores such questions as whether women's experience differs from men's and the extent to which male domination informs woman's experience. Considers recent feminist attempts to articulate an emancipating standpoint.

28.418 Contemporary Philosophy of the Mind (Fall/even-numbered years) (3) - Explores the philosophical foundations of the interdisciplinary field of cognitive science. Topics discussed include contemporary scientific solutions to the mind-body problem, the possibility of artificial intelligence and the nature and success of cognitive explanations in psychology.

28.419 Theory of Knowledge (Spring/odd-numbered years) (3) - Inquires into the problem of knowledge, certainty and skepticism. Reviews theory of perception; discusses concepts of meaning and truth.

28.420 Metaphysics (3) - Introduces the main themes and literature in contemporary metaphysics. Issues explored include why there is something rather than nothing? Are there properties, numbers, propositions and sets? What are holes, surfaces and boundaries? Can an object change its parts and remain the same? Prerequisite: at least one philosophy course other than 28.110 or 28.270 is required.

28.470 Independent Study in Philosophy (3-6) - Provides for individual study of a particular philosophical problem under the guidance of the staff. Emphasizes independent research on topics selected by the student and the faculty member. Course may be taken twice. Prerequisite: 6 semester hours of philosophy. See section on Independent Study.

28.471 Seminar (3) - Studies selected problems in philosophy.

## **Art - ART (30)**

Administered by Department of Art and Art History  
Effective Fall 2004

30.101 Introduction to Art (3) - Examines major works of art and architecture and the cultural forces that shaped them from ancient times to the present, from a global perspective.

30.205 Children's Art (3) - Provides encounters with the art of children and ways to promote attitudes of discovery and invention, with emphasis on growth of expression.

30.385 Philosophy and Psychology of Art (3) - Studies major philosophical points of view governing an understanding and criticism of the arts, past and present.

30.590 Current Theories of Art and Art Education (3) - Focuses on current theories of art and art education practiced in American schools with an emphasis on eventual application. A research paper or research project is required.

30.591 Advanced Visual Arts for Exceptional Children (3) - Stresses importance of art activity as a means of enriching and stimulating special children's awareness of themselves and their world. Emphasis is placed on those positive aspects for creative activity which the handicapped child possesses.

30.595 Master's Thesis (3-6)

## **Art History - ARH (31)**

Administered by Department of Art and Art History  
Effective Fall 2004

31.215 American Art History (3) - Studies the history of visual arts in America.

31.225 History of Architecture (3) - Presents a study-survey of great architectural works of the past and the present including examples of both East and West.

31.235 Ancient and Medieval Art (3) - Studies the history of the visual arts on the European continent from the prehistoric era up to and including the Late Gothic.

31.236 Art from the Renaissance Through Impressionism (3) - Studies the history of the visual arts beginning with the Italian Renaissance up to and including French painting of the 19th century.

31.324 History of Photography (3) - Surveys the history of photography from its invention in 1839 to the present. Includes development of photography as a medium of aesthetic expression, technical evolution of photography and photography's impact on both culture and society. Prerequisite: 30 credits or permission of the instructor.

31.345 Art History of the Near East (3) - Studies the history of the visual arts of the Islamic and the Mesopotamian worlds.

31.346 Art History of the Far East (3) - Studies the history of the visual arts of India, China, Japan and Southeast Asia.

31.355 History of Modern Art (3) - Examines movements in art from mid-19th century France to the contemporary United States.

31.360 Women, Art and Society (3) - Introduces students to the relationships between women and the production and reception of the visual arts in Europe and America from the Middle Ages to the present. Themes include the contributions of women artists to the history of art, the social and cultural forces that shaped representations by and of women, and the means by which images framed attitudes about femininity.

31.365 Italian Renaissance Art (3) - Addresses the painting, sculpture and architecture of the Renaissance in Italy with a view toward historical and social context, patronage and theory.

31.366 Northern Renaissance Art (3) - Introduces students to the history of the visual arts in Northern Europe from c. 1375 to 1575, during the period termed "The Renaissance." Examines major trends in painting, manuscript illumination, sculpture, printmaking and architecture in France, the Netherlands and Germany and explores the social and cultural factors that shaped the arts of the period.

31.373 Romanesque and Gothic Art (3) - Introduces students to the history of the visual arts in northern Europe from c. 1050 to c. 1400 during the periods termed "Romanesque" and "Gothic." Examines major trends in painting, architecture, sculpture, drawing, manuscript illumination, metal and ivory work, stained glass and tapestry and explores the social and cultural factors that shaped the arts of these periods.

- 31.375 Independent Study in Art History (3) - Research and scholarship on a selected, approved topic in art history under the supervision of a faculty member, resulting in a publishable paper.
- 31.390 The Art and Culture of Italy (3) - An examination of the art of Italy, particularly the Renaissance, with special reference to its physical and historic context, through studying original works of art in Italy, on site whenever possible. Summer only.
- 31.395 Visual Aesthetics (3) - A seminar emphasizing artistic relationships and theories of aesthetics and art criticism.
- 31.450 Perspectives on Museums (3) - Addresses the social and cultural history of art museums from the late Middle Ages through the present. Introduces the basic purposes and responsibilities of museum - collecting, preserving and interpreting - and the duties of museum staff. Explores museum ethics, training, exhibitions and technology.
- 31.451 The Museum Exhibition (3) - Provides hands-on experience by organizing and installing an exhibition in Haas Gallery of Art. Trains students in gallery design, handling and assessing physical conditions for works of art, writing educational materials, providing public functions such as tours and critically evaluating installations in other museums.
- 31.460 Research and Writing in Art History (3) - Sharpens research and writing skills for students by preparing an art history research paper that is substantial in content and length, reliant on primary visual and textural material, consistent with current art historical methodologies, and professionally crafted and presented. Oral presentations address research problems and their possible solutions.
- 31.480 Internship in Art History (3-6) - Allows upper-level students the opportunity to gain experience in the field of art history through practical work-study situations. Internships are jointly administered by a faculty member and a sponsoring employer with the student working approximately 40 hours per credit. Open to department majors, others by departmental consent.
- 31.560 Readings and Research in Contemporary Art History (3) - Detailed study of contemporary movements in art from the late 19th century to the present with readings and research for advanced students.
- 31.565 Readings and Research in American Art History (3) - Advanced study of the history of visual art in America.
- 31.570 Readings and Research in European Art History (3) - Research focuses on specific topics relating to visual arts in Europe.
- 31.575 Readings and Research in Oriental Art History (3) - Advanced survey of Oriental Art in the broadest sense of the word, the art, and architecture of the ancient Near East, Japan, China, and India. Exposes advanced students to basic problems in chronology, style, and research methodology.
- 31.580 Readings and Research in Architectural Art History (3) - Advanced survey of the evolution of architecture in the Western World from the Pharaonic Egyptian period through the contemporary 20th century. Typical and outstanding examples of each period are discussed and researched. Imperative to an understanding of the physical structures studied is an analysis of the type of society and the rationale for the creation of such an architecture.
- 31.592 Readings and Research in Advanced Visual Aesthetics (3) - Advanced study of images and viable aesthetic positions in the plastic arts emphasizing artistic and perceptual awareness and concern with environmental relationships.
- 31.595 Directed Study in Art History (3-6) - Advanced study of a topic in the area of art history. Intensive review of the scholarly literature in the field. A paper is required under the direction of a faculty adviser.

## Art Studio - ARS (32)

Administered by Department of Art and Art History  
Effective Spring 2004

Level I courses are open to all students

- 32.111 Drawing I (3) - Examines various approaches toward drawing and explores the use of a variety of drawing materials. Studio practice and class critiques address each person's power of observation, craftsmanship, self-expression and growth.
- 32.151 Three-Dimensional Design (3) - Introduction to the basic elements and principles of design such as the organization of visual elements and color, with emphasis on three-dimensional design.
- 32.152 Two-Dimensional Design (3) - An introduction to the basic elements and principles of design such as the organization of visual elements and color, with an emphasis on two-dimensional design.
- 32.195 Computer Art Graphics (3) - An introductory course exploring the potential of the computer as a tool to create fine art. Stresses images based on current computer technologies and use of software and computers to create new kinds of images. Emphasis on using technologies with a fine arts approach.
- 32.201 Ceramics I (3) - Introduces the processes of making and firing ceramic objects.
- 32.202 Ceramics II (3) - Affords students the opportunity to become more involved by selecting their own methods of work. Prerequisite: 32.201.
- 32.210 Life Drawing (3) - Examines various approaches to drawing the figure. Students study anatomy and continue to develop technical facility with a variety of media. Contemporary and historical figurative concerns are examined.
- 32.212 Drawing II (3) - Continues exploration of attitudes and materials stressing composition and form. Includes work from the human skeleton and linear perspective. Prerequisite: 32.111.
- 32.221 Fabric Design I (Fall) (3) - Introduction to a variety of methods, approaches, tools, materials and visual concepts in designing with fibers.
- 32.222 Fabric Design II (Fall) (3) - Continuation of 32.221 with limited areas of concentration selected by each student. Professional methods, approaches and attitudes discussed. Prerequisite: 32.221.
- 32.231 Painting I (3) - Introduction to the methods, materials and concepts of painting. Provides exploration of and increased sensitivity to one's environment through color. Prerequisite: 32.111
- 32.232 Painting II (3) - Devotes attention to the development of the technical skill inherent in the formation of images. Includes the study of the landscape as a concept in painting. Prerequisite: 32.231.
- 32.241 Sculpture I (3) - Explores three-dimensional artistic expression with an emphasis on introducing students to basic sculptural materials.
- 32.242 Sculpture II (3) - Promotes continued development in the use of materials and processes; strives for unique individual expression. Prerequisite: 32.241.
- 32.251 Weaving I (Spring) (3) - Provides an introduction to weaving including foot-powered looms and off-loom techniques. Weaves, fibers, spinning and looms will be part of the studio experience. Prerequisite: 32.152 or consent of instructor.
- 32.252 Weaving II (3) - Requires a loom-controlled sampler plus continued experience in weaving techniques and artistic decision dealing with fibers. Prerequisite: 32.251.
- 32.261 Printmaking I (3) - Introduction to the methods, materials and concepts of graphic art through exploration of basic printmaking techniques.
- 32.262 Printmaking II (3) - Emphasis on color printmaking and color registration procedures. Provides a concentration in serigraphy and intaglio techniques. Prerequisite: 32.261.
- 32.275 Crafts I (3) - Introduction to a varied array of crafts, methods, tools, materials, techniques and artistic concepts.
- 32.276 Crafts II (3) - Provides a continued exploration of selected in-depth crafts processes and concepts on a more professional basis. Prerequisite: 32.275.

32.281 Photography I (3) - Introduction to black and white photography as a medium of visual expression. Technical emphasis on fundamental camera and exposure controls and introduction to darkroom printing techniques. Photographic style, composition and theory discussed. Students must have a 35mm camera and provide their own film and paper.

32.282 Photography II (3) - Continues exploration of black and white fine art photography. Emphasis on refining exposure and printing skills. Introduces zone system metering, medium format photography and alternative photographic processes. Students must have a camera and provide their own film and paper. Prerequisite: 32.281.

32.283 Introductory Color Photography (3) - Introduces students to color photography as a significant medium of communication and aesthetic expression and to the theory and processes involved in producing color photographs. Introduction to alternative color photographic processes will also be taught. Prerequisite: 32.281

32.303 Ceramics III (3) - Provides student an opportunity to specialize through the pursuit of making an art object. Prerequisite: 32.202.

32.304 Ceramics IV (3) - Requires students to be responsible for making, firing and showing their own wares. Prerequisite: 32.303 and permission of the instructor.

32.313 Drawing III (3) - Entails studio practice, outside assignments and critiques in pursuit of self-discovery and personal expression. Each student completes an individual project. Prerequisite: 32.212.

32.314 Drawing IV (3) - Continues studio practice and outside assignments. Critiques stress individuality and deep involvement of personal expression. Each student pursues an individual project. Prerequisite: 32.313 and permission of the instructor.

32.323 Fabric Design III (Fall) (3) - Provides a continuation of Fabric Design II with concentration in one area selected by the student. Focus is on refining one's craft, visual perception and professional attitude. Prerequisite: 32.222.

32.324 Fabric Design IV (Fall) (3) - Presents a continuation of Fabric Design III with each student functioning in a highly independent and professional manner in one area. Prerequisite: 32.323 and permission of the instructor.

32.333 Painting III(3) - Provides development toward maturity of study and statement. Includes study of the figure as a concept in painting. Prerequisite: 32.232.

32.334 Painting IV (3) - Provides advanced work planned for individual needs. Paintings are structured from experiences based on previous development. Prerequisite: 32.333 and permission of the instructor.

32.343 Sculpture III (3) - Focuses on the expansion of expression and its relationship to sculptural processes. Prerequisite: 32.242.

32.344 Sculpture IV (3) - Enables advanced, independent work toward a maturing, personal expression in sculpture. Prerequisite: 32.343 and permission of the instructor.

32.353 Weaving III (Spring) (3) - Provides continued experience in weaving techniques with emphasis on in-depth production, two-dimensional or three-dimensional. Prerequisite: 32.252.

32.354 Weaving IV (Spring) (3) - Develops an individualistic approach to weaving with emphasis on in-depth production. Prerequisite: 32.353 and permission of the instructor.

32.363 Printmaking III (3) - Exploration of mixed media printmaking methods and concepts. Emphasizes photographic and lithographic techniques. Prerequisite: 32.262.

32.364 Printmaking IV (3) - Exploration of experimental printmaking. Emphasis on personal expression. Prerequisite: 32.363 and permission of the instructor.

32.383 Photography III (3) - Requires students to develop personal photographic projects to produce during the semester. Emphasizes individual exploration of black and white photographic materials and

processes. Students must provide a 35 mm camera, film and paper. Prerequisite: 32.282.

32.384 Photography IV (3) - Requires students to produce personal photographic projects resulting in final portfolios and an exhibition of fine art photographic prints. Students must provide a 35mm camera, film and paper. Prerequisite: 32.383 and permission of the instructor.

32.395 Art and Culture of France (3) - Provides a study-tour of France with specific attention to French art seen in relation to its social and cultural environment. Features a new theme and visits to related areas each time course is offered. Past themes include "The Age of Francis I," "The Art of Provence," and "The Normandy Influence."

32.475 Independent Study in Studio Arts I (1-3) - Allows individualized independent study in a selected studio area. Amount of course credit awarded is determined by the instructor on the basis of the substance and depth of the project to be undertaken. Prerequisite: Satisfactory completion of four levels of a studio area or its equivalent.

32.476 Independent Study in Studio Arts II (1-3) - Extension of 32.475 Independent Study in Studio Arts I.

32.480 Internship in Art (3-6) - Provides upper-level art majors with an opportunity to acquire meaningful experiences in practical work situations outside the regular courses prescribed by art curriculum (e.g., museum curator, designers, merchandising operations, artists).

32.490 Art Gallery (3) - Provides involvement with the collection, preservation and exhibition of art work. Experience concludes with planning and hanging an exhibition in Haas Gallery of Art. Visits to museums and art galleries familiarize students with the varied nature and philosophy of exhibition today.

32.500 Advanced Ceramics I (3) - Requires students to define in writing their level of knowledge and competency, then prepare a plan of study that will allow for a direction of work. Students are responsible for making and firing their own work.

32.501 Advanced Ceramics II (3) - Students intensify their study of selecting a specialized problem relating to the experiences gained in Advanced Ceramics I.

32.502 Advanced Ceramics III (3) - Students continue to pursue an advanced and refined level of study in the discipline of creating an art object. A specialized problem relating to the experiences gained in the first two levels facilitates continuity in learning.

32.503 Advanced Ceramics IV (3) - Focuses on professional and philosophical attitude reflected in students' work. Students are required to have an exhibition of their work.

32.510 Advanced Drawing I (3) - Explores advanced drawing techniques and involvement of personal expression and imagery.

32.511 Advanced Drawing II (3) - Emphasis on the development of individual themes and projects.

32.512 Advanced Drawing III (3) - Focuses on personal expression and imagery for potential thesis statement - self-direction and innovation.

32.513 Advanced Drawing IV (3) - Concentration and production of drawings for a unified thesis statement.

32.520 Advanced Crafts I (3) - Advanced levels of experimentation with contemporary idioms in crafts design. Emphasis on highly professional concepts of form and methods and on investigation and refinement of techniques as a means of realizing significant visual statements in crafts. Individualized instruction and independent planning for each student on all four levels.

32.521 Advanced Crafts II (3) - Individual concentration on specific media and related techniques. Intense involvement with refined design schemes, systems, and variations that are oriented toward an increasingly more defined singular direction in crafts.

32.522 Advanced Crafts III (3) - Highly independent and mature involvement with advanced concepts, methods, and processes in a

specific crafts direction. Students should begin to develop a thesis presentation which should emerge from studio experiences, independent research, and from a wide, highly selective exposure to craft objects in museums, galleries, and private studios.

32.523 Advanced Crafts IV (3) - Continued involvement with advanced concepts in crafts. Concentration on completing final works for a one-man or a one-woman show. A definitive position paper reflecting a personal philosophy in crafts should be developed.

32.530 Printmaking I (3) - Advanced level exploration of traditional and/or experimental printmaking methods. Emphasis on personalized imagery and technical proficiency.

32.531 Printmaking II (3) - Exploration of advanced level printmaking including color and color registration procedures.

32.532 Printmaking III (3) - Focuses on personalized forms for potential thesis statement. Students are expected to be innovative and proficient in technology of printmaking.

32.533 Printmaking IV (3) - Concentration on the selected forms for a unified thesis statement.

32.540 Advanced Painting I (3) - Searches into purpose of painting with specific attention to traditional methods, i.e., glazing, egg tempera, and underpainting.

32.541 Advanced Painting II (3) - Exploration and different approaches of painting for individual expression. Emphasis on achieving in representational painting.

32.542 Advanced Painting III (3) - Continued development into maturity of individual style - with emphasis on mural painting designed into architectural space.

32.543 Advanced Painting IV (3) - Mature fulfillment of personal expression. Painting should reflect continuity of intent and style. A selection of work is prepared for exhibition and thesis.

32.550 Advanced Sculpture I (3) - Requires students to define in writing their level of knowledge and philosophical direction, then prepare a plan of study that allows for a direction of work. Students are responsible for the completion of show quality pieces.

32.551 Advanced Sculpture II (3) - Emphasis on student experimentation while still being concerned with the concept form. Focus on growth and development of more positive philosophical ideas.

32.552 Advanced Sculpture III (3) - Students' work should reflect a significant transition from experimentations to a more definite direction in technique and aesthetic opinion.

32.553 Advanced Sculpture IV (3) - Students produce highly professional pieces of art while maintaining an awareness of their responsibility to society. This responsibility is fulfilled by an exhibition of each student work for a thesis.

32.580 Advanced Photography I (3) - Focuses on foundations of black and white photography for the advanced student. Emphasis on the technical controls of exposure and printing, research on historical and contemporary photographers and issues, and active participation in class critiques and lectures.

32.581 Advanced Photography II (3) - Students identify technical and conceptual problems and goals which they will pursue during the course. Written statement of intentions, self-evaluation of work, and a final portfolio required. Attendance at lectures and critiques is required.

32.582 Advanced Photography III (3) - Stresses proficiency in black and white exposure and printing. Students design a semester photographic project with a finished portfolio and exhibition as final goals. Continued class participation and development of technical skills expected.

32.583 Advanced Photography IV (3) - Students write a statement outlining their thesis work to be carried out during the course. A final thesis, exhibition, and portfolio are required.

32.595 Directed Study in Studio Art (3 or 6) - Continued development of a student's involvement in a studio area after satisfactory completion of four levels of advanced study in that area or in a related area of relevance. Consent of the instructor and the department chairperson are required.

## Music - MUS (35)

Administered by Department of Music  
Effective Fall, 2003

Courses are offered each semester unless otherwise noted.

35.101 Music Listening (3) - Provides an approach to music listening through study of basic vocal and instrumental styles. Analysis of various masterpieces, composers and musical forms. Requires no previous musical experience. Recommended first-course in non-applied music.

35.103 Fundamental Musicianship (Spring) (3) - Explores personal music understanding and development through elementary terminology, symbols, theory, music reading, singing, and playing and chording of simple instruments. Suggested for students with little musical background as preparation for applied.

35.104 Jazz in America (3) - Provides an approach to jazz listening through the study of jazz vocal and instrumental styles from its diverse origins to the present and beyond. Analysis of various masterpieces, composers, performers and musical forms.

35.105 Music Literature (1) - Provides specialized instruction for music students to prepare them for the more detailed work in Music History I and II and other required music history courses. Lectures, discussion and individual participation will include styles and elements of the music itself, as well as instruments, aesthetics, multicultural influences and genres found in the musical art. One class meeting per week. Prerequisite: music major or permission of the instructor.

35.106/ 35.306 Maroon and Gold Band (0-1) - Performs music of varied styles and periods. Marching band each fall, concert band each spring. Requires 5 hours per week each fall and 4 hours per week each spring.

35.107/ 35.307 University-Community Orchestra (0-1) Performs music appropriate to the symphony orchestra. Requires 3 hours per week. Rehearses Monday evenings. Election for wind and percussion players requires permission of the instructor.

35.108/ 35.308 Concert Choir (0-1) - Performs choral music of varied styles and periods. Membership by audition only. Requires 4 hours per week.

35.109/ 35.309 Women's Choral Ensemble (0-1) - Performs varied styles from popular to masterworks. Requires 3 hours per week. No audition required.

35.110/ 35.310 Husky Singers (0-1) - Performs varied music for men's chorus. Requires 2 hours per week. No audition required.

35.111/ 35.311 Chamber Singers (0-1) - Performs music of many styles and periods, Renaissance to present. Open to singers from other university vocal ensembles. Requires 3 hours per week. Membership by audition only.

35.112/ 35.312 Jazz Ensemble (0-1) - Performs jazz, swing and other forms representing the big band style. Requires 3 hours per week. Election requires permission of the instructor. Audition may be necessary.

35.170/ 35.370 University Chamber Orchestra (0-1) - The University Chamber Orchestra performs music appropriate to the chamber orchestra. Requires 2 hours per week. Rehearses Monday evening and one 50-minute class period. Election for wind and percussion players requires permission of the instructor.

35.190 Theory Skills for Majors (Fall) (2) - Music theory course specifically for music majors and minors in preparation for Music Theory I. The course will focus on rhythm (reading and diction), scales, intervals, chord spelling and basic keyboard chording

patterns. Prerequisite: music major or minor, or permission of the instructor.

35.201 Sight Singing (Spring) (2) - Development of the musical ear through progressive training. Elected by music majors or as a single course by non-music majors. Requires 3 hours. Prerequisites: 35.190 or consent of the instructor.

35.202 Keyboard Skills I (Fall) (1) - This course is designed to provide the music major with introductory keyboard skills that will be essential in careers as classroom or private music teachers. The course is designed to focus on rudimentary keyboard skills and activities for students with little or no keyboard background who are majoring in music with a concentration in music education certification, music history, or applied music. Skills will include note and interval recognition, reading grand staff notation, elementary harmonization and transposition skills, and introductory score reading exercises. Music majors only.

35.203 Voice Methods (Fall) (1) - Provides group voice instruction for the beginner. Emphasizes fundamental singing techniques, solo performance and vocal methods. Music and Theater majors only. Requires 2 hours per week.

35.204 Class Piano I (2) - Provides group piano instruction for the beginner. Emphasizes solo playing, sight-reading and creative accompaniment. Requires 2 hours per week. Limited seating.

35.205 Class Piano II (2) - Develops independence in solo playing and accompanying. Continuation of 35.204 or students with demonstrated abilities. Requires 2 hours per week. Consent of instructor.

35.206 String Methods I (Fall/odd numbered years) (2) - Fundamentals of playing and teaching the violin and viola. This is a required course for the music education certification track. Music majors or consent of instructor.

35.207 Brass Methods I (Spring/even numbered years) (1) - Instruction on teaching trumpet and horn to music students in elementary and secondary schools, through performance on the instruments and study of pedagogical methods. Requires two hours per week. Prerequisite: music major or permission of instructor.

35.208 Brass Methods II (Spring/odd numbered years) (1) Brass Methods II is designed to prepare the student to teach trombone, euphonium and tuba to music students in elementary and secondary schools, through performance on the instruments and study of pedagogical methods. Music majors or permission of the instructor.

35.209 Percussion Methods (Fall/even numbered years) (1) - Fundamental percussion techniques and teaching methodology. Prerequisite: music major or permission of the instructor.

35.210 Music Theory I (Spring) (3) - Studies harmony, voice leading and written harmonization. Requires 3 hours per week. Prerequisite: 35.190 or consent of instructor.

35.211 Music Theory II (Fall) (3) - Continues Music Theory I with the study of seventh chords and common-chord and chromatic modulations. Includes melodic and rhythmic dictation and keyboard realization. Requires 3 hours per week. Prerequisite: 35.210.

35.212 Class Piano III (Spring) (2) - Continuation of 35.205 or students with demonstrated abilities. Requires 2 hours per week. Limited seating.

35.213/ 35.313 Violin (1) - Private instruction for students with demonstrated ability or potential. One-half hour per week. May be repeated at one semester hour each election. Consent of instructor.

35.214/ 35.314 Viola (1) - Private instruction for students with demonstrated ability or potential. One-half hour per week. May be repeated at one semester hour each election. Consent of instructor.

35.215/ 35.315 Violoncello (1) - Private instruction for students with demonstrated ability or potential. One-half hour per week. May be repeated at 1 semester hour each election. Consent of instructor.

35.216/ 35.316 Double Bass (1) - Private instruction for students with demonstrated ability or potential. One-half hour per week. May be repeated at 1 semester hour each election. Consent of instructor.

35.217/ 35.317 Organ (1) - Private instruction for those who have previously studied organ or who have strong piano backgrounds. One-half hour per week. May be repeated at 1 semester hour each election. Consent of instructor.

35.219 Basic Audio Recording (3) - Provides a theoretical and practical approach to audio recording. Studies equipment and procedures used in professional recording studios. Reserved for music majors and minors in the audio/video recording track and/or permission of the instructor.

35.220 String Methods II (Fall/even numbered years) (1) - Fundamentals of playing and teaching the cello and bass. This is a required course for the music education certification track. Music majors or by permission of the instructor.

35.229 Music Education Computing and Technology (1) - This course will introduce technology as it is used in the educational setting, with focus on technology distinct to music education. Prerequisite: 35.210

35.230/ 35.330 Voice (1) - Private instruction for students with demonstrated vocal abilities. One-half hour per week. May be repeated at 1 semester hour each election. Prerequisite: 35.203 except music majors and declared music minors. Consent of instructor.

35.231 General Conducting (1) - General conducting is designed to give students a basic understanding of the fundamentals of choral and instrumental conducting. It will also begin training in the physical motion required of the conductor. These physical attributes include beat patterns, cueing gestures, steady tempo, accelerando, ritard and face as an expressive tool. In addition, the students will study foreign musical terms (Italian, French, German), score preparation and techniques, rhythmic patterns and rehearsal techniques.

35.232 Woodwinds Methods I (Fall/even numbered years) (1) - Fundamental woodwind skills in flute, oboe, and bassoon and methods for teaching these instruments. Prerequisite: music major or permission of the instructor.

35.233 Woodwinds Methods II (Fall/odd numbered years) (1) - Fundamental woodwind skills in clarinet and saxophone and methods for teaching these instruments. Prerequisite: music major or permission of the instructor.

35.235/ 35.335 Piano (1) - Private instruction for students with previous piano study. One-half hour per week. May be repeated at 1 semester hour each election. Consent of instructor.

35.240/ 35.340 Trumpet (1) - Private instructions for students with demonstrated ability or potential. One-half hour per week. May be repeated at 1 semester hour each election. Consent of instructor.

35.241/ 35.341 Horn (1) - Private instruction for students with demonstrated ability or potential. One-half hour per week. May be repeated at 1 semester hour each election. Consent of instructor.

35.242/ 35.342 Trombone (1) - Private instruction for students with demonstrated ability or potential. One-half hour per week. May be repeated at 1 semester hour each election. Consent of instructor.

35.243/ 35.343 Baritone (1) - Private instruction for students with demonstrated ability or potential. One-half hour per week. May be repeated at 1 semester hour each election. Consent of instructor.

35.244/ 35.344 Tuba (1) - Private instruction for students with demonstrated ability or potential. One-half hour per week. May be repeated at 1 semester hour each election. Consent of instructor.

35.251/ 35.351 Flute (1) - Private instruction for students with demonstrated ability or potential. One-half hour per week. May be repeated at 1 semester hour each election. Consent of instructor.

- 35.252/ 35.352 Oboe (1) - Private instruction for students with demonstrated ability or potential. One-half hour per week. May be repeated at 1 semester hour each election. Consent of instructor.
- 35.253/ 35.353 Clarinet (1) - Private instruction for students with demonstrated ability or potential. One-half hour per week. May be repeated at 1 semester hour each election. Consent of instructor.
- 35.254/ 35.354 Bassoon (1) - Private instruction for students with demonstrated ability or potential. One-half hour per week. May be repeated at 1 semester hour each election. Consent of instructor.
- 35.255/ 35.355 Saxophone (1) - Private instruction for students with demonstrated ability or potential. One-half hour per week. May be repeated at 1 semester hour each election. Consent of instructor.
- 35.256/ 35.356 Percussion (1) - Private instruction with snare, timpani and mallets for students with demonstrated ability or potential. One-half hour per week. May be repeated at 1 semester hour each election. Consent of instructor.
- 35.270/ 35.470 Violin for Music Majors (2) - Two weekly half-hour lessons for students electing the applied specialization within the Bachelor of Arts in Music program. May be repeated at 2 semester hours each election for a maximum of 16 semester hours.
- 35.271/ 35.471 Viola for Music Majors (2) - Two weekly half-hour lessons for students electing the applied specialization within the Bachelor of Arts in Music program. May be repeated at 2 semester hours each election for a maximum of 16 semester hours.
- 35.272/ 35.472 Violoncello for Music Majors (2) - Two weekly half-hour lessons for students electing the applied specialization within the Bachelor of Arts in Music program. May be repeated at 2 semester hours each election for a maximum of 16 semester hours.
- 35.273/ 35.473 Double Bass for Music Majors (2) - Two weekly half-hour lessons for students electing the applied specialization within the Bachelor of Arts in Music program. May be repeated at 2 semester hours each election for a maximum of 16 semester hours.
- 35.274/ 35.474 Organ for Music Majors (2) - Two weekly half-hour lessons for students electing the applied specialization within the Bachelor of Arts in Music program. May be repeated at 2 semester hours each election for a maximum of 16 semester hours.
- 35.275/ 35.475 Voice for Music Majors (2) - Two weekly half-hour lessons for students electing the applied voice specialization within the Bachelor of Arts in Music program. May be repeated at 2 semester hours each election for a maximum of 16 semester hours.
- 35.276/ 35.476 Piano for Music Majors (2) - Two weekly half-hour lessons for students electing the applied specialization within the Bachelor of Arts in Music program. May be repeated at 2 semester hours each election for a maximum of 16 semester hours.
- 35.277/ 35.477 Trumpet for Music Majors (2) - Two weekly half-hour lessons for students electing the applied specialization within the Bachelor of Arts in Music program. May be repeated at 2 semester hours each election for a maximum of 16 semester hours.
- 35.278/ 35.478 Horn for Music Majors (2) - Two weekly half-hour lessons for students electing the applied specialization within the Bachelor of Arts in Music program. May be repeated at 2 semester hours each election for a maximum of 16 semester hours.
- 35.279/ 35.479 Trombone for Music Majors (2) - Two weekly half-hour lessons for students electing the applied specialization within the Bachelor of Arts in Music program. May be repeated at 2 semester hours each election for a maximum of 16 semester hours.
- 35.280/ 35.480 Baritone for Music Majors (2) - Two weekly half-hour lessons for students electing the applied specialization within the Bachelor of Arts in Music program. May be repeated at 2 semester hours each election for a maximum of 16 semester hours.
- 35.281/ 35.481 Tuba for Music Majors (2) - Two weekly half-hour lessons for students electing the applied specialization within the Bachelor of Arts in Music program. May be repeated at 2 semester hours each election for a maximum of 16 semester hours.
- 35.282/ 35.482 Flute for Music Majors (2) - Two weekly half-hour lessons for students electing applied specialization within the Bachelor of Arts in Music program. May be repeated at 2 semester hours each election for a maximum of 16 semester hours.
- 35.283/ 35.483 Oboe for Music Majors (2) - Two weekly half-hour lessons for students electing the applied specialization within the Bachelor of Arts in Music program. May be repeated at 2 semester hours each election for a maximum of 16 semester hours.
- 35.284/ 35.484 Clarinet for Music Majors (2) - Two weekly half-hour lessons for students electing the applied specialization within the Bachelor of Arts in Music program. May be repeated at 2 semester hours each election for a maximum of 16 semester hours.
- 35.285/ 35.485 Bassoon for Music Majors (2) - Two weekly half-hour lessons for students electing the applied specialization within the Bachelor of Arts in Music program. May be repeated at 2 semester hours each election for a maximum of 16 semester hours.
- 35.286/ 35.486 Saxophone for Music Majors (2) - Two weekly half-hour lessons for students electing the applied specialization within the Bachelor of Arts in Music program. May be repeated at 2 semester hours each election for a maximum of 16 semester hours.
- 35.300 Music Theory III (Fall/odd-numbered years) (3) - "Form and Analysis". Continuation of music theory. Includes formal analysis, design, original composition, harmonic dictation and perception skills. Requires 3 hours per week. Prerequisite: 35.211.
- 35.301 Music Theory IV (Spring/even-numbered years) (3) - Continuation of music theory. Reviews 20th century compositional practice. Includes analysis and composition in melodic and harmonic idioms. Requires 3 hours per week. Prerequisite: 35.211.
- 35.302 Keyboard Skills II (1) - Provides opportunity for majors in music to gain proficiency at the keyboard. May be repeated. Prerequisite: Keyboard Skills I or permission of the instructor.
- 35.303 Seminar in Piano Accompanying (2) - Provides instruction, coaching, systematic score study and critical performing experience for pianists. Requires 3 hours per week and includes performing. Offered as needed. Prerequisite: Consent of the instructor.
- 35.304 Special Topics in Music Performance (3) - Provides a unique experience in performance or the study of performance practice. Instructor develops a one-time-only study. Information is available by contacting the Department of Music. Offered as needed.
- 35.305 Special Topics in Music Education (1) - Provides a study of music beyond currently available course topics. Instructor develops a one-time-only study. Information is available by contacting the Department of Music. Offered as needed.
- 35.318 Jazz Improvisation (3) - Offers the student beginning concepts in jazz improvisation through a practical approach to melody creation, jazz theory, listening and transcription of examples from such jazz legends as Charlie Parker, Dizzy Gillespie, Joe Pass, J.J. Johnson, Herbie Hancock and Charles Mingus. Prerequisite: instrumental or vocal training suggested as performance is an integral part of the course. Permission of instructor.
- 35.319 Secondary Methods and Curriculum in Music (3) - This course will provide the knowledge and skills necessary to teach music successfully in secondary schools. Education theories must be applied in practical situations such as the creation of lesson plans and the teaching of those lesson plans. Familiarity with computer-assisted music software, familiarity with the legal aspects of teaching music in high schools, and required high school observations will be included. Prerequisite: 48 hours credit.
- 35.320 Music in the Elementary School (3) - Provides students with practical skills, theoretical background and musical knowledge that will enable them to teach general music effectively in the elementary classroom. Course designed primarily for elementary education majors. Limited seating.
- 35.321 Music History to 1750 (Fall/even numbered years) (3) - Emphasizes understanding and appreciation of music from antiquity

to 1750 through listening and development of a technical vocabulary. Prerequisite 35.105 or consent of instructor.

35.322 Music History-1750 to Present (Spring- odd numbered years) (3) - Provides an overview of music history from the Classical era to the present time. Includes discussion of composers and significant persons, works and development of forms and genres during this period. Prerequisite 35.105 or consent of instructor.

35.324 American Music (Spring/odd-numbered years) (3) - Studies works of selected American composers with reference to characteristics indigenous to American music. Prerequisite: 35.101, 35.105, or consent of instructor.

35.325 Opera and Music Theater (Spring/even-numbered years) (3) - Studies major works of the lyric stage. Emphasizes listening to and reading works of opera, operetta and the popular theater. Prerequisite: 35.101, 35.105, or consent of instructor.

35.327 Survey of Popular Music (Fall/odd-numbered years) (3) - Analyzes factors and elements of American popular music with emphasis on developments in the 20th century. Includes a chronological study of jazz, balladry, spiritual, country-western, theater, film and rock in comparative listening situations. Prerequisite: 35.101, 35.105, or consent of instructor.

35.328 Choral Conducting and Methods (Spring/odd-numbered years) (2) - Examines the development of techniques and abilities for participating in and supervising choral ensembles. Stresses tone production, proper breathing, choral conducting and reading of appropriate literature. Prerequisite: Music major or permission of instructor.

35.329 Instrumental Conducting and Methods (Spring/odd numbered years)(2) - Develops skills in baton technique and score reading with emphasis on practical application in instrumental organizations. Prerequisites: music major and 35.211.

35.331 Elementary Methods and Curriculum in Music (Spring) (3) - This course will provide the knowledge and skills necessary to teach music successfully in elementary schools. Education theories must be applied in practical situations such as the creation of lesson plans and the teaching of those lesson plans. Familiarity with computer assisted music software, familiarity with the legal aspects of teaching music in elementary schools, and required elementary school observations will be included. Observations in elementary schools required.

35.332 Audio Recording II - (3) This course will build upon the knowledge gained in Basic Audio Recording and will delve more deeply into computer-based hard disk recording using industry standard software: Sonar, Sound Forge, Cakewalk and Pro Tools. It will also explore sound design for the Internet and web pages. Prerequisite: Basic Audio Recording.

35.333 Audio Recording Lab (1) - This course will allow music majors in the audio recording track to work on individual projects as directed by the professor. The projects will be targeted to build upon skills learned in 35.219 Basic Audio Recording, as well as new concepts and allow the students to build a portfolio of their work as an aide to future employment in the field. Prerequisite: Basic Audio Recording

35.350 Seminar in Music Theater (3) - Studies the Broadway musical with special emphasis on works currently in production. Offered in conjunction with music theater productions during spring and summer semesters. Prerequisite: 35.101.

35.410 Music Theory V, Counterpoint (2) - Continuation of music theory. Studies melodic writing in two and three voices using 18th century style. Prerequisite: 35.211.

35.411 Music Theory VI, Orchestration (Fall/even-numbered years) (2) - Continuation of music theory. Examines instrumental transposition, idioms, score writing and analysis. Requires 3 hours per week. Prerequisite: 35.211.

35.430 Seminar in Music History I (2) - Emphasizes development of skill in independent research in areas of music history for majors in

music electing the music history specialization. Offered fall, even-numbered years. Prerequisite: 35.321, 35.322.

35.431 Seminar in Music History II (1) - Continuation of 35.430 with emphasis on academic research and musicology for majors in music electing the music history specialization. Offered spring, odd-numbered years. Prerequisite: 35.430.

35.495 Teaching in Music Education-First Experience (6) – Provides opportunities for direct participation in teaching. Places students in classrooms with public or private school teachers. The student's main interest determines the assignment: one experience is wholly with the student's main interest in music, one experience is divided in half to cover the remaining requirements. The total experiences must include elementary, middle, and high school experience. The total experiences must also include general music, choral and instrumental teaching. Prerequisite: All other required music education courses.

35.496 Teaching in Music Education- Second Experience (6) - Provides opportunities for direct participation in teaching. Places students in classrooms with public or private school teachers. The student's main interest determines the assignment: one experience is wholly with the student's main interest in music, one experience is divided in half to cover the remaining requirements. The total experiences must include elementary, middle, and high school experience. The total experiences must also include general music, choral and instrumental teaching. Prerequisite: All other required music education courses.

35.497 Internships in Music (3-15) - Provides for extended off-campus field experience to be arranged by the major in music, a faculty adviser and an off-campus agency. Requires consent of music department during pre-scheduling. Offered as needed.

35.498 Independent Study in Music (1-3) - Provides for a student project of a creative nature in music history, education or performance. Requires consent of music department during pre-scheduling.

## ECN (40) Economics

Administered by Department of Economics

Effective Fall, 2004

40.121 Principles of Economics I (3) - Studies macroeconomics: nature of the economic problem; economic concepts; institutional framework; supply, demand and the price system; national income accounting; determination of output and employment levels; consumption, saving and investment behavior; inflation and unemployment; business cycles; monetary and fiscal institutions and theory; economic growth.

40.122 Principles of Economics II (3) - Studies microeconomics: supply, demand, the price system; cost and productions analysis, theory of consumer behavior and the firm; output and price determination, resource allocation and determination of factor incomes under perfect and imperfect markets; current economic problems and international economics. Prerequisite: 40.121.

40.156 Business and Economic Mathematics (3) - Presents an introduction to basic mathematical tools most frequently employed in economics and business, e.g., systems of linear equations, inequalities, elements of linear programming, matrix algebra, logarithms, mathematics of finance and differential and integral calculus.

40.221 Intermediate Macroeconomic Theory (3) - Stresses the national income analysis; theory of income determination, employment and price levels; monetary and fiscal institutions; theory and policy; investment, interest and demand for money; business cycles; inflation and unemployment; national debt; macroeconomic equilibrium; prices, wages and aggregate supply, economic growth, foreign trade and balance of payments; economic policy. Prerequisites: 40.121, 40.122, 40.156.

- 40.222 Intermediate Micro-Theory and Managerial Economics (3) - Reviews the theory of consumer behavior and the firm; output and price determination under different market systems; pure competition, pure monopoly, oligopoly and monopolistic competition; production and cost analysis; allocation of resource and distribution of income; comparison of behaviors of competitive, monopolistic and oligopolistic product and resource markets; constrained and unconstrained optimization techniques and their applications to business decisions and business practices; welfare economics. Prerequisites: 40.121, 40.122, 40.156.
- 40.256 Business and Economics Statistics I (3) - Organizing and presenting data, descriptive statistics, elements of probability and probability distributions, sampling and sampling distributions, estimation and hypothesis testing, analysis of variance and Chi-square, introduction to regression and correlation as applied to business and economic problems. Prerequisite: 40.122.
- 40.313 Labor Economics (3) - Presents the economics of the labor market, the supply of and demand for labor, the nature of theory and wages, productivity and inflation, unionism, theories of the labor movement, collective bargaining and public policy. A major focus is the relationship between labor markets and gender and racial issues. For each of the economic issues, the implications with respect to gender and race will be examined. The economic analysis and empirical data presented in the course will emphasize differences by race and gender. Prerequisite: 40.122.
- 40.315 Business and Government (3) - Surveys government policies for maintaining competition, for substitution regulation in place of competition and for substituting public for private enterprise; tests of various government policies in light of economic theory and historical experience. Prerequisite: 40.122.
- 40.316 Urban Economics (3) - Applies economic theory and recent empirical findings to urban resource use. Analyzes problems of unemployment, housing, education, transportation, pollution and equal opportunity. Prerequisite: 40.122.
- 40.317 Population and Resource Problems (3) - Reviews classical theories of population growth; recent economic models of population correlating natural resources; capital accumulation and technological change; and population problems in North America, European and developing countries. Analyzes recent trends in birth and death rates as factors in population growth. Studies measures of population and labor force, their distribution by age, sex, occupation, regions; techniques for projecting population levels. Course is not offered on a regular basis. Prerequisite: 40.122.
- 40.322 Contrasting Economics (3) - Outlines theories of capitalism and socialism with a special emphasis on Marxian theory. Compares theoretical and actual performance of capitalism, socialism and communism. Prerequisite: 40.122.
- 40.323 History of Economic Thought (3) - Surveys economic theories propounded in the past and their effect on present-day thinking about economic, business and political systems. The surplus value theory; economic planning as part of government responsibility; relation of family budgets to Engel's Law; government responsibility for employment and rent control. Prerequisite: 40.122.
- 40.324 Economic History of the Western World (3) - Presents a comparative analysis of the economic theory of the United States and Europe with particular attention to the interplay of changes in business, financial and labor institutions, products and production, adaptations to resource differences and conflicting economic doctrines. Prerequisite: 40.122.
- 40.326 Public Finance (3) - Analyzes revenues and expenditures of local, state and national government in light of micro and macrotheory; criteria and models of government services; subsidies, etc., the principles of taxation, public borrowing and public debt management; impact of fiscal and budgetary policy on resource and income allocation, internal price and employment stability; the rate of growth and world economy. Prerequisite: 40.122.
- 40.327 Money and Banking (3) - Reviews the historical background and the development of monetary practices and principles of banking; special attention given to commercial banking and credit regulations and current monetary and banking development. Prerequisite: 40.122.
- 40.329 Environmental Economics (3) - A study of the economics of environmental quality. Examines environmental facts and social circumstances with particular emphasis on market and non-market solutions to the environmental problems. Topics include the private market and its efficiency, externalities, environmental quality as a public good, income distribution effects of government environmental quality as a public good, income distribution effects of government environmental programs; water resources and water quality, problem of air quality and quality of life and other environmental problems; prohibitions on and regulation of polluting activities, taxes, subsidies and effluent charges; population, economic growth and environmental quality. Prerequisite: 40.122.
- 40.333 International Economics (3) - Addresses the pure theory of international trade. Outlines the gains from trade; free trade and protection; balance of payments; foreign exchange and capital movements; the dollar and the international monetary system and international liquidity shortage. Prerequisite: 40.122.
- 40.334 Economic Growth of Underdeveloped Areas (3) - Presents studies of stagnating economies; theories of underdevelopment; operative resistances to economic growth; the role of capital, labor, population growth and technological advance; development planning and trade in development settings. Prerequisite: 40.122.
- 40.356 Business and Economic Statistics II (3) - Probability distributions; regression and correlation analysis; analysis of variance and designs of experiments; time series analysis and index numbers, non-parametric methods; modern decision theory and Bayesian statistics; computer application. Prerequisites: 40.122, 40.256.
- 40.456 Introduction to Econometrics (3) - Applies modern statistical methods to economic problems; time series and cross-sectional analysis of measurements of demand and costs; macroeconomics models; income distribution and growth model. Prerequisites: 40.122, 40.256.
- 40.460 Advanced Political Economy (3) - Applies economic and political models of social decision making to historical problems from local through international levels. Presents an evaluation of market; political and mixed techniques in particular areas from the 18th through the 20th centuries. Prerequisite: 40.122.
- 40.470 Senior Seminar (3) - Discusses the current literature on economic theory and economic policy. Students read one journal article a week on which they write a report and make a seminar presentation. Prerequisite: Senior standing or consent of the instructor.
- 40.490 Independent Study in Economics (1-3) - Provides students with an opportunity to receive individualized instruction as they pursue in-depth inquiries into previously specified subject matter of special interest within the field of economics. Topic and outline must be developed with a faculty sponsor and approved by the department during the preceding semester of residence.
- 40.513 Origin and Development of Capitalism (3) - Covers transition from feudalism to capitalism and the subsequent influence of leading capitalist institutions on industry, agriculture, commerce, banking, and the social movement.
- 40.514 Labor Economic Theory (3) - Emphasizes labor economic theory and its application in analyzing the issues of employment and inflation. Topics include growth of the labor force and its composition, wage theories and wage structures, trade unionism and income distribution, economics of poverty, minimum wage, and hour laws, and civil legislation. Occupational choices, job search, labor mobility, and human capital formation included. Students are exposed to research and measurement methodology to meet the research requirements of the course.

40.515 Public Policy and Business (3) - Focuses on public policies affecting the economy: historical, philosophical, and legal basis of regulation; the rationale of free enterprise. Intensive analysis of selected areas of economic policy related to government action.

40.531 Current Economic Problems (3) - Examines economic problems of current interest and concern to our society. Basic economic principles and theories and the thinking of recognized economists of the past and present as revealed in their published works.

40.532 Comparative Economic Systems (3) - Compares workings and performance of the major forms of economic organization: capitalist systems; the modern welfare states; state capitalism; communism; and socialism.

40.533 International Economic Policies and Relations (3) - Applies modern international economic and financial analyses to emerging contemporary problems of nations trading with one another. Selected topics include: customs unions; optimum currency area; international cartels; and flexible exchange rates. Focuses on impact of governmental and intergovernmental relations and regulations.

## **GEO (41) Geography**

Administered by Department of Geography and Geosciences  
Effective Fall, 2004

41.100 World Regional Geography (3) - Investigates the interaction between physical phenomena and human activity, the distribution of economic development and the uniqueness of each world region.

41.101 World Physical Geography (3) - Studies Earth-sun relationships, land masses, oceans, landforms, weather and climate and natural resources as elements and controls related to the adjustments humans make to their environment.

41.102 World Cultural Geography (3) - Demonstrates the relationship of humankind, land, culture and economic activities.

41.105 Environmental Issues and Choices (3) - Examines contemporary environmental resource issues within a values, ethics and decision-making framework.

41.125 Weather and Climate (3) - Studies the interrelationships between the elements of weather and climate; elaborates on the functional application of these elements through a study of climatic realms.

41.200 Geography of United States and Canada (3) - Presents a spatial analysis of the United States and Canada emphasizing such concepts as environmental perception and sequent occupancy; considers salient problems within geographic regions in terms of genesis and potential for solution.

41.201 Geography of Europe (3) - Studies Europe's physical characteristics, topography, transportation systems, resources, populations and trade.

41.202 Geography of Latin America (3) - Examines Latin America as a major geographic region in terms of those economic, racial and cultural forms that have provided regional unity and diversity.

41.203 Geography of Australia (3) - A regional and spatial analysis of Australia within a physical, cultural, economic and environmental context. Examines Australia's historic and contemporary role within the Asian-Pacific sphere.

41.204 Geography of South Asia (3) - Provides a survey of the physical and human geography of South Asia, particularly India, Pakistan, Bangladesh, Nepal and Sri Lanka. Examines the major environmental, economic and cultural geography patterns, processes and issues.

41.221 Economic Geography (3) - Reviews major economic activities; focuses on significant characteristics, location theory and spatial patterns.

41.242 Map Skills (3) - Uses a variety of published maps for interpreting and interrelating past and present physical and cultural phenomena with a view toward the future.

41.250 Elements of Planning (3) - Acquaints students with the philosophy of planning, the roles of the planner and planning objectives.

41.258 Environmental Conservation (3) - Identifies resource management and environmental problems and offers possible alternative solutions for these problems.

41.264 Applied Cartography (4) - Studies fundamental principles, use of graphic media, methods of construction, use and interpretation of maps, models, charts and diagrams, utilized in geography and in urban and regional planning.

41.281-289 Special Topics in Geography (3) - Presents areas of geographic interest to a general audience.

41.301 Water Resources Management (3) - An examination of contemporary water resource issues related to environmental planning and management.

41.302 Land Resources Management (3) - An examination of selected land-related issues and problems with the objective of identifying appropriate management techniques.

41.303 Soil Resources Management (4) - Provides a thorough background to the geoenvironmental aspects of soil such as its nature and properties, factors of soil formation, classification and geographical distribution. Examines the interpretation of soil surveys and their role in land use and resource planning, conservation and management and environmental quality.

41.304 Environmental Valuation (3) - Provides a conceptual and methodological framework for evaluating environmental resources. Emphasis is on quantitative valuation techniques that help separate facts from emotion in complex environmental problems.  
Prerequisite: 41.105 or permission of the instructor.

41.305 Environmental Risks and Hazards (3) - Explores the human and environmental contributions to the generation and management of risks and hazards originating from extreme natural events and technological failures. Contemporary public policy issues at the local, national and international levels are reviewed with an emphasis on geographic themes in hazards and emerging management technologies. Prerequisites: 41.101 or 51.107.

41.310 Population Geography (3) - Analyzes physical, human and economic factors that influence the changing pattern of the political map of the world.

41.315 Geography of Recreation, Tourism and Sport (3) - Explores the array of contemporary issues involving land, leisure and recreational planning.

41.342 Geographic Information Systems (3) - Presents an introduction to computer-assisted analysis of geographic data. Emphasizes GIS applications in management of natural resources, environmental assessment and urban and regional planning. Laboratory projects provide opportunities to develop computer expertise. Prerequisite: 41.242 or 41.264 or consent of the instructor.

41.350 Advanced Planning (3) - Presents the development of skills and techniques used in analysis, plan preparation, goal setting and implementation of urban and regional planning processes and activities. Prerequisite: 41.250 or consent of instructor.

41.363 Urban Geography (3) - Provides a conceptual and methodological framework in which to view the process of urbanization.

41.462 Techniques of Geographic Measurement (3) - Data handling and map symbolization emphasized in this spatial analysis course. Topics in descriptive and inferential statistics are explored with an emphasis on applications to problems with spatial dimensions. Prerequisite: 41.242 or consent of the instructor.

41.475 Independent Study in Geography (1-3) - Provides independent, investigative research oriented to studies of specific

geographical problems. Prerequisite: Open to juniors and seniors majoring in geography.

41.492 Geography Seminar (3) – Explores the history of geographic thought and examines the types of research methods and analysis used by scholars in the disciplines. Prerequisite: Majoring in Geography

41.496 Internship in Geography (3-12) - Provides for on-site work experience in an appropriate agency or business. Internship is intended to integrate classroom learning with practical work experience emphasizing the functions, projects and responsibilities available at the internship site. Prerequisites: Major in Geography, Option I, appropriate completion of course requirements in the option and consent of the instructor.

41.497 Internship in Planning (12) - Involves the placement of a student who is enrolled in the course of study in urban/regional planning or environmental planning into a planning office for twelve weeks during a summer. The student is actively involved in the functions and activities of that planning office during that time.

41.498 Applied Planning Seminar (3) - Provides an opportunity for reporting and analyzing experiences in internship. Integrates and utilizes practice in the development of land use from an urban or environmental perspective. Taken in coordination with the internship in planning (41.497) or geography (41.496).

## History - HIS (42)

Administered by Department of History

Effective Spring 2004

Prerequisites are subject to modification by the instructor

42.100 Transatlantic World in the 20th Century (3) - Represents an analysis comparing and contrasting the experiences of Americans and Western Europeans in the 20th century. Focuses on the decay of Western traditions, the dilemma of the individual in an increasingly complex society and the rise of “technocratic” civilization. Provides insight into roots of current events, promotes sense of historic awareness beyond the national level and enhances appreciation of basic similarities and differences among Americans and Western Europeans.

42.113 The Modern World (3) - Reviews the political, economic, social, intellectual and technological elements of 19th and 20th century history, showing the progress of the Western tradition and the growing importance of the non-Western world.

42.121 United States History Survey: Colonial Period to 1877 (3) - Presents a chronological history to 1877 with emphasis on foreign affairs and the evolution of politics, economics, society and culture.

42.122 United States History Survey: 1877 to the Present (3) - Presents political, social, cultural, intellectual, economic and foreign affairs developments of the United States from Reconstruction to the present.

42.125 Western Civilization to 1650 (3) - Surveys the development of Western Civilization from river-valley societies to the end of the early modern period (c. 4000BCE-1650CE).

42.126 Western Civilization since 1650 (3) - Surveys the development of Western Civilization during the modern era.

42.131 Asian Civilization to 1500 (3) - Surveys the history and culture of West, South, East, Southeast and Central Asia. West Asia, South Asia, East Asia: emphasis on the intellectual, cultural, social and political development of the Muslim, Hindu and Chinese civilizations and the influence of these civilizations on Korea, Japan, Vietnam and the rest of Southeast Asia. Central Asia: emphasis on the development of the Mongol empire and the interchange this empire allowed between Asia and the European and African continents. Diversity course.

42.132 Asian Civilization since 1500 (3) - Surveys the history and culture of Asia and the Pacific region from the sixteenth to the twentieth century. Examines inter-Asian relations and the developing political and economic relations between the West and Asia through the late twentieth century. Presents an overview of the different Asian paths to independence during the twentieth century. Diversity course.

42.141 The Modern Far East (3) - Focuses on modern China and Japan and closely studies the value system of these peoples as reflected in their politics, arts and communications in the 19th and 20th centuries. Particular attention paid to the interaction between the old models provided by Confucianism and Buddhism with the models provided by the West during modernization. Not offered every semester. Approved for diversity requirement.

42.142 Latin America: From European Colonization to the Present (3) - A concise introductory survey of Latin American history from 1492 to the present, stressing the significant economic and social factors in its evolution. Not offered every semester.

42.143 Black Africa (3) - Presents a survey of the transformation of the societies of Sub-Saharan Africa from colonialism to national independence. Approved for diversity requirement.

42.144 Islamic and Hindu Worlds: Middle East, India and Malaysia (3) - Introductory course surveying the religious, cultural, economic and political history of the Middle East, North Africa, the Indian subcontinent, the Malay Archipelago and their bearing on contemporary Third World problems. Not offered every semester.

42.208 Contemporary Issues in U.S. History (3) - Examines selected issues of social, political or foreign affairs within a historical context, describing the origin, evolution, current significance and importance in American society. The issues may vary each semester.

42.210 Values in Conflict in 20th Century History (3) - Presents select American conflicts in the 1960s involving values of the individual and the civilization; resolutions achieved are reviewed and evaluated. The selection of conflicts varies each semester. Approved for diversity requirement.

42.215 Global Issues in History: A Conflict of Values (3) - Introduces the historical and global nature of many of today’s critical issues that have far reaching consequences. Population explosion, famine in the underdeveloped world, energy crisis, terrorism and the spread of nuclear weapons are illustrative of some of the issues that will be examined. Attention will be given to defining values as related to these issues.

42.216 Africa and the Black Atlantic to 1790 (3) - Surveys the development of African culture from Africa to the South Atlantic. The course will focus on broad-based themes examining pre-colonial Africa, the Atlantic slave trade, and the resistance of Africans to the American slave system. Diversity course.

42.217 Africa and the Black Atlantic since 1790 (3) - Surveys the development of African culture from Africa to the South Atlantic. The course will focus on broad-based themes examining colonial Africa, the Atlantic slave trade, and the emergence of black states in Africa and the Caribbean. Diversity course.

42.222 Business History of the United States (3) - Focuses on the evolution of business from 1600 to the present, entrepreneurial leadership of major businessmen and the history of major modern industries.

42.223 Economic History of the United States (3) - Focuses on the changing nature of the American economy. This course covers three time periods: the commercial-agricultural age, the industrial age and the modern managerial age. Examines agriculture, banking, business administration, commerce, labor, manufacturing, mining and transportation, social and political factors that contributed to changing economic relationships in the United States.

42.224 The Immigrant Experience (3) - Provides an overview of cultural diversity in American society by focusing on the history of immigration from the colonial period to the present. Students

examine ethnicity in America through the study of political, economic, religious and social issues; industrialization and urbanization; attitudes of nativism, discrimination and racism; and powerful influences of immigrant kinship networks, ethnic community associations, cultural traditions, religious institutions and ethnic group identity. Lectures include new historical interpretations of cross-cultural relationships and new assimilation theories. Not offered every semester. Approved for diversity requirement.

42.226 Popular Culture in America (3) - Review of major forms of popular culture in America from colonial beginnings to the present, telescoped to permit fullest presentation of the period since 1920. Course blends continuity of values and ideas in American culture with dynamics of change to which the culture constantly adjusts. Not offered every semester.

42.228 African-American History (3) - Examines the nature and meaning of the African-American experience in the United States surveyed from its beginnings to the present. Reviews black creative expressions in the visual arts, music, literature, philosophic thought and social history. Approved for diversity requirement.

42.229 Modern World Leaders (3) - Studies significant world leaders in religion, politics, war and culture and their impact on world history. Focuses on different leaders each time offered and covers a selected period from the Renaissance to the present. Analyzes the conditions which helped produce these leaders and ends by discussing reasons for their success or failure. Includes only leaders who have made a significant contribution outside their national boundaries.

42.250 History of Science(3) - Studies historical development of the sciences and the nature of scientific thought and method; provides understanding of the characteristics of the sciences as well as their significance to human progress from antiquity to the present. Not offered every semester.

42.260 Sport and Society in America (3) - Presents a cultural approach to organized sport in the United States; proceeds from the premise that sport mirrors the values, states of technology and the conditions of society. Emphasizes the rise of the institution of sport and its impact on business, commercialism, leisure, affluence, urbanism, nationalism and the problems of governance and law. Not offered every semester.

42.281 Military History I (3) - Studies organized warfare from its origins to the last campaign of Napoleon I, concentrating on strategy and tactics. Examines moral and social problems raised by warfare. Not offered every semester.

42.282 Military History II (3) - Studies organized warfare and the theory of war from the Napoleonic age to the present, concentrating on strategy and tactics. Examines the socio-political background, especially of the two world wars and the age of guerrilla warfare. Not offered every semester.

42.298 Historiography and Historical Methods (3) - Provides students with an opportunity to take a critical approach to the study of history by examining changes in historical interpretations to analyze why history is written and revised. Affords students hands-on experience in historical research, utilizing libraries, archives, databases and Internet resources. Prerequisites: 20.101 and one 100-level course in history.

42.315 Origins of Civilization: The Ancient Near East (3) - Surveys known origins of civilization in the Neolithic, Bronze and Iron ages in Mesopotamia, Egypt, Anatolia and Syria-Palestine, with some attention to India and China. Not offered every semester.

42.318 Early England: The Making of an Island State (3) - Reviews political, economic, social and cultural life in England to the Glorious Revolution. Not offered every semester.

42.319 Modern England: The First Industrial Empire (3) - Examines political, social, economic and cultural development in England from the Glorious Revolution to the present with emphasis on the

development of democracy, the Industrial Revolution and the growth and decline of the British Empire. Not offered every semester.

42.320 French Revolution and Napoleon (3) - Analyzes 1789-1815 era in France and assesses its significance for the history of France and the world. Not offered every semester. Prerequisite: 42.125 or consent of the instructor.

42.324 Revolutionary Europe and the Rise of Modern Traditions, 1600-1789 (3) - Discusses the rise of the modern state; the political, intellectual, social, economic and cultural aspects of the eras of the Scientific Revolution and Enlightenment; the establishment of European world hegemony and a world economy; the diplomatic and military interaction of the European states. Not offered every semester.

42.326 Europe 1789-1914 (3) - Analysis of Europe's "long nineteenth century." with particular emphasis on the nexus of political and social history. Not offered every semester.

42.327 Europe in the Age of Total War, 1914-1945 (3) - Examines origins of World War I and alliance systems that fought it, diplomacy, military strategy, tactics of the war and the peace treaties of 1918-1920, plus the rise of Mussolini, Stalin, Hitler and the lesser dictators along with the international crises that finally culminated in the outbreak of World War II. Course stresses ideological and global pattern developments. Not offered every semester.

42.328 Cold War Europe, 1945-Present (3) - Surveys European powers in the late 1930s with emphasis on the forces leading to war; military and diplomatic developments of World War II and the causes of the East-West rift; the reconstruction of democratic Europe and formation of the Soviet bloc; European integration and political trends in both power systems. Not offered every semester.

42.329 The American Woman (3) - Studies the history of women in America from colonial times to the present; topics include women's work, family life, politics, sexuality, education, feminism and reactions against it and the many facets of women's public and private roles in the nation's history. Approved for diversity requirement.

42.335 History of Christianity (3) - Promotes student analysis of the ancient, medieval and modern roots of contemporary Christian denominations and movements. Primary and secondary historical sources are discussed seminar-style in order to critically examine important ideas, personalities and historical conditions of Christianity. Prerequisite: Any course in history or consent of the instructor.

42.336 Medieval Europe (3) - An analysis of European history from 300 to 1400, focusing on political, social, religious and intellectual trends during the period. Feudalism, church history and commercial relations receive particular emphasis. Examines the status of women in medieval society. Prerequisite: 42.125.

42.337 Europe in the Renaissance and Reformation (3) - A detailed analysis of European history from 1300 to 1650, focusing upon the intellectual and artistic movement known as the Renaissance and the religious upheaval associated with the terms "Reformation" and "Counter-reformation." Political, social, intellectual and religious trends are highlighted. Prerequisite: 42.125.

42.346 Modern European Intellectual History (3) - Relates changes in currents of thought during the period to political, economic and social developments. Special attention given to interpretations of major intellectual movements. Not offered every semester.

42.347 History of the Holocaust (3) - Focuses upon the major theme-the genesis and implementation of the planned destruction of European Jewry from 1933 to 1945; briefly traces the history of anti-Semitism and evaluates scope of prejudice, discrimination and genocide in contemporary civilization. Includes an analysis of literature of the Holocaust and evaluation of the Holocaust's impact on modern-day Israel or the world Jewish community. Not offered every semester.

- 42.354 Modern Japan: 1868-Present (3) - Surveys the history and culture of Japan from 1868 to the present. Examines Japan's emergence as an industrial, imperialist nation in the first part of the twentieth century and the postwar transition from a defeated nation to an economic giant in the latter part of the twentieth century.
- 42.355 East Asia since 1800 (3) - Surveys the history and culture of East Asia from 1800 to the present. Examines the political, social, economic and cultural transformations within China and those countries most influenced by Chinese culture traditionally: Japan, Korea, and Vietnam, with an emphasis on inter-East Asian relations and on interaction between East Asia and the West.
- 42.356 Russia to 1917 (3) - Analysis of Russian political and social history from the ninth century to 1917, with emphasis on the 18th and 19th centuries. Not offered every semester.
- 42.359 20th Century China (3) - Surveys the history and culture of China during the twentieth century. Examines China's republican and communist revolutions and the transition from the republican to the communist revolution from the mid-twentieth century onward.
- 42.372 Colonial America and the War of Independence (3) - Reviews European colonization in North America with major attention to the establishment and development of England's colonies, an emerging American society and problems which created conflict between the Americans and the British resulting in the American War of Independence. Not offered every semester.
- 42.374 U.S. Social History (3) - Focuses on everyday life in the past and how ordinary people made history and were affected by historical change. Emphasis on family life, as a way of exploring issues of race, gender and ethnicity. Prerequisites: 42.121 and/or 42.122.
- 42.379 The New Nation: United States, 1781-1845 (3) - Reviews the impact of the democratic experiment on government, the economy, culture and society. Among subjects studied are political parties, railroads, popular music and anti-slavery. Not offered every semester.
- 42.381 Civil War, Reconstruction and Industrialization: United States, 1845-1896 (3) - Surveys the causes of the Civil War, the war itself, reconstruction and industrialization. Topics include politics, ideology, military technology and tactics, race and gender issues, the economy, labor, immigration and popular culture.
- 42.383 America 1877-1929 (3) - This course focuses on the transformation of American life from the Gilded Age through the Roaring Twenties. Between 1877 and 1929 the United States experience rapid industrialization, massive immigration, and a social revolution that transformed morals and manners in the 1920s. In government, the era witnessed political upheavals that led to Progressivism, an early twentieth century reform movement that laid the foundations of the modern American state. In addition, the country took its first steps toward world power, a trend that culminated with U.S. entry into the First World War.
- 42.385 Recent American History: 1941 to the Present (3) - Examines the major political, economic, social-cultural and intellectual developments in the United States from 1941 to the present. Cold War, Korea and Vietnam, turmoil of the 1960s, nuclear concerns and the role of the individual in an increasingly complex, technological society are some of the major themes examined. Not offered every semester.
- 42.388 Pennsylvania (3) - Examines major contributions of Pennsylvania to national life, relations between state and national movements. Not offered every semester.
- 42.391 Diplomatic History of the United States to 1898 (3) - Presents a critical analysis of United States foreign relations from the Colonial Period to the 1898 war with Spain. Not offered every semester.
- 42.392 Diplomatic History of the United States Since 1898 (3) - Presents a critical analysis of United States foreign relations from the war with Spain in 1898 to present. Not offered every semester.
- 42.395 African-American Radicalism in the 20th Century (3) - Examines the major black radicals and their philosophies and movements in 20th Century America. Special emphasis will be placed on the following figures: W.E.B. DuBois, Marcus Garvey, Malcolm X, Stokely Carmichael (Kwame Toure), Angela Davis, Amiri Baraka, the Black Panther Party and Louis Farahkhan of the Nation of Islam.
- 42.397 Independent Study in History (1-4) - The topic selected must be approved by a committee appointed by the chairperson. Independent reading and/or research related to some aspect of history is supervised by an appropriate member of the department. A student may register for this course no more than twice and credits may not exceed 4 semester hours. See the section on Independent Study. Prerequisite: 60 semester hours. Prerequisites: 42.298 or consent of the instructor.
- 42.398 Research and Writing Skills (3) - Focuses on the development of proficient research and writing skills. Students learn to fully utilize library and research facilities; develop skills in analyzing and interpreting original/primary research documents; and produce a clear, concise and well-written lengthy formal paper. In addition, students develop an understanding of how and why history is written and revised.
- 42.404 Topics in American History (3) - Seminar allows students to focus on a specific topic or related topics in American history for in-depth study and analysis. Includes historiography of the chosen topic, discussion of problems associated with the topic and production of a research paper. Topics vary from semester to semester.
- 42.405 / 42.505 - The Jews of Europe: 1450 to Present (3) - Analysis of European Jewish history from 1450 to the present, with particular attention to the problem of Jews' legal status; social and economic relations between Jews and dominant communities; Jewish participation in national politics; Jewish political self-organization and communal organization; Jewish family life and gender relations; and the demographics of Jewish communities. Not offered every semester. Prerequisites: 42.125 or 42.126 if enrolling in 42.405; none if enrolling in 42.505.
- 42.410 Topics in Non-Western History (3) - This seminar allows students to focus on specific topic or related topics in Non-Western History for in-depth study and analysis. In the course, students will gain familiarity with the historiography of the chosen topic, discuss problems associated with the topic, and produce a research paper. Topics will vary from semester to semester.
- 42.416 / 42.516 The Classical World: Ancient Greece and Rome (3) - Covers ancient Greek and Roman history and culture. Greece: emphasis on Aegean civilizations, the age of Pericles and the Hellenistic age after Alexander the Great. Rome: emphasis on early monarchy and republic, imperial expansion, the Pax Romana and the decline and fall of the empire; concluding with the Barbarian age and the rise of Byzantium. Not offered every semester.
- 42.430 Caribbean Slave Societies (3) - Surveys the development of the Caribbean from European colonization to the eve of emancipation (c. 1790). Not offered every semester.
- 42.431 The Caribbean from the Post-Emancipation Era (3) - Surveys the development of the Caribbean from emancipation to independence. Not offered every semester.
- 42.432 Plantation Societies in the Atlantic World (3) - Examines the development of plantation culture in the Americas and its effects on European, African and American societies.
- 42.452 Soviet Russia (3) - Presents a critical analysis of the political, social, economic and cultural evolution of the Soviet Union and a study of Soviet foreign policy. Not offered every semester. Prerequisite: 42.126.
- 42.453 Problems of Contemporary Latin America (3) - Analyzes recent events or movements that may indicate recurrence of historical

problems or major developments of international significance in selected countries of Latin America. Not offered every semester.

42.460, 42.461 Topics in European History (3) - Investigates select topics in European history. Seminar-style course studies variety of problems in European history, in the medieval, early modern and modern periods. Discusses and analyzes secondary materials on the history, philosophy, politics, science and art of a chosen period. Research paper required. Topics vary from semester to semester.

42.469 Women and Gender in European Intellectual History I (3) - Investigates the condition of women, of female views concerning that condition and the view of males concerning women, over the course of western history. Women and Gender I covers the ancient, medieval and early-modern periods (c.650 BC - 1650 AD). Prerequisite: two 100-level courses in history or consent of the instructor. Approved for diversity requirement.

42.470 Women and Gender in European Intellectual History II (3) - Investigates the condition of women, of female views concerning that condition and the view of males concerning women, over the course of western history. Women and Gender II covers the Scientific Revolution to the present (c.1550-1995). Prerequisite: two 100-level courses in history or consent of the instructor. Approved for diversity requirement.

42.472 History of Labor in the United States (3) - Surveys the emergence and development of organized labor from the post-Civil War period to the present. A third of the course is devoted to an analysis of contemporary labor-management problems and labor's changing role in our increasingly technological society. Prerequisite: 3 semester hours in history.

42.497 Internship in History (3-12) - Provides a work-study experience jointly administered by an academic faculty member and a sponsoring employer, with about 40 hours of supervised work generating each semester hour. Prerequisite: For history majors, 15 semester hours of history, including 42.398. Other majors may enroll with consent of advisers. Note: A student may not apply more than 3 semester hours of internship toward the fulfillment of the history major, although a student may enroll for more than 3 semester hours of 42.497.

## Criminal Justice (43)

Administered by Department of Sociology, Social Work and Criminal Justice

Effective Fall, 2004

43.101 Introduction to Criminal Justice (3) - Offers a comprehensive survey and basic understanding of the role and function of the criminal justice field. Attention is given to crime and criminal law, law enforcement, police, courts, corrections and juvenile justice.

43.200 Criminology (Fall) (3) - Discusses the major sociological theories of crime and justice. Presents the scope of crime in the United States and other countries. Probes each major type of crime, namely, homicide, rape, white-collar crime, political crime organized crime, property crimes, drug crimes, prostitution and pornography. Describes and analyzes law enforcement system. Prerequisite: 43.211, 43.244

43.210 Criminal Justice Statistics (3) - This course introduces students to the logic of statistical analysis in criminal justice research. Students will create and manage data sets, learn how to use statistical software and interpret statistical information in criminal justice journals. Prerequisite: 43.101

43.220 Criminal Justice Research (3) - This course introduces students to the logic of inquiry in criminal justice research. Students will learn how to pair research objectives with specific research methods in the design of qualitative, comparative and quantitative research projects. Prerequisites: 43.200 and 43.210.

43.242 Juvenile Delinquency (3) - Examines social pressures operative upon children in American society, which leads to formation of delinquent personality. Consideration of treatment and

prevention, juvenile courts, clinics and correctional institutions, evaluation of theories, concepts and relevant empirical research.

43.320 Victimology (Spring) (3) - Examines the short-term and long-term effects of victimization on individuals and groups from such crimes as family violence, rape, street crime, business fraud, corporate negligence and political wrong doings. Prerequisite: 43.244

43.330 White-Collar Crime (3) - This course will discuss the major types of individual and organizational white-collar crime. Individual white-collar crime includes acts such as embezzlement, fraud, identity theft, computer crime, bribery and corruption, while organizational white-collar crime includes such acts as health and safety violations, large scale fraud and political corruption. The course addresses the dynamics, the social causes, the legal responses and the prevention of white-collar crime. Prerequisite: 43.200.

43.342 Penology (Spring) (3) - Penology studies the social rationales, methods and consequences of punishing and rehabilitating law breakers. Includes a social history of prisons, jails and punishment, the interpersonal dynamics within the institution, the inmate social order, causes of riots, treatment programs and alternative models and policies. Prerequisite: 43.211, 43.244

43.400 Mass Media and Crime (3) - This course probes three main areas: first, the mass media's relationship to criminal behavior, violent ideation and the promotion of stereotypical attitudes toward groups that could elicit criminal or violent acts; secondly, the mass media's influence on the public's view of crime, punishment and crime control - the creation of an "informal consensual reality," replete with dangers, crime waves, moral panics and support for draconian legal measures; and thirdly, the mass media's potential for constructive social change in the public's understanding of crime and in the state's policy regarding crime control. Prerequisites: 18 credits in criminal justice or permission of the instructor.

43.410 Criminal Law (3) - This course examines criminal law from a combined social science and legal perspective. Focus is on the substantive law with a special emphasis on personal crimes. Students will sharpen their skills in case analysis, legal reasoning and legal research. Prerequisite: 18 credits in criminal justice or permission of the instructor.

43.420 Crime, Social Inequality and Social Identity - This course focuses on the interaction between socio-economic status, race, ethnicity, gender and crime, specifically the relationship between these categories of offending, patterns of victimization, and treatment by the criminal justice system. These categories, or social roles, are understood both as characteristics that may relate to social inequity, as well as forms of group or social identity that have historically structured both the quantity and type of offenses as victimizations. Prerequisite: 18 credits in criminal justice or permission of the instructor.

43.430 Special Topics: Cults and Millenarian Movements (3) - Of increasing interest in the fields of sociology and criminal justice, cults, new religious movements and apocalyptic groups are widely discussed and the subject of much speculation, but rarely studied in depth. This course will place its major emphasis on contemporary social groups in the U.S. and abroad that have been termed "cults." Part of our task will be to examine some of the shifting definitional boundaries between so-called cults and more "mainstream" social, cultural and religious movements. Is one person's cult just another person's religion or search for existential meaning in a group of like-minded individuals? Secondly, we will examine what is known about joiners, leaders and leavers of these movements from sociological and psychological viewpoints. Thirdly, we will examine the involvement of some groups in lawbreaking and criminal activities, and how group affiliation relates to criminological research and criminal justice system involvement. All of these concerns will be tied to readings and discussions of case studies, including Aum Shimrikyo in Japan, Heaven's Gate and Jonestown in the Americas, and the legacy of groups formed in the context of the 60s counterculture. Prerequisite: 18 criminal justice or sociology credits.

43.495 Criminal Justice Internship (1-15) - An on-the-job apprenticeship in which students are exposed to the responsibilities, skills and activities necessary to accomplish jobs in criminal justice agencies, including public and private, local, state and federal, investigatory and correctional agencies. Pass/fail only. Prerequisite: 43.244.

## Political Science - PLS (44)

Administered by Department of Political Science  
Effective Fall, 2003

44.101 Elements of Political Science (3) - Uses the procedures of political science to study power and examines the processes of politics and the practices of governments, the performance of and the pressures on the political system. For non-majors.

44.108 Contemporary Political Ideologies (3) - An introduction to those political beliefs that shape contemporary politics: nationalism, liberalism, conservatism, socialism, feminism, religious fundamentalism, populism.

44.120 United States Government (3) - Introduces government and politics in the United States, emphasizing constitutional development, political development, civil rights, parties, elections, pressure groups, the Congress, the president, courts and contemporary problems, such as foreign affairs, defense, unemployment and poverty.

44.181 Contemporary Issues in World Politics (3) - An introduction to international politics through an examination of such critical problems as war and peace, nation-building, revolution, ethnic conflict and democratization.

44.207 Ethics, Politics and Public Policy (3) - Examination of normative, descriptive and metaethical approaches employed by politicians and policymakers in confronting issues of responsibility and choice in public programs and policies. Focuses on ethical problems and responses in civic life and emphasizes the ways alternatives impact on society.

44.210 Introduction to Political Theory (3) - An introduction to fundamental political concepts such as liberty, justice, equality, power and authority, as well as the main ideas of some representative political philosophers from Socrates to the present.

44.222 Women and Politics (3) - Emphasizes political systems and the broad range of issues that find women as the recipients of and makers of public action and policy. Examines issues that unify and divide women as they attempt to understand the problems of becoming equal in an unequal society. The role of women in the United States and in other nations is explored. Approved as a diversity course.

44.250 Globalization and the United Nations (3) - An introductory survey of the functions and organs of the United Nations. Students will be using the knowledge they gain from lecture and discussion to perform as delegates from various countries on topics that are currently being debated for resolution by the international body. The culmination of the semester is a one-day simulation of a United Nations committee session.

44.280 Introduction to International Relations (3) - Examines sources of international conflict and cooperation, power politics in the international arena, problems of collective security, the settlement of disputes, diplomacy and international law.

44.303 Politics and the Arts (3) - Surveys painting, music, films, poetry and novels to show the relationship between these media and political concepts, philosophies and problems.

44.322 Political Violence (3) - Surveys individual, group and mass political violence, concentrating on causes and manifestations. Studies positive and negative effectiveness of political violence with the object of placing the phenomena in meaningful historical and contemporary contexts.

44.326 Parties, Groups and Public Opinion (3) - Examines the development of political parties in the United States; elections, voter

behavior and political participation; and the role of interest groups and political propaganda.

44.336 Public Administration Theory (3) - Introductory course to the study of the "management of government business." Examines the multi-dimensional nature of Public Administration by exploring the political, social and economic factors influencing the public sector administration in the United States. Areas of emphasis include principles of public administration organization theory, personnel management, public budgeting, public policy formulation and implementation and collective bargaining in the public sector.

44.360 Nations, States and Governments (3) - Presents a comparative study of the governance of countries or nation-states in selected developed and less developed regions of the world.

44.366 Political Systems of Western Europe (3) - Examines democracy as practiced in Western Europe; the politics and governments of Great Britain, France and Germany.

44.371 Political Systems - Africa (3) - Examines problems of newly independent states, the struggle for independence, attempts to create national unity and create political stability, economic and political development, the role of the military in politics and politics in the Republic of South Africa.

44.375 Multiculturalist Theory (3) - Treats the issues of concern generated from an attention to and appreciation of, our diverse cultural identities. As a theory course, it approaches multiculturalism as a new attempt to respond to the challenges that difference poses in democratic theory. .

44.376 Government and Politics of the Middle East (3) - Introduces the political history and governments of particular states in the region and considers their interactions regionally and internationally. Considers in particular the importance of Islam in politics, the Arab-Israeli conflict, the Iranian revolution, the Iraqi wars.

44.377 Feminist Political Theory (3) - Explores various strands of feminist political thought and approaches to philosophical critique. The primary aim of the course is to familiarize students with the contributions made by feminists to the field of political theory and to provide students with the basic tools with which to read, understand, critique and write in acknowledgement of these contributions.

44.405 Development of Political Thought (3) - A chronological survey from the ancient Greeks to the present. Examines the ideas of seminal political thinkers as they grapple with perennial problems.

44.409 American Political Thought (3) - Analyzes the relationship of American political thought to modern political theory. Traditional models are used in a historical, chronological way but are reworked to show their relation and relevance to contemporary actions and issues. Covers the main ideas of the leading political thinkers in America from the colonial period to the present.

44.437 Public Administration Applications (3) - Examines major theories of public management and their application in the workplace to enhance productivity. Uses readings, cases and simulations.

44.438 Public Personnel Administration (3) - Examines public service as a career, the personnel needs of national, state and local governments; civil service law, personnel systems; collective bargaining in the public sector and current problems in the public service.

44.440 The President and Congress (3) - Reviews presidential and congressional politics, public policy-making roles, executive-legislative relationships, constitutional issues. Explores the constitutional limitations, citizen expectations and myths surrounding these institutions.

44.446 Constitutional Law I (3) - Analyzes the evolution, structure and function of the Supreme Court, concentrating on a case study approach of the court's interpretations of the powers of the president, Congress and federal-state relationships. Offered fall semester only. Prerequisite: 60 credits.

44.447 Constitutional Law II (3) - Studies the decisions of the Supreme Court as they are related to the individual and the

government, concentrating on nationalization of the Bill of Rights, rights of persons accused of crimes, equal protection and voting rights. Offered spring semester only. Prerequisite: 60 credits.

44.448 Judicial Process (3) - Studies policy-making by the federal courts, primarily the Supreme Court. Analyzes nature of the policy-making function as well as the impact of policy-making on American society.

44.452 State and Local Government and Politics (3) - Presents a description and analysis of state and local legislatures, executives and judiciaries; the myths and realities of state and local politics; intergovernmental relations; current policies and problems. Offered fall semester only.

44.456 Public Policy (3) - Studies the institutional and political context of policy formation and implementation; the process for designing and administering government programs; and the techniques of analysis and evaluation that are or could be employed in formulating policy objectives, choosing from among alternatives and assessing performance. The approach is pragmatic, applied and interdisciplinary.

44.458 U.S. Foreign Policy (3) - Analyzes the substance, methods and purposes of U.S. foreign policy, including the determinants of policy, policymaking machinery and implementation matters.

44.464 Government and Politics of Ireland (3) - Surveys historic, social, cultural and religious developments in Ireland with concentration on a study of the government and politics of Northern Ireland and the Irish Republic. Examines contemporary literature, drama, music and art.

44.487 International Law and Organizations (3) - Examines the nature of international law and politics and surveys basic issues in contemporary international law. The course also examines the development of international organizations and selected issues. Prerequisite: 60 credits.

44.490 Independent Study in Political Science (3) - Provides for individualized reading, research and reporting under conditions of minimal supervision. Projects must have departmental approval and be under way by the end of the first week of a session.

44.492 Seminar in Government and Politics (3) - Examines problems in government and politics in an attempt to review and unify theories and methods of political science. Emphasizes individual research projects.

44.497 Internship in Political Science (1-15) - Provides for on-site work experience and training designed to give an opportunity to apply the theoretical and descriptive knowledge acquired in the classroom. The student is supervised by an instructor and an on-site person. A paper is required.

## **Sociology, Social Work and Criminal Justice - SOC (45)**

Administered by Department of Sociology, Social Work and Criminal Justice Effective Fall, 2004

45.133 Introduction to Social Work and Social Welfare (3) - A survey of the social work profession and the United State social welfare institution. Includes ideologies, historical perspectives, values and generalist social work practice in various social welfare fields with an emphasis on human diversity and a commitment to social and economic justice..

45.211 Principles of Sociology (3) - Introduces the basic concepts, theories and perspectives in sociology. Sociology is the scientific study of the influence of groups, institutions and cultures upon individuals. For example, the extent to which race, gender, class, religion and education affect the behavior and opportunities of individuals is probed.

45.213 Contemporary Social Problems (3) - Examines social issues such as plant closings and unemployment, the impact of multinational corporations on the economy and the environment,

mobility, aging, family problems - sex roles, abuse, incest, divorce, alcohol and drug abuse, social change and disorganization, racism, sexism, employment discrimination, crime, alienation and poverty.

45.215 Racial and Ethnic Minority Groups (3) - Presents a sociological examination of some of the major racial, ethnic and religious minorities and their divergent heritages in the contemporary American scene. Prerequisite: 45.211.

45.217 Sociology of Sport (3) - An introduction to and critical examination of the role of sports in society. Focuses on the reciprocal impact of sports and various institutions of society. Students examine the sociological perspective on sports as a human activity.

45.231 Marriage and Family (3) - Provides a sociological examination of the traditional and changing institutions of marriage and the family in contemporary society. Focuses on family and marital interaction, roles and interpersonal familial relations.

45.236 Child Welfare (3) - Examines child welfare services, issues and the institutions which affect the social functioning of children. Course is not in the social welfare degree program.

45.255 Research Methods for Social Inquiry (3) - Surveys quantitative research techniques and includes an introduction to the use of computers in social science research. Some qualitative methods are explored. Prerequisite: 45.211.

45.260 Basic Social Statistics (3) - Presents principles and techniques of statistical analysis used by sociologists and others in social sciences: descriptive tables and graphs, measures of dispersion, significance tests, correlation and regression. Students collect and analyze data using computers. Emphasis on understanding concepts underlying statistical analysis in order to permit intelligent use and interpretation of statistics. Prerequisites: 45.211 and 45.255.

45.297 Introductory Practice Experience in Social Work (3) - The primary goal of this courses is to initiate the preparation of the baccalaureate generalist social worker with a foundation of social work knowledge, values, ethics and skills. The beginning integration of ecological systems theory into generalist social work practice occurs in this course. Prerequisite: 45.133.

45.316 Urban Sociology (3) - Presents a sociological analysis of origin and growth of cities with an emphasis on the dynamic patterns of social interaction in the changing contemporary urban scene. Views cities mainly from a multinational perspective with a special focus on urban regions. Prerequisite: 45.211.

45.318 Social Stratification (3) - Examines the role of social class in terms of structure, function and persistence in any society. Examines classical theoretical statements and evaluates current American class relations in terms of status, power, authority and social mobility. Covers notable studies of the American class system and provides a close look at power relations and styles of life among the various American classes. Prerequisite: 45.211.

45.319 Religion and Society (3) - Examines religion as a means by which people, as members of communities order their lives and endow them with meaning. Topics include ritual and belief systems, the social organization of religion and the relationship between religion and other parts of the social structure.

45.320 Sociology of Women (3) - Explores the development of the traditional roles of women in Western society to the present time including both work and family roles. Included is an analysis of the women's movement as a social movement. The course acquaints students with feminist theory within a sociological perspective. Prerequisite: 45.211 and 45.260 or equivalent.

45.334 Social Work Practice with Individuals and Families (Fall) (3) - Examines the knowledge, values, ethics and skills for professional generalist social work practice with the individual, family, group, organization and community problem solving, with strengths perspective and systems/ecological theory is emphasized.

Prerequisites: 50.101, 45.211, 48.101, 45.215, 45.133 and 45.297 (may be taken concurrently) Fall semester only.

45.345 Medical Sociology (3) - Facilitates student's ability to understand, analyze and evaluate sociological factors in relation to illness, medical behavior and health care systems. Prerequisite: 45.211 or consent of instructor.

45.376 Science and Society (3) - Explores science as the organized activities of an occupational community. Examines the development of science as an institution, its social organization in modern society and its internal and external politics. Prerequisite: 45.211 or consent of instructor.

45.400 Sociology of Mass Communication (3) - An in-depth discussion of the cognitive and behavioral affects of mass media, especially television on audiences, the social structure of the communications industry, particularly its influence on media content and the political use of mass media. Students critique latest research articles in the field. Prerequisites: 45.211 and junior status.

45.441 Social Indicators (3) - Reinforces and extends earlier learning in research techniques and methods by focusing on systematic step-by-step understanding, analysis and preparation of social indicators at the federal, state and local levels of social policy planning and analysis. Promotes understanding of social indicators and the use of these indicators within all levels of society.

45.443 Sociology of Deviant Behavior (Fall) (3) - Evaluates the presence and function of deviance in society. Includes mental illness and various types of crime and stigmatized behavior. Examines how it is handled therapeutically and legally through institutionalization and treatment. Attempts to provide a broad theoretical perspective as well as concrete examples of deviance in any society. Examines current methods of rehabilitation and punishment. Prerequisite: junior year standing (or 65 semester hours or more).

45.450 Social Work Practice with Small Group (3) - Provides the entry-level generalist social work practitioner with a beginning understanding of the effective use of the problem solving process using group work as an intervention strategy at the micro, mezzo and macro levels. Offered fall semester only. Prerequisites: 50.101, 45.211, 48.101, 45.215, 45.133 and 45.297 (may be taken concurrently).

45.451 Family Counseling (3) - Surveys the major theoretical models for family assessment and intervention with primary emphasis on ecological systems. Covers knowledge of rudimentary assessment and intervention skills for problem solving with families.

45.452 Social Work Practice With Organizations and Communities (Spring) (3) - The primary goal of this course is to provide the entry-level generalist social work practitioner with a beginning understanding of the effective use of the problem solving process at the macro level of intervention. The student will be provided with opportunities to apply curriculum content to work with communities and organizations. Prerequisites: 50.101, 45.211, 48.101, 48.110, 45.215, 45.133, and 45.297 (may be taken concurrently).

45.453 Social Welfare Policy (3) -Examines historical and current aspects of social welfare policy and services within the context of the generalist social work practice. The focus includes: frameworks for social policy analysis; the political/organizational processes for influencing policy; and a policy advocacy/problem-solving framework for social practice. Prerequisites: 45.133, 45.215 and 45.297 (may be taken concurrently), 40.211, 44.120. Offered spring semester only.

45.457 Sociology of Community (3) - Reviews and examines theories and research of communities. Gives special emphasis to the American community. Prerequisite: 45.211.

45.461 Social Problems in Rural-Urban Communities (3) - Focuses on social problems peculiar to and characteristic of rural and small urban communities. An eclectic theoretical interpretation will be made of the major social problems. Emphasizes problems which result in the dysfunctioning of patterned social relationships.

45.462 Sociological Theory (3) - Examines classical forms of social theory from the 19th century and their impact on the development of theory in the 20th century. Studies the views of Max Weber, Emile Durkheim and Karl Marx on the social structure, social organization, economy and human condition as well as their influence on contemporary perspectives, namely, the conflict and functional approaches, sociology of knowledge, phenomenological sociology and symbolic interactionism. Prerequisite: 45.211.

45.465 Computer Applications in the Social Sciences (3) - An introduction to computer use for the social sciences (through use of SPSS). Emphasizes translating questions into data analysis and interpretation of statistical results. Prerequisites: 45.260 or similar statistics course. Offered spring semester only.

45.466 Social Research (3) - Stresses design and construction of major research methods and procedures used in social research. Special emphasis on survey research. Prerequisites: 45.211, 45.260 or consent of the instructor.

45.467 Population Problems (3) - Studies human population, its major theories, distributions composition, changes and future developments of population and impacts of population problems on society as influenced by vital processes. Prerequisite: 45.211.

45.468 Social Service Planning (3) - Provides an advanced consideration of the social context of the development of social policy, planning and implementation of social and/or human services at federal, state and local levels of organization. A critical analysis of the social effects of social policy, planning and services on people in a service-oriented, post-industrial society.

45.470 Senior Seminar (3) - Provides for individual research projects and reports with-in selected areas of interest such as the family, criminology, social services and special populations. Usually offered in the spring semester. Prerequisites: Senior status; 18 semester hours of sociology and social work; and consent of the instructor.

45.471 Independent Study in Sociology (3) - Allows student to pursue individualized instruction in-depth with a faculty member in a specific area of the field not covered in current courses. Prerequisites: 45.211 and consent of instructor, chairperson and members of the department.

45.474 Contemporary Environmental Issues (3) - Examines some major human problems that lead to environmental deterioration, particularly water, air and noise pollution, energy and other resource depletion and increasing population density. Prerequisite: 45.211.

45.477 Community Land Use Planning (3) - Introduces the community planning process and the theoretical perspectives relevant to community land use planning. Examines selected substantive planning problem areas in the local community. Students formulate, develop and present a community land use plan. Prerequisite: 45.211.

45.478 Sociology of Work (3) - Presents a sociological examination of work and the milieu of the worker. Studies formal and informal work organizations, job satisfaction and dissatisfaction, structure and organization of industrial and post-industrial societies and relationship between work organizations within communities and society. Prerequisite: 45.211.

45.490 Sociology of Aging (3) - Studies aging, its major theoretical themes, patterns of living, socio-psychological and cultural consequences of aging. Examines the contemporary issues, problems and programs of the aging. Prerequisite: 45.211 or consent of instructor. Offered in spring semester only.

45.496 Sociology Internship Program (1-15) - Designed primarily for the junior or senior working in a specific institutional field and/or college-approved, off-campus activities related to student's chosen professional field. Prerequisites: Consent of the instructor and department chairperson.

45.497 Social work Internship (10-12) - Provides the social work major with the opportunity to integrate and apply knowledge, theory and understanding extracted from the foundation courses. The

student engages in supervised, direct service activities to develop competency as professional generalist social work practitioner  
Prerequisites: 45.133, 45.297, 45.255, 45.260, 45.215, 45.334, 45.450, 45.452 and 45.453.

45.498 Integrative Seminar in Social Work and Social Welfare (3) - Taken concurrently with 45.497 for integration of theory and practice. Internship work issues and assignments are discussed and evaluated in relation to relevant research and to the sixteen program objectives and corresponding seven internship course objectives.  
Prerequisites: 45.133, 45.297, 45.255, 45.260, 45.215, 45.334, 45.450, 45.452 and 45.453.

45.500 Sociology of Mass Communication (3) - In-depth discussion of cognitive and behavioral effects of mass media, especially television, on audiences, the social structure of communications industry, particularly its influence on media content and the political use of mass media. Students critique the latest research articles in the field.

45.511 Social Institutions (3) - Sociological examination of major institutions in the United States cross-culturally compared with those in other societies. Specific institutions selected depending on the interest of students and faculty.

45.513 Adolescents in American Society (3) - Studies the role of adolescents in contemporary U.S. society with special emphasis on the adolescent's social interactions in groups and institutions.

45.523 The Contemporary American Community (3) - An advanced examination of the social dynamics of community life, its institutions, organizations, and people within the context of the development of post-industrial society.

45.525 Current Social Issues (3) - Analyzes current social issues and solutions offered to solve them. Explores issues and solutions within the broad framework of the social sciences and specific framework of sociological and anthropological data.

45.578 Sociology of Work (3) - Focuses on structure and organization of industrial and post-industrial societies and the relationship between work organizations within communities and society. Presents a sociological examination of work and the milieu of the worker. Course focuses on formal and informal work organizations, worker job satisfaction, and dissatisfaction.

## Anthropology - ANT (46)

Administered by Department of Anthropology  
Effective Fall, 2003

46.101 Introduction to Anthropology (3) - A beginning course for students with no background in anthropology. Provides an overview of peoples and cultures of the world today and of the past as well as the fossil evidence for human evolution. Topics may include living primates, magic and religion and kinship, marriage and sex roles. Not for students who have taken 46.200, 46.210 or 46.220.

46.102 Anthropology and World Problems (3) - Explores the origins of global problems and evaluates the variety of cultural solutions to those problems. Investigates cultural values and solutions of tribal peoples holistically and compares them to those of industrialized nations in terms of their consequences and implications. Approved as a diversity course.

46.200 Principles of Cultural Anthropology (3) - Provides a cross-cultural study of all human behaviors in contemporary cultures. Topics surveyed include socialization; language; sex, age and kinship roles; religion and magic; marriage and the family; political and economic behavior; cultural change; and the arts. Anthropological methodology and the concept of culture also are stressed. Approved as a diversity course.

46.210 Prehistoric Archaeology (3) - Provides a worldwide examination of human prehistory from the origins of humankind to the development of early writing. Focuses on regional differences and similarities in key evolutionary transitions including sedentary

lifeways, urban origins and the rise of states. Field methods are also discussed.

46.220 Human Origins (3) - Studies the emergence and development of humans, the biological basis of human culture and society and the origin of the social units of fossil humans. A review of non-human primates and their behavior is also addressed.

46.260 Men and Women: An Anthropological Perspective (3) - A cross-cultural and evolutionary perspective on sex role behavior in past and contemporary cultures. Examines sex roles in nonhuman primates and humans. Examines sex roles in hunting and gathering, horticultural, pastoralist, peasant and other preindustrial societies are described as well as sex roles in modern industrial societies. Covers genetic and environmental theories of sex role behavior. Prerequisite: 3 semester hours of anthropology. Approved as a diversity course.

46.300 Archaeological Method and Theory (3) - Explores the modern theoretical foundations of archaeology. Students read and discuss original contributions to the field and learn methods in preparation for actual fieldwork. Prerequisite: 46.210 or consent of the instructor.

46.301 Field Archaeology (3-6) - Provides field investigation of various prehistoric cultures in northeastern United States. Students learn excavation and recording techniques, visit important sites during field trips and become part of a unique community that studies our past.

46.310 Aztecs and Mayans (3) - Surveys the prehistoric cultures of Mexico and Central America. Emphasis on the development of Aztec and Mayan civilizations. Approved as a diversity course.

46.311 Archaeology of Northeastern North America (3) - Surveys the prehistoric cultures of the area from arrival of the first inhabitants through early historic times. Provides a laboratory for the study of broader issues of socio-cultural processes. Prerequisite: 46.210 or consent of the instructor.

46.312 South American Archaeology (3) - A survey of prehistoric cultures of South America. Emphasizes the civilizations of the Andean zone and the role played by the Amazonian region in the development of Andean Cultures. Prerequisites: 46.101 or 46.200 or 46.210 or consent of the instructor. Approved as a diversity course.

46.320 Contemporary World Cultures (3) - Presents a comparative analysis of selected non-European societies in contrasting cultural and natural areas. Indicates stresses on the natural and social environment; national character; religion and world view; and literary, artistic and musical expression. Approved as a diversity course.

46.333 Ethnic Identity in the United States (3) - Explores the varieties of ethnic experience in the United States. A uniquely anthropological perspective is utilized to give students a sense of how a cultural-ethnic identity is formed and maintained in our society. Special attention paid to Italians and Latinos (including Puerto Ricans) as examples of extremely different immigrant experiences. Prerequisite: 46.200. Approved as a diversity course.

46.340 Native North America (3) - Surveys native cultures of North America in prehistoric and early historic periods with emphasis placed on issues facing today's Native American population. Prerequisites: 46.200, 46.210, 46.220 or consent of the instructor. Approved as a diversity course.

46.350 Medical Anthropology (3) - Studies of cross-cultural concepts of health, illness and curing as well as health care delivery in industrialized cultures. Includes the topics of divination and diagnosis, sorcery and witchcraft in healing, public health and preventive medicine, alcoholism and drug use and the medical knowledge of tribal and peasant societies. Approved as a diversity course.

46.360 Pseudoscience (3) - Sharpens critical thinking skills and deepens understanding of human belief systems and ethics by examining how science operates and evaluating extraordinary ideas

that claim to be scientific. Investigates scientific-creationism, ESP, UFOs, fantastic archeology, dowsing and others.

46.370 Indigenous Cultures of Modern Mexico (3) - Presents an introduction to the indigenous cultures of modern Mexico, including Nahuatl, Otomí, Purépecha, Huastec, Zapotec, Mixtec and Maya. Focus is both historical and contemporary. Treats such subjects as religion, sacred and secular rituals, customs, folk art, sociopolitical organization, economics and culture change from an anthropological perspective. Prerequisite: 46.101 or 46.102 or 46.200 or 46.310 or 46.430 or 46.333 or 46.340 or consent of instructor.

46.385 Anthropology Research and Writing Skills (3) - Familiarizes students with information sources in anthropology. Students learn how to access those sources and to write and present research paper in anthropology. Basics of statistical analysis are covered. Students write, revise and present a research paper on an anthropological topic. Prerequisite: 46.200, 46.210, 46.220.

46.390 Socialization of the Child (3) - Examines life experience and adjustment of the individual through infancy, middle childhood and youth. Reviews contrasting methods of introducing children to adult economic, social and religious activities. Prerequisite: 46.200. Approved as a diversity course.

46.405 Primates (3) - Studies the various phenomena affecting primate behavior; ecology, social life and socio-cultural adaptation, with emphasis on the development of socio-biological traits relating to human origins. Prerequisite: 9 semester hours of anthropology or 46.220 or any biology course.

46.440 Language and Culture (3) - The place of oral or non-oral language in human evolution and contemporary cultures. Topics discussed include: dialectal variation, discourse analysis, multilingualism, language and cognition and the role of language in education. Approved as a diversity course.

46.450 Peoples and Cultures of South America (3) - Surveys introduction to the aboriginal, non-literate cultures of South America including the ecological background, archaeology and cultural patterns. Approved as a diversity course.

46.460 Applied Anthropology (3) - Provides an introduction to and critical evaluation of the various specializations, ethical issues, career opportunities, methods and theoretical orientations of applied anthropology, which involves the application of anthropological knowledge to identify and solve human problems. The course will utilize a holistic perspective through the synthesis of applied specializations in cultural, biological, linguistic and archaeological anthropology. Prerequisites: 46.200, 46.210, 46.220 or consent of the instructor.

46.466 Independent Study in Anthropology (3) - Independent study by a student with faculty guidance of a particular research problem in anthropology. The research problem either extends current course content or deals with an area not covered in the current course offerings in anthropology. A problem is chosen by the faculty member and the student working together.

46.470 History of Anthropological Thought and Theory (3) - Intensive survey of the leading methods and theories of anthropological and ethnological interpretation with special emphasis on the concept of culture and its practical application to modern problems.

46.475 Field Methods in Cultural Anthropology (3) - Provides class discussion and field experience in participant observation. Experience in interviewing, surveying, kinship charting, mapping, studying complex organizations and writing ethnographic field reports.

46.480 Religion and Magic (3) - A comparative analysis of the origins, forms, elements and symbolism of religious beliefs and behavior; the role of religion in society with particular reference to nonliterate societies. Anthropological theories and methods of religion, historical and contemporary. Approved as a diversity course.

46.495 Special Topics in Anthropology (3) - Provides for instruction and student research within selected areas of interest not available in other courses. Prerequisite: 18 semester hours of anthropology or consent of the instructor.

46.497 Internship in Anthropology (3-15) - An on-site training and learning experience in anthropology that provides opportunities to apply theoretical and descriptive knowledge of archaeology, cultural anthropology and physical anthropology in private and government institutional settings.

## Psychology - PSY (48)

Administered by Department of Psychology

Effective Spring 2004

48.101 General Psychology (3) - Studies psychology as a system of scientific inquiry into the nature and behavior of humans. Presents major concepts, principles and processes concerned with human functioning in individuals and social settings.

48.131 Psychology of Adjustment (3) - Examines the personal and social meaning of psychological adjustment. Emphasizes stress and coping concepts and psychosocial competence in adulthood.

48.160 Basic Statistics (3) - Introduces fundamental statistical concepts and principles providing a foundation for research. Discusses computation, interpretation and application of commonly used descriptive, correlation and inferential statistical procedures for analyzing data.

48.210 Life-Span Psychology (3) - Examines the psychology of human development from conception to death. Discusses traditional topics and issues in developmental psychology such as cognition and personality, but within a life-span developmental perspective. Prerequisite: 48.101.

48.211 Child Psychology (3) - Studies normal development and the interrelationships among various aspects of biological, cognitive, personality and social factors. Emphasizes prenatal to adolescent development. Prerequisite: 48.101.

48.212 Adolescence (3) - Studies developmental, personal and social issues confronting adolescents as they emerge from childhood and strive for adulthood. Prerequisite: 48.101.

48.251 Psychological Foundations of Education (3) - Examines principles of psychology as applied to the classroom. Emphasizes learning processes as affected by environmental, experiential and developmental factors. Prerequisite: 48.101.

48.253 Social Psychology (3) - Studies interpersonal behavior with emphasis on affiliation, interpersonal perception and attraction, group behavior and conformity, attitude change and compliance. Prerequisite: 48.101.

48.254 Psychological Aspects of Social Issues (3) - Examines the application of psychological theories and techniques to existing social issues and their relationship to alternative ethical viewpoints regarding social issues selected by the instructor for study. Prerequisite: 48.101.

48.281 Experimental Psychology: Methodology (3) - Introduces experimental design, statistical analysis and issues of control and confounding. Covers one, two and three factor designs. Prerequisites: 48.101 and 48.160 (with a minimum grade of C in each).

48.282 Experimental Psychology: Applications (3) - Deals with the application of experimental principles in a laboratory setting. Students learn APA writing format and statistical and graphic computer packages. Extensive writing or research reports required. Extensive laboratory research required. Students apply concepts of experimental design in a variety of research projects with human subjects. A five-week experience with rats as subjects is required. Prerequisites: 48.101, 48.160, 48.281, all with minimum grade of C.

48.311 Adulthood and Aging (3) - Studies normal adult development and the interrelationships among various aspects of biological,

cognitive, personality and social factors. Topics include self concept, intelligence, relationships (both romantic and familial), work, retirement, physical aging, and death and dying. Prerequisite: 48.101.

48.321 Psychological Tests and Measurements (Fall) (3) - Introduces the logic of psychological measurement including the applied and practical aspects of psychological testing with emphasis on reliability, validity and test norms. Provides background for test evaluation. Prerequisites: 48.101, 48.160, 48.281, all with minimum grade of C or consent of the instructor.

48.335 Abnormal Psychology (3) - Surveys the description, causation, prevention and treatment of maladaptive behavior and psychological disorders. Considers biological, psychological and social factors. Prerequisites: 48.101, 48.160, 48.281, all with minimum grade of C, 48.282, or consent of the instructor

48.336 Theories of Personality (Fall) (3) - A critical study of theories explaining development, structure and organization of personality. Considers personality from psychoanalytic, social, individual, self and learning points of view. Prerequisites: 48.101, 48.160, 48.281, all with minimum grade of C, 48.282 or consent of the instructor.

48.337 Developmental Psychopathology (3) - Critically examines psychological theories and research on the etiology, epidemiology, developmental pathway, course, and consequence of psychological conditions and psychiatric disorders from infancy through middle childhood. Encourages an appreciation of the broad range of variability in children's development, challenges students to discover divert development from its otherwise healthy trajectory and encourage students to explore factors that sustain the deviation or foster a return to normalcy. Emphasizes the prevention of psychological problems in children. Prerequisites: 48.101, 48.160, 48.282, 48.282, 48.211 or 48.212 or consent of the instructor.

48.340 Community Psychology (3) - Surveys theory, research and action concerning the relationships between the individual and community life. Topics include the psychological sense of community, human diversity, promotion of health and socioemotional competence, citizen participation, community change and methods of community research. Prerequisites: 48.101, 48.160, 48.281, all with minimum grade of C, or consent of the instructor.

48.341 Theory and Practice of Academic Psychology (3) - Sharpens and expands knowledge of the basic principles of psychology. Provides an intensive review of the content taught in General Psychology and requires students to lead discussion groups. Prerequisites: Junior standing; 48.101, 48.160, 48.281, 48.282 and consent of the instructor.

48.342 Theory and Practice and Academic Psychology II (3) - Provides students who have completed Theories and Practice of Academic Psychology an opportunity to continue to develop skills related to leading discussions, presenting material and assessing and evaluation. In addition these students will also mentor students taking Theories and Practice for the first time. Does not fulfill a requirement for the major. Prerequisite: 48.341.

48.350 Psychology of Sex and Gender (3) - Examines the theoretical and research issues in psychological experiences of males and females. Views gender role development and implications for the daily lives of men and women from historical, biological, psychoanalytic, learning, sociological and anthropological perspectives. Prerequisites: 48.101, 48.160, 48.281, all with minimum grade of C, or consent of the instructor.

48.356 Psychology of Motivation (Fall) (3) - Surveys the fundamental determinants of human and animal activities. Studies theories, research methodologies and experimental evidence related to the activation and the direction of behavior. Prerequisites: 48.101, 48.160, 48.281 or consent of the instructor.

48.360 Cognitive Psychology (3) - Examines the major theoretical perspectives and research in the area of cognition and presents the ways in which mental processes such as memory, perception, language and problem solving may be empirically studied.

Prerequisites: 48.101, 48.160, 48.281, all with minimum grade of C, 48.282 or consent of the instructor.

48.375 Psychology of Learning (Fall) (3) - Examines the theoretical and experimental bases of learning in animal and human behaviors. Emphasis is on classical and operant conditioning and the experimental analysis of behavior. Prerequisites 48.101, 48.160, 48.281, 48.282 or consent of the instructor.

48.380 Behavioral Neuroscience (Spring) (3) - Studies the relationship between psychological processes and physiological activity. Reviews neurological and biochemical bases of behavior with emphasis on the synergistic functions of the nervous, sensory and hormonal systems. Prerequisites: 48.101, 48.160, 48.281, 48.282 or consent of the instructor.

48.401 History of Psychology (3) - Studies the historical development of modern psychology and compares present-day models of behavior within an historical framework. Prerequisites: 90 semester hours and completion of one of the following courses: 48.360, 48.375, 48.380, 48.335, 48.436 or consent of the instructor.

48.406 Psychology Seminar (3) - Provides for an advanced consideration of significant topics in psychology. Requires reports and discussions of current research and may be repeated with change in topic. Prerequisites: 48.101 and consent of the instructor.

48.436 Theories of Personality (3) - A critical study of theories explaining development, structure and dynamics of personality. Considers personality from psychoanalytic, social, trait, self and learning points of view. Prerequisite: 48.101, 48.160, 48.281 (minimum grade of C in each), 48.282, or consent of the instructor.

48.439 Introduction to Clinical Psychology (3) - Surveys clinical psychology and the role of the clinical psychologist in community and hospital mental health programs, clinical assessment and diagnosis. Examines concepts in and models of psychotherapy. Prerequisites: 48.101, 48.335 or 48.436 or consent of the instructor.

48.451 Laboratory Training in Group Processes (3) - Offers on-going experience on topics including norm-setting, leadership, problem solving, role playing, cooperation/competition, and decision making. Class size limited to 20 students. Prerequisite: 48.101 and consent of the instructor. Offered fall semester only.

48.453 Organizational Psychology (3) - Describes the application of psychological theory and research to the study of industrial, business, profit and nonprofit service, military and governmental organizations. Emphasizes the interaction of individual perceptions, group dynamics, and organizational climate and strategies to maximize the satisfaction and effectiveness of each component within and between complex organizations. Prerequisite: 48.101, 48.253 or consent of instructor. Offered spring semester only.

48.464 Advanced Experimental Design (Spring, odd-numbered years) (3) - Presents an advanced consideration of the planning, conduct and evaluation of research in the behavioral and biological sciences, employing parametric and nonparametric statistics. Emphasizes inferential statistics, design, analysis, interpretation and computer utilization. Prerequisites: 48.101, 48.160, 48.281, 48.282 or consent of the instructor.

48.466 Independent Study in Psychology (3) - Studies a topic via either review and research of technical psychological literature or empirical manipulation of variables in the field or laboratory under supervision of a psychology faculty member. Requires written report on results of study. Prerequisites: Consent of the instructor, departmental approval and approval by the dean of the College of Liberal Arts.

48.476 Principles of Behavior Modification (3) - Studies the application of learning principles to change behavior in both individual and group settings. Prerequisites: 48.101 or consent of the instructor.

48.497 Practicum in Psychology (3-15) - Provides application of psychological knowledge through study, observation and practice in a community. Prerequisites: 90 credit hours and completion of

48.101, 48.160, 48.281 (minimum grade of C in each) and consent of the instructor.

48.576 Theories of Human Learning (3) - Studies the historical and contemporary learning systems and models which yield principles for practical application.

48.577 Principles of Behavior Modification (3) - Studies the application of learning principles to change behavior in both individual and group settings. Prerequisites: 48.101 or consent of the instructor.

## Biology - BIO (50)

Administered by Department of Biological and Allied Health Sciences

Effective Spring 2004

50.100 Cells, Genes and Molecules (3) - General principles of biology studied from the cellular, genetic and molecular levels. Discusses how modern techniques in biology shape and affect our lives. Not applicable to biology major. Three hours of lecture per week.

50.101 Human Biology (3) - Presents major concepts and principles of biology relating to humans. Not applicable to biology major. Three hours of lecture per week.

50.102 Ecology and Evolution (3) - Studies biology from the ecological, evolutionary and behavioral perspectives with emphasis on humankind. Not applicable to biology major. Three hours of lecture per week.

50.107 Medical Terminology (1) - Studies roots, prefixes and suffixes of medical terms via programmed instruction. Recommended for students in the health sciences. Pass/fail credit only. Not applicable to biology major.

50.114 Concepts in Biology I (4) - Introductory course provides a framework of key biological concepts and unifying themes. Topics include the nature and process of science, the unity and diversity of living things, the chemical basis of life, cell structure and function, principles of inheritance and animal form and function. Laboratory work emphasizes application of biological principles, experimental design, observation, data collection, analysis and interpretation. Three hours lecture/three hours laboratory per week.

50.115 Concepts in Biology II (4) - Continuation of Concepts in Biology I. Introductory course that presents key biological concepts in an evolutionary framework. Topics include: plant form and function, population, community and ecosystem ecology, evolution, systematics and a survey of key phyla of plants, animals and microorganisms. Laboratory work emphasizes application of biological principles, experimental design, observation, data collection, analysis and interpretation as well as written and oral communication skills. Three hours of lecture/3 hours of laboratory per week. Prerequisite: 50.114 or permission of the instructor.

50.173 Anatomy and Physiology I (4) - An introductory course integrating the structure and function of the human body. Covers fundamental principles of anatomy and physiology, the chemical basis of life, cell structure and function, tissues, integumentary system, skeletal system, muscular system, nervous system and special senses. Three hours of lecture/3 hours of laboratory per week. Not applicable to biology major.

50.174 Anatomy and Physiology II (4) - Introductory course integrating the structure and function of the human body. Covers blood and defense mechanisms, cardiovascular system, lymphatic system, respiratory system, digestive system, metabolism, nutrition, urinary system, fluid and electrolyte balance, endocrine system, reproductive system, growth and development and human genetics. Three hours lecture/3 hours laboratory per week. Prerequisite: 50.173 or consent of the instructor. Not applicable to biology major.

50.200 Dendrology (3) - Covers the basic principles of dendrology: the identification, biology and economic significance of trees and

shrubs. Emphasis is placed on tree species of eastern North American forests. Two hours of lecture and 18 hours of field work per week (3 week session). Summer session only. Prerequisite: 50.115.

50.205 Introduction to Nutrition (3) - A foundation of nutritional concepts and practices that can be applied to personal lives and incorporated into careers. Concepts include nutritional requirements for optimal health and performance throughout the life span, making food choices in the marketplace, analyzing nutritional information in the media and controversial issues in nutrition and health. Not applicable to biology major. Three hours of lecture per week. (One credit hour may be applied toward the Fitness and Recreation requirement.)

50.211 Invertebrate Zoology (3) - Studies the principal phyla of invertebrate animals in relation to their anatomy, classification and behaviors in the ecosystems in which they participate. Field trip component at Marine Science Consortium, Wallops Island, Va., includes additional student costs. Three hours lecture/2 hours laboratory per week. Prerequisite: 50.115.

50.212 Vertebrate Zoology (3) - Studies the biology of vertebrate animals, emphasizing natural history, physiology, morphology, taxonomy and behavior. Reviews evolutionary and ecological aspects of each class. Includes laboratory work with living and preserved specimens to familiarize students with representative individuals of the major classes of this group. Field trip component at the Marine Science Consortium, Wallops Island, Va., includes additional student costs. Two hours of lecture/3 hours of laboratory per week. Prerequisite: 50.115.

50.222 Comparative Biology of Plants (3) - Provides a phylogenetic study of land plants with emphasis on their development, structure, reproduction and selected ecological and paleobotanical aspects. Two hours of lecture/3 hours of laboratory per week. Prerequisite: 50.115.

50.231 Biology of Aging (3) - The biological mechanisms of the aging process are discussed with special emphasis on these processes in humans. Discussions include studies of aging at the molecular, cellular, systems and organism levels of organizations. Three hours of lecture per week. Not applicable to biology major.

50.233 Human Genetics (3) - Explores the principles of human genetics and their application to problems in anthropology, biology, medicine, psychology, sociology and special education. Three hours of lecture/discussion per week. Prerequisite: 50.100, 50.101, 50.114 or consent of the instructor.

50.240 Introductory Microbiology (3) - Presents elementary aspects of morphology, metabolism and cultivation of bacteria, viruses and other microorganisms with consideration of their relationship to public health and various industrial processes. Three hours lecture and 2 hours laboratory per week. Not applicable to biology major.

50.242 Microbiology (4) - Introduces the fundamental principles of nomenclature, classification, microscopy, cytology and anatomy, cultivation, growth, metabolism and genetics of the microbial world. Microbial interrelationships and control are integrated into a systematic approach to classical microbiology as it relates to humans and the environment. Three hours of lecture/3 hours of laboratory per week. Prerequisites: 50.115 and 52.115.

50.252 Field Zoology (3) - Studies animals (mainly vertebrates) with emphasis on field observation and recognition and some collections. Also the class visits various field zoologists' study sites to learn about this profession. Field trip to Wallops Island at additional student cost. Two hours of lecture and 18 hours of field work per week (3 week session). Summer session only. Prerequisite: 50.115 or consent of the instructor.

50.254 Social Implications of Biology (3) - Explores the societal implications of current thought in biology. Addresses values, ethics and responsible decision making. Three hours of lecture and discussion per week. Not applicable to biology major. Meets Values, Ethics and Responsible Decision Making requirement.

50.263 Field Botany (3) - Field identification of local vascular plants, principles of plant systematics, ecology and evolution. Two hours of lecture and 8 hours of field work per week (6 week session). Summer session only. Prerequisite: 50.115 or consent of the instructor.

50.271 Cell Biology (4) - Examines the structure and function of the cell and its organelles. Emphasis on general principles and processes by which all cells function. Three hours of lecture/3 hours of laboratory per week. Prerequisites: 50.115 and 52.115.

50.275 Drugs in America (3) - Examines the basic mechanism of drug action for legal and illegal, prescription and over the counter (OTC) medications. Introduction covers terminology, drug sources, federal laws and principles of drug action. More specific mechanisms will be discussed for the following categories: narcotic analgesics, stimulants, barbiturates, tranquilizers, marijuana, hallucinogens, antiovoluntary agents, OTC pain relievers, other common OTC medications and antibiotics. Three hours of lecture per week. Not applicable to the biology major. Meets Values, Ethics and Responsible Decision Making requirement.

50.331 Embryology (3) - Reviews the patterns, processes and principles of animal development. Laboratory studies emphasize descriptive embryology of a number of representative vertebrates with emphasis on amphibian, avian and mammalian development. Field trip component at Marine Science Consortium, Wallops Island, Va., includes additional student costs. Two hours of lecture/3 hours of laboratory per week. Prerequisite: 50.115 or consent of the instructor.

50.332 Genetics (3) - Addresses mechanisms of heredity in animals and plants; Mendelian inheritance, linkage, probability, crossing over, chromosomal modifications, nucleic acids and gene action. Three hours of lecture/2 hours of laboratory per week. Laboratory hours will vary. Prerequisite: 50.271.

50.333 Molecular Biology (3) - Investigates the practical and theoretical aspects of molecular biology and gives students an opportunity to explore ontogenic and developmental problems from a molecular perspective. Topics include information processing from DNA to proteins, regulation of gene expression, DNA mutability and repair and genetic engineering. Two hours lecture/discussion, three hours of lab per week. Prerequisites: 50.271, 50.242 and 52.231 or 52.230.

50.342 Medical Microbiology (3) - Provides a study of bacteria capable of causing disease in humans. Emphasizes laboratory aspects of bacterial disease but includes pathogenicity, identification, diagnosis, treatment and prevention. Two hours of lecture/3 hours of laboratory per week. Prerequisites: 50.242 and 50.271.

50.343 Immunology (3) - Introduction to components and functions of human immune system; application of immunology to infectious disease, blood transfusion organ transplantation and cancer; consideration of conditions involving the immune system such as immunodeficiencies (AIDS), allergies and autoimmune diseases. Prerequisites: 50.271; and a background in genetics organic/biochemistry and/or infectious diseases recommended.

50.350 Plant Pathology (3) - Examines the nature of vascular plant diseases, the biology of plant pathogens and the impact of diseases on human affairs. Lecture stresses principles of plant pathology: disease and pathogen classification, modes of pathogenesis, host response to disease and disease control. Laboratory stresses identification of plant pathogens and disease symptoms, histology of diseased tissues and research techniques. Three hours of lecture/2 hours of laboratory per week. Prerequisites: 50.242 and 50.271; or consent of the instructor.

50.351 Ecology (3) - Investigates the interactions of organisms and their environment. Includes behavior, population dynamics, community interactions and ecosystem function. Field-based labs are an integral part of the course. Two hours lecture/3 hours laboratory per week. Prerequisite: 50.115 or consent of the instructor.

50.361 Comparative Vertebrate Anatomy (3) - Presents a comparative study of the chordates emphasizing the vertebrate classes. Attention given to structure, morphogenesis, functional adaptations and evolutionary trends. Laboratory emphasis is placed on the lamprey, shark and cat. Field trip component at Marine Science Consortium, Wallops Island, Va., includes additional student costs. Two hours of lecture/3 hours of laboratory per week. Prerequisite: 50.115 or consent of the instructor.

50.364 Vertebrate Histology (3) - Studies the structure and function of vertebrate cells and tissues from various body systems. Laboratory studies include the use of prepared microscope slides and color photomicrographs. Two hours lecture/3 hours laboratory per week. Prerequisite: 50.271 or consent of instructor.

50.366 Anatomy and Physiology: Head, Neck and Thorax (Spring) (3) - Focuses on the anatomy, physiology and development of the head, neck and thorax. Emphasizes the organ systems that relate to the hearing and speech mechanisms. Three hours lecture/2 hours laboratory per week. Preference given to students in communication disorders. Not applicable to biology major.

50.390 Undergraduate Research in Biology I (1-3) - Acquaints students with techniques of scientific research, data collection and analysis by engaging in a program of research with the aid of a faculty member. Research culminates in a scholarly paper written by the student that presents findings of the laboratory or field investigation in a form suitable for publication. Prerequisite: junior standing.

50.391 Undergraduate Research in Biology II (3) - Continuation of 50.390.

50.411 Radiation Biology (3) - Studies effects of radiation on living organisms and nuclear structure; studies fundamental properties of radiation, including physical, chemical and genetic effects on plants and animals from cells to whole organisms; studies application of radiochemicals in biological studies. Minimum of 4 hours per week including laboratory. Prerequisite: 50.233 or 50.332, 54.111 or consent of the instructor.

50.430 Evolution (3) - Studies the major concerns of the theory of evolution and contributions toward their solutions made by genetics, paleontology, systematics and ecology. Three hours of lecture per week. Prerequisites: 50.332 or 50.351 or permission of the instructor.

50.431 Developmental Biology (3) - A study of the genetic, molecular, cellular and morphological changes that occur during development. Current mechanistic concepts in development will be presented along with classical embryology to provide a comprehensive understanding of the processes that direct a fertilized single-cell egg to develop into a complex multi-cellular organism. Particular attention will be paid to recent molecular mechanisms, which are revolutionizing our understanding of the developmental process. Two hours of lecture and three hours of laboratory per week.

50.432 Microbial and Molecular Genetics (3) - A study of macromolecules, macromolecular complexes, protein synthesis and gene regulation using viruses, bacteria and lower eukaryotes. Topics include DNA/chromosome structure, genetic recombination, plasmids, transposons, recombinant DNA and genetic analysis. Three hours of lecture and two hours of laboratory per week. The laboratory hours will vary. Prerequisites: Two of the following: 50.242, 50.332, 52.341; or permission of instructor.

50.435 Bioinformatics and Genomic Analysis (3) - Concerns itself with understanding and manipulating genomic sequence information with regards to extracting meaningful information about genes, gene structure, gene regulation, and gene evolution. A bioinformatics approach will be used to identify coding, non-coding and regulatory sequence in a variety of plant and animal species. The course will focus on the kinds of information that can be extracted from large DNA sequences in order to understand gene function. Particular emphasis will be placed on understanding our genetic predisposition(s) to disease and the relationship of the human

genome to the genomes of other organisms. Prerequisites: 50.271, 53.141, and either 50.332 or 50.333, or permission of the instructor.

50.442 Virology of Mammals (3) - Introduces viral structure, classification, replication, genetics and pathogenesis. Studies entail the diagnosis, prevention and treatment of viral infection and families of viruses that cause disease in humans and other mammals. Includes such current topics as AIDS and tumor virology. Three hours of lecture per week. Prerequisite: 50.332 or 50.342 or 50.343 or 52.341; background in microbiology recommended.

50.444 Plant and Animal Tissue Culture (1) - Explores the practical and theoretical aspects of plant and animal tissue culture. Primary focus will be on the development of laboratory skills to a level sufficient to enable the student to gain an entry-level position in a cell culture laboratory. Topics include: regeneration of plants from tissue culture, hybridoma technology, animal tissues culture techniques, establishing primary cell cultures and maintenance and storage of cell cultures. One hour of lecture/discussion per week, three hours lab. Intended for biotechnology students. Prerequisites: 50.271; 52.230 or 52.231

50.450 Mycology (3) - A critical survey of the kingdom Fungi, with emphasis on the Ascomycota, Basidiomycota and Deuteromycota. Lectures cover the topics of morphology, physiology, biochemistry, cytology, genetics, systematics, ecology and evolution. Laboratory stresses comparative morphology of higher fungi, laboratory techniques and field mycology. Two hours of lecture/3 hours of laboratory per week. Prerequisites: 50.271; one course in genetics recommended; or consent of the instructor.

50.451 Conservation Biology (3) - Presents the science of preserving biodiversity and sustaining the earth. Draws on and synthesizes information from the fields of ecology, evolution, genetics, philosophy, economics, sociology and political science. Emphasis on the development of strategies for preserving populations, species, biological communities and entire ecosystems in the face of growing human populations and their impact on the environment. Brings scientific principles and theory to bear on problems of management for preserving the richness of life on earth. Three hours of seminar per week. Prerequisites: 50.115; 50.351; 41.105 or consent of the instructor.

50.452 Limnology (3) - Chemical, biological and physical aspects of freshwater lakes, ponds and streams. Includes laboratory and field investigations. Two hours of lecture and 8 hours of field work per week (6 week session). Summer session only. Prerequisite: 50.351.

50.455 Environmental Microbiology (3) - Studies the interactions of microbes with plants and animals and with each other in natural air, water and soil habitats. The roles of microbes in biogeochemical cycling, pollution and waste management are reviewed. Lab experience in sampling, counting and monitoring microbes in the environment. Four hours per week. Additional time may be required. Prerequisite: 50.242 or consent of instructor.

50.457 Entomology (3) - Studies the physiology, morphology, behavior, classification and general biology of the insects. A collecting period provides an opportunity for students to collect, mount and properly display insects for study. Taxonomic emphasis limited to order and family. Equivalent to 5 hours per week including laboratory. Prerequisite: 50.115.

50.459 Ornithology (3) - Studies the biology of birds including bird identification in the field by song and sight, anatomy, physiology, behavior, ecology and other aspects. Two hours of lecture/3 hours of laboratory per week. Some study off-campus may be required. The field trip component at Marine Science Consortium, Wallops Island, Va., includes additional student costs. Prerequisite: 50.115 or consent of the instructor.

50.460 Population Biology (3) - Presents selected themes in the biology of animal, plant and fungal populations. Topics include: population structure and dynamics, population genetics, population ecology and speciation. Fundamental principles and current models and hypotheses will be stressed, along with treatments of research

techniques, computer modeling and potential for future research. Three hours of lecture/discussion per week. Prerequisite: 50.332 and 50.351.

50.461 Animal Behavior (3) - In depth introduction to modern ethology. Emphasizes current models of animal behavior and theoretical foundations of ethology. Research and project oriented. Students may incur additional cost due to the field trip component at Marine Science Consortium, Wallops Island, Va. Three hours of lecture/2 hours of laboratory per week. Prerequisite or concurrent: 50.332 and 50.351.

50.472 Animal Cell Physiology (3) - Examines the principles of physics and chemistry as they relate to biological processes of animal cells. Relates the structure and properties of certain organic molecules to the structure of biological membranes and the functions of different organelles. Emphasizes the role of membrane transport processes to the maintenance of the cell's physiochemical environment. Uses intermediary metabolism and bioenergetics to present the role of chemical messengers in the regulation of cell processes. Prerequisites: 50.271, and 52.230 or 52.231 or permission of the instructor.

50.474 Vertebrate Systems Physiology (3) - Studies the major organ systems and how they work together to maintain body conditions compatible with life. Uses human systems to explain function, but includes examples from other vertebrates to broaden students' understanding of the variety of mechanisms used to maintain homeostasis. Mechanisms by which the systems' functions are integrated in the whole organism are emphasized. Three hours lecture and discussion per week. Prerequisites: 50.271, and 52.230 or 52.231, or permission of the instructor. Competence in college algebra.

50.476 Neurophysiology (3) - Examines normal physiology of the nervous and skeletal muscular systems; specifically studying cellular neurophysiology, muscle contraction, sensory physiology, motor control and their integration. Three hours lecture and discussion per week. Background in mammalian or systemic physiology, biochemistry and anatomy recommended. Prerequisites: 50.472, 50.473 or 50.474.

50.477 Plant Physiology (3) - An introduction to plant function including discussions of water relations, carbohydrate metabolism and translocation, photosynthesis, mineral nutrition, plant growth hormones and growth and development. Three hours lecture per week. Prerequisites: 50.271, and 52.230 or 52.231 or permission of the instructor.

50.478 Microbial Physiology (3) - Studies life processes of microorganisms, including how they maintain homeostasis in response to changing environmental conditions. Examines general similarities as well as significant differences between microbial groups. Covers principles of nutrition and growth, substrate uptake and transport systems. Discussion of energy-yielding metabolism in microorganisms will highlight the diversity of systems. Outlines precursor and macromolecule synthetic pathways and their regulation, with emphasis on industrial applications. Three hours of lecture per week. Prerequisites: 50.242, 50.271, 52.116.

50.479 Integrated Physiology Laboratory (1) - Provides hands-on investigations of physiological principles across taxonomic groups and all organizational levels. Investigates evolutionary adaptations to various physical problems and reinforces awareness of the unity of living systems. Emphasizes the application of the scientific method and provides opportunities for independent investigation. Four hours laboratory per week, including one hour discussion. Offered each semester. Prerequisites: 50.271, 52.116, and 52.230 or 52.231 or permission of the instructor. Students need an understanding of college algebra. Pre or Co-requisite: 50.472, 50.474, 50.478, 50.477, or 50.480.

50.480 Comparative Animal Physiology (3) - Concerns itself with the adaptation of animals to their environments. Adaptive mechanisms for marine, freshwater, terrestrial and extreme

environments will be examined using a combination of morphological, physiological, biochemical, molecular and evolutionary perspectives. The course will focus on a broad range of invertebrate and vertebrate animals with the goal of understanding the physiological and biochemical strategies they have evolved that allow them to successfully thrive within the uniqueness of each environment. Three hours of lecture per week. Prerequisites: 50.271 and 52.230 or 52.232, or consent of instructor.

50.481 Senior Biology Seminar (1) - Addresses the practice of critical reading and of the scientific literature in biology, preparing written and oral analyses of original research, and engaging in critical discussion. One hour of seminar per week. Prerequisite: senior standing in biology.

50.484 Methods in Biotechnology (3) - An investigation-based course in which students undertake a project of their own design employing methods used in biotechnology. Students will be required to submit project proposals prior to the semester that they enroll. Students will be allowed to register for the course on approval of the project. Students will meet as a research group for three hours/week with the instructor. Prerequisites: 50.333 or 52.422 and permission of instructor.

50.589 Current Topics in Biology (3) - Critically examines a specialized topic in biology in a lecture/seminar format. Topic varies each semester offered. Three hours of lecture/seminar per week.

50.490 Internship in Biology and Biology Research (3-15) - A work-study program open only to juniors and seniors majoring in biology and allied health sciences. No more than 15 semester hours of internship may be taken.

50.493 Honors Independent Study I - Biological Research (3) - Consists of a laboratory or field investigation of a particular problem or topic in biology. The study will be conducted under the supervision of a biology faculty member. The course is open to students enrolled in the B.A. and B.S. in biology degree programs. Prerequisite: 08.300 and admission to the Honors Program.

50.494 Honors Independent Study II - Biological Research (3) - Consists of a laboratory or field investigation of a selected problem or topic in biology. The study will be conducted under the supervision of a biology faculty member. This course completes the requirements for Biology Honors research. Prerequisite: 50.493.

50.530 Evolution (3) - Examines major events in the history of life on Earth. Examines theoretical models of evolutionary processes and the evidence of evolutionary change from studies of fossil and extant species. Three hours lecture per week.

50.531 Developmental Biology (3) - A study of the genetic, molecular, cellular and morphological changes that occur during development. Current mechanistic concepts in development will be presented along with classical embryology to provide a comprehensive understanding of the processes that direct a fertilized single-cell egg to develop into a complex multi-cellular organism. Particular attention will be paid to recent molecular mechanisms, which are revolutionizing our understanding of the developmental process. Two hours of lecture and three hours of laboratory per week.

50.532 - Microbial and Molecular Genetics (3) - A study of macromolecules, macromolecular complexes, protein synthesis and gene regulation using viruses, bacteria and lower eukaryotes. Topics include DNA/chromosome structure, genetic recombination, plasmids, transposons, recombinant DNA and genetic analysis. Three hours of lecture and two hours of laboratory per week. The laboratory hours will vary. Prerequisites: Admission to the M.S. or M.Ed. Program in Biology, or permission of instructor.

50.535 Bioinformatics and Genomic Analysis (3) - Concerns itself with understanding and manipulating genomic sequence information with regards to extracting meaningful information about genes, gene structure, gene regulation, and gene evolution. A bioinformatics approach will be used to identify coding, non-coding and regulatory sequence in a variety of plant and animal species. The course will focus on the kinds of information that can be extracted from large

DNA sequences in order to understand gene function. Particular emphasis will be placed on understanding our genetic predisposition(s) to disease and the relationship of the human genome to the genomes of other organisms. Prerequisites: 50.271, 53.141, and either 50.332 or 50.333, or permission of the instructor.

50.550 Mycology (3) - A critical survey of the kingdom Fungi with emphasis on the Ascomycota, Basidiomycota, and Deuteromycota. Lectures cover morphology, physiology, biochemistry, cytology, genetics, systematics, ecology, and evolution. Laboratory sessions stress comparative morphology of higher fungi, laboratory techniques, and field mycology. Two hours lecture/3 hours laboratory per week.

50.551 Conservation Biology (3) - Presents the science of preserving biodiversity and sustaining the Earth. Draws on and synthesizes information from the fields of ecology, evolution, genetics, philosophy, economics, sociology and political science. Emphasis on the development of strategies for preserving populations, species, biological communities and entire ecosystems in the face of growing human populations and our impact on the environment. Brings scientific principles and theory to the problems of management for preserving the richness of life on Earth. Three hours of seminar per week.

50.552 Limnology (3) - Chemical, biological and physical aspects of freshwater lakes, ponds and streams and their biota. Includes laboratory and field investigations. Two hours of lecture and 8 hours of field work per week (6 week session). Summer session only. Prerequisite: 50.351.

50.559 Ornithology (3) - Presents the biology of birds along with bird identification in the field and from museum collections along with a review of ornithological literature. Emphasis on bird vocalizations, behavior and morphology in making identifications. Students deliver a presentation on an ornithological topic and participate in class discussions. Field trips to study birds of the area also include an extended trip to an area such as Wallops Island, Va. Extra costs will be incurred for the extended trip. Two hours lecture, three hours laboratory per week. Off-campus field trips are required.

50.560 Population Biology (3) - Provides a rigorous treatment of the characteristics of natural populations of animals, plants and fungi. Introduces students to current concepts in speciation, ecological models of population structure and dynamics and principles of population genetics. Stresses current research, theoretical and computational mathematical models and current techniques in the study of populations. Additional time commitments and costs will be incurred for required extended off-campus field trips. Three hours of lecture/discussion per week.

50.561 Animal Behavior (3) - An in-depth introduction to modern behavioral biology, ecology and evolution. Emphasizes current models of animal behavior and theoretical foundations of ethology. Project oriented. Students master appropriate theory, familiarize themselves with appropriate literature and apply principles in project designed by the students under the direction of the professor. Additional time commitments and costs will be incurred for required off-campus field trips. Three hours of lecture discussion, two hours laboratory per week.

50.571 Endocrinology (3) - Studies the individual glands of the endocrine system with respect to their development, morphology, function, regulation, and significance in integrating physiological activities of higher vertebrates. Three hours lecture per week.

50.576 Neurophysiology (3) - Examines normal physiology of the nervous and skeletal muscular systems; specifically studying cellular neurophysiology, muscle contraction, sensory physiology, motor control and their integration. Three hours lecture and discussion per week. Background in mammalian or systemic physiology, biochemistry and anatomy recommended. Prerequisites: 50.474 or 50.573 or equivalent and knowledge of chemistry and electrical circuitry.

50.580 Comparative Animal Physiology (3) - Concerns itself with the adaptation of animals to their environments. Adaptive mechanisms for marine, freshwater, terrestrial and extreme environments will be examined using a combination of morphological, physiological, biochemical, molecular and evolutionary perspectives. The course will focus on a broad range of invertebrate and vertebrate animals with the goal of understanding the physiological and biochemical strategies they have evolved that allow them to successfully thrive within the uniqueness of each environment. Three hours of lecture per week.

50.589 Current Topics in Biology (3) - Critically examines a specialized topic in biology in a lecture/seminar format. Topic varies each semester offered. May be repeated once, provided that the topic is different. Three hours of lecture/seminar per week.

50.591 Directed Study in Biology (3) - An independent investigation, conducted under the direction of a member of the Department of Biological and Allied Health Sciences, in an area of biology in which the student has a particular interest. Student encouraged to identify a problem, employ an experimental design, and analyze collected data. Study of pertinent literature is required.

50.592 Master of Education Thesis (1-6) - Independent research and the preparation of a formal thesis in partial fulfillment of the requirements for the degree of master of education in biology.

50.593 Master of Science Thesis (1-6) - Independent research and the preparation of a formal thesis in partial fulfillment of the requirements for the degree of master of science in biology.

## Geology and Earth Science - ESS (51)

Administered by Department of Geography and Geosciences  
Effective Fall, 2003

51.100 Environmental Geology (3) - Application of geologic knowledge to environmental concerns. Emphasizes energy, soil, mineral and water resources along with Earth processes that are hazardous to humans. An afternoon field trip with a nominal fee is required.

51.101 Physical Geology (3) - Studies the landscape in relation to the structure of the earth's crust; agents at work to change landforms; classification and interpretation of rocks. One semester hour optional lab; an afternoon field trip is required.

51.102 Historical Geology (3) - Examines the evolution of earth and life on earth as interpreted from rock and fossil evidence; particular emphasis is on the geologic history of North America. One semester hour optional lab; afternoon field trip is required.

51.103 Dinosaurs (3) - Designed to use a single broad topic of current popular interest as the basis for exploration of important concepts and/or themes in Earth's history. Dinosaurs and their relatives will be used to illustrate origination and extinction of species through time as well as interaction of organisms with each other and the environment.

51.106 The Planets (3) - Introduces students to the origin, evolution and geology of the solar system, paying particular attention to the terrestrial planets and icy satellites of the outer planets. Emphasis on results returning from recent and current planetary missions.

51.107 Natural Disasters (3) - Principles of Earth's internal and external processes are explored through an examination of their manifestations as naturally-occurring disasters and the resultant impact on human life and property.

51.111 Physical Geology Laboratory (1) - Presents an introduction to the practice of fundamental geology laboratory techniques including qualitative and quantitative analysis. Two hours of laboratory per week. It is recommended that course be taken concurrently with 51.101.

51.112 Historical Geology Laboratory (1) - Provides an interpretation of Earth's history through the identification and

evolution of the rock and fossil record and through the interpretation of geologic maps. Two laboratory hours per week. It is recommended that course be taken concurrently with 51.102.

51.255 Meteorology (3) - Studies the atmosphere via the use of gas laws and the underlying principles of atmospheric change. The field trip component incurs an additional cost to students of approximately \$20 for airfare.

51.259 Oceanography (3) - Provides an introduction to the geologic, chemical and physical aspects of the ocean basins. Emphasizes wave motion, topographic features, ocean basin structure, current circulation and methods of investigation. A weekend field trip is encouraged.

51.260 Earth Materials (4) - Explores the origin, occurrence and identification of the common materials and of igneous, sedimentary and metamorphic rocks, with emphasis on practical means of recognition. Three hours lecture, two hours laboratory per week. Prerequisite: 51.111.

51.261 Mineralogy (Fall) (4) - Reviews the origin, occurrence and identifying characteristics of common minerals. Stresses megascopic and microscopic techniques. Three hours of class, 2 hours of laboratory per week. Prerequisite: 51.101 and 51.111 or permission of the instructor.

51.262 Petrology (Spring) (4) - Presents megascopic and petrographic analysis and identification of rocks with emphasis on field occurrences and associations. Three hours of class, 2 hours of laboratory per week. Prerequisite: 51.261.

51.265 Geomorphology (Fall) (4) - Study of the origin of landforms with emphasis on the geologic processes and structures that generate the landforms and applications of landform analysis. Two-day weekend field trip is required. Three hours of class, 2 hours of laboratory per week. Prerequisites: 51.101 and 51.111 or consent of instructor.

51.320 Remote Sensing of the Earth (3) - Studies the use of remote sensing technology to explore for, monitor and manage Earth's natural resources. Two hours of class, 2 hours of laboratory per week. Prerequisite: 53.112 or higher or consent of the instructor.

51.355 Synoptic Meteorology (3) - Presents observation and analysis of data for understanding and predicting the complexities of the atmosphere. Prerequisite: 51.255 or consent of instructor.

51.360 Introduction to Paleontology (4) - Introduces students to modern concepts and methods in paleobiology using examples from various groups of organisms important in the fossil record. Field trips and laboratory work are an integral part of this course. Prerequisite: 51.102, 51.112 or 50.211 or consent of the instructor.

51.369 Structural Geology (Spring) (4) - Analyzes rock deformation based upon the principles of rock mechanics and the utilization of data from field investigations. Three hours of class, 2 hours of laboratory per week. Prerequisites: 51.101 and 51.111 or consent of instructor.

51.370 Surface Hydrology (Fall) (3) - Study of water movement upon and within the Earth with emphasis on calculations used in flood forecasting, surface water supply and groundwater supply. Two hours of class, 2 hours of laboratory per week. Prerequisite: 51.101 or 51.105.

51.451 Field Techniques in Earth Science (Summer) (6) - Provides intensive field and laboratory training in the use of equipment and techniques in geology, hydrology and cartography. Field trips are integral, vital parts of the course. Prerequisite: 15 semester hours in earth science courses or consent of the instructor.

51.460 Aqueous Geochemistry (4) - Introduces students to basic geochemical properties of surface and groundwater as well as controls on the geochemistry of natural waters. An emphasis is placed on the methods of sampling and analysis of natural waters for chemical species pertinent to environmental and pollution studies. Three hours lecture and two hours laboratory. Prerequisite: 51.261 and 51.216 or permission of the instructor.

51.410 Volcanoes (1) - Explores the composition and processes of the Earth as it relates to the occurrence and activity of volcanoes around the world. Considers styles and hazards of eruptions, the state of prediction and the formation of lava and volcanic rocks. Recommended for in-service and pre-service teachers. Does not satisfy general education requirements. Summer only, three hour class per day for one week.

51.468 Stratigraphy and Sedimentation (Fall) (4) - Studies processes and agents which erode, transport and deposit sediments and the geologic interpretation of the resulting rocks. Three hours of class, 2 hours of laboratory per week. Prerequisite: 51.101 and 51.111, 51.102, 51.112 or permission of the instructor.

51.470 Groundwater Hydrology (Spring) (3) - Covers well hydraulics exploration techniques, groundwater flow theory, development of groundwater supplies and prevention or correction of groundwater pollution. A one- or two-day field trip required. Two hours of class, 2 hours of laboratory per week. Prerequisites: 51.101 and 51.111 and 51.365.

51.475 Independent Study in Earth Science (1-3) - Provides an opportunity for student research in various areas of earth science. Research is conducted under the supervision of a faculty member. See subsection of the catalog on Independent Study. Prerequisite: 21 semester hours in earth science.

51.480 Applied Geophysics (4) - Examines the theory and application of geophysical methods for exploring the Earth's subsurface environment. Emphasis on those tools used by agencies or companies involved in resource and environmental assessment. Three hours of lecture and two hours of laboratory per week. Prerequisites: 51.101, 53.123 and 54.111 or permission of the instructor.

51.490 Special Topics in Geology (3) - Study of a particular concept, problem or special topic or new ideas in any area of earth science. Topic chosen through common interests of the instructor and each student.

51.493 Senior Research in Geosciences (3) - Provides for library and/or field research in geology. Prerequisites: 51.261, 51.262, 51.468 or consent of the instructor.

51.511 Volcanoes (1) - Explores the composition and processes of the Earth as it relates to the occurrence and activity of volcanoes around the world. Considers styles and hazards of eruptions, the state of prediction and the formation of lava and volcanic rocks. Recommended for in-service and pre-service teachers. Does not satisfy general education requirements. Summer only, three hour class per day for one week.

## Chemistry - CHM (52)

Administered by Department of Chemistry

Effective Fall 2003

52.100 Chemistry and the Citizen (3) - Discussion of chemical principles, the importance of chemistry, the use of chemicals and their impact on society and the environment. Three hours of class per week.

52.101 Introductory Chemistry (3) - Presents an introduction to chemistry for students with little or no background in chemistry. Surveys the principles of chemistry with emphasis on the fundamentals of chemical and physical measurements and calculations. Three hours of class per week. Not intended as a beginning course for science majors.

52.108 Physiological Chemistry (Spring) (4) - Surveys the essentials of organic and biochemistry. Includes bonding, structure, nomenclature organic functional group reactions and metabolism of biomolecules. Three hours class, two hours of laboratory per week. Prerequisite: 52.101.

52.115 Chemistry for the Sciences 1 (4) - First semester of chemistry for natural science majors. Surveys principles of classification of

chemical substances, basic types of chemical reactions, stoichiometry, atomic structure, bonding and geometry, thermochemistry and states of matter. Laboratory work supports the study of the topics in the course. Three hours of class and three hours of laboratory per week. Prerequisite: High school chemistry strongly recommended

52.116 Chemistry for the Sciences 2 (4) - Second semester of introductory chemistry for natural science and mathematics majors. Surveys principles of chemical stoichiometry, intermolecular forces, kinetics and thermodynamics as they apply to phase, electrochemical and acid-base phenomena. Laboratory work illustrates chemical principles and emphasizes common chemical measurements. Three hours of lecture and 3 hours of laboratory per week. Prerequisite: 52.115 plus high school Algebra II or equivalent.

52.230 Fundamentals of Organic Chemistry (4) - Emphasizes structure, stereochemistry, functional group organization, physical properties and classical reactivity of organic compounds. Three hours of lecture and 3 hours of laboratory per week. Prerequisite: 52.116.

52.231 Organic Chemistry I (4) - Emphasizes structure and bonding, stereochemistry, nomenclature, physical and chemical properties and modern spectroscopy of alkanes, haloalkanes, alcohols and ethers. Three hours of lecture and four hours of lab per week. Prerequisite: 52.116

52.232 Organic Chemistry II (4) - A continuation of organic topics, building on 52.231, with emphasis on the synthesis and reactions of aromatics, aldehydes, ketones, carboxylic acids, their derivatives, amines, heterocycles and alkaloids. Three hours of lecture, four hours of lab per week. Prerequisite: 52.231

52.251 Inorganic Chemistry (3) - Explores theories and principles of inorganic chemistry: basis coordination chemistry, solid structures, periodic properties, descriptive chemistry of selected elements'; computational applications to inorganic chemistry. Three hours of lecture per week. Prerequisite: 52.116.

52.281 Introduction to Scientific Literature (Spring) (1) - Stresses the use of the library and scientific journals to facilitate the formulation of scientific research proposals and presentations. Experience gained in using the literature to design a senior research project and to make presentations to an audience of faculty and peers. One hour class per week. Prerequisite: Advanced standing as a natural science major.

52.321 Analytical Chemistry I (Fall) (3) - Introduces fundamental principles of chemical analysis utilizing classical wet chemistry and modern instrumental techniques. Stresses laboratory skills in the analysis of common commercial or environmental materials. Two hours of lecture and 4 hours of laboratory per week. Prerequisite: 52.216.

52.322 Instrumental Analytical Chemistry (4) - Presents the theory and laboratory applications of common methods of instrumental analysis. Topics include spectrophotometry, chromatography, mass spectrometry, nuclear magnetic resonance and electrochemistry. A laboratory centered course. Three hours of lecture and 4 hours of laboratory per week. Prerequisites: 52.321 and 52.362 completed or concurrent.

52.341 Biochemistry (4) - Emphasizes structure, reactivity and metabolic reactions of the naturally occurring biomolecules. Discusses selected topics from the various metabolic pathways (both anabolic and catabolic). Introduces biochemical techniques encountered by the modern biochemist. Three hours of lecture and 4 hours of laboratory per week. Prerequisites: 52.232 or 52.230.

52.361 Physical Chemistry I (Fall) (4) - Studies thermodynamics; Gibbs free energy and equilibrium; kinetic theory of gases and solutions; chemical kinetics. Three hours of lecture and 4 hours of laboratory per week. Prerequisites: 52.115, 52.216, 53.225, 54.212.

52.362 Physical Chemistry II (Spring) (4) - Continuation of 52.361; Schrodinger quantum mechanics, solid state, molecular orbital

theory; spectroscopy. Three hours of lecture and 4 hours of laboratory per week. Prerequisite: 52.361.

52.371 Introduction to Polymer Science (3) - An introduction in polymer chemistry, studying the different methods of polymer synthesis and characterization of macromolecules. Emphasis on the molecular structure of these materials and how it relates to physical properties. Prerequisite: 52.232 or 52.230.

52.375 The Chemistry Curriculum and the Teaching Laboratory (3) - Looks at the knowledge base of students and explores ways to apply their knowledge to the teaching of chemistry at the high school level. Includes approaches to teaching specific chemical concepts, design of laboratory and active learning exercises, stockroom procedures, laboratory safety, disposal of chemical waste, concurrent teaching practice and the literature of chemical education. Two hours lecture, three hours lab per week. Prerequisite: admittance to the teacher education program and 52.232 or permission of the instructor.

52.442 Biochemistry II (4) - Continuation of 52-341; amino acid metabolism, photosynthesis, nucleotide metabolism, replication, transcription, translation, control of gene expression, molecular physiology. Laboratory to emphasize enzyme isolation and molecular biology techniques. Three hours of lecture and 3 hours of laboratory per week. Prerequisites: 52.341 or equivalent or consent of the instructor.

52.452 Advanced Inorganic Chemistry (Spring) (4) - Theories and principles of inorganic chemistry; coordination chemistry organometallic chemistry, systematic analysis of periodic relationships and properties of important elements. Three hours of lecture and 4 hours of laboratory per week. Prerequisites: 52.115; 52.362 concurrent.

52.482 Advanced Topics in Chemistry (3) - Advanced course dealing with specialized topics of interest to students in ACS degree track. Subject matter varies. Course may be taken more than once provided subject matter is not repeated. Prerequisite: 52.361.

52.491 Independent Study I: Special Topics in Chemistry (1-3) - Entails a directed laboratory or library oriented investigation of one or more topics of mutual interest to student and instructor.

52.492 Independent Study II: Introduction to Research (1-3) - Requires a search of chemical literature and a written survey report of the search. A detailed plan of research (to be implemented in 52.493) is developed in a second written report. Prerequisite: approval of chemistry department.

52.493 Independent Study III: Chemical Research (3) - Investigations of selected chemical problems for advanced students. Approximately 120 hours per semester. Prerequisites: 52.492, approval of chemistry department.

52.494 Honors Independent Study IV: Chemical Research (3) - The third semester of a laboratory investigation of selected problems under the supervision of a chemistry faculty member. Approximately 120 hours per semester. Prerequisite: enrollment in the honors program.

52.498 Internship in Chemistry (3-15) - A work-study program, this course is not applicable toward a major or minor in chemistry. Prerequisites: approval of chemistry department; junior or senior standing.

## Mathematics - MAT (53)

Administered by Department of Mathematics and Computer Science  
Effective Spring, 2004

53.101 Mathematical Thinking (3) - Presents mathematical topics and applications in a context designed to promote quantitative reasoning and the use of mathematics in solving problems and making decisions. Suitable for majors in humanities, education and others seeking a broad view of mathematics. No background in algebra required.

53.111 Finite Mathematics (3) - Presents an introductory development of counting techniques, probability spaces and game theory. Prerequisite: two years of high school algebra or equivalent.

53.112 Trigonometry (3) - Studies elementary algebraic functions and relations, exponential and logarithmic functions, circular functions and inverse functions and their applications. Prerequisite: 53.114 or two years of high school algebra or high school trigonometry or their equivalent.

53.113 Pre-Calculus (3) - Studies elementary algebraic functions and relations, exponential and logarithmic functions, circular functions and inverse functions and their applications. Prerequisite: 53.114 or two years of high school algebra or the equivalent.

53.109 College Algebra (3) - Studies fundamental algebraic concepts and develops the mathematical and computation skills necessary to apply algebraic techniques to problems in business, economics, the social and natural sciences and the liberal arts. Prerequisite: 1 1/2 years of high school algebra or the equivalent. Not open to students with a C- or higher recorded for 53.113, 53.123 or 53.125.

53.118 Applied Matrix Algebra (3) - Introduces vectors, matrices, linear equations and linear programming with applications to the social and biological sciences and business. Prerequisite: two years of high school algebra or equivalent.

53.123 Essentials of Calculus (3) - Presents the basic concepts of elementary calculus in a nonrigorous approach for students who are not mathematics majors. Pertinent topics in the real number system, analytic geometry, functions and limits prepare the student for the study of the basic techniques of applications of differentiation and integration. Course is not for chemistry, mathematics or physics majors. Prerequisite: At least two years of high school algebra or 53.114 or consent of the instructor.

53.125 Calculus I (3) - Designed to meet part of the major-level mathematics requirement; first in the sequence of four calculus courses. Provides the basic tools for differentiation and the beginnings of integration for functions of a single variable. Prerequisite: placement test or 53.113. TI-89 graphical calculator is required.

53.126 Calculus II (3) - Studies techniques of integration, functions, infinite series, Taylor's theorem, some special differential equations and polar coordinates. Prerequisite: 53.125. TI-89 graphical calculator is required.

53.141 Introduction to Statistics (3) - Presents the concepts necessary to use and understand basic statistical techniques. Topics include: descriptive statistics, probability, random variables, sampling distributions, hypothesis tests, confidence intervals and analysis of variance. Prerequisite: High school algebra.

53.185 Discrete Mathematics (3) - An introduction to set theory, logic, combinatorics and graph theory for those interested in mathematics or computer science. Not usually taken during the freshman year. Prerequisite: 53.125 or consent of instructor.

53.201 Mathematics for Elementary Teachers I (3) - Presents the language of sets, the four elementary operations through the real number system and the elementary theory of numbers. Course is open only to majors in elementary education, special education or communication disorders.

53.202 Geometry and Statistics for Elementary Education Majors (3) - Presents the content of geometry and beginning probability and statistics for the elementary curriculum.

53.225 Calculus III (3) - Presents infinite sequences and series, power series, Taylor and Maclaurin series, three dimensional vector analysis and partial derivatives. Prerequisite: 53.126.

53.226 Calculus IV (3) - Presents an introduction to the differentiation and integration of real valued functions of several variables. Presents curves and parametric equations, surfaces, Taylor's, Stoke's and Green's theorems, functions between Euclidean spaces and multiple integrals. Prerequisite: 53.225.

53.231 College Geometry (3) - Presents elementary geometry from an advanced standpoint. Discusses incidence in the plane and in space, congruence, inequality and similarity concepts. Studies properties of circles, polygons and spheres. Prerequisite: High school geometry, 53.185.

53.240 Statistical Methods (Spring only) (3) - Presents common statistical techniques with emphasis on applications. Topics include: confidence intervals, hypothesis test, regression analysis and analysis of variance. Strongly encourages use of statistical software, especially SAS. Prerequisite: 53.141 or 53.241 or consent of the instructor.

53.241 Probability and Statistics (3) - Calculus-based study of probability and statistics. Topics covered include: descriptive statistics, probability, discrete and continuous random variables, common distributions, sampling distributions, estimation procedures and inferential statistics. A more rigorous course than 53.141. Prerequisites: 53.126 (or concurrent) and 53.185.

53.243 Nonparametrics Statistics (3) - Presents standard nonparametric statistical procedures. After a brief review of hypothesis testing fundamentals, topics such as goodness-of-fit tests, one and two-sample procedures for location parameter, tests of randomness and association analysis are covered. Prerequisites: 53.123 or 53.125 and 53.141 or the equivalent.

53.303 Mathematical Problem Solving for Teachers (3) - Examines mathematical problem solving, number sense, pattern recognition and mathematical reasoning. Basic problem solving, use of manipulatives and assessment are covered. Games involving mathematical problem solving are examined and designed. Requires off-campus observations and testing. For elementary and secondary education majors. Prerequisite: 53.201.

53.310 Introduction to Abstract Algebra (3) - Provides an introduction to the language and methods of abstract mathematics. Subjects include sets, relations, rings, functions, groups and fields. Prerequisites: 53.185 with a minimum grade of C- and 53.225.

53.311 Algebra for Secondary School Teachers (Fall/even-numbered years) (3) - Presents topics of elementary algebra from an advanced viewpoint. Considers topics of contemporary school mathematics programs. Intended for students in secondary education majoring in mathematics. Prerequisite: 53.310.

53.314 Linear Algebra (3) - Studies abstract vector spaces, linear transformation, matrices, determinants, inner product spaces and related topics. Prerequisites: 53.185 and 53.126.

53.322 Differential Equations (3) - Studies elementary ordinary differential equations, infinite series and power series solution, some numerical methods of solution and Laplace transforms. Prerequisite: 53.225.

53.331 Modern Geometry (Spring/odd-numbered years) (3) - Presents non-Euclidean geometries and their development from postulate systems and a formal approach to projective geometry. Prerequisite: 53.231.

53.340 Statistical Software (Fall, even numbered years) (3) - Provides an introduction to the most widely-used statistical software packages in government and industry. Students gain practical experience by solving real-world statistical problems encountered by various government agencies and private companies. Graphical and numerical descriptive procedures and inferential statistical techniques will be discussed. Prerequisite: 53.240.

53.342 Design and Analysis of Experiments (Fall, even-numbered years) (3) - Basic experimental statistics including methods of estimation and hypothesis testing, analysis-of-variance procedures, principles of experimental design, completely randomized and randomized complete block designs, factorial arrangements of treatments, linear regression and correlation analysis, covariance analysis and distribution-free methods. Prerequisite: 53.141 or 53.241 or consent of the instructor.

53.343 Applied Regression Analysis (Fall, odd-numbered years) (3) - A basic course in multiple linear regression methods including weighted least squares, stepwise regression, residual analysis and applications to mathematical models. Treats problems which involve the use of computing equipment. Prerequisite: 53.141 or 53.241 or consent of the instructor.

53.360 Number Theory (Spring only) (3) - Presents the theory of numbers. Includes the topics of Euclidean algorithm, congruences, continued fractions, Gaussian integers and Diophantine equations. Prerequisites: 53.185 and 53.225.

53.361 Coding and Signal Processing (Spring only) (3) - A mathematical approach to codes and ciphers. Includes security codes, coding for efficiency in computer storage, error-correcting codes. Signal processing, including the Fourier transform and digital filters. Individual projects required. Prerequisites: 53.126 and 56.116 or 56.122.

53.373 Numerical Methods in Computing (Fall) (3) - Analysis and application of various methods of numerically solving problems in the areas of nonlinear equations; systems of equations, interpolation and polynomial approximation; numerical integration; approximation theory; and differential equations. Students design and execute algorithms on the computer for specific numerical procedures. Prerequisites: 56.121 and 53.126.

53.374 Introduction to Discrete Systems Simulation (Spring/odd-numbered years) (3) - Studies the ways that systems can be modeled for computer solution. Emphasizes stochastic behavior by discrete random processes and the simulation tools for their solution. Prerequisites: One course each in calculus, programming and statistics.

53.381 Introduction to Operations Research (Fall/odd-numbered years) (3) - A survey of the methods and models used in applying mathematics to problems of business. Topics drawn from decision making, linear and dynamic programming, networks, inventory models, Markov processes and queuing theory. Prerequisites: 53.118 and 53.123 or 53.225.

53.410 Mathematical Modeling (3) - A synthesis of mathematical methods utilized to model and solve real-world problems. The emphasis is on developing models that provide the means to analyze and answer questions posed in practical settings. A problem-solving approach toward applied problems in optimization, dynamical systems, and stochastic processes. Prerequisites: 53.241, 56.122 or higher, 53.314.

53.411 Introduction to Group Theory (3) - Continued and advanced study of theorems and applications of group theory begun in abstract algebra. Prerequisite: 53.310.

53.421, 53.521 Advanced Calculus (Spring, even numbered years) (3) - Presents a rigorous treatment of the study of functions of a single real variable. Topics include limit, continuity, derivative and integration. Some topics for multivariable calculus include partial differentiation and multiple integration. Prerequisites: Analysis IV, Permission of Instructor.

53.422 Complex Variables (Fall, odd numbered years) (3) - A rigorous treatment of complex numbers and an introduction to the theory of functions of a complex variable. Central topics are the complex number system, analytic functions, harmonic functions and conformal mappings. Additional topics may include power series, contour integration, Cauchy's formula and applications. Prerequisites: 53.226, consent of instructor.

53.441 Mathematics and Sports (Fall, even numbered years) (3) - Links between mathematics, statistics and sports; includes data analysis and modeling related to the various facets and types of sports using certain mathematical and statistical techniques. Sports used as examples include basketball, tennis, volleyball, track and weightlifting.

53.446 Biostatistics (3) - An introduction to the concepts and methods of advanced statistical techniques that arise in health and

life sciences with emphasis on problems that are likely to be encountered by graduate researchers in biological sciences. It includes methodologies for design and analysis of multivariate data. The use of statistical software to analyze data sets is stressed.

53.451 Introduction to Topology (3) - Introduces fundamentals of general topology; elementary set theory, topological spaces, mappings, connectedness, compactness, completeness, product and metric spaces; nets and convergence. Prerequisites: 53.226, consent of instructor.

53.456 The Theory of Computation (Spring, odd-numbered years) (3) - An introduction to automata, formal languages and computability. Topics include finite automata, pushdown automata, context-free grammars, Turing machines, algorithmically unsolvable problems and computational complexity. Prerequisites: 53.185 and 56.112 or consent of the instructor.

53.461, 53.561 Probability Models and Applications (Spring, even-numbered years) (3) - An introduction to the concepts and methods of probabilistic modeling for random trials and occurrences. It covers classical models, poisson processes, Markov chains, Renewal and Branching processes and their applications to various phenomena in engineering, management, physical and social sciences. Prerequisite: 53.241.

53.462 Introduction to Mathematical Statistics (Spring, even-numbered years) (3) - An introductory study of mathematical statistics including distributions of functions of random variables, interval estimation, statistical hypotheses, analysis of variance and the multivariate normal distribution. Prerequisite: 53.241.

53.471 Numerical Analysis (3) - Provides a computer-oriented analysis of algorithms of numerical analysis. Includes the topics of non-linear equations, interpolation and approximation, differentiation and integration, matrices and differential equations. Prerequisites: 53.322 and 53.373.

53.472 Matrix Computation (Spring/odd numbered years) (3) - Presents a computer-oriented analysis of matrices. Includes Gaussian reduction, LDU factorization, special reduction techniques for tridiagonal matrices, iterative methods and a study of the matrix eigenvalue problem. Prerequisites: 53.225 and 53.373.

53.491 Special Topics in Mathematics (3) - Presents an area of mathematics which is not available as a regular course offering. Prerequisite: Consent of the instructor.

53.492 Independent Study in Mathematics (1-3) - Provides for directed study of a particular area of mathematics as mutually agreed upon by the student and the instructor. Emphasizes individual scholarly activity of the highly motivated student.

53.493 Honors in Independent Study in Mathematics (3) - For students who have demonstrated a high level of interest and ability in mathematics and have mastered the required course work. Students investigate research problems selected under the supervision of a faculty member of the Department of Mathematics and Computer Science. Prerequisite: Admission to the Honors Program in natural sciences and mathematics.

53.497 Internship in Mathematics (2-12) - Provides mathematics majors with an opportunity to acquire meaningful and professional on-site training and learning experiences in mathematics at an industrial, private or business workplace. Note: a student may, with departmental approval, apply a maximum of 3 credits of internship toward the fulfillment of the mathematics major. Each academic credit requires 40 hours of supervised work and the limit is 12 total semester hours for internships. Prerequisites: students must establish adequate course preparation for the proposed internship. Internship applications must be submitted one month before the internship begins and must be approved by the department chairperson.

53.500 Research and Communication in Applied Mathematics (3) - Practical information for scientists about research and technical writing. A study of how to prepare a manuscript and an introduction to certain basic communication principles that are accepted in most

disciplines. Prerequisites: Calculus I, II, III, Probability and Statistics

53.520 Mathematical Modeling (3) - An introduction to the concepts and methods of mathematical modelling with emphasis on the problems that arise in governmental and industrial projects. It includes modelling process, model construction including numerical considerations, testing the appropriateness of the models, model analysis and model research. Prerequisites : Calculus I, II, III or permission of instructor

53.522 Applied Differential Equations (3) - Presents an advanced treatment of differential equations including systems of linear differential equations, systems of nonlinear differential equations, and boundary value problems and their solutions, asymptotic behavior and applications. Prerequisite: Analysis III

53.541 Applied Statistics (3) A comprehensive treatment of applications of statistical methodology in practice, and development of statistical techniques for real world problem solving. Prerequisite: A first course in statistics.

53.542 Design and Analysis of Experiments (3) - Basic experimental statistics including analysis-of variance procedures, principle of experimental design, completely randomized and randomized complete block designs, factorial arrangements of treatments, linear regression and correlation analysis, covariance analysis and distribution-free methods and the Taguchi approach to parameter design.

53.543 Regression (3) - An in-depth, modern, applied approach to the study of multiple linear regression analysis. Topics include simple linear regression, inferences in regression analysis, examination of residuals, multiple regression, and model selection procedures. Prerequisites: Calculus I, II, III, Probability and Statistics

53.544 Statistical Quality Control (3) - Presents the modern practice of statistical quality control with a strong engineering and management orientation. Prerequisite: Probability and Statistics, Applied Statistics

53.545 Time Series Analysis and Its Application (3) - A survey of time series models, their statistical analysis and applications. It includes investigation of trend, seasonal variations, serial dependency and stationarity, and covers estimation, forecasting, and identification techniques for stationary and nonstationary autoregressive, moving average, and mixed models and related computational problems.

53.546 Biostatistics (3) - An introduction to the concepts and methods of advanced statistical techniques that arise in health and life sciences with emphasis on problems that are likely to be encountered by graduate researchers in biological sciences. It includes methodologies for design and analysis of multivariate data. The use of statistical software to analyze data sets is stressed.

53.563 Nonparametric Statistics (3) - Presents a comprehensive account of statistical inference using nonparametric approaches. Attempts to provide modern nonparametric techniques for data analysis with a view towards application. Prerequisite: Applied Statistics

53.572 Operations Research (3) - Presents the principles of mathematical modeling applied to man-machine systems. Special emphasis will be given to mathematical programming models including linear and integer programming. Optimal decision models will be a focus of the course Mathematical Software. Prerequisite: Graduate Standing

53.574 Advanced Discrete Mathematics (3) - Includes discussion of topics such as combinatorial analysis (enumeration of various types of objects), discrete structures (for example, sets, relations, graphs, and finite state machines), algorithmic thinking (development, implementation, and verification of algorithms) and applications of these ideas to diverse fields (such as business, linguistics and the sciences). Prerequisites: 56.121 (Computer Science 1), 53.125

(Calculus 1), 53.185 (Introduction to Discrete Mathematics), 53.310 or 53.314 or 53.360

53.576 Computer Graphics for Instructional Applications (3) - Sequel to 53.375 where techniques for creating color, graphics, and sound are examined and applied to the development of instructional computing programs.

53.592 Special Topics (3)

53.471, 56.571 Numerical Analysis (3) - A graduate level course in numerical analysis in the areas of nonlinear equation and systems of equations, interpolation theory, numerical integration, differential equations, numerical solution of linear systems, and the matrix eigenvalue problems. The original problems to be solved and the numerical methods will be studied, including the derivation of the method, error analysis, convergence analysis, and computational implementations. Prerequisites: Calculus III, Fortran, and an elementary numerical method course (or permission of instructor)

## Physics - PHY (54)

Administered by Department of Physics and Engineering Technology  
Effective Spring 2004

54.101 Basic Physical Science (3) - An introductory integration of concepts and principles from chemistry, physics and astronomy, with consideration for the nature of scientific thought and the interaction of science with human and community concerns. For nonscientists.

54.103 Principles of Physical Science (3) - An integrated physical science course emphasizing laboratory experience. Provides an introduction to the basic concepts of physical science by studying such topics as the structure and properties of matter, motion and forces, energy, light and sound, electricity and magnetism and astronomy. For elementary and special education majors. Four hours class/laboratory per week.

54.104 Elementary Electronics (3) - An introduction to basic electronics that gives students in nonphysical science areas some theoretical and practical knowledge of electronic circuits, instruments and devices. No experience of physics or electronics required.

54.105 Energy: Sources and Environmental Effects (3) - Explains energy in elementary scientific terms and examines present national and international energy situations in regard to sources, utilization and environmental effects. Surveys fossil fuels and nuclear, solar, geothermal and other energies with respect to availability and promise for the future.

54.106 The Science of Sound (3) - Provides an introduction to the principles of sound and its reproduction for students in nonphysical science disciplines. Knowledge of basic algebra required, but no experience in physics or electronics necessary.

54.107 Applied Physics for Health Sciences (4) - Studies selected principles of physics with applications to the processes and instrumentation of medical technology. Examines mechanics, fluids, kinetic energy and heat, optics, electricity and magnetism, electronics, atomic structure, radiation and data acquisition and readout. Six hours per week: 3 classes, 3 laboratories.

54.110 Introduction to Astronomy (3) - Surveys the physical state of the universe and the variety of objects it comprises: solar system, stars and galaxies. Provides a descriptive account of the present state of our knowledge of the cosmos and an understanding of how such knowledge is obtained. Intended for nonscience majors.

54.111 Introductory Physics I (4) - Presents an approach to selected topics such as mechanics, heat, kinetic theory, molecular theory of gases, wave motion and sound. Not intended for students specializing in physics or chemistry. Six hours per week: 3 classes, 3 laboratories.

54.112 Introductory Physics II (4) - Studies electricity, magnetism, light, relativity, quantum and atomic theory, structure of matter, nuclear physics and particle physics. Continuation of 54.111. Six

hours per week: 3 classes, 3 laboratories. Prerequisite: 54.111 or consent of instructor.

54.210 Observational Astronomy (3) - Provides hands-on experience in observations of the night sky. Focuses on the interpretation of astronomical measurements, including the students' own telescopic observations of stars, planets, nebulae and other objects. Open to non-science majors. Prerequisite: 54.110 or consent of instructor.

54.211 General Physics I (4) - An introduction to physics using calculus. Studies mechanics, the physics of fluids, kinetic theory, heat and thermodynamics. Appropriate for physical science or mathematics majors. Six hours per week: 3 classes, 3 laboratories. Prerequisite: 53.125 or concurrent registration.

54.212 General Physics II (4) - Studies wave motion, sound, geometrical and physical optics, electricity and magnetism. Continuation of 54.211. Six hours per week: 3 classes, 3 laboratories. Prerequisites: 53.126 or concurrent registration; 54.211 or 54.111 with consent of instructor.

54.301 Mechanics: Statics (3) - Introduces the fundamentals of statics, with an emphasis on vector methods, at a level appropriate for physical science majors and for students considering a career in the engineering field. Prerequisites: 53.126 or concurrent registration; 54.211 or 54.111 with consent of instructor.

54.302 Mechanics: Dynamics (3) - Introduces the fundamentals of dynamics, with an emphasis on vector methods, at a level appropriate for physical science majors and for students considering a career in an engineering field. Prerequisites: 53.225 or concurrent registration; 54.212 or 54.112 with consent of the instructor.

54.310 Modern Atomic Physics (3) - Presents some of the basic concepts and phenomena that constitute modern physics, including studies of the quantum nature of radiation, atomic structure and spectra, X-rays, relativity, wave-particle duality, the uncertainty principle and a brief introduction to nuclear physics and radioactivity. Prerequisite: 54.212 or 54.112 with consent of instructor, 53.126.

54.314 Electricity and Magnetism (3) - Studies electric and magnetic fields and potentials, electric and magnetic properties of matter, electrodynamics and electromagnetic waves. Prerequisites: 54.212 or 54.112 with consent of instructor, 53.225.

54.315 Electronics (4) - Presents the theory and application of semiconductors with special emphasis on circuitry. Studies basic electronic instrumentation as related to the gathering, processing and display of scientific data in any discipline. Six hours per week: 3 classes, 3 laboratories. Prerequisite: 54.112 or 54.212 or 58.141.

54.316 Digital Electronics (3) - An introduction to the techniques and devices of digital electronics. Includes practical experience of the building and testing of digital circuits. Supplies the background necessary for the understanding of microprocessors and computer circuits. Prerequisite: junior standing or consent of instructor.

54.317 Computer Electronics (3) - An introduction to the electronics and operation of digital computers. Intended for students with a background in digital circuitry. Includes practical experience of the operation and interfacing of microprocessors and other devices. Prerequisite: 54.316 or consent of instructor.

54.318 Optics (4) - Presents a combination of geometrical optics including lens theory with physical (wave) optics including diffraction, interference, polarization, lasers and coherent light. Six hours per week - 3 classes, 3 laboratory. Prerequisite: 54.212 or 54.112 with consent of the instructor.

54.320 Nuclear Radiation I (2) - Presents a laboratory-oriented course using modern nuclear electronics and detectors for measuring and analyzing nuclear radiation. Four hours per week: one class, 3 laboratories. Prerequisite: 54.310 or concurrent registration.

54.330 Radiation Physics (3) - Presents properties and models of nuclei, radioactive decay, radiation and its interaction with matter and nuclear applications. Prerequisite: 54.310 or concurrent registration.

- 54.340 Astrophysics: The Stars (3) – Focuses on a physical interpretation of the nature of stars (including the sun), their structure and evolution, and on the techniques used in interpreting the radiation we receive from them. Three class hours per week. Prerequisites: 53.126 and 54.112 or 54.212.
- 54.341 Astrophysics: Galaxies and Cosmology (3) - Focuses on objects outside of our own galaxy, discusses emission mechanisms from other types of galaxies including normal spirals, seyferts and quasars. Structure of the universe as a whole is described using various cosmological models. Prerequisites: 53.126 and 54.112 or 54.212.
- 54.360 Health Physics (3) - Presents a study of the principles of health physics, including biological effects of radiation, dosimetry, radiation measurement and radiation protection. Prerequisite: 54.310 or concurrent registration.
- 54.400 Advanced Physics Laboratory (2) - Presents the basic tenets of lab work in physics, involving considerations of experimental error, proper research and preparation of an experiment. Includes experiments primarily from the areas of atomic physics, electricity, magnetism and optics. Four hours per week: one class, 3 laboratories. Prerequisites: 54.310.
- 54.420 Nuclear Radiation II (2) - A laboratory course which presents advanced techniques of nuclear measurement and includes applications involving environment monitoring and health physics. Four hours per week: one class, three laboratories. Prerequisite: 54.320 or consent of instructor.
- 54.421 Solid State Physics (3) - Examines physical properties of matter in the solid state. Reviews basic quantum concepts, crystal structure, electrons in metals, electrical conductivity, semiconductors, band theory and the p-n junction. Studies dielectric and magnetic properties of matter. Three hours of class per week. Prerequisite: 54.310, 54.314; Mathematics 53.225.
- 54.422 Thermodynamics (3) - Presents concepts and principles of classical thermodynamics, thermodynamics of simple systems, introduction to kinetic theory and statistical thermodynamics. Three hours of class per week. Prerequisite: 54.212 or 54.112 with consent of instructor; Mathematics 53.225.
- 54.450 Introduction to Quantum Mechanics (3) - Examines the development and interpretation of Schrodinger's wave mechanics, its mathematical formalism and the results and predictions of this quantum theory as applied to one-dimensional systems, the hydrogen atom and multi-electron atoms. Three hours class per week. Prerequisite: 54.310; Mathematics 53.225.
- 54.460 Applied Health Physics (3) - Presents advanced topics involving health physics principles and radiation protection standards as applied to science, industry and medicine. Prerequisite: 54.360 or consent of instructor.
- 54.482 Health Physics Research I (1-3) - Provides for an application of theoretical and/or experimental research methods to a special problem in Health Physics. A written report is required. May be interdisciplinary. A plan, acceptable to the student and the supervising instructor, must be approved in advance by the department chairperson. Prerequisites: Junior standing. Pre-registration approval by the department chairperson of a plan prepared by the supervising instructor and student.
- 54.482 Health Physics Research I I (1-3) - Provides for an application of theoretical and/or experimental research methods to a special problem in Health Physics, beyond the experience of Health Physics Research I. A written report is required. May be interdisciplinary. A plan, acceptable to the student and the supervising instructor, must be approved in advance by the department chairperson. Prerequisites: Junior standing. Pre-registration approval by the department chairperson of a plan prepared by the supervising instructor and student.
- 54.488 Health Physics Internship (3-12) - Provides on-site work experience and training to give the student an opportunity to apply theoretical and descriptive knowledge acquired in health physics. An internship application must be completed and approved. Course offered under pass/fail only basis. A maximum of six credit hours may be applied to the major requirements of the Health Physics degree. Prerequisites: Health Physics major with junior or senior standing. Before registration, the student and the supervising instructor must submit an internship proposal form, which must be approved by the chairperson of the Department of Physics and Engineering Technology, the university internship director, and the dean of the College of Science and Technology. An initial written agreement between the student and the instructor will address course outline, methods and evaluation procedures.
- 54.490 Seminar in Physics (1) - A selected topic in physics is studied and prepared in a form suitable for presentation. Student attends and participates in physics seminars and makes a presentation in the same semester of enrollment in the course.
- 54.491 Independent Study in Physics (1-3) - Investigates an area of special interest and value to the student, under the direction of a faculty member, following a plan approved in advance by the department chairperson. May be partly interdisciplinary and may involve limited experimental work.
- 54.492 Physics Research I (1-3) - Provides for an application of theoretical and/or experimental research methods to a special problem. May be interdisciplinary. Requires the preparation of a report and a plan, approved in advance by the department chairperson, which is acceptable to the student and the supervising faculty member.
- 54.493 Physics Research II (1-3) - Provides for an application of theoretical and/or experimental research methods to a special problem, beyond the experience of Physics Research I. May be interdisciplinary. Requires the preparation of a report and a plan, approved in advance by the department chairperson, which is acceptable to the student and the supervising faculty member. Prerequisites: junior standing. Pre-registration approval by department chair of a plan prepared by the supervising instructor and student.
- 54.494 Honors Independent Study in Physics (3) - Provides the qualified student with an opportunity to participate in an advanced experimental or theoretical investigation of a current problem in physics, under the supervision of a physics faculty member having expertise in the student's proposed research area.
- 54.498 Physics Internship (3-12) - Provides on-site work experience and training to give the student an opportunity to apply theoretical and descriptive knowledge acquired in physics. An internship application form must be completed and approved. Course offered under pass/fail only basis. A maximum of six credit hours may be applied to the major requirements of the Physics degree. Prerequisites: Physics major with junior or senior standing. Before registration, the student and the supervising instructor must submit an internship proposal form, which must be approved by the chairperson of the Department of Physics and Engineering Technology, the university internship director, and the dean of the College of Science and Technology. An initial written agreement between the student and the instructor will address course outline, methods and evaluation procedures.
- 54.502 Energy Seminar for Teachers (3) - Provides educators with up-to-date information about electricity production, nuclear power, and associated issues from several perspectives. Seminar will be held for six full weekdays, primarily at the PPL Susquehanna Steam Electric Station, the nuclear power plant near Berwick. Laboratory will be held at Bloomsburg University. Seminar sessions include lectures from BU faculty, presentations by experts in the field, discussions, laboratory activities and tours. Guest speakers will be invited from PPL, educational and technical fields, nuclear industry agencies and consumer protection groups. Prerequisites: graduate standing, no previous science or mathematics required. Not intended for science majors.

## Marine Science - MRS (55)

Administered by Department of Biological and Allied Health Sciences and Department of Geography and Earth Science

Effective Fall, 2004

Marine Science Courses are offered during the summer at the Marine Science Center in Wallops Island, Virginia. Bloomsburg University and other institutions are members of the consortium that operates the center. Courses are offered which satisfy requirements for biology majors, for earth science majors and for general education. Specific courses satisfy requirements for the Marine Biology Option in Biology. Other courses provide earth science majors experiences which are not available on the main campus. For more information, contact the Marine Science coordinators in the Departments of Biological and Allied Health Sciences and Geography and Earth Sciences.

55.110 Introduction to Oceanography (3) - An introduction to the marine sciences with an emphasis on physiography of ocean basins, wave motion, tides, current circulation patterns, near-shore processes, physical and chemical nature of sea-water and methods of investigation.

55.211 Field Methods in Oceanography (3) - Familiarizes students with the dynamic marine environment and with work on board a research vessel. Introduces the use and application of standard oceanographic instruments and sampling devices. Independent research is promoted and encouraged. Prerequisite: 51.259 or 55.110.

55.221 Marine Invertebrates (3) - A study of the life, history, habits origin, development, physiology, anatomy and taxonomy of the main phyla of invertebrates. A phylogenetic sequence is followed to show interrelationships among the phyla. Special emphasis is given to the Atlantic marine invertebrates. Laboratory and field work deal with collection, preservation and identification of local species. Prerequisite: 50.110, 50.120 or consent of the instructor.

55.241 Marine Biology (3) - A study of plant and animal life in the marine environment. Emphasis on physical and chemical environmental factors affecting the biota in the intertidal, open water and benthic habitats. Common biota characteristics of each habitat will be investigated in terms of their natural history, morphology and ecological relationships. Prerequisite: 50.110, 50.120 or consent of the instructor.

55.250 Wetlands Ecology (3) - Biological, chemical and geological characteristics of coastal wetlands. Considers the structure and function of wetlands, human impacts on wetlands and approaches for wetland management and restoration. Laboratory consists of field exercises in the study of wetlands. Prerequisite: 50.110, 50.120.

55.260 Marine Ecology (3) - Interrelationships among animals, plants and physical and chemical aspects of the environment studied, with stress on adaptations for survival that are unique to the marine environment.

55.270 SCUBA Diving (3) - Basic SCUBA diving coupled with advanced techniques. Leads to open-water certification. Prerequisite: Swimming Proficiency and physicians certification of fitness for SCUBA are required.

55.300 Behavior of Marine Organisms (3) - Concepts of ethology; discussion and observation of the influence of external and internal factors on the regulation; and control of behavior of organisms living in the marine coastal environment. Prerequisite: 50.110.

55.320 Marine Microbiology (3) - A survey of methods and concepts of marine microbiology. Focus on the technical aspects of sample collection, microbial ecology of the marine environment, enrichment culturing and methods of enumeration and identification with emphasis on marine bacteria. Prerequisite: 50.110, 50.120.

55.330 Tropical Invertebrates (3) - Introduction to tropical invertebrates, using a variety of collection and observation methods to sample nearshore and reef areas. Emphasis on systematics and

ecology using the communities approach. One week at Wallops Island, Va., for intensive review of general systematics and ecology of marine invertebrates; then two weeks in Florida sampling and identifying species and describing ecological communities. Course is a sequel to marine invertebrates or a landlocked invertebrate zoology course or a thorough landlocked zoology course. Prerequisites: 55.221 or 50.211.

55.331 Chemical Oceanography (3) - A field-based study of ocean, bay and estuarine environmental chemistry. Develops and awareness of the relationships between chemical, geological and biological environments. Investigates the chemical compositions of waters and substrata and biogeochemical processes and cycles. Prerequisite: 52.215.

55.342 Marine Botany (3) - Taxonomy, physiology, ecology and economic importance of marine and coastal plants as exemplified by those found on the Delmarva Peninsula. Laboratory techniques include collecting, preserving, identifying and analyzing plants and plant materials, appropriate instrumentation to be used. Emphasis on in-the-field studies and laboratory analyses. Prerequisite: 50.110, 50.120.

55.343 Marine Ichthyology (3) - A study of the internal and external structure of fishes, their systematic and ecological relationships and their distribution in time and space. Prerequisite: 50.110, 50.120.

55.345 Ornithology (3) - Introduces avian fauna of the sea coast and enables comparison with inland species. Field work provides visual and vocal identification; lecture material includes information on distribution, behavior, physiology and anatomy of birds. Prerequisite: 50.110, 50.120.

55.362 Marine Geology (3) - Structure and sedimentology of ocean basins and shores. Presents methods of geological exploration in the marine environment, features of ocean basins and theories of ocean basin evolution. Prerequisite: 51.101, 51.102, 51.111, 51.112 and 51.259 or 55.110.

55.364 Physical Oceanography (3) - A study of the physical properties of the oceans including: mass and energy budgets; theory of the distribution of variables; cause, nature, measurement, analysis and prediction of tides, currents and waves; and basic instrumentation in field work. Prerequisite: 51.259 or 55.110 or 53.125 and 54.112 or permission of instructor.

55.394 Comparative Physiology of Marine Organisms (3) - This course will provide an introduction to the physiology of marine organisms utilizing a comparative approach. The lecture will introduce the topics of respiration, circulation, metabolism, osmoregulation, thermoregulation, locomotion and sensory systems by drawing comparisons between the mechanisms and strategies utilized by a wide range of marine organisms. Laboratory and field work will focus on the physiological responses of marine plants and animals to common environmental stresses such as salt load, temperature variation, depletion of dissolved oxygen and tidal flux. This will be accomplished through measurements and observations in the field, as well as through experimental manipulations in a laboratory setting. Prerequisite: 50.110, 52.115, 52.131, 55.241 or permission of instructor.

55.430 Coastal Sedimentation (3) - A study of depositional environments of marine dominated shorelines, sediments, sedimentation processes, sedimentary facies, models of rock record growth, barrier island dynamics and development of tidal deltas. 51.101, 51.102, 51.111, 51.112 or permission of instructor.

55.431 Ecology of Marine Plankton (3) - Studies phytoplankton and zooplankton in marine and brackish environments. Qualitative and quantitative comparisons made between the plankton populations of various types of habitats in relation to primary and secondary productivity. Prerequisites: 50.110, 50.120.

55.432 Marine Evolutionary Ecology (3) - The study of the ecological mechanisms underlying evolutionary processes. This course is broad in scope and requires that students synthesize both evolutionary and ecological concepts and theory into an

understanding of how organisms adapt to their environment. Marine, estuarine and maritime organisms are used as model systems and processes which affect marine populations are emphasized.

55.441 Biology of Molluscs (3) - An evolutionary, functional and ecologic approach to studying the second largest group of animals and perhaps the most diverse in terms of morphological, ecological and behavioral variations. Prerequisites: 50.110, 50.211 recommended.

55.459 Coastal Geomorphology (3) - Study of coastal geomorphology with an emphasis on Late Cenozoic and Pleistocene sea and lake-level changes in response to world-wide glaciation. Students participate in field studies of Pleistocene deposits and the weathering and erosion of these deposits. Prerequisite: 51.101, 51.102, 51.111, 51.112 .

55.464 Biological Oceanography (3) - Interdisciplinary study of the interactions between biological communities and the ocean environment as seen by distributions of coastal plankton, fish and benthic invertebrates. Projects involve boat trips to sample populations and to quantitatively document environmental variables with state-of-the-art equipment, laboratory and field experiments to determine rate processes and visits to nearby field and government laboratories. Examples of project topics include transport of plankton at barrier island passes, effect of submarine banks on fish populations, ground truth data for satellite imagery and other current topics in biological oceanography. Prerequisite: 50.110, 50.120, 50.242. Recommended: 51.259 or 55.110.

55.470 Research Diver Methods (3) - Study and practice of aquatic research methods using SCUBA as a tool. Advanced research diving topics include areas such as navigation, search and recovery, underwater photography, survey methods, estimating population parameters and data acquisition while under water. Specific research techniques will be presented in the context of specific aquatic research projects conducted by students under the direction of the instructor. Prerequisite: 50.110 and Basic SCUBA Certification (NAUI, PADI, SSI).

55.490 Marine Aquaculture (3) - This course includes the theory and practice of raising organisms for food and for the aquarium trade. Techniques of raising economically important organisms from the egg stage to marketable size and their food supplies are studied.

55.491 Coral Reef Ecology (3) - A study of coral reef structure, formation, types and the relationships of reef organisms to their environment. Emphasis is given to species diversity, identification, symbiosis and effects of temperature, salinity, light, nutrient concentration, predation and competition on the abundance and the distribution of coral reef organisms. Prerequisite: 50.110, 50.120 and SCUBA and/or snorkeling experience.

55.492 Marine Mammals (3) - A study of the distribution, population ecology, behavior, physiology and adaptations of marine mammals. Student projects entail collecting physiological and behavioral data at field sites and at facilities studying marine mammals. Prerequisite: 50.110, 50.120, 50.212 or 50.361 recommended; preferences given to undergraduate senior students in registering.

55.500 Problems in Marine Science (3) - Graduate students may pursue one of the following options: Option A - Enroll in 200, 300, or 400 level course offered at the Marine Science Center in which they desire advanced work and complete, in addition to the regular course requirements, an approved project in the area under the direction of the instructor. Written permission from the instructor is required. OR - Option B - Enroll in an Independent Research Project. To be admitted, a student must submit a research proposal to the academic committee of the Marine Science Consortium. The proposal must include the scope and duration of the proposed research, equipment and facilities required, and a recommendation and approval from the student's academic adviser. Requires written permission for graduate credit acceptability from the chairperson of the graduate committee of the Department of Biological and Allied Health Sciences before registering. Copies of this approval and the

instructor's permission must be forwarded to the vice president for research of the Marine Science Center before the student arrives on station to take the course.

55.540 Environmental Science Education (3) - Field-oriented approach to environmental education with special emphasis upon coastal zones. Students relate their own disciplines to education for quality environments. Consideration will be given to sources, facilities, methods, techniques, and concepts used in environmental education.

55.541 Biology of Mollusca (3) - The Mollusca is the second largest group of animals and perhaps the most diverse in terms of morphological, ecological and behavioral variations. This course offers an evolutionary, functional and ecological approach to studying this important group of organisms.

55.570 Research Cruise - Biology (3) - A three-week session involving planning and preparations for an oceanographic research cruise of approximately eight days, actual execution of the cruise plan on board an ocean research vessel. Introduces data-processing techniques and instrumentation used by biological oceanographers. Prerequisite: 55.241 or its equivalent, or permission of the instructor.

55.593 Behavioral Ecology (3) - Designed to present animal behavior within an ecological and evolutionary context. Presents mathematical and theoretical framework of behavioral ecology. An in-depth exploration of the ways in which the behavior of animals is influenced by the environment, especially with regard to resource distribution.

## Computer Science - CPS (56)

Administered by Department of Mathematics, Computer Science and Statistics  
Effective Fall, 2003

56.110 Introduction to Computer Science (3) - Presents an introduction to computers and data processing - what they are, how they function, how they are controlled and how they are used in problem solving. Basic concepts include hardware, I/O systems, data communication and storage, flow charting and programming in BASIC on a microcomputer. Hands on experience with word processing, spreadsheets and data base software is required. Not appropriate and credit for 56.110 will not be given to a student who has taken Computer and Information Systems 92.150.

56.116 Algorithmic Processes for Computers (3) - Emphasizes concepts of FORTRAN 77; input and output, program documentation and control, structured programming, extended modes of arithmetic, character strings and program development and execution. May not be used toward the Computer Science major. Prerequisite: Programming experience or consent of the instructor.

56.121 Computer Science I (4) - A programming course for students with no prior programming experience. Teaches students how to write programs to solve problems using Java language. Problem solving methods are presented and some basic object-oriented programming design issues are discussed. Students given extensive "hands-on" experience with guidance from the instructor Prerequisite: 56.110 or the equivalent.

56.122 Computer Science II (4) - A continuation of Computer Science I. Emphasizes software engineering principles in the context of programming. Elementary program performance analysis is performed. Class covers searching and sorting algorithms. Pointers and dynamic structures: linked lists, stacks, queues and binary trees will also be studied. Advanced object oriented design methodologies and recursion will be introduced. Prerequisite: 56.121.

56.221 Computer Science III (4) - Increases the students breadth and flexibility as a programmer and is a prerequisite for most 300 and 400 level courses in computer science. Covers C and C++ languages as well as editing, compiling and debugging in a Unix environment. Introduces nonlinear data structures and hashing and emphasizes object oriented programming and design. Prerequisite: 56.122.

56.240 Assembly Language Programming (3) - Advanced topics in programming with a microcomputer, introductory concepts of microcomputer architecture, operating systems and machine and assembly language for microprocessors. Prerequisite: 56.122.

56.250 Programming Language Paradigms (3) (Spring) - Gives an introduction to the functional, logical and object oriented programming language paradigms. Entering students should already have at least one year of experience with a block structured procedural language. Course gives students a better understanding of programming languages in general and will specifically lead to an understanding of how to use a specific language from three different programming language paradigms to solve programming problems. Prerequisite: 56.221.

56.305 Computer Applications in Secondary School Mathematics (Spring) (3) - Studies the theory, design and usage of a computer as an instructional or training tool. Uses microcomputer to demonstrate and develop software applications. Prerequisite: 56.121.

56.323 Artificial Intelligence (3) (Fall, even numbered years) - Provides an understanding of the philosophy, content, methods, successes and failures of artificial intelligence. Course includes history of artificial intelligence, knowledge representation, game playing, expert systems, logic and theorem proving, search strategies, natural language processing, neural networks, genetic algorithms and problem solving. Prerequisite: 56.221

56.330 Digital Design (Spring) (3) - Design of combinational and sequential circuits. Coding, various instruction formats and representation of data. Memory, central processors, input-output devices. Introduction to computer architecture. Characteristics and features of some existing computer systems. Prerequisites: 56.122, 53.185, 56.240

56.350 Organization of Programming Languages (Fall) (3) - An introduction to the issues of programming languages: syntax, semantics, parsing, language specification and analysis. Emphasis on the run-time behavior of programming language constructs. Prerequisite: 56.250.

56.355 Analysis of Algorithms and Data Structures (Spring) (3) - A detailed analysis of algorithms and data structures. Examination of theoretical and experimental performance of algorithms and data structures. Particular attention to algorithms for searching and sorting and techniques for implementing and manipulating various data structures: stacks, queues, trees, graphs and files. Prerequisites: 56.221, 53.185, 53.126.

56.356 Windows Programming (Spring) (3) - Introduces object oriented programming including the concepts of objects, windows environment, inheritance, encapsulation, polymorphism and event driven programming. Participation in the development of a large scale application project is required. Prerequisite: 56.221 or 56.250.

56.357 Principles of Database Design (Fall, even-numbered years) (3) - Considers the principal functions of a database management system. Basic concepts used by all database models will be taught. Details of the hierarchical, network and relational database models will be studied in detail. Course examines query languages in general and uses a data manipulation language (DML) and studies its applications. Students implement a relational database management system that involves execution of operations such as an intersection, union, difference, join and multijoins of relations. Study of a commercially available DML prepares students for a career dealing with database systems. Prerequisite: 56.221.

56.373 Numerical Methods in Computing (Fall) (3) - An analysis and application of various methods of numerically solving problems in the areas of nonlinear equations; systems of equations, interpolation and polynomial approximation; numerical integration; approximation theory; and differential equations. Students use a computer to design and execute algorithms for specific numerical procedures. Prerequisites: 56.121 or 56.116, 53.126.

56.375 Local Area Networks (3) (Fall, odd-numbered years) - Examines in detail key local area network standards and the

fundamental concepts of local area network (LAN) technology. Provides an understanding of network architecture, data transmission methods and major LANs currently in use. Investigation of LAN protocols, topologies and network operating systems includes hands on experience in installing and demonstrating peer-to-peer and client-server LANs. Prerequisite: 56.240 or permission of the instructor.

56.386 Concurrent Programming and Foundations of Operating Systems (3) (Fall) - Studies the foundation of modern operating systems and concurrent programming problems associated with these systems. Students write and test their solutions to problems. Covers problems and possible solutions encountered in the development of all modern systems. Prerequisite: 56.221.

56.410 Computer Graphics (Spring/even-numbered years) (3) - Presents the basic principles for design, use and understanding of graphics systems. Hardware and software components of graphics systems examined with a major emphasis on creating and manipulating graphics displays using a software graphics package; the package includes standard computer graphics algorithms. Two and three dimensional graphics, animation, color, hidden line and hidden surface algorithms studied in depth. Prerequisites: 56.221; 53.225 or 53.314 recommended.

56.430 Computer Architecture (Spring/ odd-numbered years)(3) - Examines design issues for modern, high-performance computer systems. Topics include bus structures, memory heirarchies, RISC and CISC instruction-set paradigms, pipelining and superscalar processor designs, microprogrammed control and input/output and bandwidth issues. Prerequisite: 56.330.

56.444 Introduction to Parallel Processing (Fall/odd-numbered years)(3) - Provides an overview of parallel processing, parallel architectures, design and analysis of parallel algorithms. Focuses on the development and performance evaluation of parallel algorithms on parallel architectures. Prerequisite: 56.221.

56.450 Compiler Construction (Spring/odd-numbered years) (3) - An introduction to the construction of compilers and interpreters. The compiler is broken down into phases of scanning, parsing, semantic analysis, optimization and code generation. Studies the relevant theory in the phases as students program a compiler. Prerequisites: 56.350 and 56.221.

56.456 The Theory of Computation (Spring, odd numbered years) (3) - An introduction to automata, formal languages and computability. Topics include finite automata, pushdown automata, context-free grammars, Turing machines, algorithmically unsolvable problems and computational complexity. Prerequisites: 53.185 and 56.112 or consent of the instructor.

56.491 Special Topics in Computer Science (3) - Presents an area of computer science which is not available as a regular course offering. Prerequisite: Consent of the instructor.

56.497 Internship in Computer Science (2-12) - Provides computer science majors with an opportunity to acquire meaningful and professional on-site training and learning in computer science at an industrial, private or business workplace. Note: a student may, with departmental approval, apply a maximum of 3 credits of internship toward the fulfillment of the computer science major. Each 1 academic credit requires 40 hours of supervised work and the limit is 12 total credit hours for internships. Prerequisites: students must establish adequate course preparation for the proposed internship. Internship applications must be submitted one month before the internship begins and must be approved by the department chairperson.

56.576 Networks: Configuration and Implementation (3) - Introduces students to terminology, concepts, hardware and software related to the establishment of a local network and provides hands-on experience in the procedure necessary to install both a PC and Macintosh-based local area network.

## Instructional Technology

Administered by Department of Instructional Technology  
Effective Fall 2004

57.535 Instructional Applications of Robotics (3) - Introduces the basic concepts and approaches to using robotics as an educational tool in the classroom. The instructional use of robotics complements the teaching of principles and concepts in mathematics, physical science and computer science. Working with robotics also provides opportunities to problem solve and team build. This course will include discussions and experiences in the use of constructivist learning principles.

57.540 Technology Planning Across the Curriculum (3) - Examines a systematic process for the identification, selection, use and evaluation of technology within the curriculum. Students create technology plans for the classroom, building and district levels. Consideration is given to a number of issues that affect the procurement and use of technology in schools. Students also choose a specific technology in which they will develop expertise for use in curriculum planning.

57.542 Technology Applications for the Classroom (3) - Explores the role of technology in the classroom. Special emphasis is placed on the use of technology as a mind tool to create a constructivist, higher-order thinking and learning environment. Students become proficient in a wide range of technologies and apply the instructional systems design process to all projects.

57.546 Research in Instructional Technology (3) - Prepares students to evaluate and conduct research in instructional technology. Students analyze research literature in instructional technology, evaluate the various methodologies used in the research process, conduct a research project, and write a research paper using a systematic approach.

57.550 Instructional Design (3) - Examines the systems approach for the design, development, and evaluation of instruction and training materials. Students conduct a needs assessment and instructional analysis, write objectives, develop instructional strategies, and develop a teacher's guide and student materials. Specific emphasis is given to applying instructional design techniques to the design and development of instructional products in print form.

57.551 Advanced Instructional Design (3) - Serves as a sequel to Instructional Design (57.550) by providing additional information and practice concerning the design of effective instruction. Course goes beyond the introductory course by elaborating on the design of instructional strategies for specific learning outcomes, techniques for writing effective test items, and procedures for formative and summative evaluation. In addition, the course emphasizes learning theory, cognitive and behavioral approaches to instruction, a comparison of instructional design models, and research evidence that supports instructional design practices.

57.556 Applying Theories of Learning to Interactive Technologies (3) - Focuses on the application of theoretical principles of learning and instruction to the design of instructional materials. Topics include behaviorism, information processing models, cognitive science, memory models, constructivism, cognitive strategies, and the learning theories of a number of influential theorists. In addition, the course emphasizes learning theory, cognitive and behavioral approaches to instruction, a comparison of instructional design models, and research evidence that supports instructional design practices. Students critique commercial software and design two brief instructional modules incorporating specific principles of cognitive science.

57.560 Multimedia Productions (3) - Provides a survey of the major aspects of multimedia production from the user perspective. Included are hands-on experiences with hardware, software and file manipulation. Examines research and theories of multimedia as well as guidelines for the development of instructional multimedia. A

course where users create and integrate media into software applications

57.562 Digital Imagery (3) - Provides in-depth knowledge and experience in creating and producing both raster and vector digital images using digital cameras, scanners, and comprehensive digital editing software such as Photoshop, and Illustrator. Prerequisite: 57.560 or approval of the instructor.

57.570 Introduction to Website Development (3) - Examines the fundamental concepts of computer based learning and information systems. Specific emphasis is placed on the design, development, and authoring of interactive courseware using software such as Macromedia Dreamweaver, Javascript and HTML. Emerging technologies and their potential impact upon education and training are also studied.

57.572 Authoring Tools for Cross Platforms (3) - Acquaints students with authoring tools that may be implemented on Macintosh and PC platforms. Writing code for multimedia and hypermedia applications is emphasized. Software, such as Macromedia Authorware, Macromedia Director, is used to develop computer presentations. Applications for use in kiosks and for training are reviewed and developed with emphasis on good design and programming techniques.

57.574 Authoring Tools for Networks (3) - Provides study of software and systems for web environments. Software such as Cold Fusion is used to develop database web projects. Areas of emphasis include types networks, database software and database design.

57.575 Managing Multimedia Projects (3) - Provides a culminating experience in the Instructional Technology curriculum. Students are teamed together to apply concepts and skills learned in previous courses to simulate a hypothetical business environment. Student teams use a systems approach to design, develop, and evaluate a comprehensive interactive computer-based multimedia project.

57.577 Advanced Authoring (3) - Provides an in-depth look at advanced topics in multimedia authoring. Advanced authoring software, such as Authorware and Director, will be used to develop applications that require the use of external data and complex scripting techniques. Applications for training are a special focus of the course. Prerequisite: 57.572 or instructor approval.

57.584 Online Course Design (3) - Prepares students with knowledge, skills, and tools in the area of distance communications. Topics covered include communications, technology, delivery systems, instructional development for distance education, and program quality assessment.

57.585 eLearning Concepts and Techniques (3) - Provides students with knowledge and experiences in designing, developing and delivering e-learning courses. This course teaches how to design corporate based web instruction for delivery over a corporate intranet or internet. Students will experience participating in an instructional event as an on-line learning. Students will also identify the fundamental elements that make web-based instruction effective.

57.586 Blended eLearning (3) - Prepares students with an in-depth knowledge and experience in creating and producing a variety of online materials appropriate for a blended approach to teaching and training. This is a highly interactive course that incorporates both synchronous and asynchronous technologies for the delivery of course content, presentations, and class activities.

57.590 Graduate Internship (3) - Allows students to put into practice the theories that they have learned in previous courses. Each internship must last at least 6.12 weeks in duration, be directly related to the general content of the master's program, and be supervised by a professional in the multimedia field.

57.599 Master's Thesis (6) - Consists of an independent scholarly investigation in which the student designs, develops, implements, and evaluates a brief instructional module to address a specific audience. Under the direction of a faculty committee, the student identifies a performance problem in an audience of interest, and

works with a subject matter expert to design and produce instruction on a particular topic. The instruction is later implemented with the target audience and evaluated for its effectiveness. The student then makes the necessary revisions based on the evaluation data.

## Electrical and Electronic Engineering Technology - (58)

Administered by Department of Physics and Engineering Technology  
Effective Spring, 2004

58.101 Introduction to Electrical and Electronics Engineering Technology (EET) (1) - History of engineering and technology, electrical and electronic engineering technology (EET) as a career, technology areas within EET, organizational structure of industries, oral and written communication skills, review of mathematical skills, graphical representations of data, use of scientific calculator and personal computer, electronic instruments, industrial automation, seminars by engineering technologists, and visits to local industries. One hour lecture per week.

58.141 Electric Circuit Analysis (4) - Electric circuit analysis including computer simulation and hands-on laboratory experience using modern electronic equipment. Resistance, inductance and capacitance. Analysis of dc and ac circuits including network theorems, R-L and R-C transients, and R-L-C resonance. AC power, power factor and three-phase power. Three hours lecture and three hours lab per week.

58.180 Computer Aided Design and Engineering Graphics (3) - Provides hands-on introduction to computer-aided design with an emphasis on basic engineering graphics. Orthographic, sectional, auxiliary, isometric, and perspective views. Solid modeling, dimensions, and tolerances.

58.231 Electrical Machines and Power Systems (4) - Fundamentals of electrical machines, transformers and power systems. DC generators and motors, ac power, three-phase circuits, single-phase and three-phase transformers, three-phase induction motors, synchronous generators and motors, single-phase motors, stepper motors, electronic control of motors, and electric utility power generation, transmission and distribution. Three hours lecture and two hours lab per week.

58.241 Electronic Instrumentation and Data Acquisition (3) - Design and application of electronic instrumentation systems. The course is centered on understanding sensors and transducers, signal conditioning and transmission methods and application of sensors and transducers to real world situations. Use of microcomputer systems for data acquisition, processing and control. Two hours lecture and three hours lab per week.

58.300 Career Orientation (1) - Studies all aspects of seeking employment including interviewing, resume writing and choosing appropriate jobs for the cooperative education experience. One hour lecture per week.

58.321 Manufacturing Processes (3) - Studies the various types of manufacturing processes and the design of parts and assemblies to insure their manufacturability. Includes PCB artwork and fabrication, process design and evaluation using SPC techniques, quality control, reliability and visits to area manufacturing facilities. Two hours lecture and three hours lab per week.

58.331 Linear Signals and Systems (2) - Introduces the theory of linear signals and systems, including functional representations, spectra, linear filters, transforms, digital sampling, discrete signals, digital filters and state variables. Two hours lecture per week.

58.380 Cooperative Education in Industry I (0) - Provides an on-the-job professional experience in an industrial setting.

58.381 Engineering Applications in Industry I (3) - Presents case studies of engineering problems and their solutions in various industrial settings. The role of organizational structure and project management in engineering design and manufacturing is discussed.

This is the first of a two-part engineering applications in industry sequence. Three hours of lecture per week. Prerequisite: 58.380.

58.431 Industrial Process Control (3) - Fundamentals of open-loop and closed-loop control, feedback control concepts, controller design, process control using microcomputers, PLCs, sensors and transducers, instrument control and supervisory control. Two hours lecture and three hours lab per week.

58.441 Communications Systems (3) - Presents the theory and application of modern communications systems, including types of modulation, noise, multiplexing, multiple access and digital signaling. Use of modern software package for communication systems design and analysis. Two hours lecture and two hours lab per week.

58.451 Digital Signal Processing (3) - Fundamental principles associated with the processing of discrete-time signals. Common applications such as waveform generation, FIR and IIR digital filtering, and DFT and FFT-based spectral analysis and filtering. Architecture, instruction set and hardware and software development tools associated with a fixed-point general-purpose DSP VLSI processor. Two hours lecture and two hours lab per week.

58.461 Radio Frequency Effects and Measurements (4) - Electronic instrumentation and techniques for measurement at radio frequencies of such quantities as power, impedance, standing wave ratio, frequency, voltage and current. Receiver and antenna measurements, Smith charts, impedance matching and radio frequency shielding. Two hours lecture and two hours lab per week.

58.480 Cooperative Education in Industry II (0) - Provides on-the-job professional experience in an industrial setting.

## Natural Sciences and Mathematics - (59)

Administered by Physics and Engineering Technology  
Effective Fall, 2003

59.498 Natural Sciences and Mathematics Internship (1-9) - Internship provides on-site work experience and training program to give selected intern an opportunity to apply the theoretical and descriptive knowledge acquired in multiple natural sciences and mathematics disciplines. Requires approval of the internship coordinator and the dean of Science and Technology.

## Educational Studies - EDF (60)

Administered by Department of Educational Studies and  
Secondary Education  
Effective Fall, 2003

60.201 Field Studies in Education I (1) - Fifteen hour field experience to observe various teaching-learning situations. Weekly on-campus seminars.

60.204 Educational Computing and Technology (3) - Introduction to computer technology and the school setting that utilizes computers. Prerequisite: 45 semester hours.

60.205 Career Development and Life Planning (3) - Provides students with career information, values clarification and decision-making skills needed to develop sensitivity to these issues in light of the increasing complexity of the occupational experience.

60.206 Teachers, Schools and Society (2) - The intent of this course is to provide the student with a broad exposure to the realities of teaching. The course is organized around the key theme and interactive learning providing many opportunities for reflection, creative problem solving and peer collaboration. The course should help students answer the question, "Do I want to become a teacher?" Prerequisite: 15 hours of observation.

60.251 Psychological Foundations of Education (3) - A systematic analysis of theories of human motivation, development and learning related to the teaching-learning process. Psychological

systems are compared and evaluated in terms of their philosophical bases, ideological commitments and as criteria for the development of models for educational policy and practice.

60.291 Principles of Teaching (3) - An introduction to the teaching process. Various instructional techniques, methodologies and approaches are explored. Topics include: developing instructional objectives, sequencing learning activities, applying the various taxonomies, conducting micro-teaching, discipline strategies, questioning techniques and mastery teaching. Class term project includes unit lesson plan and evaluative instrument. Prerequisites: 60.201, 60.251.

60.301 Field Studies in Education II (1) - Thirty hour field experience with involvement in a school setting. Develop lesson plans and teach two lessons under supervision. Produce reflective journal. Remaining time spent in weekly campus class seminars.

60.302 Research Literacy (3) - Provides an introduction to research methods and techniques. Gives the student the basic understanding to be a better consumer of research, to be more aware of the value of research and to be able to carry out beginning-level research projects.

60.311 Classroom Measures and Assessment (3) - Reviews principles of evaluation; grading; representative standardized tests; vocabulary of measurement, test construction and interpretation; informal and formal measurement in the cognitive, affective and psychomotor areas and alternative forms of assessment. Prerequisite: 45 semester hours, 60.291.

60.320 Digital Photography and Graphics for Teaching and Learning Environments (3) - This course will introduce students to digital movie production including the shooting, production, editing, and application phases. Students will produce and edit their own instructional videos using various text formats, sounds, and special effects. Movies will be converted to different file formats and saved on a variety of storage media for use in interactive multimedia presentations and on the Internet. After completing this course, students will be able to produce and edit digital video movies for integration into multimedia and web-based applications for the classroom.

60.321 Interactive Multimedia Authoring Systems for Teaching and Learning Environments (3) - Students will learn to use multimedia programs for presentations, interactive lessons, and student-centered multimedia projects. Students will explore various multimedia authoring systems and examine techniques for the incorporation of sound, video, graphic, animation, and text into multimedia programs. Consideration will be given to multimedia design in the areas of navigation, branching, user-control, and feedback. After completing this course, students will be able to use and multimedia resources for teacher-centered and student-centered classroom activities.

60.322 Creating and Editing Digital Video Movies for Teaching and Learning Environments (3) - This course will introduce students to digital movie production including the shooting, production, editing, and application phases. Students will produce and edit their own instructional videos using various text formats, sounds, and special effects. Movies will be converted to different file formats and saved on a variety of storage media for use in interactive multimedia presentations and on the Internet. After completing this course, students will be able to produce and edit digital video movies for integration into multimedia and web-based applications for the classroom.

60.323 Designing, Constructing, and Maintaining Web Sites for Teaching and Learning Environments (3) - This course will introduce students to the design, construction, and maintenance process of web site production for educational settings through the use of HTML and web editors. Students will create web portfolios using their own personal domain name and web sites. Students will learn web site design, navigation, site layout, and how to incorporate text, graphics, sound, and video into web pages. After

completing this course, students will be able to construct, maintain and update their own web site for educational purposes.

60.324 eLearning Applications for Teaching and Learning Environments (3) - This is an online course that provides an overview of distance education as implemented over the web. Students will explore and experience the latest web-based and online instructional delivery systems and be given the opportunity to create their own eLearning lessons. Consideration will be given to challenges faced by both students and teachers in the delivery of instruction at a distance in both synchronous and asynchronous formats. A focus will be placed on comparing the similarities and differences between the traditional and online classroom. The advantages and disadvantages of the various types of eLearning systems will be compared. Students will communicate with the instructor and other classmates via e-mail, threaded discussion boards, and scheduled online chat sessions. After completing this course, students will be able to design, plan, and teach eLearning lessons for their classrooms that utilize various forms of technology.

60.325 Educational Technology Field Experience (3) - The purpose of this course is to provide students with the opportunity to work with a teacher or technology coordinator in a school district to apply some of the latest educational technology practices directly to the classroom. The format for this course will consist of group meetings on campus, online collaboration with the instructor and class, and field applications. Students will reflect upon and share their experiences with the class at the end of the semester. After completing this course, students will be more aware of the shortcomings and successes of using and applying technology in the schools.

60.350 Instructional Design Systems (3) - For preservice teachers and others who will create a community of learners integrating technology into the K-12 classroom. Uses hands-on experiences, virtual meetings, web-based resources to develop classroom activities to create a virtual learning community. Prerequisite: 30 credits.

60.351 Virtual Learning Communities (3) - For preservice teachers and others who will act as learning mentors and instructional designers. Uses hands-on experiences with the aid of cognitive strategies to develop classroom activities that promote how students know and how instructional planning can be better designed for learning. Prerequisite: 30 credits.

60.393 Social Foundations of Education (3) - An integrated multidisciplinary study of education focusing on the relationships among social conditions, social values and educational policies. The course focuses on those aspects and problems of society that need to be taken into account in determining educational policy, especially as this policy concerns the social role of the school.

60.406 Multicultural Education (3) - Studies school situations that reflect the cultural diversity of the nation and the world in their social and school goals and curricular and instructional aims and practices. Offers strategies for accommodating to the cultural norms, values, attitudes, behavior, language and learning styles of students and for teaching all students to understand and respect their own and other cultures.

60.416 Computers in the Curriculum (3) - The goal of this course is to provide curricula reforms that emphasize technology as an integral component of instruction. This instruction is supported by technology tools helps students construct knowledge and helps teachers create opportunities for more effective, meaningful, integrated learning. This course provides the resources to locate relevant instructional materials to design a curriculum rich in emerging technologies.

60.427 Classroom Management and Effective Discipline (3) - Focus on strategies for effective discipline and classroom management. Methods of planning for the beginning of the year and for establishing an effective classroom atmosphere that

promotes learning throughout the year are reviewed. Current models and major theories of discipline are reviewed and evaluated. Prerequisites: 60.251, 60.291, 60.201, 60.301 .

60.431 Independent Study (1-3) - Requires consent of the department chairperson to schedule.

60.441, 60.442, 60.443 Workshop in Education (1-6) - Studies selected areas of education including research by individual students in a special teaching field.

60.451 Pupil Personnel Services in the Public School (3) - Comprehensive view of pupil personnel services in elementary and secondary schools; school attendance, school health programs, pupil transportation, psychological services, guidance services.

60.497 Teaching in Education: First Experience (6) - The secondary student teaching assignment is determined by the student's area of specialization. Provides opportunities for direct participating experiences. Places students in classrooms with public or private school teachers. The student's major determines their assignment: K-6 - one experience in a primary level and one experience in an intermediate level of a public school; N-K-3 - one experience in a preschool situation and one in a primary level of a public school or two experiences in a primary level of a public school.

60.498 Teaching in Education: Second Experience (6) - The secondary student teaching assignment is determined by the student's area of specialization.

60.501 Major Philosophies of Education (3) - Interprets modern educational problems and trends in the light of philosophical viewpoints; study of primary sources of concepts and philosophies which have influenced and are influencing education.

60.502 School and Society (3) - Examines effects of social class, family, and community pressures and changing patterns and standards of life in our society on the school program. Fosters understanding of these pressures and patterns so that the teacher can work effectively to encourage the good and reduce the harmful impacts of social forces in relationships of children.

60.503 History of American Educational Theory (3) - Historical foundations of American educational theory with emphasis on individuals and schools of thought which have influenced and are influencing education in America.

60.504 Technology for Teachers (3) - A hands-on introduction to the use of technology in the public school classroom. Teachers will be introduced to the computer, computer-related technologies, communication technologies, and new and emerging audio-visual technologies in creating technology learning environments. Consideration will be given to the use of technology as a communication medium. Teachers will learn to use Instructional Systems Design models in the planning, delivery and evaluation of technology practices in the schools.

60.505 Comparative Education (3) - Educational ideas and practices of various countries are examined for their impact upon our culture and education. Particular attention is given to the relationship of European educational programs to the American philosophy and practice of public education.

60.506 Multicultural Education (3) - Examines problems of the urban educational system. Emphasizes growth of sensitivity to the disadvantaged youngster, in-depth examination of current research findings in areas studied, teaching strategies, and resources and approaches to resolve major problems. Discussion of polarization in critical problem areas.

60.507 Using Newspapers in the Classroom (3) - Activity-centered course that provides an orientation to the use of the newspaper in various subject areas. Provides opportunities for the development of learning experiences.

60.512 Educational Media and Software (3) - Advanced study of the role of media in the education process. Includes critical assessment of that role, selection of equipment and materials for

optimum utility, a review of contemporary literature in the field, and a production component involving advanced work in television, transparencies, slide-tape, and computer-assisted instruction.

60.514 Home, School and Community Relations (3) - Introductory course in public relations with special reference to elementary school. Develops a philosophy of partnership between home, school, and community. Considers principles, attitudes, and techniques to encourage community sharing in the planning of and assuming responsibility for good schools.

60.515 Integrating Technology into Teaching (3) - Creates technology products to help teachers become efficient experts, keen explorers and unique creators. Designed to find practical and effective ways to integrate technology resources and technology-based methods into everyday practices across all grade levels. Course projects are linked with well-research theories of learning and grounded with successful practices based on these theories. Each of these projects is designed to improve teaching and learning thus giving teachers the tools to use the unique qualities of technology to benefit both the teacher and the student.

60.516 Computers in the Curriculum (3) - The goal of this course is to provide curricula reforms that emphasize technology as an integral component of instruction. This instruction is supported by technology tools helps students construct knowledge and helps teachers create opportunities for more effective, meaningful, integrated learning. This course provides the resources to locate relevant instructional materials to design a curriculum rich in emerging technologies.

60.520 Guidance and Counseling for Exceptional Children (3) - Studies needs of exceptional children in public schools (including the academically talented); guidance and counseling techniques for teachers and guidance counselors in meeting those needs; guidance and counseling for exceptional children related to the total guidance counseling program.

60.522 Internet for Teachers (3) - An introductory course for teachers who would like to use the Internet as a resource for the classroom. Covers fundamental concepts of access to and using the World Wide Web, sharing ideas for practical classroom applications, evaluating Internet resources, and downloading and maintaining Internet software. Prerequisite is an introductory computer course at the undergraduate or graduate level. Taught on Macintosh computers and completing online assignments requires personal access to the Internet or ability to use university Macintosh labs outside of normal class hours.

60.527 Classroom Management and Effective Discipline (3) - Focuses on theories of effective discipline and classroom management. Methods of planning for the beginning of the year and for establishing an effective classroom organization to promote appropriate behavior throughout the year are reviewed. Current models and major theories of discipline are reviewed and evaluated.

60.530 Guidance in the Elementary Schools (3) - Covers concepts and techniques of the guidance process in the elementary school, behavioral and developmental problems, and releasing creative capacities of children.

60.531 Adapting Teaching Strategies to Learning Styles and Multiple Intelligences (3) - This course provides students with ideas, techniques and approaches to using different learning styles and Multiple Intelligences Theory in the teaching/learning processes. The scope, sequence and substance of the course emphasizes hands-on activities, problem solving, class discussion, group activities and web-based research.

60.533 Measurement and Evaluation in the Elementary School (3) - Emphasizes construction, administration, and interpretation of group tests of intelligence, achievement, aptitude, and personality in elementary schools.

60.550 Problems in Guidance and Counseling (3) - Covers philosophy of guidance; history of the guidance movement; guidance needs of children and adolescents; methods of gathering data; nature of school records; interpretation of test results and inventories; use of occupational information and data; interviewing and counseling techniques.

60.551 Techniques in Counseling (3) - Focuses on theories, principles, and practices of counseling; development and use of counseling materials such as test results, educational information, and other pertinent materials.

60.552 Organization and Supervision of Guidance (3) - Examines types of guidance organizations used in schools and their effectiveness in providing for good guidance.

60.553 Group Processes in Guidance (3) (Experimental) - Enables learners to acquire a working knowledge of the group process and strategies for facilitating communication in groups. The nature and function of groups will be explored. Through theory and practice, teachers learn and practice skills in leading groups, empathic listening, discussion and decision-making. Teachers also learn to enhance students' self-awareness and self esteem in a group setting.

60.561 Measurement and Evaluation in the Secondary Schools (3) - Examines construction, administration, and interpretation of group tests in intelligence, achievement, aptitude, and personality in secondary schools.

60.565 Advanced Foundations of Education (3) - This course will provide a systematic analysis of theories of human development, learning and motivation related to the teaching and learning process. Students will investigate and evaluate psychological principles and theories and their implications for classroom decision making. themes underlying effective educational practices will be addressed, including interaction, cognitive processes, relevance, classroom climate, challenge, expectations and diversity.

60.573 Introduction to Educational Administration (3) - Focuses on examination of the functions and tasks of educational administration. Issues include the evolving school setting; the meaning, development, and work of school administrators; educational systems analysis; school personnel administration; administrative and organizational behavior; and career ladders in educational administration.

60.576 School Law and Finance (3) - Considers limitations established by local, state, and federal laws relating to the interactions of school personnel. Special attention to recent changes resulting from judicial decisions. Covers fiscal control of education with emphasis on local budgetary problems.

60.577 Educational Research for Supervision (3) - Considers development of ability to read and interpret educational research and apply it to a school situation. Conclusions concerning curriculum content and teaching strategies designed for the improvement of the educational process are emphasized.

60.578 Group Processes in Supervision (3) - Emphasis on group processes, communication in the group, and organizational goals related to educational supervision. Focuses on knowledge of and practice in laboratory experiences in group processes and applicability to supervision. Experiences provide opportunities for experimenting with and evaluating leadership skills and promoting creativity and initiative.

60.579 Supervision of Curriculum and Instruction (3) - Examines objectives, techniques, and materials of staff supervision; defines the supervisory function directed toward the improvement of instruction with emphasis on the interrelationships between the humanistic aspects of education and democratic administrative behavior; studies roles of contemporary supervision with respect to educational quality assessment, interpersonal relations, and the catalytic role of the supervisor.

60.580 Practicum in Supervision of Curriculum and Instruction (3) - Field-based practicum experience that places the candidate for a Curriculum and Instruction N-12 Supervisory Certificate in a cooperative relationship with an individual in a school setting responsible for the overall planning, coordination, implementation, and evaluation of a curricular and instructional program. Competency-based experiences discussed in a weekly seminar. Evaluation of the candidate's performance based on achievement of specified competencies.

60.581 Independent Study in Education (1-6) - Provides an opportunity for public school teachers to pursue in-service projects in cooperation with a faculty adviser. The teacher submits a "learning contract" to an adviser designated by the department chairperson. Contract includes details of the academic goals, descriptions of the project in its relation to the goals and of a proposal for a final report, a reading list, and the proposed credit. Permission to register for the course granted upon approval of the contract. Evaluation based on the written report and an examination by a committee appointed by the adviser and/or department chairperson. Students may register at any suitable time; the duration of the experience is flexible.

60.583 Seminar in Education (1-6) - Provides the opportunity for a group of teachers engaged in a common in-service project to use the resources of the university and its faculty. A "learning contract" similar to that of 60.581 is submitted by the group as a basis for permission to register. Papers relate to aspects of the project and to the literature designated in the contract. Discussion and criticism in seminar meetings under the direction of a faculty member. Evaluation is based on the seminar reports and a final comprehensive written report by the student.

60.584 Curriculum and Instructional Theory, Design and Development (3) - Competency-based course consisting of elements that provide a base in relevant theory associated with the activity of curriculum development. A review, critique, and evaluation of current theoretical positions and design methodology are an integral part of the course.

60.585 Curriculum and Instructional Evaluation (3) - Competency-based course consisting of elements providing a base for the student in current theory and practice in the evaluation of school curriculum and instruction. Reviews, critiques, and application of current thinking and practice in curriculum evaluation are an integral part of the course.

## **Early Childhood and Elementary Education - ELE (62)**

Administered by Department of Early Childhood and Elementary Education

Effective Fall, 2004

62.121 Introduction to Early Childhood Education (3) - Examines the historical and philosophical foundations of early childhood education. Analyzes current trends and practices for teaching children from birth to age 6. Prerequisites: pre-teacher education and program of study. Prerequisites: pre-teacher education and program of study.

62.302 Teaching of Science in the Elementary School (3) - Emphasizes the major methods and materials used in elementary school science. Prerequisite: 64 semester hours.

62.304 Environmental Education in the Elementary School (3) - Emphasizes learning experiences that will (a) provide environmental education knowledge, skills, techniques and (b) encourage the development of positive attitudes, confidence, and motivation to promote environmental education in the elementary school.

62.310 Teaching Fine Arts in the Elementary School (3) - Provides competencies in the selection and implementation of materials and procedures for teaching literary, visual and performing arts to elementary school children. Emphasizes comprehension and

integration of fine arts into all areas of the school curriculum.  
Prerequisite: 45 semester hours.

62.322 Seminar in Learning Experiences with Young Children (3) - Outlines physical, mental, emotional and social levels of children from birth to age 8, with attention to environmental factors that foster child growth. Examines prenatal, infant-toddler, preschool and kindergarten programs to meet the needs of this age child and to provide the background of experience needed for later ventures into reading, art, arithmetic, science, social studies, music, literature, physical education and health and safety. Prerequisites: Psychology 48.101, 48.211.

62.371 Teaching Reading in the Elementary School (3) - Examines developmental reading from readiness through sixth grade.  
Prerequisite: 45 semester hours.

62.373 Diagnostic and Inclusionary Practices (3) - Presents diagnostic and remedial procedures emphasizing both standardized and informal techniques. Prerequisite: 62.371.

62.390 Teaching Social Studies in the Elementary School (3) - Emphasizes methods and materials appropriate for teaching elementary school social studies in contemporary society.  
Prerequisite: 64 semester hours.

62.391 Teaching Language Arts in the Elementary School (3) - Emphasizes methods and materials designed to help elementary school children develop communication skills for today's complex society. Includes all areas of a modern language arts curriculum.  
Prerequisite: 64 semester hours.

62.398 Teaching Mathematics in the Elementary School (3) - Outlines mathematical methods, materials, understandings and attitudes essential in the teaching of contemporary programs in the elementary school. Prerequisite: 64 semester hours.

62.400 Workshop in Teaching Mathematics in Early Childhood and Elementary Education (1-6) - Presents a workshop format to provide individual or group study of problems concerned with teaching mathematics at early childhood and elementary levels.

62.410 Methods and Materials in Early Childhood Education I (3) - Provides teachers with a workshop experience in infant daycare centers and nursery schools. Provides methods and materials that teachers can use and construct in their centers and classrooms. Examines theories of Bruner, Piaget, Froebel, Montessori and Vygotsky. Prerequisites: 62.121, 62.322.

62.420 Methods and Materials in Early Childhood Education II (3) - Provides teachers with a workshop experience in infant daycare centers and nursery schools. Provides methods and materials that teachers can use and construct in their centers and classrooms. Examines theories of Bruner, Piaget, Froebel, Montessori and Vygotsky. Prerequisites: 62.121, 62.322.

62.431 Independent Study in Elementary and Early Childhood Education (1-3) - Individual projects in education. Requires consent of the department chairperson.

62.494 Teaching in Education: First Experience (6) - The student teaching assignment is determined by the student's area of specialization. Provides opportunities for direct participating experiences. Places students in classrooms with public or private school teachers. The student's major determines their assignment: K-6 - one experience in a primary level and one experience in an intermediate level of a public school; N-K-3 - one experience in a preschool situation and one in a primary level of a public school, or two experiences in a primary level of a public school.

62.495 Teaching in Education: Second Experience (6) - see 62.494

62.496 Practicum in Early Childhood Education, Elementary Education II (1-6) - Individually prescribed course of study and activity-based learning and practice teaching. Previous experience and academic achievement reviewed. Consent of program coordinator and department chairperson required. Prerequisite: 64 credits and complete packet.

62.497 Teaching Literacy and Literature in Diverse Classrooms (3) - Explores literacy development to create a positive literacy learning environment for diverse learners.

62.510 Methods and Materials in Early Childhood Education I (3) - For in-service teachers and graduate students. Study of selected areas in early childhood education. Individual or group study of subjects of interest or concern in teaching.

62.520 Methods and Materials in Early Childhood Education II (3) - See course description for 62.510.

62.521 Elementary School Curriculum (3) - Studies problems related to development, experimentation, and improvement of curriculum practices in the elementary school.

62.522 Curriculum Trends in Early Childhood Education (3) - Studies the changing goals and the developing programs children birth through age eight required to meet the needs of children who enter school with a variety of experiential backgrounds.

62.523 Practices in Teaching the Young Child (3) - Examination of current practices in teaching the young child with emphasis on the developmental aspects of childhood as they relate to the school program.

62.524 Knowledge and Curriculum (3) - A study of the place of knowledge in developing a curriculum. The emphasis is on content as it is influenced by the Pennsylvania Content Standards and innovative practices in teaching and learning.

62.525 Current Practices in Elementary School Science (3) - Studies the problems resulting from the increased interest of children in science and the need for science instruction in the elementary grades; methods and materials for nurturing these interests and for implementing science instruction within the limits of the interests of children are presented and evaluated.

62.526 Methods and Materials in Science and Mathematics (3) - Offers an approach to curriculum in which mathematics and science content, skills and methods of instruction are integrated. Particular attention given to creative, integrated activities and learning situations that range from individual inquiry to group interactions.

62.527 Social Studies in the Elementary School (3) - Examines contemporary trends and current research in the disciplines of the social sciences as a basis for development of a conceptual framework for a social studies program.

62.528 Language Arts in the Modern School (3) - Studies problems related to instruction in various aspects of the language arts; place of the language arts in the curriculum; current research and its practical application.

62.529 Literature for Children in the Elementary Grades (3) - Surveys ways children may encounter literature and methods that are effective in the encounter. Students become acquainted with children's books, work with children in a storytelling experience, discover ways other than through reading by which children may experience literature.

62.530 Environmental Education for the Elementary Teacher (3) - This course will (a) provide environmental education knowledge, skills, techniques and (b) encourage the development of positive attitudes, confidence and motivation to promote environmental education in the elementary school. The course is designed for in-service teachers or graduate students having little or no training or experience in environmental education.

62.531 Environmental Education Experiences (3) - The workshop format of this courses is designed for in-service early childhood and elementary teachers that have some training or experience in environmental education. The course will provide opportunities for participants to broaden their experiences and knowledge in environmental education.

62.533 Values Clarification in the Elementary School (3) - Primarily for elementary education students. Emphasizes the philosophy and composition of values clarification as it applies to the elementary school child. Practical and theoretical aspects stressed as well as

techniques for helping children build a value system by which they can live. Emphasis on methods which aid the teacher in becoming aware of the emotional needs of children, humanizing of the education process, and improvement of working and learning relationships with others.

62.537 Methods and Materials in Language Arts and Social Studies (3) - Offers an approach in curriculum in which social studies and language arts content, skills and methods of instruction are integrated. Particular attention given to creative, integrated activities and learning situations that range from individual inquiry to group interactions.

62.539 Current Topics in Elementary Education (3) - Investigates current thinking and research in aspects of elementary education.

62.581 Independent Study in Elementary Education (1-6) - Comparable to 60.583.

62.583 Seminar in Elementary Education (1-6) - Comparable to 60.583.

62.590 Current Research and Development in Early Childhood Education (3) - Examines recent literature and research in early childhood education, prenatal through age 8, characteristics of the learner, learning environment, learning materials, and innovative programs. Departmental paper and/or curriculum projects are initiated in this course.

62.591 Learning and Development of the Young Child (3) - Surveys child development and its relationship to the early school years; the development of the young child from prenatal through age eight.

62.592 Identification and Prescription of the Needs of Young Children (3) - Focuses on techniques of identifying the physical, emotional, social, and mental needs of young children and in developing appropriate prescriptive procedures.

62.593 Organization and Administration of Educational Programs for Young Children (3) - Studies the various programs in early childhood education with emphasis on the expansion and administration with regard to the selection of personnel, evaluative techniques, and curriculum procedures, school law, finance, and other appropriate subjects.

62.594 Practicum in Early Childhood Education (6) - Individually prescribed course of study and activity-based learning and practice teaching. Previous experience and academic achievement reviewed. Practicum proposal required, and consent of program coordinator and department chairperson required.

62.595 Individualized Instruction - Principles and Practices for the Classroom (3) - Analyzes practices, principles, and procedures for individualizing instruction. Experiences include procedures for adapting conventional instructional modes to individualized settings.

62.596 Practicum in Early Childhood Education (3) - see 62.594.

## Reading - (63)

Administered by Department of Exceptionality Programs

Effective Fall, 2003

63.540 Introduction to the Teaching of Reading - Focuses on components of a balanced literacy program; designed to develop a knowledge base and instructional competence with literacy instruction for inclusive classrooms.

63.541 Reading Assessment and Intervention - Focuses on informal and formal assessment techniques with an emphasis on using assessment to design appropriate intervention programs and techniques; topics include miscue analysis, running records, informal reading inventories, and standardized testing.

63.545 Organization and Administration of Reading Programs - For classroom teachers, reading specialists, and resource room specialists who are involved with a school district's reading program; emphasizes a working knowledge of professional development requirements, job descriptions, guidelines for programs funded

through federal or state agencies, resources for exemplary reading programs, program evaluation, and parent involvement.

63.546 Reading in the Content Areas -Presents theory and related teaching strategies for content area instruction in grades 4-12; topics include the reading process, textbook evaluations, and strategies for improving comprehension, vocabulary, and study skills.

63.547 Seminar in Reading -Explores historically significant and recent research in the field of reading. Topics focus strongly on research related to early reading instruction, phonemic awareness, fluency, and comprehension.

63.548 Reading for the At-Risk Learner - Emphasizes methodology related to improving the reading skills of at-risk learners; focuses on developmentally appropriate practices, developmental stages of word knowledge, adapting instruction for diverse learners, and teaching ESL children.

63.550 Literature, Literacy, and Culture - Explores the role of literature in improving students' reading, writing, and language growth in grades K-12. Focuses on the role of multicultural literature in promoting cross-cultural understandings in a student-centered language arts program. Specific topics include selecting literature, developing thematic units, organizing the classroom, implementing literature circles, and evaluating students' literacy growth.

63.551 Early Literacy Learning: Guided Reading and Writing for the Classroom -Inservice teachers learn how to implement principles and practices of guided reading in K-3 classrooms. Focuses on conducting on-going literacy assessments, organizing instruction, developing literacy centers, using leveled texts, and meeting the needs of all learners in the classroom.

63.552 Reading and Writing Across the Curriculum - This course is designed to provide classroom teachers (grades 4-8) with current theory and practice in integrating literacy instruction across the curriculum. Topics include theoretical and research foundations for process writing and literature-based instruction, fostering discussion in a reading-writing classroom, connecting reading and writing to the content areas, designing assessment with learners in mind, and meeting Pennsylvania's academic standards.

63.553 Practicum in Reading, Writing, and Word Study - A supervised, field-based practicum in which students plan and implement literacy lessons for children who struggle with reading. Literacy lessons focus on reading, writing, and word study. Prerequisites: 63.540, 63.541, 63.546, 63.548 or consent of advisor.

## Secondary Education - TCH (65)

Administered by Department of Educational Studies and Secondary Education

Effective Spring, 2004

65.351 Teaching Communication in the Secondary School (Fall) (3) - Prerequisites: 60.201, 60.251, 60.291, 60.301, 60.393; junior standing in an area of concentration in secondary education.

65.352 Teaching Mathematics in the Secondary School (Spring) (3) - Prerequisites: Prerequisites: 60.201, 60.251, 60.291, 60.301, 60.393; junior standing in an area of concentration in secondary education.

65.353 Teaching Science in the Secondary School (Fall) (3) - Prerequisites: 60.201, 60.251, 60.291, 60.301, 60.393; junior standing in an area of concentration in secondary education.

65.358 Teaching Foreign Language in the Secondary School (Spring) (3) - Prerequisites: 60.201, 60.251, 60.291, 60.301, 60.343, junior standing in an area of concentration in secondary education.

65.355 Teaching Social Studies in the Secondary School (Fall) (3) - Prerequisites: 60.201, 60.251, 60.291, 60.301, 60.393; junior standing in an area of concentration in secondary education

65.358 Teaching Foreign Language in the Secondary School (Spring) (3) - Prerequisites:60.201, 60.251, 60.291, 60.301, 60.393; junior standing in an area of concentration in secondary education.

65.374 Teaching Reading in Academic Subjects (3) - Understanding techniques for developing reading skills applicable to the secondary school. Emphasis on readiness, comprehension, silent reading and oral reading through secondary school academic subjects.

Prerequisite: 45 semester hours.

65.411 Seminar in Secondary Education (3) - Activities center around concerns and problems encountered in secondary education. The range of activities is determined by individual need and by levels of professional competency including diagnosis, mutual development of objectives and self evaluation.

65.431 Independent Study in Secondary Education (1-3) - Requires consent of department chairperson 79.312 Internship in Education (1-15) - A work study program in an education-related setting applicable to fulfilling free electives in teacher education degree.

65.453 Teaching of Science (3) - Theory, research, trends, issues and techniques in the teaching of science at the middle and high school levels. This course focuses on the teaching and preparing a science curriculum for individuals to be certified in physics, chemistry, biology, earth and space science or general science. Prerequisites: 60.206, 60.251, 60.291, 60.393.

65.530 Curriculum Development and Instructional Strategies in the Middle and Junior High Schools (3) - Inquires into the role of early secondary education by analyzing historical trends, curricular patterns, instructional designs, and personnel structure of this organization unit. Emphasis on teacher behavior, student values and attitudes, and instructional designs peculiar to junior high, middle, and intermediate schools.

65.553 Teaching of Science (3) - Theory, research, trends, issues and techniques in the teaching of science at the middle and high school levels. This course focuses on the teaching and preparing a science curriculum for individuals to be certified in physics, chemistry, biology, earth and space science or general science. Prerequisites: 60.206, 60.251, 60.291, 60.393.

65.560 Development of the Secondary School Curriculum (3) - Problems related to development, experimentation, and improvement of curriculum practices in the secondary school.

65.571 Evaluating Teaching in Middle and Secondary Schools (3) - Improvement of instruction through self analysis. Micro-teaching techniques, planning dimensions, self-appraisal techniques. Designed for teachers with special reference to the work of cooperating teachers.

65.581 Independent Study in Secondary Education (1-6) - Provides an opportunity for public school teachers to pursue in-service projects in cooperation with a faculty adviser. The teacher submits a "learning contract" to an adviser designated by the department chairperson. Contract includes details of the academic goals, descriptions of the project in its relation to the goals and of a proposal for a final report, a reading list, and the proposed credit. Permission to register for the course granted upon approval of the contract. Evaluation based on the written report and an examination by a committee appointed by the adviser and/or department chairperson. Students may register at any suitable time; the duration of the experience is flexible.

65.583 Seminar in Secondary Education (1-6) - Provides the opportunity for a group of teachers engaged in a common in-service project to use the resources of the university and its faculty. A "learning contract" similar to that of 60.581 is submitted by the group as a basis for permission to register. Papers relate to aspects of the project and to the literature designated in the contract. Discussion and criticism in seminar meetings under the direction of a faculty member. Evaluation is based on the seminar reports and a final comprehensive written report by the student.

65.597 Graduate Practicum (6) - This is a six-credit, 16 week student teaching experience that is part of the secondary certification track of the curriculum and instruction master's program. It includes all of the required INTASC standards and the framework for teaching and learning now required by both the National Council of Accreditation

of Teacher and the Pennsylvania Department of Education. Required for teacher certification.

## (67) Military Science

Administered by Academic Affairs  
Effective Fall, 2004

67.110 Introduction to Military Science (1) - Provides an overview of the organization of the ROTC program. Students learn fundamental concepts of professional leadership in both classroom and field environments. Introduces skills such as rappelling, marksmanship, military customs, preparing military correspondence, and practical field training. One-hour class per week, approximately 20 hours of laboratory time per semester.

67.120 Introduction to Military Issues (1) - Provides background in basic field craft skills essential to leaders. Learn/apply principles of effective leading. Develops communication skills to improve individual performance and group interaction. Additional instruction includes marksmanship, first aid, and land navigation. One-hour class per week, approximately 20 hours of laboratory time per semester.

67.210 Applied Leadership and Management I (1) - Provides an overview of the Army rank structure and a specific survey of the junior officer's duties and responsibilities within that rank structure. Develops skills through oral presentations, writing concisely, planning events, and coordination of group efforts. Two-hour class per week, approximately 20 hours of laboratory time per semester.

67.220 Applied Leadership and Management II (1) - Presents the fundamentals of small unit leadership, mission planning, and problem solving techniques. Students learn through case studies and field training how to evaluate and apply leadership styles and techniques. Two-hour class per week, approximately 20 hours of laboratory time per semester.

67.230 ROTC Leaders' Training Course (4) - End of sophomore summer semester summer training offered in lieu of the basic courses (freshman/sophomore years) for students who want to enter the advanced program (Jr/Sr years). The course is approximately 28-days long, held at Fort Knox, Kentucky. Students receive pay during training as well as travel, meals and lodging expenses.

67.310 Advanced Military Science I (3) - Students learn through a series of practical opportunities to lead groups, receive personal assessments and leading again in situations of increasing complexity. Students plan and conduct training for younger students to reach and develop leadership skills. One 3-hour class per week, approximately 20 hours of laboratory time per semester.

67.320 Theory and Dynamics of the Military Team (3) - Practical application of the skills learned in 67.310. Students learn how to apply planning and management skills properly in conjunction with small unit tactics. One 3-hour class per week, approximately 20 hours of laboratory time per semester.

67.330 ROTC Leader Development and Assessment Course (LDAC) (6) - A 32 day practical application and evaluation phase required of each cadet prior to commissioning. LDAC places cadets in leadership positions where they must put into practice the techniques learned on campus in both tactical and non-tactical situations. Students receive pay during training as well as travel, meals and lodging expenses.

67.410 Advanced Leadership and Management I (3) - Presents advanced leadership and management skills required of a manager in a military environment. Students plan, conduct, and evaluate activities of the ROTC cadet organization. Students articulate goals, put plans into action to attain them. One 3-hour class time, approximately 20 hours of laboratory time per semester.

67.420 Advanced Leadership and Management II (3) - Continues the methodology from 67.410. Students learn basic procedures of military law and their application in a military environment, identify and resolve ethical dilemmas, refine counseling and motivating

techniques. One 3-hour class time per week, approximately 20 hours of laboratory time per semester.

## **SPE (70) Special Education**

### **Administered by Department of Exceptionality Programs**

Effective Fall, 2004

70.101 Introduction to Exceptional Individuals (3) - Reviews all major areas of exceptionality (visually impairments, mental retardation, hearing impairments, communication disorders, behavior disorders, learning disabilities) and acquaints the student with social, sociological, psychological, medical, historical, legal, economic and professional aspects of these conditions. Reviews current research and the latest techniques for facilitating meaningful interactions with these individuals.

70.202 Technology for Exceptionalities (3) - Provides the special education major with an introduction to technology as it is being applied to meet the needs of individuals with disabilities and special education teachers. Computers, as well as other technological devices, are studied in relation to use as prosthetics, instructional tools, administrative tools and environmental interfaces.

70.206 Introduction to Early Intervention (3) - An overview of the field of early intervention (EI), including historical perspectives, philosophies of EI, influences of disabilities on the development of young children, early intervention models and intervention strategies.

70.240 Foundations of Special Education (3) - An introduction to the history, causes and characteristics of mental retardation, physical disabilities and learning disabilities. A presentation of diagnostic materials and techniques as well as various approaches, programs and services will be given.

70.250 Behavior Disorders (3) - Provides techniques and strategies that may be used to support the behavior of students with disabilities. Covers psychological disorders, research related to aggressive and withdrawn behavior and techniques and materials used in social curriculum. Examines group and individual problems at all school levels .

70.340 Educating Individuals with Moderate/Severe Disabilities (3) - The course presents an orientation to the nature and needs of educating individuals with moderate and severe disabilities. Theory and techniques for individual assessment, curriculum development and instructional strategies are provided. Content will focus on the dynamics of including students into the home, school and community. The course will provide students with an opportunity to apply knowledge through a field-based experience.

70.353 Assessment and Planning (3) - Provides information and experience with formal and informal assessment devices and procedures, their usages and appropriateness. Covers gathering information about the learner prior to instruction concerning appropriate instructional tasks, sensory channels, interest areas and social skills. Covers ways of developing informal assessments, gathering observational information, storing information and planning for instruction.

70.357 Vocational Programming (3) - Develop a philosophy of vocational education for individuals with disabilities, acquire knowledge of programs and strategies to develop students' prevocational and vocational skills, learn information about and gain experience with curriculum materials and assessment procedures and develop strategies in transition planning.

70.375 Individual Project (3) - Project planned according to interests and needs of the individual student, in any of the following suggested areas: library research, curriculum study or internship in special aspects of educational programs.

70.401 Student Teaching With Exceptional Individuals (12) - Provides opportunities for each student to test and experiment with educational theory. The student teaching program requires one full semester to complete. Two assignments of eight to nine weeks are required. These assignments include two different exceptionalities, if possible, and two different chronological age groups. Placements may be in full-time, part-time or inclusionary settings. Students are responsible to perform in the following areas: diagnosing, planning, teaching, evaluating pupils' progress and clerical tasks. The student will systematically assume the role of the cooperating teacher. Prerequisite: Concurrent with 70.461.

70.407 Family-Centered and Inclusive Practices in Early Intervention (3) - Provides students with information, strategies and practical application of best practices in early intervention, specifically with regard to family-centered practices, communication and collaboration, observation and assessment, inclusion and adaptations. Prerequisite: 70.206.

70.408 Experiences in Early Intervention (1-6) - Provides students with the opportunity to apply theory, best practices and knowledge in early intervention environments with identified families and children, ages birth-6, with disabilities. Prerequisites: 70.206, 70.407.

70.433 Language Arts for Students with Special Needs (3) - Provides preservice teachers with a comprehensive overview of skills, assessment and strategies for teaching listening, speaking, reading and written expression. Students will prepare a portfolio of resources and best practices for teaching language arts to students with special needs.

70.450 Elementary Methods for Individuals with Mild Disabilities (3) - Provides a summary of the learning characteristics and instructional needs of students with mild disabilities. Learning theory, effective teaching strategies, classroom management and interaction with parents, paraprofessionals and professionals will be discussed.

70.451 Secondary Methods for Individuals with Mild Disabilities (3) - Familiarizes students with a variety of instructional techniques used to enhance the learning process of individuals with disabilities at the secondary level. Covers information pertaining to current issues in secondary special education and their impact on service delivery.

70.461 Problems in Special Education (3) - Presents instruction in the development of effective teaching individuals with exceptionalities. Focuses on problems in the education of this population. Discusses its relationship to teaching as each problem is defined. Helps the future teacher meet practical problems in guiding the individual with exceptionalities in learning experiences at school. Prerequisite: Concurrent with 70.401.

70.496/70.497/70.498 Special Workshop I, II, III (1-6) - Temporary special workshop seminars designed to focus on contemporary trends and problems in the field of special education. Lecturers, resource speakers, team teaching, field experience and practicum, new media technology-related techniques are utilized. Workshops usually are funded projects.

70.501 Administration and Supervision in Special Education (3) - This course presents an examination of the functions and responsibilities of the Administrator of Special Education. This includes functions in the areas of leadership, guidance, control, direction and management of special education programs and services within educational organizations. Understanding administrative theory and its application to current issues within the domain of special education will provide a framework for this course. School law, teacher recruitment, professional development, organization and integration of special education and ancillary services, evaluation of instruction, public relations and special education finance will be addressed.

70.502 Principles of Special Education Law (3) - Will provide an overview of the legal foundation of special education programs and services within the context of general school law. The practical

application of federal and state mandates for educating student with disabilities, as well as relevant case law, will be highlighted. The provision of current core knowledge relating to special education legal requirements and strategies for organizational compliance will be addressed.

70.503 Curricular Design and Instruction for Inclusive Education (3) - This course presents an overview of program and curricular design with an emphasis on standards-based models used in providing access to the general education for all students. Within the context of this course, a unified system of education will be examined from a structural perspective an inclusive education practices will be analyzed based on effective school models, collaborative processes and strategies for making students with disabilities within the general education classroom. Differentiated instruction will be explored including developing learning profiles, understanding content, process and product differentiation, and using strategies for differentiating instruction.

70.506 Introduction to Early Intervention (3) - Presents an overview of the field of early intervention, including historical perspectives, philosophies of early intervention, influences of disabilities on the development of young children and early intervention models.

70.507 Family-Centered and Inclusive Practices in Early Intervention (3) - Provides students with information, strategies and practical application of best practices in early intervention, specifically with regard to family-centered practices, communication and collaboration, observation and assessment, inclusion and adaptations. Prerequisite: 70.506.

70.508 Experiences in Early Intervention (1-6) - Provides students with the opportunity to apply theory, best practices and knowledge in early intervention environments with identified families and children, ages birth-6, with disabilities. Prerequisites: 70.506, 70.507.

70.509 Student Teaching - Graduate Level (10) - Provides opportunities for each student to test and experiment with educational theory. The student teaching program requires one full semester to complete. Two assignments of eight to nine weeks each are required. These assignments include students with exceptionalities and two different chronological age groups. Placements may be in full-time, part-time or inclusionary settings. Students are responsible for demonstrating competence in the following areas: professionalism, planning and preparation, instructional delivery, classroom environment, evaluating pupils' progress and clerical tasks. The student will systematically assume the role of the cooperating teacher. Prerequisite: concurrent with 70.561 Problems in Special Education.

70.516 Psychology of Exceptional Individuals (3) - Symptomatology, personality formation and developmental and therapeutic consideration for the individual with exceptionalities.

70.522 Assessment and Remediation of Mathematics for Special Needs Students (3) - Provides an overview of the concepts of hierarchy of skills, computation, and application of addition, subtraction, multiplication, division, fractions, decimals, time, and measurement. Students will administer and interpret achievement, diagnostic and curriculum-based mathematics assessment. Emphasis on development of remedial math programs, adaptations of math curriculum for special needs students and design of a functional mathematics curriculum for students with moderate disabilities. Students evaluate, design, and implement a math program for elementary, middle school and/or secondary students based upon Pennsylvania academic standards for mathematics. Math education software, manipulatives, games, and materials will be evaluated and utilized.

70.540 Educating Individuals with Moderate/Severe Disabilities - (3) Presents an orientation to the nature and challenge of educating individuals with moderate/severe disabilities. Theory and techniques for individual assessment, curriculum development and instructional strategies are provided. Content focuses on the dynamics of

integrating students into home, school and community environments. Provides students with an opportunity to apply knowledge through a field-based experience.

70.526 Transition Services for Individuals with Special Needs (3) - Presents an overview of methodology and service structures that facilitate the successful transition from school to adult living for individuals with special needs. Examination of the key aspects of transition will be highlighted.

70.533 Language Arts for Students with Special Needs (3) - Provides preservice teachers with a comprehensive overview of skills, assessment, and strategies for teaching listening, speaking, reading, and written expression. A holistic philosophy for teaching language arts will be stressed. Students will prepare a portfolio of resources and "best practices" for teaching language arts to students with special needs.

70.544 Diagnostic and Remedial Techniques (3) - Diagnostic and remedial techniques and instruments used with children in special education programs. Critical evaluation of applicability of each to the child in relation to causes and conditions of exceptionality. Development of skills in interpreting and writing case histories and reports, in selection and application of remedial techniques and evaluation of progress.

70.547 Technology and Exceptional Individuals (3) - Provides an introduction to technology as it is being applied to meet the needs of individuals with exceptionalities. Both simple and high technology solutions are explored as they relate to meeting the needs of individuals with mental, physical, sensory and communication disabilities. Topics include instructional tools and adaptations, environmental interfaces, prosthetics, as well as data and productivity tools.

70.550 Elementary Methods for Individuals with Mild Disabilities (3) - Provides students with an understanding of learning theory, classroom and behavior management and effective teaching strategies in a variety of curricular areas. Students will also discuss current issues dealing with the education of elementary students with mild disabilities. Strategies for interaction with parents and professionals will be covered.

70.551 Secondary Methods for Individuals with Mild Disabilities (3) - Familiarizes students with a variety of instructional techniques used to enhance the learning process of individuals with disabilities at the secondary level. Information pertaining to current issues in secondary special education and their impact on service delivery will also be discussed.

70.552 Special Project (3) - Designed to further a student's own interest and competency in an area of special education for the individual with exceptionalities. Library research or individual project involving service to the individual with exceptionalities may be agreed upon and conducted under supervision of a faculty member.

70.559 Seminar in Special Education (3) - Facilitates an in-depth study of the research pertaining to the fields of mental retardation and learning disabilities, including the study of psychosocial retardation and brain injury. Includes detailed study of behavioral and cognitive development of individuals with mental retardation and learning disabilities.

70.561 Problems in Special Education (3) - Presents instruction in the development of effective teaching individuals with exceptionalities. Focuses on problems in the education of this population. Discusses its relationship to teaching as each problem is defined. Helps the future teacher meet practical problems in guiding the individual with exceptionalities in learning experiences at school. Prerequisite: Concurrent with 70.401.

70.565 Reading and Interpreting Research in Special Education (3) - Aids the student in reading, understanding, and evaluating the results of statistical and behavioral research carried out by others. Covers a working knowledge of basic statistical terms, an introduction to the type of research questions that can be answered by various statistical

procedures, a knowledge of the basic steps of hypothesis testing, analysis and comparison of excellent and poor research designs, and the development of an ability to detect misuse of statistics.

70.566 Action Research in Education (3) - Presents an advanced consideration of the planning, implementation and evaluation of applied, action research in education. Emphasizes action research techniques, IRB procedures and development of research questions, design, implementation, and evaluation. Requires written report of research and sharing of findings with appropriate members of the University and educational community. Prerequisites: 70.565 or 79.591.

70.570 Foundations of Behavior Disorders (3) - Covers characteristics of children with behavior disorders, approaches to remediation, general principles of classroom management, simulated problem solving, ideal academic models for children with behavior disorders, research findings, and sources of information.

70.572 Seminar on Behavior Disorders (3) - Seminar group composed of those who wish to read and discuss current material related to the area of behavior disorders. Group reads new research and discusses implications for applications, as well as future directions, moral issues, and more advanced systems of management and instruction.

70.575 Seminar in Current Issues in Special Education (3) - Will provide students with a forum to review and analyze current trends and issues in special education. The content of the course will change as current trends and issues emerge.

70.591 Practicum in Special Education (3) - Graduate experience for students in a setting with individuals with exceptionalities. Student spends a minimum of eight hours per week in practicum and meets regularly in a seminar fashion with the university instructor.

70.595 Internship (3-6) - Internship in special education. Supervision to take place in schools or educational situations under supervision of the local supervisor and graduate faculty.

70.596, 597, 598 Special Workshop I (1-6) - Temporary special workshop seminars designed to focus on contemporary trends, topics, and problems in the field of special education. Lecturers, resource speakers, team teaching, field experience and practicum, new media, and related techniques. Usually workshops are funded projects.

## **Audiology and Speech Pathology - SPA (72)**

Administered by Department of Audiology and Speech Pathology  
Effective Fall 2004

72.152 Introduction to Communication Disorders (3) - This course provides an overview of basic human communication and swallowing processes. An introduction to speech, language, hearing, communication, and swallowing disorders is provided. The profession of communication disorders and roles of audiologists, speech pathologists and educators are discussed.

72.200 Introduction to Audiology (3) - Introduces students to the anatomy, physiology, disorders, basic assessment, and habilitation/rehabilitation of the auditory system.

72.220 Phonetics (3) - Studies of the physiological, acoustical, perceptual, and descriptive aspects of speech and sound production. Primary emphasis is placed on the description, classification, and transcription of speech sounds. Provides a base of knowledge for the diagnosis and treatment of phonemic and phonological disorders of communication.

72.240 Normal Language Acquisition (3) - This is an introductory course on normal language development from birth through adolescence. Theories of language acquisition and cognitive and social foundations for language and communication will be explored. Biological, neurological, sensory, psychological, developmental, and cultural influences on language development will be discussed.

72.320 Speech Pathology I (3) - This course provides a knowledge base for the nature of speech, language, and communication disorders and differences, and swallowing disorders in children. Emphasis is on etiologies, characteristics, anatomical/physiological, acoustic, psychological, developmental, and linguistic and cultural correlates.

72.330 Speech Pathology II (3) - This course provides a knowledge base for the nature of speech, language, and communication disorders and differences, and swallowing disorders in adults. Emphasis is on etiologies, characteristics, anatomical/physiological, acoustic, psychological, developmental, and linguistic and cultural correlates.

72.340 Cognitive/Behavioral Principles in Speech-Language Pathology (3) - This course will cover the fundamentals of behavioral and cognitive theory. Emphasis will be placed upon application in clinical and school settings associated with the delivery of services to speech-language disordered clients.

72.350 Diagnosis and Evaluation in Speech-Language Pathology (3) - This course provides a knowledge base for the assessment and differential diagnosis of speech and language disorders. It focuses on tests and measurement issues in speech-language pathology. Students acquire knowledge and skills of interviewing, planning assessment batteries, test administration, scoring and interpretation, clinical report writing and conferencing, and counseling skills. Prerequisite(s): 72.220, 72.240.

72.360 Clinical Observation (3) - This course provides observation experiences within the scope of practice of speech-language pathology and audiology under the direction of an ASHA certified professional. Students acquire a minimum of 25 observation hours for ASHA certification and gain information on professional credentialing, contemporary issues, and ethical conduct. Prerequisite: 60 credits or junior standing.

72.400 Auditory Training and Speech Reading (3) - Introduces the student to historical and current theories and methods of aural habilitation/rehabilitation. Discussions on the implications of hearing loss on daily life in ideal and poor communication settings. Prerequisite: 72.200.

72.410 Applied Speech Science (3) - Applied speech science is the study of acoustic phonetics, speech physiology and the processes by which listeners perceive speech. In particular, this course will emphasize the application of this knowledge to the clinical evaluation of both normal and disordered speech via the use of various types of speech analysis instrumentation. Prerequisites: 50.366, 54.106, 72.220.

72.430 Fundamentals of Audiology (3) - Discussion of the anatomy and physiology of the auditory system and the role of hearing in the development of speech and language. The course will provide a synopsis of diagnostic and habilitation/rehabilitation audiologic principles. Prerequisite: Must have 90 credits.

72.460 Psycholinguistics (3) - This course presents the study of language as a psychological phenomenon. Course content focuses on language comprehension and production processes, speech perception, memory and cognition. Application of psycholinguistic concepts to communication disorders is discussed. Prerequisite: 72.240.

72.468 Speech Habilitation in the Schools (3) - Examines the profession of speech-language pathology in a school setting as it interfaces with the other school-related disciplines. It emphasizes facilitation of communication among the disciplines.

72.480 Internship in Speech-Language Pathology (3-6) - This course provides opportunities for students to job shadow an ASHA certified speech-language pathologist in an educational or health care setting. Students gain practical experiences as observers and/or assistants to professionals. Experiences facilitate integration of undergraduate coursework in speech pathology with professional activities in the field. Prerequisite: 90 credits or junior standing.

72.482 Internship in Audiology (3-6) - Students gain practical experience by working in clinical or school settings as observers and aides to ASHA certified audiologists engaged in providing clinical services. Students select sites with the collaboration of the course instructor and contract to complete a variety of learning activities at the site. Prerequisite: Completion of Junior year or permission of instructor.

72.492 72.592 Workshop in Audiology and/or Speech Pathology (1-6) - Focuses on contemporary trends, topics, and problems in the fields of audiology or speech pathology. Guest lecturers, resource speakers, team teaching, field experience and practicum, new media and technologies and related techniques and methodologies are included.

72.493, 72.593 Workshop in Audiology and/or Speech Pathology (1-6) - Focuses on contemporary trends, topics, and problems in the fields of audiology or speech pathology. Guest lecturers, resource speakers, team teaching, field experience and practicum, new media and technologies and related techniques and methodologies are included.

72.494, 72.594 Workshop in Audiology and/or Speech Pathology (1-6) - Focuses on contemporary trends, topics, and problems in the fields of audiology or speech pathology. Guest lecturers, resource speakers, team teaching, field experience and practicum, new media and technologies and related techniques and methodologies are included.

72.530 Fundamentals of Audiology (3) - Discussion of the anatomy and physiology of the auditory system and the role of hearing in the development of speech and language. The course will provide a synopsis of diagnostic and habilitation/rehabilitation audiologic principles. Prerequisite: Must have 90 credits.

72.550 Aphasia (3) - This course focuses on primary disorders of language in adults associated with brain damage with emphasis on aphasias. Etiologies and characteristics of aphasias, including language and non-language functions, are discussed. Principles and methods of prevention, assessment, intervention and counseling are presented. Prerequisite: Graduate Enrollment in Speech Pathology.

72.552 Language Disorders in Preschool Age Children (3) - This course extends the study of normal language acquisition to identify developmental language delays, disorders, and differences in young children (Birth to 5). Language characteristics of diverse clinical populations are discussed. Principles and methods of assessment and intervention are presented. Family, cultural, and educational issues are addressed. Prerequisite: Graduate Enrollment in Speech Pathology.

72.554 Fluency Disorders (3) - The course will cover the development, diagnosis, and treatment of fluency disorders including stuttering, cluttering, and neurogenic, psychogenic, and language based disfluencies. Emphasis is placed on stuttering in children and adults. Prerequisite: Graduate Enrollment in Speech Pathology.

72.556 Disorders of Phonology and Articulation (3) - This course examines phonetic and language-based disorders of articulation/phonology. Emphasis is placed on the identification, description, and remediation of phonological disorders. Phonological process and distinctive feature based systems of analysis will be presented along with traditional assessment procedures. Interventions will include traditional phonetic approaches, language-based, constructivist, and other cognitive approaches. Prerequisite: Graduate Enrollment in Speech Pathology.

72.558 Clinical Practicum and Professional Issues in Speech-Language Pathology I (3) - This first in-house clinic course prepares students in all aspects of clinical management to serve individuals with communication and swallowing disorders in the Bloomsburg University Speech, Language, and Hearing Clinic and off-campus sites. Students acquire necessary knowledge and skills in preparation for their field experiences in the professional community. Prerequisite(s): Graduate Enrollment in Speech Pathology.

72.560 Voice Disorders (3) - This course provides an overview of the diagnosis and clinical management of functional and organic voice disorders. Prerequisite: Graduate Enrollment in Speech Pathology.

72.562 Language Disorders in School Age Children (3) - This course extends the study of normal language acquisition through adolescents and explores effects of language disorders on academic performance, especially literacy skills. Principles and methods of classroom-based assessment and intervention are presented. Cultural and educational issues are addressed. Prerequisite: Graduate Enrollment in Speech Pathology.

72.564 Craniofacial Disorders (3) - This course provides an overview of craniofacial disorders with emphasis on cleft lip and/or palate and velopharyngeal inadequacy (VPI). An understanding of anatomy and physiology of the craniofacial complex, embryological development, and etiological factors are presented. The effects of cleft lip and/or palate and VPI on speech, hearing, and language are described. Procedures for diagnosis and treatment of communication disorders and related management issues will be discussed. Prerequisite: Graduate Enrollment in Speech Pathology.

72.565 Motor Speech Disorders (3) - This course focuses on neuromotor speech disorders in children and adults with emphasis on dysarthrias. Etiologies and characteristics of dysarthrias, including articulation, resonance, phonation, and respiration are discussed. Principles and methods of prevention, assessment, intervention, and counseling are presented. Prerequisite: Graduate Enrollment in Speech Pathology.

72.566 Clinical Practicum and Professional Issues in Speech-Language Pathology II (3) - This second in-house clinic course prepares students in all aspects of clinical management to serve individuals with communication and swallowing disorders in the Bloomsburg University Speech, Language, and Hearing Clinic and off-campus sites. Students acquire necessary knowledge and skills in preparation for their field experiences in the professional community. Prerequisite: Graduate Enrollment in Speech Pathology.

72.568 Speech Habilitation in the Schools (3) - Examines the profession of speech-language pathology in a school setting as it interfaces with the other school-related disciplines. It emphasizes facilitation of communication among the disciplines.

72.570 Cognitive-Based Language Disorders (3) - This course focuses on secondary disorders of language in adults with emphasis on disorders of right cerebral hemisphere damage, dementia, and schizophrenia. Etiologies and characteristics of adult disorders, including language and non-language symptoms are discussed. Principles and methods of prevention, assessment, and intervention are presented. Prerequisite: Graduate enrollment in Speech Pathology.

72.572 Augmentative and Alternative Communication (3) - This course focuses on augmentative and alternative communication (AAC) modalities and assistive technologies for individuals with significant disabilities of speaking and writing. Students acquire skills in evaluation, intervention, and prescriptions of AAC for diverse disability populations across the life span. Trends, issues, and challenges related to AAC in various settings are emphasized. Prerequisite: Graduate enrollment in Speech Pathology.

72.574 Clinical Instrumentation in Speech Pathology (1) - This course will provide the student with background information and experience with advanced clinical instrumentation used in the assessment and treatment of patients with speech, voice, and swallowing disorders. In addition, clinical experiences applying clinical instrumentation discussed in these lectures will also be implemented whenever possible. Prerequisite: Graduate enrollment in Speech Pathology.

72.576 Clinical Practicum and Professional Issues in Speech-Language Pathology III (3) - This third in-house clinic course prepares students in all aspects of clinical management to serve individuals with communication and swallowing disorders in the Bloomsburg University Speech, Language, and Hearing Clinic and

off-campus sites. Students acquire necessary knowledge and skills in preparation for their field experiences in the professional community. Prerequisite: Graduate Enrollment in Speech Pathology.

72.580 Traumatic Brain Injury (3) - This course focuses on the nature, epidemiology, neurological and neurobehavioral sequelae of traumatic brain injuries in children and adults. Linguistic, cognitive, and social aspects of communication are emphasized. Principles and methods of prevention, assessment and intervention are presented. Medical management, educational and community re-entry, and counseling issues are addressed. Prerequisite: Graduate Enrollment in Speech Pathology.

72.582 Research in Speech - Language Pathology (3) – The evaluation and application of clinical and non-clinical research methodologies to the investigation of problems encountered in speech-language pathology. Prerequisite: Graduate Enrollment in Speech Pathology

72.583 Swallowing Disorders (3) - This course entitled Swallowing Disorders is comprised of a series of lectures and clinical examples dealing with the diagnosis and treatment of patients with swallowing disorders. Prerequisite: Graduate Enrollment in Speech Pathology

72.584 Field Experience in Speech-Language Pathology I (3) - Field experiences extend preparation of students in all aspects of clinical management to serve individuals with communication and swallowing disorders at external sites within the professional community. Students acquire necessary knowledge and skills required for entry level practice in the profession. Prerequisite(s): Graduate Enrollment in Speech Pathology. Minimum grade no lower than B- in Clinical III.

72.586 Field Experience in Speech-Language Pathology II (3) - See course description for 72.584.

72.590 Independent Study and Research (3) - Permits students to work under close faculty guidance on library study of specified areas or on individual research projects when particular needs cannot be met by registration in regularly scheduled courses.

72.591 Independent Study and Research (3) - See course description for 72.590.

72.592 Workshop in Audiology and/or Speech Pathology (3) - Focuses on contemporary trends, topics, and problems in the fields of audiology or speech pathology. Guest lecturers, resource speakers, team teaching, field experience and practicum, new media and technologies and related techniques and methodologies are included.

72.593 Workshop in Audiology and/or Speech Pathology (3) - See course description for 72.592.

72.594 Workshop in Audiology and/or Speech Pathology (3) - See course description for 72.592

72.599 Thesis (3) –Opportunity to employ accepted methods of educational research in the solution or intensive study of some problem area of interest or concern. The problem area selected for the research project must be related to Speech Pathology.

72.600 Diagnostic Audiology I: Assessment of Auditory Sensitivity and Speech Perception (3) - This course includes the procedures for determination of auditory sensitivity via air conduction, bone conduction, and in the sound field. Detailed procedures for assessment of speech perception are also included. Interpretation of test results to determine the presence, degree, and type of hearing loss will be discussed. All the equipment and procedural variables that can affect test results will be presented.

72.601 Aural Rehabilitation for Adults (3) - A study of all the related aspects of provision of aural rehabilitation services to adults with hearing loss. Includes such topics as models of aural rehabilitation, assessment and management, auditory training, speech-reading, auditory-visual integration, effective communication strategies, speech conservation, and deaf culture.

72.602 Hearing Science I (3) - Basic properties of simple and complex sounds, sound measurement, and sound propagation will be reviewed. The classical psychophysical procedures for detection of

auditory thresholds will be demonstrated. Loudness perception, frequency selectivity, and temporal processing in the auditory system will be discussed.

72.603 Internship: Clinical Methods/Practicum in Audiology I (3) – The Speech, Hearing, and Language Clinic of Bloomsburg University is an integral part of the teaching-training program of the Department of Audiology and Speech Pathology. The clinic provides outpatient diagnostic and therapeutic services for persons of all ages with speech, hearing, and language problems, including students and other members of the college community and residents of the Bloomsburg area. It serves as an extension of the classroom where students can apply and study evaluation procedures, therapeutic methods, techniques and materials, and the classification and etiology of speech and hearing disorders. The clinic provides the student with an opportunity to relate text and lecture information to actual clinical cases under the close supervision of certified staff. Students gain experience in all aspects of remediation – diagnosis, therapy, counseling, report writing – with a wide variety of clients. The clinic is necessary and inseparable from the existing course sequence. It becomes an important step in the development of a competent clinician, linking the classroom and theory with the clinical experiences, certification, and employment in the field. Internships are carried out within the Speech, Hearing and Language Clinic at Bloomsburg University.

72.604 Hearing Aids: Theoretical and Technical Considerations (3) - The theoretical and technical aspects of hearing aid fitting to include psychoacoustics, acoustics, speech perceptions, compression strategies, real ear data, fitting formulas, acoustic modification, digital processing, and electroacoustic measurements will be considered.

72.605 Diagnostic Audiology II: Acoustic Immittance, Site of Lesion and Pseudohypacusis (3) - A comprehensive study reflex measures for detection of middle ear disorders and site of lesions in the auditory pathway. Other site of lesion tests include threshold and suprathreshold tone decay, loudness recruitment, loudness balance, Short Increment Sensitivity Index, Bekesy tests, and brief tone audiometry. Test for detection of nonorganic hearing loss will also be discussed.

72.606 Electronics and Instrumentation in Audiology (3) – for solving practical equipment problems and understand the operation of equipment used in clinical practice and hearing services.

72.607 Internship: Clinical Methods/Practicum in Audiology I (3) – The Speech, Hearing, and Language Clinic of Bloomsburg University is an integral part of the teaching-training program of the Department of Audiology and Speech Pathology. The clinic provides outpatient diagnostic and therapeutic services for persons of all ages with speech, hearing, and language problems, including students and other members of the college community and residents of the Bloomsburg area. It serves as an extension of the classroom where students can apply and study evaluation procedures, therapeutic methods, techniques and materials, and the classification and etiology of speech and hearing disorders. The clinic provides the student with an opportunity to relate text and lecture information to actual clinical cases under the close supervision of certified staff. Students gain experience in all aspects of remediation – diagnosis, therapy, counseling, report writing – with a wide variety of clients. The clinic is necessary and inseparable from the existing course sequence. It becomes an important step in the development of a competent clinician, linking the classroom and theory with the clinical experiences, certification, and employment in the field. Internships are carried out within the Speech, Hearing and Language Clinic at Bloomsburg University.

72.608 Evaluation and Treatment of Tinnitus (3) - The purpose of this course is to teach the theoretical basis and clinical implications on the prevalence, etiology, evaluation, and treatment of tinnitus.

72.609 Theoretical and Clinical Masking (3) – The neurophysiologic and acoustic basis of auditory masking will be explored. Historical and subsequent chronological development of masking techniques

will be presented. Practical training in using masking in clinical audiometry and interpretation of test results will be offered.

72.610 Auditory Problems in Children (3) – Congenital and acquired hearing impairment in children is examined with special emphasis on problems of differential diagnosis. Educational and social implication of hearing impairment in children is discussed in conjunction with appropriate habilitative procedures.

72.611 Internship: Clinical Methods/Practicum in Audiology I (3) – The Speech, Hearing, and Language Clinic of Bloomsburg University is an integral part of the teaching-training program of the Department of Audiology and Speech Pathology. The clinic provides outpatient diagnostic and therapeutic services for persons of all ages with speech, hearing, and language problems, including students and other members of the college community and residents of the Bloomsburg area. It serves as an extension of the classroom where students can apply and study evaluation procedures, therapeutic methods, techniques and materials, and the classification and etiology of speech and hearing disorders. The clinic provides the student with an opportunity to relate text and lecture information to actual clinical cases under the close supervision of certified staff. Students gain experience in all aspects of remediation – diagnosis, therapy, counseling, report writing – with a wide variety of clients. The clinic is necessary and inseparable from the existing course sequence. It becomes an important step in the development of a competent clinician, linking the classroom and theory with the clinical experiences, certification, and employment in the field. Internships are carried out within the Speech, Hearing and Language Clinic at Bloomsburg University

72.620 Assistive Listening Devices (3) - The study of auditory, visual, and vibrotactile receptive communication technologies designed to meet the needs of deaf and hard of hearing individuals. Emphasis will be placed on needs assessment, selection, evaluation, and verification process.

72.621 Hearing Science II (3) - This course will include the following aspects of auditory perception: Pitch perception, space perception, auditory pattern and object perception, speech perception. Practical applications of psychoacoustic phenomena will also be discussed. Prerequisite: 72.602.

72.622 Aural Habilitation and Rehabilitation for Children (3) - A study of all the related aspects of provision of aural rehabilitation services to children with hearing loss. Includes such topics as models of information processing during communication, development of auditory speech and language skills in children with hearing loss, provision of effective counseling and guidance to families, provision of assessment and intervention services for the development of speech and language skills, speech conservation and deaf culture.

72.623 Internship: Clinical Methods/Practicum in Audiology I (3) – The Speech, Hearing, and Language Clinic of Bloomsburg University is an integral part of the teaching-training program of the Department of Audiology and Speech Pathology. The clinic provides outpatient diagnostic and therapeutic services for persons of all ages with speech, hearing, and language problems, including students and other members of the college community and residents of the Bloomsburg area. It serves as an extension of the classroom where students can apply and study evaluation procedures, therapeutic methods, techniques and materials, and the classification and etiology of speech and hearing disorders. The clinic provides the student with an opportunity to relate text and lecture information to actual clinical cases under the close supervision of certified staff. Students gain experience in all aspects of remediation – diagnosis, therapy, counseling, report writing – with a wide variety of clients. The clinic is necessary and inseparable from the existing course sequence. It becomes an important step in the development of a competent clinician, linking the classroom and theory with the clinical experiences, certification, and employment in the field. Internships are carried out within the Speech, Hearing and Language Clinic at Bloomsburg University.

72.624 Hearing Aids: Clinical Considerations and Fitting Practices (3) - Clinical consideration and fitting practices will be analyzed and evaluated. This will include practical use and clinical application of acoustic modification and prescription methods in fitting hearing aids. Considerations for the evaluation, selection, and fitting of hearing aids for adults and children. The benefits of bilateral vs. monaural amplification and the verification of instrument gain measurements.

72.625 Clinical Neuroanatomy of Auditory, Visual and Somatosensory Systems (3) - This is a clinical neuroanatomy course specific to the structures of the auditory, visual, and somatosensory systems. It is the second course in a sequence of three courses specific to these systems. (Neurophysiology, neuroanatomy and clinical physiological methods in audiology). This course will familiarize the student with the structures in the auditory, visual, and somatosensory systems. Neurophysiology will be reviewed to integrate the structure with system failure (disease process, mechanical manipulation) in each area.

72.626 Internship: Clinical Methods/Practicum in Audiology I (3) – The Speech, Hearing, and Language Clinic of Bloomsburg University is an integral part of the teaching-training program of the Department of Audiology and Speech Pathology. The clinic provides outpatient diagnostic and therapeutic services for persons of all ages with speech, hearing, and language problems, including students and other members of the college community and residents of the Bloomsburg area. It serves as an extension of the classroom where students can apply and study evaluation procedures, therapeutic methods, techniques and materials, and the classification and etiology of speech and hearing disorders. The clinic provides the student with an opportunity to relate text and lecture information to actual clinical cases under the close supervision of certified staff. Students gain experience in all aspects of remediation – diagnosis, therapy, counseling, report writing – with a wide variety of clients. The clinic is necessary and inseparable from the existing course sequence. It becomes an important step in the development of a competent clinician, linking the classroom and theory with the clinical experiences, certification, and employment in the field. Internships are carried out within the Speech, Hearing and Language Clinic at Bloomsburg University.

72.627 Central Auditory Processing Disorders (3) – This course describes various aspects of central auditory processing and disorders. Students learn about the underlying processes of auditory processing in the central nervous system. They are provided with a review of several evaluation and remediation approaches used in the management of clients with central auditory disorders.

72.628 Geriatric Audiology (3) - A study of all the age-related changes in aging and its impact on diagnostic and rehabilitative services to older clients in audiology. Detailed study of age-related changes in the auditory system and its impact on hearing. Age-related changes in other sensory systems and physiological systems will be reviewed. Special procedures for provision of audiological services to the older adult will be discussed.

72.629 Personal and Interpersonal Implications of Aural Habilitation/Rehabilitation (3) - Examine the impact of aural habilitation/rehabilitation on the individual and in a social context as well as psychosocial function. Application of aural habilitation/rehabilitation techniques for the individual and significant others.

72.630 Internship: Clinical Methods/Practicum in Audiology I (3) – The Speech, Hearing, and Language Clinic of Bloomsburg University is an integral part of the teaching-training program of the Department of Audiology and Speech Pathology. The clinic provides outpatient diagnostic and therapeutic services for persons of all ages with speech, hearing, and language problems, including students and other members of the college community and residents of the Bloomsburg area. It serves as an extension of the classroom where students can apply and study evaluation procedures, therapeutic methods, techniques and materials, and the classification and etiology of speech and hearing disorders. The clinic provides the

student with an opportunity to relate text and lecture information to actual clinical cases under the close supervision of certified staff. Students gain experience in all aspects of remediation – diagnosis, therapy, counseling, report writing – with a wide variety of clients. The clinic is necessary and inseparable from the existing course sequence. It becomes an important step in the development of a competent clinician, linking the classroom and theory with the clinical experiences, certification, and employment in the field. Internships are carried out within the Speech, Hearing and Language Clinic at Bloomsburg University.

72.635 Clinical Physiological Methods in Audiology: ABR, EcochG (3) – Study of the Electrophysiology techniques used to assess and diagnose cochlear and retrocochlear pathology and brainstem, spinal and serve integrity. Review of theories and clinical applications of auditory brainstem evoked potentials, electrocochleography, SSEP and VEP.

72.636 Professional Ethics and Cultural Diversity (3) - Issues related to ethical development and practice in the field of audiology as well as multicultural sensitivity.

72.637 Medical Audiology (3) - Basic and advanced principles in medical diagnostic audiology including anatomy and physiology of the system, disorders of the system, radiology and functional brain imaging, pharmacology, genetics, medical treatment, and diagnosis.

72.638 Clinical Externship/Residency I, (3-6) - An integral part of the teaching-training program is to have the student transition to hospitals; ENT practices, audiology practices, and medical clinics. This will enable the student to gain experience with a diverse population of clients (age, gender, pathology, social/economic, and race), equipment, and clinical/medical procedures. It is the bridge between the theoretical experience and being prepared for the workplace. The Council for Academic Accreditation requires that specific contact hours must be completed across five categories and two age groups. The total number of contact hours in these categories and age groups will be 2,000 to 3,000 hours. These hours must be acquired in three distinct sites or work environments and there must be a full-time 12-month residency experience. The clinical experience in this sequence of courses will be a graded transition. The first experience (538, 542, 546) will be half time external with academic courses. Experiences 547-548 will be full-time external. This will ensure the diversity and hours needed to be prepared for employment, licensure, and certification.

72.639 Evaluation and Management of Balance Disorders (3) - To teach the anatomy and physiology of balance and the vestibular system, differential diagnostic procedures such as electronystagmography, posturography and rotational testing, and the rehabilitation of the balance disordered patient.

72.640 Cochlear, Auditory Brainstem and Middle Ear Implants: Assessment and Management (3) - Implantation is a complex biomedical achievement. The audiologist's role is extremely important in the field. Their role includes understanding biological safety, development of implant program, medical evaluation, audiological evaluation and treatment, surgery, design of implant, programming the processor, benefits and risks, and ethical issues.

72.641 Research in Audiology (3) – The application of clinical and non-clinical research literature to the solution of diagnostic and treatment of problems encountered in the general practice of Audiology.

72.642 Clinical Externship/Residency II, (3-6) - An integral part of the teaching-training program is to have the student transition to hospitals; ENT practices, audiology practices, and medical clinics. This will enable the student to gain experience with a diverse population of clients (age, gender, pathology, social/economic, and race), equipment, and clinical/medical procedures. It is the bridge between the theoretical experience and being prepared for the workplace. The Council for Academic Accreditation requires that specific contact hours must be completed across five categories and two age groups. The total number of contact hours in these

categories and age groups will be 2,000 to 3,000 hours. These hours must be acquired in three distinct sites or work environments and there must be a full-time 12-month residency experience. The clinical experience in this sequence of courses will be a graded transition. The first experience (538, 542, 546) will be half time external with academic courses. Experiences 547-548 will be full-time external. This will ensure the diversity and hours needed to be prepared for employment, licensure, and certification.

72.643 Hearing Conservation (3) – Problems and programs of hearing conservation in public institutions and industries examined with special emphasis on legislation and medico-legal questions. Role and function of the public health and industrial audiologist is examined.

72.644 Issues and Perspectives in Audiological Practices (3) - Topics related to the professional practice of audiology including establishing a private practice, reimbursement, quality assurance, professional malpractice, marketing, business management, and the planning, organization, financing, and delivery of hearing health care.

72.645 Educational Audiology (3) – This course deals with the diagnostic and rehabilitative aspects of Audiology in the educational setting. The effects of hearing loss on speech and language development, the use of amplification in the schools, and educational audiology alternatives and models are examined.

72.646 Clinical Externship/Residency III, (3-6) - An integral part of the teaching-training program is to have the student transition to hospitals; ENT practices, audiology practices, and medical clinics. This will enable the student to gain experience with a diverse population of clients (age, gender, pathology, social/economic, and race), equipment, and clinical/medical procedures. It is the bridge between the theoretical experience and being prepared for the workplace. The Council for Academic Accreditation requires that specific contact hours must be completed across five categories and two age groups. The total number of contact hours in these categories and age groups will be 2,000 to 3,000 hours. These hours must be acquired in three distinct sites or work environments and there must be a full-time 12-month residency experience. The clinical experience in this sequence of courses will be a graded transition. The first experience (538, 542, 546) will be half time external with academic courses. Experiences 547-548 will be full-time external. This will ensure the diversity and hours needed to be prepared for employment, licensure, and certification.

72.647 Clinical Externship/Residency IV, (3-6) - An integral part of the teaching-training program is to have the student transition to hospitals; ENT practices, audiology practices, and medical clinics. This will enable the student to gain experience with a diverse population of clients (age, gender, pathology, social/economic, and race), equipment, and clinical/medical procedures. It is the bridge between the theoretical experience and being prepared for the workplace. The Council for Academic Accreditation requires that specific contact hours must be completed across five categories and two age groups. The total number of contact hours in these categories and age groups will be 2,000 to 3,000 hours. These hours must be acquired in three distinct sites or work environments and there must be a full-time 12-month residency experience. The clinical experience in this sequence of courses will be a graded transition. The first experience (538, 542, 546) will be half time external with academic courses. Experiences 547-548 will be full-time external. This will ensure the diversity and hours needed to be prepared for employment, licensure, and certification.

72.648 Clinical Externship/Residency V, (3-6) - An integral part of the teaching-training program is to have the student transition to hospitals; ENT practices, audiology practices, and medical clinics. This will enable the student to gain experience with a diverse population of clients (age, gender, pathology, social/economic, and race), equipment, and clinical/medical procedures. It is the bridge between the theoretical experience and being prepared for the workplace. The Council for Academic Accreditation requires that

specific contact hours must be completed across five categories and two age groups. The total number of contact hours in these categories and age groups will be 2,000 to 3,000 hours. These hours must be acquired in three distinct sites or work environments and there must be a full-time 12-month residency experience. The clinical experience in this sequence of courses will be a graded transition. The first experience (538, 542, 546) will be half time external with academic courses. Experiences 547-548 will be full-time external. This will ensure the diversity and hours needed to be prepared for employment, licensure, and certification.

72.699 Dissertation (3) - Opportunity to employ accepted methods of educational research in the solution or intensive study of some problem area of interest or concern. The problem area selected for the research project must be related to Audiology.

## **HRL (74) Studies in Hearing Loss**

Administered by Department of Exceptionality Programs

Effective Fall, 2004

74.153 Introduction to Sign Language (3) - A study of sign language vocabulary and fingerspelling techniques used in communication with members of the deaf community. Emphasizes developing expressive and receptive skills.

74.201 History, Education and Guidance of the Deaf/Hard of Hearing (3) - Explores hearing loss with emphasis on the history of educational procedures and guidance in communicative, psychological and vocational habilitation.

74.305 Introduction to Instructional Methods for the Deaf/Hard of Hearing (3) - Introduces the design of instructional procedures and methods of implementing curricula for education of the deaf/hard of hearing. Discusses and demonstrates traditional and innovative approaches to teaching.

74.325 Practicum for the Deaf/HH at Camp Hero (3) - A supervised, field-based practicum in which students plan and implement lessons at a week-long camp for the deaf and hard of hearing. Lessons will focus on language development, reading, writing and following directions. Prerequisite: Camp Hero orientation.

74.380 Phonetics (3) - Studies of the physiological, acoustical, perceptual and descriptive aspects of speech and sound production. Primary emphasis on the description, classification and transcription of speech sounds. Provides a base of knowledge for the diagnosis and treatment of phonemic and phonological disorders of communication. Prerequisites: 74.153, 74.201, 72.200, junior or senior standing.

74.461 Deaf/HH Technology-based Observations/Interactions Across the Country (3) - Students will develop the skills of a trained observer and will participate in observation of the practice of education of the deaf/hard of hearing via the Polycon Viewstation and on-site visitations.

74.462 Problems in Education of the Deaf/Hard of Hearing (3) - Addresses the educational problem of hearing loss and the function of teachers in public and private educational settings.

74.469 Curricular Subjects for the Deaf/Hard of Hearing (3) - Practices, content and methods of teaching school subjects to Deaf/Hard of Hearing individuals are examined with emphasis on content and methods rather than theory.

74.490 Counseling Needs of Communicatively Disordered Individuals and Their Families (3) - Designed to help students identify counseling needs of communicatively disabled individuals and their families and to provide basic, short-term counseling. Students introduced to various counseling strategies in individual and group settings as appropriate to schools and speech and hearing clinics.

74.560 Practicum with the Deaf/Hard of Hearing (3) - Provides an opportunity to work with deaf/hard of hearing children and/or adults. Emphasis on speech and language remediation of deaf/hard of

hearing individuals. Prerequisites: 74.564, 74.566, and 74.567 (concurrently)

74.561 Deaf/HH Technology-based Observations/Interactions Across the Country (3) - Students will develop the skills of a trained observer and will participate in observation of the practice of education of the deaf/hard of hearing via the Polycon Viewstation and on-site visitations.

74.564 Speech for the Deaf/Hard of Hearing (3) - Study of the principles and techniques used in development and formation of English speech sounds by the synthetic and analytic methods with special consideration given to production, classification, and transmission of speech sounds. Supervised demonstrations and practica are an integral part of the course.

74.565 Problems and Trends in Education of the Deaf/Hard of Hearing (3) - Focuses on current practices and trends in education and welfare of deaf/hard of hearing individuals. Concerned with psychology, social adjustment, educational achievement, political and social viewpoints, learning problems, and vocational competence of the deaf/hard of hearing. New techniques and methodologies.

74.566 Language for the Deaf/Hard of Hearing I (3) - Study of the principles and techniques used in the development and correction of language for deaf/hard of hearing individuals. Student is familiarized with leading systems of natural language development designed for the deaf/hard of hearing. The step-by-step development of at least one language system is required for each student. Supervised demonstrations are an integral part of the course.

74.567 Language for the Deaf/Hard of Hearing II (3) - Study of structured approaches to teaching spoken and written language, of language assessment devices and appropriate lesson planning. Supervised demonstrations and presentations are an integral part of this course.

74.568 Advanced American Sign Language (3) - Study of the expressive and receptive components of American Sign Language with an emphasis on communicating with the deaf.

74.569 Curricular Subjects for the Deaf/Hard of Hearing (3) - Examines practices, content, and methods of teaching school subjects to the deaf/hard of hearing with emphasis on content and methods rather than theory.

74.570 Student Teaching with the Deaf/Hard of Hearing (6) - Evaluates hearing losses affecting the communicational, educational, and vocational adjustment of individuals through supervised observation, classroom practice, and practicum experience. Students are assigned to approved private and public programs for the deaf/hard of hearing and work with selected professionals in education of the deaf/hard of hearing, following the same schedules and responsibilities similar as professionals. Arrangements relating to student interest must be approved by program adviser. Permission of curriculum coordinator required.

74.575 Counseling Communicatively Disordered Individuals (3) - Designed to help students identify counseling needs of communicatively disabled individuals and their families and to provide basic, short-term counseling. Students introduced to various counseling strategies in individual and group settings as appropriate to schools and speech and hearing clinics.

74.580 Independent Study and Research (3) - Permits students to work under close faculty guidance on library study of specified areas or individual research projects when particular needs cannot be met by registration in regularly scheduled courses.

74.581 Independent Study and Research (3) - See course description for 74.580.

74.584 Research in Education of the Deaf/Hard of Hearing (3)

74.599 Master's Thesis (3 - 6)

## American Sign Language/English Interpreting - ITR (75)

Administered by Exceptionality Programs

Effective Fall, 2003

75.101 Visual/Gestural Communication (3) - A study of the visual-gestural aspects of communication that are an integral part of ASL. Emphasis will be on visual and kinetic readiness via visual/gestural communication techniques, visual discrimination and memory exercises. Also kinetic theory and exercises of body, face, arm and hands and their relationship to space.

75.155 American Sign Language I (3) - A study of American Sign Language (ASL) including the history of ASL and its recognition as a language. Focuses on development of expressive and receptive conversational ASL skills.

75.225 Linguistics of ASL (3) - An historical overview of social and linguistic events that have influenced transformations in ASL; an introduction to structure and organizational properties of ASL as identified through linguistic research; review of other languages that share similar organizational principles; a discussion of semantic hierarchy and framework for analyzing semantic properties of ASL. Prerequisite: 75.155.

75.226 American Sign Language II (3) - A continuation of ASL I with emphasis placed on more complex grammatical structures and conversational fluency.

75.235 Introduction to Interpreting (3) - Focuses on topics such as the Registry of Interpreters for the Deaf, various kinds of certification, establishing the interpreting situation and the mental processes involved in interpreting and transliteration. Emphasis on ethical behavior.

75.257 American Sign Language III (3) - Continuation of ASL II. Major focus on the study of ASL sign principles and linguistic structure of the language to continue building expressive and receptive ASL skills. Prerequisite: 75.155.

75.265 Pre-Interpreting Skills (3) - A skill-based course in which students will prepare themselves linguistically, physically, and cognitively for the act of interpreting.

75.275 Oral Interpreting (3) - Identifies information and techniques and the utilization of skills required for effective oral interpreting and transliterating. Includes use of personal characteristics to facilitate speech reading and the identification of the needs of the hearing impaired individual during interpretation.

75.327 American Sign Language IV (3) - A continuation of ASL II. Focuses on more advanced linguistic aspects of ASL and a synthesis of all concepts previously learned. Prerequisite: 75.255.75.260

Interpreting in the Educational Setting (3) - Study of interpreting within a variety of educational settings including postsecondary, secondary and elementary areas. Topical areas include: recent legislation on the status of interpreters, characteristics of various meetings and visually coded English Sign Systems.

75.330 Deaf Culture (3) - Involves study and analysis of the deaf community. Emphasis on research and discussion of social, psychological and personal aspects of the members of the deaf community.

75.335 Translation (3) - A practice-oriented course used to train students to translate frozen texts from English to American Sign Language and from American Sign Language to English with extensively delayed time frames. Prerequisites: 72.265

75.358 American Sign Language V (3) Continuation of ASL IV, permitting the student to develop a high level of fluency in American Sign Language. Students will utilize both expressive and receptive skills in regular weekly communications with persons in the deaf community.

75.365 Consecutive Interpreting (3) - A practice-oriented course in which students will utilize their translation skills to become skilled in consecutive interpreting discourse from ASL to English and English to ASL with delays of a few seconds after the source utterance is finished.

75.370 Tactile Interpreting (3) - This course provides interpreting students with an introductory level overview of working with deaf-blind people. Students will become familiar with features of the deaf-blind community, learn common etiologies of deaf-blindness, learn basic communication and guiding skills for use with deaf-blind people, and experience a variety of situations simulating deaf-blindness.

75.420 Simultaneous Interpreting (3) - A practice-oriented course in which students will utilize translation skills to become skilled in consecutively interpreting discourse from ASL to English and English to ASL with delays of a few seconds after the source utterance is finished. Prerequisite: 75.365

75.450 Transliteration (3) - Focuses on building transliteration skills. Experience gained through laboratory work and classroom discussions when transliteration situations for observation and practice are presented. Emphasizes professionalism, principles and ethics. Prerequisite: 75.301 or permission of the instructor.

75.460 Practicum Seminar (3) - A seminar in which interpreting students discuss various factors of the interpreting profession. Topics include: professional organizations, certification, contextual factors, market analysis, time management, professional behavior, consumer attitudes, time management, professional behavior, consumer attitudes and beliefs, role and function of the interpreter and ethical codes. Students will also observe working interpreters and perform some interpretations within the community under the supervision of a professional interpreter. This will offer an opportunity to prepare for entering the interpreting field. Students will also begin their preparation for national and state credentialing examinations. Prerequisite: 75.420 Simultaneous Interpreting

75.480 Practicum in Interpreting (3-6) - Involves the placement of the student in interpreting situations on and off campus to gain "on-the-job" experience. Requires a minimum of 120 interpreting hours.

## Professional Studies - PRS (79)

Administered by the Departments of Early Childhood and Elementary Education, Educational Studies and Secondary Education and Exceptionality Programs

Effective Fall, 2003

79.301 Teaching, Learning and Assessment (3) - A study of how teaching, learning and assessment are used collectively in early childhood and elementary classroom settings. The emphasis is on how teaching, learning and assessment are impacted by the Pennsylvania Content Standards and effectively used by the teaching professional. Field opportunities are available in this course.

79.312 Internship in Education (1-15) - A work study program in an education-related setting applicable to fulfilling free electives in teacher education degree programs.

79.320 Field-Based Inclusion Practicum (6) - Provides application of theories in learning, assessment, classroom management and teaching strategies to inclusive school settings. Topics include building home/school partnerships, environmental/curricular adaptations, instructional support teams, collaboration, cooperative learning, mastery learning, classroom management, whole language, curriculum-based assessments, peer coaching. Prerequisite: junior or senior status.

79.591 Research in Education (3) - Studies methods and techniques used in educational research; development and interpretation of statistical data and application to professional problems.

79.593 Studies in Human Diversity (3) - Designed for teachers seeking an advanced degree in education. Broadly based and field-based oriented. Provides additional opportunities to integrate new

learning and classroom experiences in these areas: human development, language and culture, learning modes and styles, multicultural and exceptional studies, and an understanding of the social and cultural milieu.

79.599 Thesis (6) - Student demonstrates ability to employ accepted methods of educational research in the solution or intensive study of some problem area of interest or concern. The problem area selected for the research project must be related to the curriculum that the student is pursuing.

## **HLT (80) Health Sciences**

Effective Fall, 2003

80.400 Health Sciences Internship (3-6) - Provides the opportunity to apply acquired knowledge in an on-site practicum experience under the supervision of an appropriately credentialed preceptor. Open to students in the health sciences. Prerequisite: senior standing.

80.500 Health Sciences Internship (3-6) - Provides students in the multidisciplinary health sciences an opportunity to apply acquired knowledge in an on-site practicum experience under the supervision of an appropriately credentialed preceptor.

## **Nursing- NUR (82)**

Administered by Department of Nursing

Effective Fall, 2002

Courses within the nursing curriculum are restricted to students in the B.S.N. program except for 82.100 Personal Health - A Multidimensional Perspective, 82.217 Alcohol: Use and Abuse, and 82.230 Drugs: Use and Abuse.

82.100 Personal Health: A Multidimensional Perspective (3) - This course will provide the student with information and tools to improve their personal health through accountability for health habits and decision making. Three major themes will evolve: 1) the relevance of personal health decisions to Healthy People 2010 objectives; 2) current health issues within contemporary society; and 3) emphasis on holistic health - psychological, physical, social, environmental and spiritual - within a legal, ethical, political and cultural context. General Education elective.

82.204 Critical Evaluation of Research in Nursing (1) - Introduces research methods and techniques. Focuses on the student as a consumer of research with emphasis critiquing research studies for application and the ethics of research with human subjects. For Non-Matriculating RNs.

82.205 Research Application in Nursing (1) - Focuses on the contribution of research to the discipline and the consumer's role in applying research findings. Emphasizes identifying researchable problems and improving practice through application of research findings. Prerequisites: 82.204, Statistics course. For non-Matriculating RNs.

82.206 Proposal Writing in Nursing (1) - Focuses on the research process in identifying a researchable problem and formulating a beginning level research prospectus. Emphasizes conceptualization of a design to study a research problem. Prerequisite: 82.204, 82.205, Statistics course or consent of instructor. For Non-Matriculating RNs.

82.210 Professional Nursing - Introduces the student to the Bloomsburg University undergraduate nursing program and the concepts and processes of professional nursing. The mission, philosophy, and conceptual model of the curriculum are defined and discussed. Major concepts of the program are integrated into all aspects of the course. Students develop the view of person as a holistic open-system who is growing and developing across the life span. Exploration of the person's environment is included as related to nursing practice. Nursing roles are examined. Laboratory activities furnish opportunities to develop skills in group dynamics, communication and teaching. Assessment skills are applied as the

student demonstrates the teaching role with clients in the community. Prerequisites: 45.211 or 213 or 46.200, 48.101, 48.210, 50.173, 50.174, 52.101, 52.108.

82.211 Nutrition (3) - Introduces the principles of nutrition and ways in which these principles are applied to promote an optimal level of functioning for all individuals. Topics include nutritional requirements for maintaining health and development throughout the life span as well as factors affecting food choices of individuals and society. Prerequisites: 50.240.

82.212 Pharmacology (3) - Provides a foundation in pharmacology for pharmacologic content integration throughout the curriculum. Explores the legal, social, ethical, historical, and political dimensions of pharmacotherapeutics. Prerequisites: 45.211 or 45.213 or 46.200, 48.101, 48.210, 50.173, 50.174, 52.101, 52.108.

82.213 Foundations of Nursing Practice (5) - Focuses on the application of assessment skills to promote optimal levels of functioning of the adult and older adult. Students apply theory to the care of the individual client as they begin to assume the nursing roles of practitioner, teacher, leader/manager and consumer of research. Students expand their knowledge and application of major nursing concepts as they provide health care to clients in non life-threatening situations. Laboratory simulations and computer instruction enable the student to develop psychomotor skills basic to nursing practice. Instructional strategies include clinical experiences with clients in community hospital settings. Prerequisites: 82.210, 82.212, 82.214, 50.240.

82.214 Health Assessment (3) - Introduces techniques and principles of health assessment for adult clients. Communication and interviewing skills are reinforced throughout the course. Health patterns of adults are assessed. Validation of health histories and practice of review of systems and basic assessment skills will occur in the health assessment simulated learning laboratory. Prerequisites: prior to or concurrent with 82.210.

82.215 Pathophysiology for Nursing Practice (3) - Assists the student to apply the physiological principles as a means of understanding pathological conditions. Pathophysiological disruptions to system functioning are presented. The impact of these disruptions on the individual is discussed. Students will develop an understanding of signs and symptoms associated with selected pathophysiological disruptions as a basis for determining nursing care needs. Prerequisites: Prior to or concurrent with 82.213, 82.210 and 50.240.

82.217 Alcohol: Use and Abuse (3) - Provides a comprehensive overview of alcohol use and misuse in the American population. Because alcohol is a leading public health problem in the U.S. today, this course is intended for students of all disciplines. The nature of alcohol problems will be examined as well as socio-cultural attitudes toward drinking. Alcohol's effects on the body will be explored. The impact of alcoholism on adolescents, professional workers, women, the elderly, and the family will be discussed. Prevention, intervention, and referrals will be examined. An overview of treatment and rehabilitation will include spiritual, moral, and legal aspects. This is not a clinical course; it is a free elective and an approved general education values course. Prerequisites: None. General Education elective

82.230 Drug Use and Abuse in Society (3) - Uses a multidimensional approach that emphasizes the confounding variables of biology, culture, family systems, this course focuses on critical issues relating to substance use and abuse. Examines a variety of perspectives related to drugs and drug use - pharmacological, behavioral, historical, legal and clinical. Relates the latest information on drugs to their effect on the human body and behavior, the family, and society. Substance dependence, intervention, referral and treatment are discussed. Drug control policies, prevention, and legal aspects of substance use are explored. General education elective.

82.305 Role Development for the Nurse Generalist (RNs) (3) - Designed to advance the role development of the registered nurse

into professional practice as espoused by baccalaureate education in nursing. In this course, students will be introduced to the mission, philosophy, objectives, and organizing framework of the Bloomsburg University Department of Nursing. Students will apply concepts, principles and a variety of theories derived from nursing and related disciplines in developing their professional roles as practitioner, teacher, leader/manager, and consumer of research. Insights derived from values clarification and self-awareness activities will be applied as students explore legal, ethical, political and technological issues in their work independently and/or in collaboration with others. Students will be expected to apply principles and strategies of effective communication and group process as they work independently and/or in collaboration with others. Students will also be expected to articulate their own philosophy of professional nursing practice and to explore, at a basic level, the relatedness of their philosophy to a model of nursing practice. Prerequisites: Current state licensure as a RN; or and requirements under the articulation model.

82.306 Introduction to Nursing Research (3) - Introduces students to the concepts, skills and processes of research in nursing. The contributions of selected nursing theorists are explored as frameworks for nursing inquiry. Students evaluate research critically and examine its importance to the discipline of nursing. Prerequisite: 48.160 or 53.141; junior standing; 82.305 (if RN) or consent of instructor. (Spring semester only)

82.307 Geriatric Nursing (3) - Focuses on the physiological, psychological and social aspects of aging with emphasis on the assessment of problems and appropriate nursing intervention. Prerequisite: junior or senior standing or RN. Elective

82.310 Family Nursing (2) - Focuses on the concept of family as an open system and use of the nursing process to assess and promote family health across its lifespan. Students analyze the structures and functions of the family in contemporary U.S. society as a basis for determining health care needs. The role of the environment and sociocultural factors are explored as they influence the family's various functions. The nurse's role in assisting the family to assume responsibility for meeting the needs of its members is stressed. Prerequisites: 82.213 Foundations of Nursing Practice; concurrent 82.311 or 82.312. Fall Semester Junior Year only.

82.311 Adult Health Nursing I (7) - Focuses on the application of the nursing process to promote and restore the health of older adults with chronically or potentially life threatening illnesses. Students apply developmental theory related to the older adult while providing health care. Increasing independence in nursing roles occurs and students collaborate with health care providers in a variety of settings. Prerequisites: 82.213

82.312 Maternal and Child Health Nursing (8) - Focuses on family-centered nursing and the use of assessment findings to diagnose, plan, deliver, and evaluate quality care of women, neonates, children, and their families. Students, with guidance from faculty, integrate family and developmental theories into nursing practice with clients in a variety of settings. As providers of care, students serve as the patient advocate and educator as they focus on health promotion, risk reduction, and illness and disease management. Clinical sites support the students' increasing responsibility for collaboration with other members of the interdisciplinary team. Prerequisites: 82.213

82.313 Special Topics (1-6) - Presents a diversity of topics focusing on contemporary trends, issues and problems relevant to the principles and practice of professional nursing in the health care system.

82.405 Independent Study (1-6) - Requires investigation of an area of special interest and value to the student under the direction of a faculty member following a plan approved by the department chairperson. Course may be interdisciplinary. Prerequisite: junior or senior standing or consent by department.

82.410 Community Health Nursing (5) - Focuses on the use of nursing process, demography, epidemiology, program planning and

evaluation to assist communities with the promotion, restoration and maintenance of health. The impact of multiple systems on health and healthcare delivery is identified as students collaborate with clients, support systems, other providers, public health agencies and the community as a whole. Role development will be fostered through independent and interdependent activities with culturally diverse groups and organizations. Approved as a cultural diversity course. Prerequisites: 82.306, 82.310, 82.311, 82.312, (82.305-RNs only)

82.411 Psychiatric/Mental Health Nursing (5) - Focuses on the application of diverse theories, psychobiological concepts and epidemiological principles to students' use of nursing process to promote, maintain and restore the health of a culturally diverse client population in a variety of mental health care settings. Students employ a "therapeutic use of self" and function in independent and interdependent roles as they collaborate with client, support systems and other providers to deliver holistic and humanistic care. Prerequisites: 82.306, 82.310, 82.311, 82.312.

82.412 Adult Health Nursing II (7) - Focuses on providing care for adult clients with complex needs. Students employ critical thinking to problem-solving and make decisions. Student use nursing process, therapeutic skills and technology in assisting these clients to attain an optimal level of functioning. They collaborate with clients and the interdisciplinary team to promote, maintain and restore optimal health to a variety of clients. Learning experiences provide opportunities for students to develop proficiency as a practitioner, teacher, leader/manager, and consumer of research. The course promotes integration of values into professional behaviors and accountability for personal and professional growth. Prerequisites: 82.306, 82.310, 82.311, 82.312. Concurrent with 82.414.

82.414 Nursing Management/Leadership (4) - Focuses on management principles, including leadership theories and concepts, decision-making processes, budgeting guidelines and case management concepts. Content on public policy and health care economics are integrated into concurrent clinical courses to enhance professional role development. Prerequisites: 82.305(RNs), 82.306, 82.310, 82.311, 82.312, senior nursing major status.

82.451, 82.551 Transcultural Health Issues (3) - Provides students with a global perspective of transcultural health issues. Students will analyze the cultural, social, educational, economic, political, and environmental forces that contribute to health on an international level. Major cultural and ethnic determinants of health in developed in various countries in solving their health care problems will be compared. Research on transcultural health organizations dealing with cultural and ethical and ethical issues in world health will be evaluated. Prerequisites: Junior/Senior Undergraduate nursing major status or Registered Nurse (RN). Elective

82.460 Health Concerns in the Classroom: A Primer to Teachers (3) - Focuses on health problems of the school-age population and the educator's role in the classroom management of these problems. Health mandates, acute and chronic health conditions of childhood and adolescence, and strategies for maintaining a healthy classroom environment are presented. The medically fragile child in the classroom is also discussed. Prerequisites: Senior standing; Juniors with permission of faculty member. General education and school of education elective.

82.500 Applied Statistics for Health Professionals (3) - Applies principles and methods of statistical analysis of data in the health professions. The course emphasizes statistical concepts as a set of principles and a way of thinking for health professionals. Course is not required. Prerequisites: high school algebra, basic statistics course or consent of the instructor.

82.501 Theoretical Bases for Role Development in Advanced Nursing Practice (3) - Examines theoretical formulations related to role development in advanced nursing practice. Students use concepts, principles and strategies inherent in a variety of theories (i.e., systems, change, professional socialization and role) to serve as a framework for the development and enrichment of their advanced practice roles. Theory building, the relationship of models to

theories, and major conceptual and theoretical models in nursing practice are also introduced. Students analyze and apply tenets of selected conceptual model of nursing to their own philosophy of advanced nursing practice. Leadership principles are also incorporated as students identify an actual or potential issue or problem related to their advanced practice role and design a proposal for planned change. Offered as a web-based course.

82.502 Epidemiology: Concepts and Principles for Advanced Nursing Practice (3) - Focuses on conceptual orientation and knowledge of techniques from epidemiology as a basis for all aspects of population-based practice in advanced nursing. Epidemiological perspective presented as a framework for assessing the well-being of populations and designing, implementing, and evaluating strategic nursing and health care interventions. Students apply basic epidemiologic research designs in the investigation, analysis, and proposed solutions to observed patterns of health states in contemporary populations. Offered as a web-based course.

82.503 Bases for Research for Advanced Nursing Practice (3) - Builds on previous knowledge of research and statistics to enhance student application, use, and development of nursing research to improve the quality of health and health care delivery. Principles and strategies inherent in scientific inquiry, critical evaluation and the research process are applied. Focuses on identification of a researchable problem in clinical nursing practice, review and critique of relevant literature, selection of a conceptual or theoretical framework and identification of an appropriate research design and methodology to study the problem. Students plan, develop and present a research prospectus using appropriate scholarly format and style. Offered as a web-based course.

82.504 Pathophysiology for Advanced Nursing Practice (3) - Presents pathologic mechanisms of disease that serve as a major component in the foundation for clinical assessment and management of individuals, essential for advanced nursing practice. Primary focus is on applying pathophysiological mechanisms to explain illness phenomena and in assessing an individual's response to the pharmacologic management of illnesses. Major laboratory studies useful for verifying abnormalities are discussed. Builds on knowledge from undergraduate courses through pursuit of content in greater depth and synthesizing and applying research-based knowledge. Offered as a web-based course.

82.507 Pharmacology for Advanced Nursing Practice (3) - Applies principles of pharmacology to advanced nursing practice of adults. Emphasis is on physiological mechanisms of drug action and significant adverse reactions. Presents proper prescribing and monitoring procedures for various drug regimens used to treat common disease states. Discusses self-medication, multiple drug interactions, legal, ethical and socio-cultural implications of drug therapy and patient teaching. Presents alternative "drug" therapies. Offered as a web-based course.

82.508 Adult Health Assessment and Promotion (6) - Focuses on developing the student's competence in performing health assessment of adults. Learning experiences are provided for synthesizing cognitive knowledge with psychomotor skills. Throughout the course, emphasis is placed on health assessment, communication, analysis of data, written and verbal presentation of data and issues related to health promotion and disease prevention in adults. Prerequisite or corequisite: 82.504.

82.509 Theory of School Health Nursing (3) - Provides an overview of coordinated school health programs and the role of the school nurse. The focus is on the implementation of a coordinated school health program based on local and state mandates and laws. Emphasis is placed on the relationship between a coordinated school health program and "Healthy People" objectives.

82.511 Community Health Nursing I (6) - Focuses on the role development of the clinical nurse specialist in community health nursing. Students apply advanced knowledge, skills and critical thinking in the competent use of the nursing process with populations and the community as a whole. Evaluation and

refinement of a model for advanced practice provide a framework for the student's development of the multifaceted roles of practitioner, educator, researcher, consultant and leader/manager. Leadership principles and strategies are applied as students assess and analyze the health status and determinants of health of populations and the total community. Students collaborate and coordinate with other community health nurses, a variety of providers, and clients in a diversity of settings to plan and develop innovative programs designed to meet identified health needs of risk populations in the community. Weekly seminars assist and enable the students to participate in the analysis of current community health issues, develop research skills, and understand the development and operationalization of health policies within community health programs. Prerequisites: 82.501, 82.502, 83.503, 82.520..

82.512 Adult Health and Illness Nursing I (6) - Focuses on the role development of the clinical nurse specialist in adult health and illness. Students apply advanced knowledge, skills and critical thinking in the competent use of nursing process, therapeutic interventions, and technology to administer nursing services to a specific adult population to facilitate optimal wellness and to impact on the delivery of adult health care. Evaluation and refinement of a model for advanced practice provide a framework for holistic care of adult clients and one's development of the multifaceted roles as practitioner, educator, consultant and leader/manager. Leadership principles and strategies are employed as students collaborate with adult clients, support systems and variety of providers in diverse settings to promote, restore and maintain adult health. Through social, ethical and political actions, client advocacy and change process are encouraged to affect the quality of adult health care. Weekly seminar affords student's participation in analyzing current adult health care problems, trends/issues and in evaluating and formulating strategies for health care reform. Research skills are enhanced through seminar presentations, clinical practicum and course assignments. Prerequisites: 82.508.

82.513 Management and Organizational Behavior in Nursing Administration (6) - Applies managerial theories and concepts to nursing administration. Focuses on the synthesis and utilization of managerial principles, organizational behavior, management information systems, operations management and financial accounting in nursing administration for the delivery of effective health care. Fall semester only. Prerequisites: 40.512, 91.504, 91.524, 93.501, 93.566, 82.501, 82.502, 83.503, 82.520. Two hours/week, practicum for 12 hours/week.

82.514 Independent Study (3) - Student works with a faculty preceptor in conducting an individualized study related to a particular area of clinical interest.

82.515 Diagnosis and Management of Health Problems in Adults I (6) - First of two clinical courses that focuses on diagnosis and management of health problems in adults. Emphasis on developing knowledge related to the most common problems for adults in ambulatory care, including but not limited to hypertension, cough, chest pain, dyspnea, edema and fatigue. Addresses issues related to the role of the nurse practitioner and provides opportunities to discuss these as the student begins the transition to this advanced practice role. Prerequisites: 82.502, 82.507, 82.508.

82.516 Diagnosis and Management of Health Problems in Adults II (6) - Second of a two-semester clinical sequence that focuses on the diagnosis and management of health problems in adults. Emphasis on developing knowledge related to the most common problems for adults in ambulatory care, including but not limited to sore throat, abdominal pain, headache and arthritis. Addresses issues related to the role of the nurse practitioner and provides opportunities to discuss these as the student continues transition to this advanced practice role. Prerequisite: 82.515.

82.517 Diagnosis and Management of Children and Pregnant Women (8) - Offered to students who have completed all courses for the Adult Nurse Practitioner Program and who desire preparation as a Family Nurse Practitioner. Completion of this clinical course will

prepare the student to function as a Family Nurse Practitioner and to be eligible to take a family nurse practitioner national certification examination. Focuses on the diagnosis and management of the most common health problems of children and pregnant women with an emphasis on developmental stages and family social and cultural influences. The student will increase clinical reasoning skills to manage acute and chronic illnesses as well as to promote the health of children, pregnant women and families in primary care settings. In addition, the course will address issues related to the role of the Family Nurse Practitioner and provide opportunity to discuss this as the student continues the transition to this advanced practice role.

82.520 Community Assessment and Planning (3) - Provides students with knowledge and skills to perform a comprehensive community assessment and develop a program for an identified health need or problem. Students use concepts from nursing theory, epidemiology, cultural principles and research to identify a community need or problem, develop a proposed solution and plan of action. Preparation of a grant proposal will be a major focus of the plan of action. Class format is seminar and collaborative group work. Prerequisite: 82.502. Offered as a web-based course.

82.521 Nurse as Health Educator Within School System (3) - Focuses on the application of principles of health promotion and health education within the school system. Theoretical content builds on learning theories appropriate to the school age child and families. This course provides the information necessary for the school age child and families. This course provides the information necessary for the school nurse to assess the health education needs of school students, families and school personnel; to plan a specific health program; and, to identify mechanisms for implementation within a school system.

82.522 Family Health Nursing Theory (3) - Focuses on theoretical perspectives of the family as a basis for advanced practice nursing in the specialty area of Family Nurse Practitioner. Models and theories of family health and family nursing are analyzed, compared, and contrasted. Strategies for using these theoretical bases to form working partnerships with families across the life cycle to advance their capacities are explored in depth. Use of the clinical case study methodology demonstrates the levels and scope of information and interventions that can be derived from using the various models and instruments. The implications for family practice, education, family health policy, and research are examined.

82.531 Community Health Nursing II (6) - Builds upon Practicum I and concentrates on advanced professional nursing. There is an emphasis on the student's increasing independence and self-directed learning. Through the assimilation of additional theory, students continue to apply critical thinking, communication skills, therapeutic interventions and values as they implement and evaluate community health nursing programs and interventions for selected high-risk populations. They function independently and collaboratively with others who influence the health care environment to improve the health of the community. Students continue to engage in social, ethical and political actions which initiate and effect change at the community level. Interventions that assist in the development of public policy based on the assessed needs of populations are stressed. Weekly seminars continue to focus on the analysis of current community health issues, leadership in the development of health policy and research in the advanced practice in community health nursing. Prerequisite: 82.511.

82.532 Adult Health and Illness Nursing II (6) - Concentrates on advanced professional nursing practice as a clinical nurse specialist within a specialized area of adult health and illness through independent, self-directed learning. Through self-directed learning activities, the student is facilitated to assimilate additional theory and research in advancing the student's knowledge, critical thinking, communication skills, therapeutic interventions/technology and values in advanced clinical nursing practice for adult clients. Students enhance their expertise in the multifaceted roles of the clinical nurse specialist in adult health and illness by assuming

leadership/management positions in a health care setting and by functioning both independently and collaboratively with clients, support systems, other providers and community in improving the quality of adult health care. Social, ethical and political actions are employed in order to initiate and affect change regarding the development of health care policy and its effect on health care. Weekly student-conducted seminars focus on the analysis of current concepts, practices, trends, issues, health policies and research in their role enactment as clinical nurse specialists in the advanced practice of adult health and illness. Prerequisite: 82.512.

82.533 Management and Organizational Behavior in Health Care Delivery System (6) - This course explores, through a seminar format, complex organizational issues and future directions in health care and health care organizations. The major focus of this course is on process designs and models of effective partnerships/health care practices between and within organizations. Weekly student-conducted seminars center on the analysis of current management/leadership practices, trends and issues in organizational transformation, health policies and research in one's role enactment as a nurse member of an executive management team. Course may be taught in another country to provide international aspects. Prerequisite: 82.533, consent of the instructor.

82.534 Adult Nurse Practitioner Practicum and Seminar (6) - Culminating clinical course for the adult nurse practitioner program. Provides the student an opportunity to apply knowledge gained throughout the program while gaining entry-level competence in the clinical area of the student's choosing. Addresses clinical and professional role issues, including management of complex patients and assessment of organizations as practice settings, quality of care and risk management, and professional responsibilities of practice. Issues of professional responsibility include influence of and on health policy, continuing education, health education of the community and clinical research. Focuses on developing confidence and competence as an adult nurse practitioner. Prerequisite: 82.516.

82.560 Health Concerns in the Classroom (3) - Focuses on health problems of the school-age population and the educator's role in the classroom management of these problems. Health mandates, acute and chronic health conditions of childhood and adolescence, and strategies for maintaining a healthy classroom environment are presented, including the medically fragile child in the classroom.

82.590 Thesis (6) - Available as an elective. Prerequisite: see clinical option advisor.

## Medical Technology - MDT (86)

Administered by Department of Biological and Allied Health Sciences

Effective Fall, 2003

86.401 Clinical Microbiology (6-10) - A lecture and laboratory study of bacteria, fungi, parasites and viruses which cause disease in humans, their clinical pathology and related diagnostic laboratory procedures.

86.402 Clinical Hematology/ Coagulation (6-10) - A lecture and laboratory study of hematopoiesis and blood coagulation. Students acquire an understanding of the theory of hematological tests, skills in the performance of these tests, knowledge of blood disorders and insight into the significance of test results.

86.403 Clinical Chemistry for Medical Technologists (6-10) - Lecture and laboratory study of enzymes, carbohydrates, lipids, proteins, nitrogenous end products, electrolytes, acid-base balance, body fluids, toxicology, endocrinology and urinalysis. Lecture series includes anatomy, physiology, methods of analysis and clinical significance of each biochemical determination. Laboratory study includes standardization and quality control of procedures using spectrophotometry, chromatography, electrophoresis and automated techniques.

86.404 Clinical Immunohematology (3-6) - Lecture and laboratory study of blood groups, genetics, antigens and antibodies and their interaction as related to safe transfusion, prediction of immune incompatibilities and probability of parentage. Donor collection, processing, blood component preparation and therapy also studied.

86.405 Clinical Immunology/Serology (2-4) - Lecture and laboratory study of immunological concepts and theory and their relation to serologic reactions and clinical interpretations.

86.406 Clinical Seminar (1-6) - Covers courses not included above, such as orientation, laboratory management, education, clinical microscopy and/or areas unique to the individual hospital program.

## General Business - BUS (90)

Administered by Department of Business Education and Office Information Systems

Effective Spring, 2004

90.101 Introduction to Business (3) - Provides a study of business and its environment organization, operation and interrelationships with government and society. Business majors develop a broad base for further study in a specific area in business, while other majors become familiar with the American enterprise system and the functions and issues facing business today. Prerequisite: Not open to business administration degree students with 6 or more semester hours in business.

90.333 Business Communications and Report Writing (3) - Applies theories and principles of effective communication to solve common business problems. Psychological and organizational strategies are used in writing business reports and other documents. Prerequisite: junior or senior standing.

90.350 Valuing Diversity in Business (3) - A study of the challenges and opportunities presented to businesses in the United States by an emerging multicultural society. Explores cultural heritage, values, beliefs and prejudices and the effects of privilege and oppression upon individuals organizations and businesses, as well as possible solutions.

90.402 Instructional Strategies and Assessment in Business, Computer and Information Technology (3) - This course emphasizes a variety of instructional strategies and assessment techniques for teaching business, computer and information technology courses. Prerequisites: senior level, schedule semester prior to student teaching.

90.403 BCIT Field Experience (1) - Initiates an awareness of the teaching and learning atmosphere of the professional teacher in the classroom. Students provided opportunities to undertake the responsibilities assigned to a classroom teacher, including assuming some of the teaching role competencies. Must be scheduled the semester prior to student teaching. Prerequisite: Admission to teacher education.

90.404 Professional Semester in BCIT (12) -Includes orientation experiences to observe the operation of a school and specific classes as well as 16 weeks of participatory teaching experiences correlated with classroom studies under full-time supervision. Must be scheduled concurrently with 90.406.

90.406 Clinical Studies in BCIT (3) - Presents seminars on principles of education for business, computer and information technology teachers, instructional strategies for teaching business subjects, assessments and problems of classroom teaching. Classroom discussions closely correlated with the experiences of 90.404. and the four domains of the conceptual framework for professional practice.

90.431 Independent Study in Business (1-3) -Topic and outline of project must be approved by the department chairperson and dean of the college. Prerequisite: Open to seniors only.

90.432 Internship in Business (1-6) - Provides students with opportunities to acquire practical experiences in work situations in

office systems. Prerequisites: Approval by department chairperson; GPA of 2.50 and 75 semester hours earned.

90.460 Business and Office Workshop (1-3) - Students acquire an awareness and understanding of the knowledge pertaining to the professional development and improvement of business skills, the enhancement of business and office education as a professional responsibility and their role in the business world.

90.498 Special Topics in Business Education and Office Systems (1-3) - A study of the aspects of business education or office systems. Not available as a regular course offering.

90.560 Business and Office Education Workshop (1-3) - Addresses those educational ideas and experiences that encourage, support, and guide participants to acquire an increased understanding of the accumulated knowledge pertaining to the development of business skills, enhancement of business education as a profession, and determination of a business and office personnel's responsibility and role in the business world.

90.564 Business Education Program Management and Development (3) - Studies basic management and curriculum theory as it applies to business education program administration and supervision. Course approached from the perspectives of planning, organizing, staffing, directing, and controlling.

90.581 Seminar in Business, Computer and Information Technology (3) - Investigates and evaluates completed research in business education on particular topic area(s). Students submit written reports which are used as the basis for class discussions.

90.590 Master's Thesis in Business Education (6)

90.599 Special Topics in Business Education and Office Information Systems (3) - Studies current or advanced topics in the field of business teacher education and/or office information systems not normally presented in other courses.

## Accounting – ACC (91)

Administered by Department of Accounting  
Effective Spring, 2004

91.120 Accounting for Small Business (3) - Familiarize students with accounting principles and practices applicable to small business organizations. For non-accounting majors.

91.220 Financial Accounting (3)-Familiarizes students with a basic understanding of generally accepted accounting principles and their applications. Includes sole proprietorship, partnership, and corporation accounting; computerized accounting and/or writing project. For non-accounting majors only.

91.221 Principles of Accounting I (3) - Presents the accounting cycle for service and merchandising activities of a sole proprietorship; special journals and ledgers, accrued and deferred items, cash, receivables and inventories. General ledger and/or spreadsheet computerized accounting is required.

91.222 Principles of Accounting II (3) - Further develops the accounting cycle; recording, summarizing, interpreting financial data for partnerships and corporations. Includes cash flow, long-term liabilities, plant assets and payroll accounting. A practice set and general ledger and/or spreadsheet computerized accounting and required. Prerequisites: 91.220 or 91.221

91.223 Managerial Accounting (3) - Presents volume-cost-profit analysis, special decisions, operational and financial budgeting, control and performance evaluation, job-order costing, variance analysis, cost allocation, quantitative decision-making techniques, and analysis of financial statements. Students are expected to be proficient in the general use of spreadsheets. Prerequisites: 91.220 or 91.222 and 92.150.

91.320 International Accounting (3)- Addresses needs of accounting and finance students wishing to become more qualified in accounting on a global perspective. Provides an international accounting

component for students who have completed foundation courses. Prerequisites: 91.220 or 91.222. Meet cultural diversity requirement.

91.321 Intermediate Accounting I (3)- Presents the conceptual framework of accounting, accounting environment and information processing system, financial statements and accounting standards, accounting uses of present and future value concepts, cash and receivables and inventories. Use of spreadsheets to solve computer problems in each chapter is required. Prerequisites: 91.222.

91.322 Intermediate Accounting II (3)- Presents accounting standards for property, plant, and equipment, intangible assets, current liabilities and contingencies, long-term liabilities, contributed capital and retained earnings sections of stockholders' equity, stock rights and options, and dilutive securities and earnings per share. Requires students to use an approved word processing software package to produce a research paper. Prerequisites: 91.321.

91.323 Intermediate Accounting III (3)- Presents accounting standards pertaining to investments in debt and equity instruments, revenue recognition, pension plans, leases, income taxes, accounting changes and error correction, Statement of Cash Flows, and accounting disclosures. The use of a spreadsheet program is required. Prerequisite: 91.321

91.324 Federal Tax Accounting (3) – Introduces basic tax laws pertaining to preparation of individual federal tax returns and supporting schedules. Emphasis on tax law research using federal tax services and contemporary professional literature. Prerequisite: 91.321

91.342 Auditing Theory and Procedure (3) – Outlines principles, standards, procedures, and techniques applicable to internal and public auditing; consideration of the audit report and development of working papers for preparation of the report. Prerequisites: 40.346 and 91.322

91.348 Cost Accounting (3) – In-depth study of the three major production costs – raw material, factory overhead, and labor. This course requires extensive spreadsheet use at an intermediate to expert level.

91.424 Advanced Federal Tax Accounting (3) - Assigns group and individual projects selected from the following areas of advanced tax accounting: partnerships and corporations, Pennsylvania corporate taxes, estates and trusts, reporting to governmental agencies. Includes lectures, discussion of issues and practice in the solution of problems. Prerequisite: 91.324

91.430 Advanced Accounting I (3) – Applies accounting principles to special problems in the consolidation and merger of business enterprises. Includes consideration of the basis for such combinations, consolidated statements on date of acquisition as well as subsequent dates with special emphasis on design, construction and utilization of integrated microcomputer-generated worksheets and financial statements. Prerequisite: 91.322.

91.431 Advanced Accounting II (3) – Advanced Accounting II focuses on the accounting and reporting for partnerships, foreign, currency transactions, restatement of financial statements of foreign subsidiaries from foreign currency units to U.S. dollars, and accounting and reporting for governmental and non-profit organizations. It also covers segment reporting, interim reporting, derivative financial statements, and SEC reporting requirements. Prerequisite: 91.322.

91.432 Internship in Accounting (6) – Provides work experiences in the accounting profession. Prerequisite: 75 semester hours completed and adequate course preparation for the tasks to be performed.

91.448 Advanced Cost Accounting (3) – Continuation of 91.348, concentrating on advanced cost accounting issues, including standard costs and budgets. Emphasis on case studies used to analyze and interpret cost data.

91.449 CPA Problems (3) – Addresses the application of procedures for the solving of a cross section of complex accounting problems

and the discussion of theory and practice. Prerequisites: 91.324, 91.342 and 91.348; senior standing or consent of instructor.

91.498 Special Topics: Introduction to Healthcare (3) – Introductory management and leadership skills for the health professional, who by education and background is prepared not to manage but to practice a profession, but nevertheless finds her/himself in a management position.

91.501 Financial Accounting (3) – A conceptual study of financial accounting theory and its applications. The course examines the effect of normative and positive theories on the financial statements and their impact on the capital markets. Emphasis will be placed on critical thinking, written and oral communication skills, and professional development. Prerequisites: Undergraduate degree.

91.502 Advanced Financial Accounting (3) – Advanced problems in consolidated statements, stockbroker's equity, partnerships, fiduciary accounting, and selected topics dealing with government units and nonprofit service organizations. Selected references to professional literature and uniform CPA examination problems. Prerequisite: 91.501

91.503 Government and Fund Accounting (3) – Accounting principles and practices of governments and nonprofit institutions. Comparisons between accounting principles and practices that applies to governments and nonprofit institutions and those which are generally accepted in business.

91.504 Foundations of Financial Accounting (3) – Introductory course in financial accounting for those who have not had any formal accounting courses. The course covers the accounting cycle for both service and merchandising activities in the corporate form of business. In covering the accounting cycle, the course emphasizes asset valuation, income determination, and cash flows under generally accepted accounting principles. The effects on financial statements of accounting for the following topics are studied: Current assets and current liabilities, revenue and expense recognition, operating assets, intangible assets, long-term investments, long-term liabilities, capital and operating leases, pensions and other post-retirement benefits and financial statement disclosures. Financial statements analysis and interpretation are included. Actual financial statements, case studies and current readings are used throughout the course to aid the students' understanding of topics covered. Course limited to MBA Level I students.

91.521 Advanced Cost Accounting (3) – In-depth study of strategic management accounting concepts and the structure, implementation and maintenance of cost/management accounting information systems that add value to organizations.

91.522 Advanced Auditing Theory (3) – This course provides an in-depth examination of auditing concepts and techniques used by CPA firms to perform financial statement audits. Emphasis is placed on auditor responsibilities, generally accepted auditing standards, ethical issues, and current problems and trends facing the auditing profession. Class meetings include group discussion, case studies, lecture, and presentations.

91.523 Advanced Tax Accounting (3) – This is an advanced course that explores the tax consequences of many sophisticated business transactions. Tax strategies are analyzed for their impact on cash flows, income, and the balance sheet. Students learn assess tax information to make good business decisions. The course downplays extraneous tax code details and focuses on concepts. Topics covered include choosing form of business, capital structure, compensation, income measurement, pass-through entities, distributions, consolidated entities, multi-state business operation, international expansion, sales and exchanges of business interests, mergers, acquisitions, liquidations, and estate planning.

91.524 Managerial Accounting (3) – This course is an introduction to the tools, techniques, procedures and processes employed to provide information for management in decision-making.

91.551 International Accounting (3) – Addresses the global nature of accounting in the current diverse and dynamic business environment.

91.552 Controllership (3) - An integrating course dealing with administrative problems of the accounting function; internal control system design and maintenance; relations with audit committees, CPA firms and regulatory agencies pertaining to internal and external reporting.

91.553 Special Topics in Accounting (3) – This course addresses a variety of topics in accounting and allows the instructor to focus on appropriate current topics in the accounting profession. Students should contact the instructor prior to enrollment.

## **CIS (92) Computer and Information Science**

Administered by Department of Computer and Information Systems  
Effective Spring 2004

92.140 Introduction to Computer and Information Systems (3) - An introduction to information systems. Provides an overview of curriculum and careers in IS. Emphasizes capturing, storing and retrieving data, web site development and relational database concepts. Hands-on component: html, UNIX, Access.

92.141 Introduction to Business Information System Development (3) - An introduction to the development of business information systems emphasizing database management. Key topics include basic system concepts, the system development life cycle, rapid prototyping, and database management principles. Students will develop simple information systems using a database management system and a web interface. Basic SQL will be introduced. Prerequisite: 92.140.

92.150 Introduction to Information Technology (3) (non majors) - Introduces computer-based systems and their use in problem solving and information processing. Includes a study of hardware and software concepts, data management, data communications and system development. Involves hands-on experience with word processing, spreadsheet and file management software using networked microcomputers. Prerequisite: None.

92.240 Introduction to Programming I (3) - An introduction to programming and problem solving. The course focuses on how to write a structured, modular program in a current programming language. Problem solving methods are stressed. Students Examine data representation, control structures, and algorithmic development using a high-level language on a UNIX platform. Prerequisite: 92.141.

92.241 Introduction to Programming II (3) - Object-oriented programming is emphasized. Students learn how to create event-driven programs that involve a graphic user interface. The course focuses on how to write object-oriented programs. It examines objects, inheritance, containers, file I/O and exception handling using a high-level Object-Oriented language on a UNIX platform. The Prerequisite: 92.240.

92.252 Business Oriented Programming (3) - Detailed study of structured problem solving in a business environment. Explores logical and physical structures, data representation, modular design, structured programming and documentation. Presents processing techniques for one and two-level tables, data validation, control break logic and sequential file processing. Students develop increasingly complex programs using COBOL in a UNIX environment. Prerequisite: 92.141

92.346 Data and Information Structures (3) - Studies standard data and file structures and algorithms for creation and manipulation of these structures. Explores rationale for use of structures under varying circumstances from both a practical and theoretical perspective. Involves computer exercises implementing selected algorithms in a suitable high-level language on a UNIX platform. Prerequisite: 92.241

92.351 Systems Analysis and Design (3) - Provides an opportunity to bring together experiences in CIS courses, other business courses and life in general to develop information systems. Helps develop skills required for successful business system development. Prerequisites: 92.252.

92.352 Advanced Programming (spring) (3) - Presents advanced concepts of programming in COBOL with major emphasis on indexed sequential files, interactive programming, subroutine linkage, random files and SQL RDBMS programming concepts. Prerequisites: 92.252.

92.353 Management Information Systems (3) - A study of how computer-based information systems provide information for effective decision making. Includes: structured analysis, design techniques, database concepts, person-machine interaction, data retrieval and telecommunications. The course focuses on the use of information technology to improve modern business decision-making. Prerequisites: 92.150 or 56.110.

92.354 Data Base Processing Systems (fall) (3) - Details and examines data base terminology organization and models. Analysis, design and administration of a relational data base explored through applicable programming experiences. Prerequisite: 92.241

92.356 Operating Systems (fall) (3) - Presents an overview of operating systems including real and virtual operating systems and communications software and techniques. Includes diagnostic facilities, utility routines and system commands. Provides a detailed look at UNIX. Prerequisite: 92.241.

92.358 Data Communication Systems (spring) (3) - Data communications terminology, technology and the functional characteristics of communications hardware and software detailed and explored. Emphasizes systems and programming considerations as related to a commercial environment. Prerequisite: 92.241

92.364 Fundamentals of Electronic Commerce (spring) (3) - This course explores the rapidly-growing field of Electronic Commerce (EC). The communications infrastructure required to implement EC will be studied, particularly the Internet. The related issues of transaction security and privacy will be explored. Consumer-oriented EC will be studied. Students will explore how businesses are utilizing EC to gain a competitive advantage. Prerequisite: 92.354

92.432 Internship in Computer and Information Systems (6) - An educational arrangement between the student and an approved industrial, business or government agency that provides a supervised work experience in a professional area of computer and information science. The experience relates to the academic principles and theories upon which the Computer and Information Systems curriculum is based. Prerequisites: Grade point average of 2.5 and 75 semester hours.

92.450 Expert Systems and Artificial Intelligence (fall) (3) - A survey of basic concepts and techniques of expert systems and artificial intelligence applied to commercial information systems. Examines knowledge acquisition, representation, storage and inference methods used in expert systems. Stresses the applications, and uses illustrations, from the business environment. Prerequisite: 92.241

92.460 Advanced Systems Development I (fall) 3) - First of a two-semester course sequence during which students will work on teams to analyze a business problem and design and implement a computer-based solution. During the first semester, project management techniques and tools will be covered. Students will work in teams to implement the solution to a business problem. Prerequisite: 92.346 and senior standing.

92.461 Advanced Systems Development II (spring) (3) - Second of a two-semester course sequence during which students will work on teams to analyze a business problem and design and implement a computer-based solution. Students will work in teams to implement the solution to a business problem developed in 92.460. The team will make a presentation of its project to a group of IS professionals. Prerequisite: 92.460.

92.498 Special Topics (3) - Examines current or advanced issues in the field of computer and information systems not normally examined in depth in other courses.

92.550 Information Processing (3) - A comprehensive introduction and basic orientation to the use of information processing in the educational environment. Students are required to investigate the impact of the computer and associated peripheral devices on the classroom. Emphasis is placed on the effective use of available computer resources. Prerequisite: Graduate standing.

92.554 Management Information Systems (3) - Studies information analysis and systems design from the user's point of view. Students identify the basic concepts of information systems, information flow and the nature of management information systems. Data bases and data base management systems will be investigated from the manager's perspective. Prerequisite: Graduate standing.

## MGT (93) Management

Administered by Department of Management

Effective Spring 2004

93.244 Principles of Management (3) - Administrative organizational and behavioral theories and functions of management, contributing to the effective and efficient accomplishment of organizational objectives. Prerequisites: 24 credits earned.

93.343 Applied Managerial Statistics (3) - This course develops intermediate concepts of probability and statistics necessary for business managers to fully comprehend, analyze and interpret numerical data in uncertain environments. It enhances the basic methodologies learned in the prerequisite course and develops students' abilities to take content knowledge "out of the classroom" and into the workplace. Knowing how to analyze data, when certain techniques or methodologies are appropriate, how to apply them within constrained resource limitation, and how to transform the results into managerial decision are key abilities that distinguish successful business manager. In addition to emphasizing managerial applications of basic concepts such as hypothesis testing, this course includes regression analyses, correlations analysis and analysis of variance. Non-parametric tools and issues related to qualitative data are also addressed. Throughout this course, key concepts of information systems (IS) are illustrated, discussed and applied, giving students further experience in technology-driven problems, issues and opportunities. Beyond the strategic IS perspective, topics such as data storage, communications general purpose and application software, knowledge-based systems and expert systems are discussed. Prerequisites: 93.244 and 40.256

93.345 Human Resource Management (3) - Equips students with tools and procedures to address human resource issues and problems. Prerequisite: 93.244.

93.346 Labor and Industrial Relations (3) - Describes administration of the relationship between management and the labor force, both where that relationship is governed by a collective bargaining agreement and where it is not. Includes development of the social and legal status of trade unions organizing, negotiations, strikes, grievance procedure and union security. Prerequisite: 93.244.

93.347 Management Science (3) -Covers quantitative models such as linear programming, goal programming, inventory models, forecasting models, PERT/CPM in dealing with the dynamics of manufacturing/service operations in an organization. Prerequisites: 93.244, 93.343

93.348 Operations Management (3) - Educates and trains students to deal with the operational issues and problems in manufacturing and services. Prerequisites: 93.244 and 93.343. Specific sections of this course are designated for non-majors with the following prerequisites: 93.244 and any statistics course.

93.350 Quality Management (3) - Introduces students to the major concepts and techniques used in quality management and control. Prerequisites: 93.244, 93.343, 93.348

93.355 Managing Multicultural Organizations (3) - Studies the impact of increasing diversity in terms of gender, race, ethnicity and nationality on management practice of multicultural organizations through enhanced decision making. Examines ways in which diversity can be used to strengthen organizations through enhanced decision making, creativity, innovation, and expanding international and ethnic markets. Examines strategies for building and maintaining functional multicultural organizations by reducing turnover, interpersonal and conflict and communication barriers. The course emphasizes workplace equity. Prerequisite: 93.244.

93.362 Organizational Design (3) - Discusses the differences between micro and macro perspectives in the study of organization and provides a macro view in which the organization is the unit of analyses as opposed to individual members. Provides students with an in-depth understanding of how organizations are formed and how external as well as internal factors influence the structure and design of the organizations. Also explores variables for designing and managing organizations. Prerequisite: 93.244.

93.391 Small Business Management (3) - Introduces environment of small business in the United States. Describes types of small business and problems associated with each type. Covers ownership, start up, franchising, finance, accounting, personnel, risk management, inventory, advertising and marketing and production processes. Special emphasis is given to incentives and legal requirements of Pennsylvania with regard to small businesses. Prerequisites: 93.244 and 91.220 OR 91.120

93.400 Entrepreneurship (3) - This course focuses on three major issues: 1) how to launch new ventures: creating and assessing opportunities and the associated risks in their right perspectives; 2) managing innovation and entrepreneurship in an ongoing business; and 3) attracting venture capital to new business opportunities. Prerequisites: 93.244 and 96.300 OR 96.313.

93.432 Internship in Management (3-6) - Integrates classroom experience and practical work experience in industrial, business or government work situations. Allows students to translate academic theories and principles into action, to test career interests and to develop skills and abilities through carefully planned and supervised problems related to the field of management. Prerequisites: 93.244 or approval of internship supervisor, GPA of 2.50, 75 semester hours and major or minor in business administration.

93.440 Small Business Internship and Seminar (1-3) - Teams of students work with local businesses in a consultancy capacity to aid small businesses while applying business principles. Work includes analysis of a problem, determination of alternative solutions, recommendation of the optimum course of action by means of an oral presentation to business owners. Prerequisite: GPA of 2.5, 93.244, 97.310 and 98.331.

93.445 Managerial Communications (3) - Prepares students for effective managerial communication by providing preparation in the process and structure of communication in a professional setting. Prerequisites: 20.201, 25.103, 93.244 and junior standing.

93.449 Organizational Behavior (3) - Provides the tools and theories regarding personal, interpersonal and group processes within the organization at the micro level. Prerequisite: 93.244, junior standing.

93.456 International Management (3) - Develops and understanding of the issues related to international business environment, refines this knowledge by the analysis of current economical, social and political issues that can influence international and global companies and prepares students to analyze international business issues as a manager of a multinational/global company. Prerequisite: 93.244 and junior standing. Diversity course.

93.457 Business and Society (3) - Prepares students to manage social responsibility and ethics issues related to business operations and the

interests of multiple stakeholders. Prerequisites: 96 semester hours earned, 20.201, 25.103, 93.244, 96.313, 97.310 and 98.331.

93.463 Employee Staffing (3) - Examines the procedures used by companies to recruit and hire employees. Students learn how organizations seek to improve effectiveness by ensuring each job is legally staffed by a fully capable individual. Topics covered include job analysis, employee recruitment, selection techniques, validation procedures and legal restraints on employee selection practices. Prerequisite: 93.345 and junior standing.

93.464 Compensation Management (3) - Examines how the development of a firm's compensation system. Students learn how companies design their compensation systems in an effort to enhance their recruiting, motivation and retention of employees. Topics covered include job evaluation, salary surveys, pay-for-performance programs, legal issues, and the design and evaluation of employee benefits packages. Prerequisite: 93.345

93.481 Business Policies and Strategies (3) - Prepares students in the area of strategic decision-making for the total organization through strategic formulation and administration using integrative analysis and strategic planning and process. Prerequisites: 90 semester hours earned, 93.244, 96.313, 97.310, 98.331 and senior standing.

93.483 Leadership (3) - This course examines theories of leadership and sources and uses of power in the organization. Assumptions, beliefs and styles of leadership in the context of organizational culture, productivity, performance and effectiveness will be examined through case studies. Employee compliance, control as well as satisfaction; stakeholders' support, commitment as well as satisfaction issues will be addressed through in-depth studies of effective leaders of select private, public and human services organizations. Organizational vision, mission and social and ethical responsibilities, and workforce diversity will be discussed in the context of transformational leadership. Prerequisites: 93.244 and Junior standing.

93.498 Special Topics - Management (3) - Examines current or advanced issues in the field of management not normally examined in depth in other courses. Prerequisite: approval of the department chairperson.

93.500 Managerial Principles (3) - Focuses on the fundamentals of the practice of management, including administrative, organizational and behavioral theories. Explores the functions of management and the aspects of the organizational environment. Prerequisite: graduate standing. Available as a distance learning course.

93.511 Statistical Analysis (3) - Covers statistical inference and its application to the commonly used methods of estimation, hypotheses testing, prediction and decision making relevant to business and managerial problems. Prerequisites: Graduate standing. Available as a distance learning course.

93.520 Business Research Methods (3) - Assists students in developing knowledge of business research methods, suitable for workplace application, to enable solutions and recommendations founded on legitimate and efficient data and information. Content includes research process, research design, sources, collection and analysis of data, and presentation of results and recommendations. Prerequisites: 93.511 or permission of instructor. Available as a distance learning course.

93.532 Professional Development Skills (3) - This course will help students examine themselves and discover strengths and weaknesses, develop a personal mission statement and career goals, and develop skills and self-knowledge essential to effective management. Bulk of class time will focus on self-assessment or skill development and provide a foundation for enhanced success in the MBA program and continued development in future careers.

93.545 Graduate Human Resource Management (3) - Equips students with tools and procedures to address human resource issues and problems.

93.547 Quantitative Models for Management (3) - Assists students in developing working knowledge of operations research models and methods so they can apply them in business environments.

Specifically, desired outcomes include the ability to translate business problems into the appropriate mathematical formulation, apply the correct quantitative model and interpret the results, using sensitivity analysis to respond to "what if" managerial challenges. Prerequisites: Foundation courses; 93.511 or permission of instructor

93.548 Decision Models for Managers (3) - Assists students in developing working knowledge of decision making models and methods so they can apply them in business environments. Desired outcomes include the ability to translate business problems into appropriate decision models, taking into account individual and organizational preference structures and environmental uncertainty. Prerequisites: Foundation courses; 93.511 or permission of instructor; 93.547.

93.550 Quality Management (3) - This course introduces students to quality management philosophies that have developed over the past 20 years, including those of Deming, Juran and Crosby. It provides students with opportunities to learn and apply various problem-solving tools, to recognize strengths and weaknesses of various management programs, activities and paradigms, and to understand and apply statistics-based process evaluation and improvement. The course includes opportunities to work on applied problems from the student's own workplace and prepare results suitable for management presentations. Prerequisites: Foundation courses or permission of instructor.

93.556 International Management (3) - Focuses on dynamic changes in international business environment and increased foreign competition that challenge managers. Addresses international issues and understanding of their impact on markets, products and services. Develops understanding of international business environment and issues that have the potential of enhancing an enterprise's survival and success. Prerequisite: Foundation courses.

93.558 Social Responsibility and Business Ethics (3) - Focuses on theories, concepts and tools for managing social responsibility and ethics in different organizational settings. Prerequisites: Foundation courses.

93.560 Operations Management (3) - Analyzes manufacturing and service systems and application of managerial decision-making in resolving operational policy problems. Prerequisites: Foundation courses.

93.562 Organizational Theory (3) - Provides a macro level understanding of organizational structure, processes and management of external organizational relationships. Prerequisites: 93.500.

93.566 Organization Behavior (3) - Focuses on human aspects of an organization, groups and individuals. Addresses behavioral concepts and theories in leadership, motivation, performance appraisal, stress, job satisfaction and inter- and intra-group processes.

93.567 People Management Skills (3) - This is an experiential, skill-building course that focuses on the development of interpersonal management skills. Students enhance their skills in areas of supportive communication, managing conflict, motivating employees, delegating responsibilities, developing and managing work teams, managing problem employees and facilitating change.

93.581 Strategic Management (3) - Examines complex industrial situations to determine better strategies to ensure a firm's long-run survival and growth in competitive markets. Emphasizes problem solving skills and implementation of optimal decisions. Examines the factors that can result in performance differentials by understanding how a firm attains a superior performance. Analyzes and investigates strategic problem-solving processes that can enhance control of the firm over the market and competition. Prerequisites: Capstone course, to be taken in graduating semester; 91.524; 93.511; 96.535; 97.551; 93.560; 93.566 and foundation courses.

93.582 HR Skills for Managers (3) - This course covers the skills needed by managers to effectively implement practices to help an organization deal effectively with its people during various phases of the employment process. Through experiential methods, such as case studies and role-plays, students learn how to perform such HR tasks as interview job applicants, provide and communicate job performance ratings and carry out disciplinary procedures, all within the context of prevailing legal and ethical standards.

93.583 Human Resources Development (3) - Focuses on current research and theories related to management and development of human resources in organizational settings. Emphasizes theories related to motivation, training and development, leadership, behavior and performance in an organization.

93.584 Seminar on Leadership (3) - This course examines theories of leadership and sources and uses of power in the organization. Assumptions, beliefs and styles of leadership in the context of organizational culture, productivity, performance and effectiveness will be examined through case studies. Employee compliance, control as well as satisfaction; stakeholders' support, commitment as well as satisfaction issues will be addressed through in-depth studies of effective leaders of select private, public and human services organizations. Organizational vision, mission and social and ethical responsibilities, and workforce diversity will be discussed in the context of transformational leadership. Prerequisites: 93.500 (or equivalent)

93.599 Special Topic (3) - Addresses a variety of advanced topics in management at the graduate level and permits the instructor to focus on issues of particular importance and interest to the discipline. Prerequisites: Approval of the department curriculum Committee and the chair. Prerequisite: Foundation courses.

## OIS (94) Office Information Systems

Administered by Department of Business Education and Office Information Systems  
Effective Fall, 2004

94.221 Office Systems Concepts (3) - An overview of office systems-technology, people and procedures within organizational and environmental contexts. Major technologies that support information creation, storage, retrieval, manipulation and distribution are covered.

94.302 End User Solutions Development (3) - Presents the student with an opportunity to develop application solutions for business office suites using Object Oriented Macro Language (OOML), a programming language supported by many popular business applications. The use of OOML greatly increases the productive value of these office suites.

94.322 End User Project Management (3) - Presents the student with an opportunity to use project management tools and an office suite to design, implement and evaluate end-user solutions for an office information systems environment.

94.330 Telecommunications (Spring only) (3) - An introduction to telecommunications and networking in the business environment. Topics include the history of telecommunications, networking fundamentals, electronic mail, teleconferencing, voice processing, facsimile, wireless communications, electronic data interchange, the Internet/World Wide Web, HTML and web page development. Management issues and practical applications are an integral part of this course.

94.340 Network Design and Administration (Spring Only) (3) - Provides a comprehensive and practical knowledge of network management and enhancement. Students get practical experience working with software, hardware, customizing user environments, implementing technology security and enhancing and troubleshooting the computing environment. Prerequisite: 92.150, junior standing and permission of department.

94.405 Training and Development in Office Systems (Fall only) (3) - Application of theories of learning and instructional development to the education and training of employees in office systems. Topics include instructional design, technology and the implementation, evaluation and management of training in an organizational environment. Prerequisite: Senior standing or 64 credits.

94.407 Information and Office Environment Management (Fall only) (3) - Provides acceptable practices in the management of information and the office environment. Students will develop an understanding of the information life cycle, the importance of an ergonomically designed work environment and how information serves as a critical organizational asset. Topics include: records management systems, human factors in the office environment (ergonomics), workflow and spatial design and layout. Prerequisites: 94.221, 94.302, 90.333, senior standing.

94.408 Systems Security Management (3) - An introduction to end-user systems security from a management aspect. The course emphasizes the methods for the management of information security through the development of policies, procedures, audits, and logs. It also provides an understanding of the methods used for identifying threats and vulnerabilities, as well as analyses of the legal, ethical and privacy issues in information systems and discusses emerging technologies relating to systems security.

94.500 Office Systems and Information (3) - An overview of office systems - people, technology, and procedures within organizational and environmental contexts. Provides an understanding of the evolving role of the office as a key information systems center.

94.510 Office Systems Applications (3) - Discusses applications of office automation technologies to enhance productivity of office employees from support personnel to managers. Hands-on experience includes comparative and selective techniques for hardware and software, as well as an evaluation of appropriate training materials for support personnel.

94.520 Administrative Communications (3) - Provides application of communication skills for those professionals who work in business or professional environments. Topics include: oral and written reports, systems-related documents (reports, proposals, procedures) - , research methods, and communication technology.

94.530 Telecommunications (3) - Introduction to telecommunications in the business environment. Topics include: telephony, data codes, protocols, network architectures, local area networks, communications media, hardware, and software. Management issues and practical applications are an integral part of the course. Emphasizes the application of telecommunications to facilitate information interchange in whatever form the information takes: voice, data, text, and image.

94.540 Training and Development (3) - Applies theories of learning and instructional procedures to the education and training of employees in office systems. Topics include: instructional design, strategies, technology, and the implementation, evaluation, and management of training within the organizational structure.

94.550 Integrated Office Systems (3) - Capstone course of office systems curriculum. Includes a synthesis and an application of concepts related to current office systems topics. Students should enroll in this course during the last semester of the degree program. Prerequisite: 94.500, 94.540 or consent of the instructor.

## FIN (96) Finance

Administered by Department of Finance and Legal Studies  
Effective Fall, 2004

96.120 Personal Finance (3) - This course presents information that the students of the course will find useful when they move through life, regardless of their respective career choices. The general topics covered will be personal financial planning, consumer credit, insurance (health, disability, liability, home, and automobile), investing principles and sources of capital, and retirement planning and their impact upon individuals and small business owners.

96.300 Entrepreneurial Finance (3) - This course presents the unique financial issues that entrepreneurial firms face and assist students in developing financial analysis skills that have wide application. Students will study theory in the area of entrepreneurship and new venture finance and the results of current research that can guide decision making. Prerequisite(s): 40.156, 40.221, 93.244, and either 91.120 or 91.220 or 91.221.

96.313 Introduction to Corporate Finance (3) - Studies financial management in the areas of asset valuation, risk, working capital management, capital budgeting, cost of capital, financial structure, financing sources and dividend policy. Prerequisites: 91.220, 91.223, 40.256, 40.121, 40.122, and either 40.156 or 53.123. Higher level calculus courses may be substituted for 40.156 or 53.123. Equivalent statistics courses may be substituted for 40.256.

96.323 Financial Markets and Institutions (3) - Studies short-term money market and long-term capital market instruments, major financial institutions, the relationship between interest rates and security prices and the role of the consumer and government in financial markets. Prerequisite: 96.313.

96.333 Commercial Bank Management (3) - Leads to the understanding of risk management in contemporary banking by studying the historical and contemporary impact of banking regulation, measures of bank performance and bank policy formation. Risk is shown to be managed through Asset/Liability Management (by the use of GAP Analysis), Investment Management, Liquidity Management, Capital Management, and Off-Balance Sheet Management. Prerequisite: 96.313.

96.343 Investment Management (3) - Outlines principles of security investments including descriptions of investment instruments, investment planning, security valuation, portfolio theory and strategy and security markets. Prerequisite: 96.313.

96.413 International Finance (3) - Studies the principles and practices relevant to understanding the nature of international finance, its problems and its institutions. Discussion centers on sources and instruments of international export and import financing, balance-of-payments, exchange rates, governmental regulations and policies, financial management, as well as accounting for international transactions. Prerequisite: 96.313.

96.423 Security Analysis and Portfolio Theory (3) - Detailed analysis of major elements related to determining the earnings and risk potential of securities and study of the underlying principles inherent to portfolio construction. Prerequisite: 96.343.

96.432 Internship in Finance(1-6) - Prerequisites: 96.313, at least 75 credit hours and GPA of 2.50.

96.440 Introduction to Options and Futures (3) - Detailed analysis of major elements affecting market prices of options and futures contracts and analysis of optimal investment strategies involving these derivative instruments. Prerequisite: 96.343.

96.454 Advanced Corporate Finance (3) - Studies business financial problems and the development of financial decision-making tools and practices as used in the decision-making role of the financial manager. Prerequisite: 96.313.

96.463 Seminar in Finance (3) - Explores a wide range of topics in finance, primarily focused in the area of financial management. This course is designed primarily for senior finance majors. Prerequisites: 96.343.

96.473 Seminar in Investments (3) - Examines a wide variety of topics in the field of investment management and portfolio theory. This course is designed primarily for seniors majoring in finance. Prerequisites: 96.343.

96.499 Special Topics (3) - May address a variety of advanced topics in finance at the undergraduate level, and permits the instructor to focus on issues of particular importance and interest to the discipline. Students should contact the professor prior to enrollment.

96.535 Financial Management (3) - In-depth study of management activities involved in the financial aspects of business enterprise.

Theoretical knowledge gained through exposure to financial management literature is applied to problem situations through the use of case studies and simulation techniques. Emphasis is placed on the development of perspective in the decision-making process with the acquisition of tools to facilitate effective decision making. Prerequisites: 91.524, 93.511

96.540 International Finance (3) - Studies the principles and practices relevant to understanding the nature of international finance, its problems and its institutions. Discussion centers on sources and instruments of international export and import financing, exchange rates, balance-of-payments, governmental regulations and policies, financial management, as well as accounting for international transactions. Prerequisite: 96.313.

96.550 Security Analysis and Portfolio Management (3) - Advanced treatment of aspects involved in developing a logical and systematic approach to analyzing and evaluating types of securities. Investment strategy and management of an investment portfolio. Theoretical aspects of security analysis and problems involved in analyzing and evaluating securities within the context of the type of industry issuing them.

96.599 Special Topics (3) - May address a variety of advanced topics in finance at the graduate level, and permits the instructor to focus on issues of particular importance and interest to the discipline. Students should contact the professor prior to enrollment.

## Marketing MKT (97)

Administered by Department of Marketing  
Effective Spring, 2004

97.110 Marketing: A Primer (1) - Introduces students to the field of marketing, the Department of Marketing and careers available in the discipline. Marketing etiquette and self-presentation skills are incorporated as well as resume writing and career preparation.

97.310 Marketing Principles and Practices(3) - Surveys the fundamental features of contemporary marketing systems and the planning required to make available satisfying goods and services to customers at a profit. Explains the role of marketing in society and the institutions which compose the market system. Describes components of the marketing mix-product planning, distribution, pricing and promotion. Prerequisite: 40.121.

97.320 Marketing for Nonprofit Organizations (3) - Hospitals, social service agencies, universities, fraternities and sororities, political candidates, governments, churches and libraries are some of the nonprofit organizations which are challenged to effectively solve their marketing problems. Through understanding and by applying marketing theory and methods, students realize how they can aid organizations in developing a better product, price, distribution and promotion decisions for the publics they seek to serve. Prerequisite: 97.310.

97.330 Consumer Motivation and Behavior (3) - Analyzes the role of the consumer as the ultimate buyer of the product and the strategy and forces directed at the consumer by the seller. Topics include models of consumer buying behavior, consumer motivation, interpersonal and intrapersonal influence on the consumer as a decision maker in the market place. Prerequisite: 97.310, 48.101.

97.331 - E-Marketing (3) - This course provides an overview of the development of E-Marketing and how the internet has changed the rules of commerce.

97.340 Advertising Management (3) - Studies the advertising element of the marketing/promotional program from a management perspective. Examines advertising's role in business and society. Advertising's use of the communication process is studied from a theoretical and practitioner's perspective. Development of an ad campaign is highlighted with emphasis on management decisions involved in planning and execution. Special attention given to budgeting, copywriting, media analysis and choice. Prerequisite: 97.310.

97.341 Principles of Selling (3) - Includes a study of selling as a profession, preparation for successful selling, steps and procedures associated with the sales process, and special selling topics. Students apply sales principles and techniques while conducting sales presentations.

97.350 Retail Management Concepts (3) - Presents retailing as a dynamic aspect of the marketing/channels distribution system. Consumer/marketing analysis, store location, store layout, merchandising, pricing, promotional issues and problems are considered. Prerequisites: 97.310, 40.122.

97.370 Sales Management (3) - Studies the personal selling element of the marketing/promotional program from a management perspective. Recruiting, selecting, training organizing, motivating, compensating, evaluating and controlling the sales force are treated, as well as management's planning responsibilities which include designing intelligence systems, forecasting and establishing sales territories. Special consideration is given to sales management's inputs and integration with marketing management. Prerequisite: 97.310.

97.380 International Marketing (3) - Applies the managerial process to the development of international marketing programs. Emphasizes the development and determination of objectives and methods of organization including the execution of research, advertising and distribution activities. Considers special problems of adopting marketing principles to fit conditions in different countries. Prerequisite: 97.310.

97.431 Independent Study in Marketing (3) - Develop research skills in an academic and experience-based setting through collaborative research with a faculty member. Apply marketing theory to an employment situation or research objective. Prerequisite: Nine semester hours in marketing.

97.432 Internship in Marketing (1-6) - Develops skills in an experiential setting that are not available in the academic classroom. Students learn to relate marketing principles and practices to an employment situation. Prerequisites: 97.310, 2.0 GPA, 80 semester hours and junior or senior standing.

97.440 Marketing Research (3) - Develops the skills of the scientific marketing research procedure (problem definition, research design, data collection, analysis and interpretation). Applies recent developments in marketing information systems to product planning, advertising research, consumer and competitive analysis. Prerequisites: 40.256 or 53.141.

97.460 Marketing Management (3) - Presents an advanced study of the marketing programs from the systems and managerial viewpoint. Applies analytic, communicative and problem-solving skills to evaluation and creative planning in the marketing environment. Uses business marketing cases as a vehicle for developing the marketing executive's abilities. Prerequisites: 97.310, 97.330, 97.340.

97.480 Business-to-Business Marketing (3) - Strategies for marketing products and services to industrial, commercial and governmental markets. Changing industry and marketing structures are analyzed. Prerequisite: 97.310.

97.490 Contemporary Problems and Issues (3) - Explores major issues, trends and problems characterizing the current marketing environment. Encourages students to do extensive reading in current marketing and other related literature. Theoretical, environmental research and trade-off issues in marketing are assessed. Case study, group projects and group dynamics are used. Prerequisites: senior standing and 6 semester hours in marketing.

97.510 Marketing Foundations (3) - This course provides an overview of the foundations for modern marketing theory and practice, analyzing marketing from both the societal as well as the managerial perspective. Components of the marketing mix including products and services, pricing, distribution systems and promotion mixes are emphasized. Prerequisite: graduate standing.

97.530 Strategic Buyer Behavior (3) - Covers concepts and theories from the behavioral sciences as they relate to marketing strategy formulation.

97.551 Marketing Management (3) - Develops the strategic application of marketing in an organization through the analysis of marketing activities. Integrates the analysis of global marketing opportunities, segmentation of target audiences, growth and competitive strategy, marketing research systems, buyer behavior and marketing mix development. Prerequisite: 97.510 or 97.310

97.552 Marketing Research (3) - Advanced techniques of the scientific marketing research procedure (problem definition, research design, data collection, analysis and interpretation). Focuses on an applied orientation for the global users of marketing research. Qualitative and quantitative research methods are developed with the statistical tools to produce a marketing research report.

97.599 Special Topics (3) - This course addresses a variety of topics in marketing and allows the instructor to focus on appropriate current topics in the marketing profession. Students should contact the instructor prior to enrollment to learn the current focus.

## **BSL (98) Business Law**

Administered by Department of Finance and Legal Studies  
Effective Fall, 2004

98.331 Law and the Legal Environment (3) - Covers the structure of the American legal, constitutional and regulatory system, the nature and sources of law, competing theories of law and the principles of law applicable to business, including administrative law, contracts and the UCC Article 2, torts and products liability, property and criminal law. Students must have earned 30 semester hours before enrolling in this course.

98.332 Business and Commercial Law (3) - Presents basic principles of commercial law (UCC), agency and such topics as debtor/creditor relations, business organizations and ethics. Prerequisite: 98.331.

98.340 Law and Literature (3) - An introduction to law and literature, both as an approach to the reading of legal texts and as a means of addressing issues in law, justice and morality as portrayed in works of fiction and other narratives. Modules include slavery, abortion, the death penalty, Native American law and literature and international law and literature.

98.407 International Legal Environment of Business (3) - Introduction to public and private international law as applied to the increasingly globalized business environment. Cases include: trade law; extraterritorial application of U.S. law; treaty law; U.S.-Japan structural impediments talks; the GATT; the European Community; multinational corporations; and environmental regulation. Prerequisite: 98.331 or consent of the instructor.

98.432 Internship In Legal Studies (3-6)

98.450 Legal Environment of Business (3) - Advanced coverage of topics in government regulation of business through administrative law, legislation and judicial intervention. May include issues in the law of corporate securities, antitrust, environmental regulations and other aspects of legal regulation of the competitive process. Prerequisites: 98.331 and Economics 40.212.

98.460 Employment Discrimination and Affirmative Action (3) - A survey of major federal laws that address equal opportunity in employment and focuses on types of job discrimination outlawed by Title VII of the 1964 Civil Rights Act. Legal and ethical issues relating to affirmative action programs are discussed, as are state and local laws addressing employment discrimination.

98.507 International Legal Environment of Business (3) - Introduction to public and private international law as applied to the increasingly globalized business environment. Cases include: Trade law; extraterritorial application of U.S. law; treaty law; U.S.-Japan relations; NAFTA and the GATT; European Union; multinational

corporations; human rights, labor, communications, and environmental regulation in the international system.

98.560 Employment Discrimination and Affirmative Action (3) - The course covers all major statutes, agencies and regulations, and major court rulings, in this important and constantly evolving body of law. It makes use of real cases, contracts and problems, and through case analysis, in-class debates and brain storming, papers and exams, ensures students are both current and competent in the discipline upon completion of its requirements.

98.599 Special Topics (3) - Addresses a variety of topics in law and legal elements and allows the instructor to focus on appropriate current topics in law and business. Students should contact the instructor prior to enrollment.