

A photograph of a large, classical-style building with a prominent dome, illuminated at dusk. The sky is a mix of purple, pink, and blue. The building's dome is lit from within, and a small light is visible on top. The overall scene is serene and academic.

*Bloomsburg University
of Pennsylvania*

*Graduate Studies and Research
— Catalog 2000-2002*



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**Bloomsburg University of Pennsylvania
State System of Higher Education**





**Bloomsburg University
of Pennsylvania
School of Graduate Studies and Research**

Catalog

2000-2002

Bloomsburg University
400 E. Second Street
Bloomsburg, PA 17815-1301
World Wide Web Address: <http://www.bloomu.edu>

Bloomsburg University of Pennsylvania is committed to providing equal educational and employment opportunities for all persons without regard to race, religion, gender, age, national origin, sexual orientation, disabilities, Vietnam era veteran status, or union membership. The university is additionally committed to affirmative action and will take positive steps to provide such educational and employment opportunities.

Important Notices

The content of this document is for informational purposes only and not to be regarded as an irrevocable contract between the university and the student. Bloomsburg University reserves the right to amend any academic, administrative, or disciplinary policy or regulation (or fee) described here without prior notice to persons affected.

Requirements for graduation as well as curricula for degree programs, such as those requiring professional certification/licensure, may change throughout the student's matriculation. Such changes will not be retroactively required; however, the student will have the option to choose the new program or requirement, if desired.

Exceptions may be necessary when changes in professional certification or licensure standards mandate changes in academic requirements or in university programs.

Accreditation

Bloomsburg University is accredited by the Middle States Association of Colleges and Schools; the National Council for the Accreditation of Teacher Education; the National League for Nursing; the Council on Education of the Deaf; and the Council on Social Work Education. Programs of study have also been approved by the Pennsylvania State Board of Education and the State Board of Nursing. In addition, the bachelor of science program in chemistry offered by the Department of Chemistry is approved by the American Chemical Society.

Access to Educational Records

In accordance with the Family Educational Rights and Privacy Act, commonly known as the Buckley Amendment, students are provided with privacy safeguards of their educational records. The university, therefore, issues reports of progress including grades, written evaluations and letters of warning, directly to the student. A student may have access to all information pertaining to his or her educational records and academic status.

Parents may have access to information pertaining to their son's or daughter's educational records and academic status without prior written consent of their son or daughter if he or she is a dependent as defined under Section 152 of the IRS Code of 1954. If the student is not a dependent, as defined by the IRS Code, then the university must receive prior written consent from the student in order to release such information to his or her parents.

The University

Bloomsburg University, a member of Pennsylvania's State System of Higher Education, is a four-year coeducational public university founded 1839. Through the stages of its development from a normal school to a teachers college to a multipurpose state college and finally to a university in 1983, the institution had retained its emphasis on liberal and career education.

Bloomsburg is recognized as one of the best 100 public universities in the United States. Excellence, ranging from its seven NCAA championships to its international reputation in a number of its academic programs, is an attitude found throughout the faculty and staff.

Total enrollment is over 7,300, with an average incoming SAT of 1070 and class rank in the upper 25 percent; Bloomsburg admits one in seven applicants and has a four-year retention rate significantly higher than the national average. More than 80 percent are full-time students. About 65 percent are women. About 90 percent of Bloomsburg graduates are quickly placed in their chosen fields.

About 90 percent of Bloomsburg's students come from throughout Pennsylvania, creating a diverse mix of cultures and ideas. It's a place where friendships that last a lifetime begin. And it's a busy place — with more than 150 student organizations and activities, NCAA Division II athletic programs and a popular recreation center.

About 70 percent of all students receive some form of financial aid; average amount of aid is \$4,782 per year.

The university's Division of Continuing and Distance Education serves students through nondegree credit courses, non-credit minicourses, off-campus classes, credit for life experience and distance learning courses on public television.

Location

The Town of Bloomsburg, located in the Susquehanna River Valley, has a population of about 12,000 people. The central busi-

ness district is just three blocks southwest of campus and includes more than 80 retail stores, restaurants, a theater and the Bloomsburg Fair in September. More stores, restaurants and theaters can be found along nearby Route 11 and at the Columbia Mall, northwest of town.

The university is within a one-hour drive from such cities as Hazleton, Williamsport, Wilkes-Barre and Scranton; 1.5 hours from Harrisburg; 2.5 hours from Philadelphia; 3 hours from New York City and Baltimore; and four hours from Pittsburgh and Washington, D. C.

If you are coming from...

East of Bloomsburg: Use I-80 west to Exit 35A south.

West of Bloomsburg: Use I-80 east to Exit 35 south.

South of Bloomsburg: From Central Pennsylvania, take Routes 11 and 15 north; from southeast Pennsylvania, take North-east Extension of the Pennsylvania Turnpike (I-476) to I-80 west to Exit 35A south.

North of Bloomsburg: From the Scranton/Wilkes-Barre area, take I-81 south to I-80 west to Exit 35A south. From the Williamsport area, take I-180 south to I-80 east to Exit 35 south.

From Exit 35 south, take Route 487 south and follow signs to campus, approximately one mile.

Faculty and Staff

With a total of about 1,000 employees, Bloomsburg University has 378 full-time faculty, 73 percent of whom hold doctoral degrees and 72 percent of whom are tenured. The staff is organized into four divisions: Academic Affairs, Administration, Student Life and University Advancement. Governance is through the State System's Board of Governors and through the university's Council of Trustees.

Academic Facilities

The new **Harvey A. Andruss Library** opened in May, 1998 with more than 400,000

volumes and government documents, 1,700 current periodicals, 1.9 million units of microtext and other audiovisual material and equipment, as well as 32 newspapers and on-line bibliographies and full-text databases - provides resource support for the university's academic programs. Andruss Library is also home to the university's graduate studies and grants offices.

Computing Facilities: The university has a strong commitment to technology with current machines and software throughout the campus. Nearly all computers are networked and connect to the Internet. All faculty have personal computers and e-mail accounts. Network uptime is nearly 100 percent and all computers are supported by technical staff from Academic Computing and Computer Services. Student computing facilities are located throughout the campus. There are over 500 computers and over 25 laser printers in labs, classrooms and general-access work areas. Super IMP and INP stations are available for lectures.

The **Francis B. Haas Center for the Arts** includes an art gallery and a 2,000-seat auditorium with facilities for musical and dramatic productions, as well as classroom instruction.

Nelson Field House, located on Bloomsburg University's upper campus, has classrooms and offices for use by the health/physical education and athletic staffs. It also serves as home for most of the university's indoor athletic events. The facility has a 3,000-seat arena for all home bas-

ketball and wrestling events, an indoor track, indoor tennis courts, an Olympic-size swimming pool, handball/racquetball courts, as well as training, conditioning and fitness facilities.

Instructional buildings include:

Bakeless Center for the Humanities, housing classrooms and offices for liberal arts programs; **Navy Hall**, with classrooms, clinics and offices for the departments of Exceptionalities and Audiology; **Hartline Science Center**, with laboratories, classrooms and offices for the science departments; **Sutliff Hall**, which houses the College of Business and includes a specialized computer lab capable of running a medium-sized corporation; **Old Science Hall**, with studios, classrooms and offices for the department of anthropology, art history and languages and cultures and the **McCormick Center for Human Services**, equipped with a satellite receiving dish and containing School of Education and nursing instructional facilities, television and radio studios, the audiovisual resources center, experimental laboratories, Institute for Instructional Technology, the University Forum, classrooms and faculty offices.

Degree Programs

Bloomsburg University offers 64 programs of study in the Colleges of Arts and Sciences, Business and Professional Studies and 19 degree programs and 11 supervisory certificate programs in the School of Graduate Studies.

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General Information

James F. Matta, Interim Dean, Graduate Studies
and Research

Bloomsburg University's School of Graduate Studies offers 19 master's programs in the arts, business, science, and education, as well as 11 supervisory programs and a joint doctoral program in education in cooperation with Indiana University of Pennsylvania.

The School of Graduate Studies is committed to maintaining affordable, high-quality post-baccalaureate programs for qualified students of diverse backgrounds. These programs foster an academic environment that stresses critical thinking, scholarly activity, leadership, cultural diversity and technology. To achieve this mission the School of Graduate Studies seeks to:

- 1) Enhance financial resources for students and faculty by seeking grants, gifts, research awards and contributions.
- 2) Enhance recruitment of women, minorities and students of diverse cultural backgrounds.
- 3) Encourage and facilitate international exchange of graduate faculty and students.
- 4) Plan programs to meet the current and future needs of individuals and agencies within the university's service community.
- 5) Plan programs to incorporate current and future global and environmental issues.
- 6) Provide periodic review of programs to achieve and maintain high-quality programs.
- 7) Incorporate state-of-the-art information and decision-making technology in all aspects of academic activities.

Graduate classes taught during the academic year are usually scheduled in late afternoons, evenings and on Saturdays in order to provide opportunities for individuals engaged in other full-time occupations to further their education. Graduate courses are also offered during the summer session. In addition to traditional graduate courses

offered on the campus of Bloomsburg University, graduate classes are also offered in off-campus sites in Bucks County, Williamsport, South Williamsport, Wilkes-Barre and Shamokin. The School of Graduate Studies is a member of the Council of Graduate Schools.

Graduate Programs

Master of Accounting

Master of Arts

Art Studio

Art History

Master of Business Administration

Master of Education

Biology

Business Education

Curriculum and Instruction

Elementary Education

Reading

Master of Science

Audiology*

Biology

Early Childhood Education

Education of the Deaf/Hard of Hearing

Exercise Science and Adult Fitness

Instructional Technology

Nursing

Special Education

Speech-Language Pathology

*Doctoral Program in Audiology - presently under consideration; check with department for further information.

Cooperative Doctoral Program in Education

Supervisory Certificate Programs

Communication

Curriculum and Instruction

Early Childhood Education

Elementary Education

Foreign Language

Mathematics

Reading

School Health Services

Science

Social Studies

Special Education

Academic Services

Harvey A. Andruss Library

Internet address: <http://www.bloomu.edu/library>

The Harvey A. Andruss Library provides access to more than 400,000 volumes and government documents, 2 million microforms, 1,700 current periodicals and 32 newspapers, and online bibliographic and full-text databases. The technologically designed building provides more than 900 study spaces with more than 200 having computer access to the library's and worldwide information resources. There are 22 group study rooms, word processing rooms, photocopying rooms, and a graduate student study. The new building also offers lounge and exhibit spaces and a new University Archives and Special Collections Reading Room.

Collections — The library's collections include a General Collection of more than 300,000 volumes, a Government Documents Collection, the University Archives, a Juvenile and Young Adult Collection, and Special Collections. The library is a United States Government Depository. Interlibrary loan agreements with most Pennsylvania libraries and document delivery contracts can provide almost any resources requested by students.

Reference Services — Library faculty at the second floor Reference Desk are available during most open hours to answer questions, assist students searching for information and resources, and advise students regarding research projects. Resources available in Andruss Library are readily located through the Pilot on-line catalog. CD-ROM and Internet-accessed databases are available at computer workstations adjacent to the Reference Desk as well as computers throughout the building. These digital resources include both the Ebsco Host and FirstSearch data collections. Most data bases are available via the library's homepage on the World Wide Web.

Other Library Services — Self-serve photocopy services are available at six cents with

a copy card or 10 cents cash. Microform copies cost 10 cents (paper) and 25 cents (microform). Printers are available for computer printouts. Color photocopies and transparencies are also available. Call Access Services at 389-4205 for details and pricing.

For more information, contact the Reference Desk at (570) 389-4204 or the Circulation Desk at (570) 389-4205.

Library Hours

Fall and Spring Semesters

Monday - Thursday 8 a.m. - 12 midnight
 Friday 8 a.m. - 4:30 p.m.
 Saturday 9 a.m. - 5 p.m.
 Sunday 12 noon - 12 midnight

Summer Hours

Monday - Thursday 8 a.m. - 10 p.m.
 Friday 8 a.m. - 4:30 p.m.
 Saturday Closed
 Sunday 2 p.m. - 10 p.m.

Extended Hours

Saturday 9 a.m. - 9 p.m.

Interession Hours

Monday - Friday 8 a.m. - 4:30 p.m.
 Saturday Closed
 Sunday Closed

Academic Computing

Internet address: <http://acwww.bloomu.edu/>

More than 700 computers and 25 laser printers are found in student computing facilities throughout the campus in labs, classrooms and general access work areas. Nearly all are connected to the Internet.

All students are given e-mail accounts and server space for personal web pages, and can access their accounts from both on and off campus from personal computers via modem or high speed ethernet connections.

Major open access areas, with student consultants to help with problems, are lo-

cated in:

Kehr Union
Hartline Science Center
Sutliff Hall
Andruss Library

Other work areas, in computer classrooms are available to all between scheduled classes. The labs are located in:

McCormick Center for Human Services
Bakeless Center for the Humanities

Hours schedules are posted in each location and at Academic Computing's web site (<http://acwww.bloomu.edu>)

Standard software packages found on computers is the Microsoft Office suite (Word, Excell, PowerPoint and Publisher), SPSS and Internet applications. In addition, the computers provide access to Andruss Library's catalog and databases, plus to mainframe computers for electronic registration.

Academic Computing is headquartered at 9 Benjamin Franklin Hall and can be reached at 389-3072. Office services include:

Help with damaged disks
Virus removal for personal computers
E-mail access problems
Personal web page development issues
Equipment that can be borrowed for class projects, including laptops, projectors, digital cameras

Reading Center

The Reading Center is part of the graduate reading program and offers reading assessments and tutorial services to children in Bloomsburg and surrounding communities. Tutoring sessions are held on Saturdays during the Fall and Spring semesters. In the summer, tutoring sessions are held at Central Columbia Elementary school for children grades K-8 and in the Reading Center for children grades 9-12. The **Bloomsburg University America Reads Project** is also coordinated through the Reading Center. Through this project, undergraduate work-study students and volunteers are trained to serve as literacy tutors in the public schools.

The tutors are supervised by graduate assistants in the M.Ed. in Reading program.

Speech, Hearing and Language Clinic

The Speech, Hearing and Language Clinic provides services to students, faculty, staff and the community. Available services include evaluation for therapy for speech, voice, language and fluency; speech reading and auditory training for the hearing impaired and parent counseling. Audiological assessment includes special site-of-lesion testing, hearing aid evaluations and fitting, assistive devices and balance disorders.

Institute for Interactive Technologies

Internet address: <http://iit.bloomu.edu>

Established in 1985 as a research and development group focusing on emerging interactive learning technologies, the institute's primary purpose is to conduct original technology-based projects to give graduate students an opportunity to gain "real world" experiences. The IIT is a consortium of faculty, staff and graduate students in Bloomsburg University's Department of Instructional Technology. The strategic alliance fosters the development of effective and innovative instructional solutions and assists corporations achieve business goals through technology.

The Institute seek to help business leaders understand the impact of interactive learning technologies and e-commerce on their workforce, improve the performance and competitiveness of their corporations and provide a fact base for sound instructional interventions.

Television Services

In addition to supporting university's media needs, Television Services also provides assistance to community organizations and as the administrative and technical adviser to WBUQ-FM, the student-operated radio station.

Equipment available for media projects or productions to enhance the educational

mission of the university or to assist meeting electronic communication objectives includes:

- Three television studios
- Professional- and consumer-level videotape editing suites
- Ku and C-band satellite downlink capabilities
- Remote television production equipment
- Videotape duplication
- International standards conversion service
- Off-air recording services
- Campus-wide electronic video messaging via television

The staff provides both formal and informal production workshops for the university community by special arrangement and consults with faculty and staff in the evaluation, specification, purchase and installation of media technologies. The department also creates or acquires television programs distributed over a local cable access channel.

Television Services is located in 1244 McCormick Center for Human Services. Telephone number is 389-4002 or 389-4688

Audio Visual Resources

Located in 1231 McCormick Center for Human Services, Audio Visual Resources provides a wide array of equipment, facili-

ties and services to faculty and staff of the university. These include:

- Digital cameras
- Electronic imaging lab (Mac and PC)
- 35mm photographic and copystand equipment
- Transparency and Lamination services
- Dry mounting presses
- Overhead and 16mm projectors
- Sign and poster making services
- Televisions and VCRs
- Projection screens
- Easels and audio cassette recorders
- Audio cassette duplication
- Equipment delivery and setup.

The department, which can be reached at 389-4778 or 389-4233, also houses the university film collection and its auto-tutorial lab allows on-site playback or preview of VHS tapes, audiocassette tapes, LP records, laser discs, 16mm film and 35mm slides. It also houses a mobile integrated media presentation system (IMPS) for use in rooms within McCormick that consists of an LCD video/data projector with built in document camera, VCR, two speakers and a laptop computer. Some restrictions exist regarding the range of its mobility.

Staff provides audio/video equipment repair services and offers consultations in the evaluation, specification and purchase of classroom media technologies.

Student Services

Identification Cards

Every degree and non-degree student is required to have a university identification card for admission to the recreation center. In addition to serving as a library card, it is used for general identification throughout the campus. An identification card is required for certain campus events (including those covered by the community activities fee) and for dining hall admission. This card can be obtained from the Office of Student Standards in Elwell Hall, 389-4734.

Health Services

The Student Health Center, on the 300 level of the Kehr Union Building, provides primary care to eligible clients. Students requesting an appointment should call 389-4451 during posted hours. For answers to medical questions, or advice about health problems, call the Triage Nurse at 389-3800. In the event of an emergency and the health center is closed, students should report directly to The Bloomsburg Hospital Emergency Room. Students must show their current Bloomsburg University I.D. card to the emergency staff when seeking treatment at the hospital to have the emergency room fee waived.

The Student Health Center is staffed by registered nurses, nurse practitioners and part-time physicians. Professional services received at the center are covered by the health service fee. Laboratory tests will be charged to insurance companies. Cost for medical services received at The Bloomsburg Hospital (with the exception of the emergency room fee) will be paid by the patient's insurance. As part of an effort to provide improved services for students, the Health Center announces any changes in the school newspaper and provides information in brochures.

Absence due to illness - A student who misses class because of an illness must contact his or her professor as soon as possible in order that an understanding can be

reached between professor and student. In cases of prolonged illness, for which strict bed rest and/or hospitalization is required, the Health Center will contact all concerned faculty.

Ambulance Service - Transportation to The Bloomsburg Hospital is paid for by the Student Health Center and is available to all students in the service area provided by The Bloomsburg Ambulance Association. (Dial 911 for ambulance service.) A student whose injury or accident is self-induced must pay for the ambulance service.

Family Planning - The Family Health Center, located in Bloomsburg, offers services for gynecological exams, contraception, pregnancy testing and counseling at a reduced fee through an agreement with the Student Health Center. Sexually transmitted disease screening and treatment is provided free through provisions from a state contract. All visits are scheduled by appointment and all services are confidential. Appointments can be obtained by contacting the Family Health Center, 2201 Fifth Street Hollow Road, Bloomsburg, from 9 a.m. to 5 p.m., Monday, Wednesday, Thursday and Friday, and from 9 a.m. to 9 p.m. on Tuesday, (570) 387-0236.

Insurance Coverage

In addition to the health service fee, all full-time students with nine or more credits and all international students are required to have appropriate accident and sickness insurance coverage. Students currently covered by a plan must provide the Health Center with complete insurance information including the name of the insurance company, complete address, and all policy and group numbers. Any change in insurance coverage should be reported immediately to the Health Center.

Students who do not have current insurance may purchase the student health insurance plan or another plan of their choice. The student health insurance plan meets the needs of the individual at the least pos-

sible cost, balancing the necessary coverage with the student's ability to pay. Students should carefully review this plan to determine if it adequately meets their health care needs. Filing of claims is solely the responsibility of the student. All questions concerning claims should be referred directly to the insurance company. A toll-free number is provided by the company. An application is included along with registration materials or can be obtained at the Health Center.

Housing

Bloomsburg University provides limited on-campus housing for graduate students during the fall and spring semesters (more housing is available in the summer).

If you are interested in on-campus housing accommodations, you will need to contact the Office of Residence Life as early as possible. In addition, the university's Office of Residence Life maintains an off-campus housing directory. The local daily newspaper, *Press-Enterprise*, also has listings for rentals (*Press-Enterprise*, 3185 Lackawanna Avenue, Bloomsburg, PA 17815, (570) 784-2121).

For more information, contact the Director of Residence Life, Elwell Residence Hall, Bloomsburg University, 400 E. Second St., Bloomsburg, PA 17815-1301, (570) 389-4089.

Meal Plans

Meals are available at Scranton Commons, the university's dining facility, or the Kehr Union Building snack bar. Meals may be purchased individually or through a meal plan. Check the university's website (www.bloomu.edu) or the current course schedule booklets for current costs.

Motor Vehicle Registration

All motor vehicles must be registered with the University Police Department. Parking decals are issued when vehicles are registered and must be properly displayed on the vehicle according to the University Parking Policy. Parking decals are valid for one year beginning with the fall semester.

Students must present their vehicle registration card, proof of insurance, driver's license and student identification card to obtain a parking decal. Bloomsburg commuter students who are not permanent residents of Bloomsburg must show some form of identification with name and current local address.

The areas available for student parking are: the Bloomsburg Hospital parking lot on Lightstreet Road, the lot adjacent to Centennial Gym off Second Street, the lot next to the tennis courts, the tri-level garage located near Carver Hall, and the lot in front of Sutliff Hall.

You may park on campus in the designated areas during the following times:

Monday through Friday -

6 a.m. to 2 a.m. in the commuter areas
5 p.m. to 2 a.m. anywhere on campus
except areas reserved for handicapped
or loading zones

Friday through Sunday

5 p.m. on Friday until 2 a.m. on Sunday
anywhere on campus except areas
reserved

for handicapped or loading areas

If you must be on campus after 2 a.m. on Sunday through Thursday, you must have permission from University Police. Call them in advance with your vehicle's location and purpose for staying on campus.

For complete rules and regulations on vehicle registration and parking, please contact the University Police at 389-4168 or 389-4170.

Visitor Parking

Visitors who park on campus Monday through Friday before 5 p.m. must park in a visitor space and obtain the necessary parking pass. Visitors may park anywhere during the weekend open parking times, except in areas reserved for handicapped or loading zones.

University Store

The University Store sells textbooks, supplies, clothing, stationery, food, gift items, sundry items and general reading materials.

Used books are available at 30 percent off the list price. You may return new textbooks with the receipt and student I.D. during the first two weeks of each semester for the full value (if in the same condition when purchased). A course withdrawal form signed by your instructor must accompany any book returned after the first two weeks of each semester. No refunds are made on non-text paperback books.

At the end of each semester, the university store holds a book buyback. The store also offers a special book order service. Other services include: advanced deposit charge accounts, class rings, consignment merchandise, dry cleaning, gift wrapping, laminating, lay-away, gift certificates, newspapers and magazines, photograph services, UPS shipping, US postage stamps and post cards, a Western Union paying agency, photocopying services, money orders and phone cards.

Store hours:

Fall and spring semesters

Monday and Tuesday 7:45 a.m. - 8 p.m.

Wednesday and Thursday 7 : 4 5 a.m. - 8 p.m.

Friday 7:45 a.m. - 4:30 p.m.

Saturday Noon - 5:00 p.m.

Sunday Noon - 4:00 p.m.

Summer sessions

Monday through Friday 8 a.m. - 4:30 p.m.

The University Store can be reached at the following telephone numbers: (570) 389-4175, 389-4176, 389-4180 or 389-4102.

Banking

Two automated teller machines are located on campus: one on the ground floor in the Kehr Union Building and one outside the University Store. A variety of banks can be found a short walk from campus on Main Street in Bloomsburg.

Career Development Center

The Career Development Center (CDC) provides career counseling and planning assistance to all students and alumni. In addition to individual career counseling, an up-to-date career library containing occupational information, job search guidelines, employer/school district directories, corporate literature and graduate/professional school directories is available. Located in 101 Kehr Union, it will move to the student services center in Spring 2001. The phone number is (570) 389-4070.

The CDC website includes job vacancy information, listings of services available to students and alumni, career resources at other sites and staff contact information. The center sponsors job search workshops, seminar and job fair programs throughout the year, maintains credential files for interested students and alumni and hosts employers wishing to interview graduating students for positions within their organizations.

Focus II, a computer-based career guidance system, is available by appointment to further assist students with the career decision-making process.

Student Recreation Center

The Student Recreation Center is located on Swisher Circle across from the tennis courts. Major features include an exercise room with step machines, rowing machines, Cybex equipment, treadmills and a 56-foot transverse climbing wall.

The main area has four intramural-size basketball courts that can be used for volleyball and tennis. The room is circled by a one-eighth mile long jogging track that goes by the south wall of eight-foot high panels of glass with a view of Catawissa Mountain and surrounding areas. The north wall hosts a 55' x 8.5' climbing wall. Also in the center are the free-weight rooms with mirrors on the northeast wall, multipurpose room for aerobics and dance, and four glass-backed racquetball courts that are adaptable for

wallyball.

The center covers 56,000 square feet and is fully funded through a self-assessed student recreation fee.

Center for Counseling and Human Development

The Center for Counseling and Human Development provides individual counseling and workshops in a variety of areas including study skills, assertiveness, effective communication, racism, sexism, human sexuality, drug and alcohol abuse, eating disorders (anorexia and bulimia), stress reduction and relaxation, time management and many other areas relating to daily living. In addition to individual counseling, group seminar workshops are conducted in classes and resident halls.

All services are confidential. Information is released only with the consent of the student. The Center for Counseling and Human Development is located on the top floor of Ben Franklin Hall in Room 17. Office hours are 8 a.m. to 4:30 p.m., Monday through Friday. Twenty-four hour coverage is available by calling (570) 389-4255. Adult students are encouraged to take advantage of the center's many services.

Multicultural Center

The Multicultural Center provides students from diverse cultures with a variety of opportunities to develop a stronger self-image through increased self-awareness of themselves and others. The center provides Bloomsburg University with an essential mechanism for creating a community that is more tolerant and accepting of people who are different and/or whose customs are different.

Child Care Center

The Campus Child Center, located on the lower level of Elwell Hall, operates as a preschool/daycare facility for the children of university students, faculty, staff and alumni.

Licensed by the state of Pennsylvania, the center is directed by Judy Coleman Brinich, a certified teacher with 21 years of experience, master's degrees in education and exceptionalities and a bachelor of science in early childhood education. Kathy Johnson, assistant director, has 13 years of experience, a master of science in early childhood education and a bachelor of arts in sociology.

The child center is open from 7:45 a.m. to 5 p.m., Monday through Friday. Children between the ages of 13 months to 12 years are eligible. There is a fee and advanced registration is required. The center operates on the same schedule as the university calendar.

Throughout the academic year, the center operates separate classrooms for toddlers, three-year-olds, and four- and five-year-olds. Children may enjoy learning stations, circle time, stories and music. The center also operates a school-age summer day-camp program for children who have entered first grade through age 12. A certified elementary education teacher plans many fun activities for the children, including swimming and field trips.

For further information, call (570) 389-4547.

Accommodative Services

In accordance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, Bloomsburg University strives to provide students with disabilities support services and other reasonable and effective accommodations to ensure equal access to university programs and activities. Accommodations include, but are not limited to, advance registration, sign language interpreters, oral interpreters, notetaking support, access to adaptive technology, accommodative testing, advocacy within and outside of the campus and coordination of support activities with external agencies such as the Office of Vocational Rehabilitation.

The student is responsible for requesting accommodations in a timely manner. Because planning is a critical step in the provi-

sion of an accommodation, students are encouraged to contact the Office of Accommodative Services for Students with Disabilities before their orientation visit to discuss anticipated needs. A comprehensive discussion of anticipated needs is a critical process in the formation of a plan for accommodative support.

The office, located in 12 Benjamin Franklin Hall, can be reached at (570) 390-4491 (voice and TTY).

Graduate Student Council

The Graduate Student Council is officially recognized by Bloomsburg University's Community Government Association as the executive branch of the graduate student body. The council serves as an intermediary between the graduate student body, the assistant vice president and dean of graduate studies and research, graduate faculty, administrators and student representatives who make recommendations on curriculum and policy for the university's graduate program. Interested students can contact the graduate office for a list of Graduate Student Council members.

Kehr Union

The Kehr Union is a predominantly student-governed and operated facility serving as a forum for programs presented by student, academic and outside organizations. The union provides facilities for many services including a large food court and snack bar, and houses the Office of Student Life, the Health Center and the Career Development and Placement Center. Also located in the union are the Information Center, Community Activities Office, Student Activities Office, as well as many student offices.

Kehr Union Information Center

The Kehr Union Information Center, located inside the main entrance to the Kehr Union Building, provides an information exchange for the entire university community. Open seven days a week during the semesters, the center is staffed by student em-

ployees and one full-time coordinator. Student organization mailboxes are located at the center.

The following is available from the center: phone numbers for students, faculty and staff; frequently requested local phone numbers; event and activity announcements; and ticket sales and registrations for Community Government Association events, Program Board activities, Celebrity Artist Series student tickets, concerts, and various other trips and programs.

With the exchange of your identification card, you can borrow the following from the center: current magazines and newspapers, TTD telephone aid and conference room keys. Call (570) 389-3900 for additional details about services provided.

Community Activities Office

The Community Activities Office handles collection of the community activities fee for graduate students and administers emergency loans for graduate students who have purchased a community activities sticker. Graduate students are not required to pay the fee, but must do so if they desire to utilize campus athletic facilities or attend events at a reduced or no fee. If you do pay the fee, you may wish to purchase a community activities card for your family, which entitles them to some of the same privileges it affords you.

The community activities fee is paid separately from your tuition bill. The fee (payable to "Community Activities") must be paid directly to the Community Activities Office, Kehr Union Building, Bloomsburg University, 400 E. Second Street, Bloomsburg, PA 17815-1301. Do not include this fee with the fees payable to the business office.

Current community activities fees for graduate students (paid at one time) are as follows:

- One person (one semester): \$25
- One person (two semesters): \$35
- Two persons (one semester): \$40
- Two persons (two semesters): \$60
- Additional persons (one semester): \$10

Additional persons (two semesters): \$14
 Summer fee: \$2 per week

Some special privileges covered by the community activities fee:

Free admission for one person to home football games, basketball games and wrestling matches; movies; dances; university theater productions; Community Arts Council cultural events (limited seats available); musical events; Centennial and Nelson pools; and Bloomsburg's town pool (in summer, one visit per day).

Reduced rates for Concert Committee-sponsored events, Program Board-sponsored trips, and Bloomsburg Theatre Ensemble performances (provided you arrive one hour before the performance and seats are available).

Celebrity Artist Series

Numerous cultural attractions are brought to the university each year. The Celebrity Artist Series features notable performing artists and groups - symphony orchestras, musical troupes, dance companies

and popular personalities. The series is sponsored by the Community Arts Council, which is comprised equally of faculty members, students and community representatives. Faculty, staff and students who have paid a community activities fee are provided free seating on a limited basis (obtain individual event tickets from the information desk at Kehr Union). A subscription plan is available for preferred seating and individual tickets may be purchased from the box office in Haas Center for the Arts. Tickets must be obtained at the information desk in Kehr Union for individual events.

Provost's Lecture Series

The Provost's Lecture Series provides a public forum for the university, as well as surrounding communities, to share the fruits of learning. Scholars, executives, journalists and professionals from all various walks of life are invited to campus to speak about academic issues and special topics of interest. Faculty members often encourage students to attend events related to their discipline. The events are free and open to the public.

Academics

It is the responsibility of each graduate student at Bloomsburg University to:

Take the initiative to be aware of all university policies as described in this catalog and in class schedules.

Take responsibility for satisfying requirements for graduation in his or her field.

Make decisions on courses and other matters with the advice and assistance of advisers and staff.

Identify any undergraduate weakness or deficiency and discuss them with graduate advisers. (Such weaknesses might include, but are not limited to, not having proper undergraduate prerequisites for the desired graduate program.)

Attend all classes and take all examinations. Absences from graduate classes are granted only for urgent and verifiable reasons; students granted an absence from class can expect assistance from professors in making up work or examinations.

Advisers

Students who are provisional, regular or candidates for a degree, along with students enrolled in the supervisory certificate programs, are assigned graduate advisers. The duties of the adviser are:

- to serve as a consultant in planning the student's program;
- to help students choose courses to certify the courses students do choose are part of their degree program;
- to endorse the student's application for degree candidacy and graduation (if appropriate to your program);
- and to arrange for a comprehensive examination (if required by the graduate program selected).

Upon acceptance into a program of study, the program coordinator is usually assigned as a temporary adviser. A perma-

nent adviser is selected by the student and temporary adviser, taking into account the student's research and career interests. If this individual accepts the student as advisee, she/he is formally appointed permanent adviser by the assistant vice president and dean of graduate studies and research upon recommendation of the department involved.

Non-degree students are not assigned advisers. They may regard the assistant vice president and dean of graduate studies and research as their adviser for choosing courses and interpreting academic regulations.

Scheduling, Drop/Add

Students schedule graduate courses through their program adviser, except for students in non-degree status who submit their registration materials directly to the Office of Graduate Studies.

Any graduate student who does not attend class for which he or she has been properly scheduled and does not submit a request for add/drop/withdraw courses by the appropriate dates is liable for billing and will not be eligible for a refund.

Course Information

The course load each semester for a full-time student is 12 semester hours (for financial aid purposes, full time is 9 credits and over). For students employed full time, however, the maximum course load each semester is 6 semester hours. For half-time graduate assistants, the course load is 6 to 12 semester hours; for quarter-time graduate assistants, 9 to 12 semester hours.

For summer sessions, the maximum course load is 1 semester hour per week of full-time course work. (For example, if the summer session is six full weeks, the maximum course load during that session is 6 semester hours).

Credit is measured in terms of semester hours, at the rate of 1 semester hour for 15 hours of lecture/discussion work plus final

examinations.

Courses numbered 500 or higher in this catalog (the last three digits of the course number) are graduate courses. Courses numbered lower than 500 that are listed in this catalog are open to both graduate students and advanced undergraduates. Graduate students may apply only 12 semester hours of courses numbered 400 to 500 that are listed in this catalog toward a master's degree.

Swing Courses / Dual Listed Courses

Swing Course - A 400-level course designated by BUCC as satisfying both graduate and undergraduate level degree requirements. No distinction is made in the syllabus for effort expected of graduate or undergraduate students. Students must be admitted and scheduled through the graduate school in order to receive graduate credit.

Dual Listed - A single instructional setting in which undergraduate students take a course that is parallel to a graduate course. Generally, the courses are numbered separate with the tens and units digit being the same and the hundreds digit being "4" for undergraduate and "5" for graduate (e.g. 490 and 590). Distinct syllabi guide the work of graduate and undergraduate students in the dual listed course. The graduate version requires more and higher-level work than the undergraduate. Many elements of the course may be common to the 400- and 500-version, such as lectures, readings and lab work.

Transfer of Credits

No more than 12 credits earned, with a grade of B or higher, outside of a degree program may be applied to the program in which the student is matriculating. Students may transfer up to nine hours of graduate course work, in which a grade of B or higher is earned, from another college or university, with the approval of their graduate program coordinator and the assistant vice president and dean of graduate studies and research. Credits applied to an undergraduate degree, such as credits earned in non-

degree status or credits earned in a program from which the student has withdrawn, may apply to a degree program. Internal transfers are limited to 12 credits of courses, which must be relevant to the degree program the student is pursuing, and must be approved by the graduate program coordinator and the assistant vice president and dean of graduate studies and research. Transferred courses taken at Bloomsburg University will contribute to the student's QPA when determining academic standing. Graduate courses taken at Bloomsburg University but not transferred into a degree program do not contribute to the student's QPA when determining academic standing. A request for credits must be submitted on an application form available in the Office of Graduate Studies.

After formal admission to the School of Graduate Studies, all requests to take and transfer graduate credits must be pre-approved by the program coordinator. Students must have taken the course(s) in residence and the content of the course(s) must match the required areas of study in the student's master's program at Bloomsburg. Transfer credit must have been earned with a grade of at least B, must be capable of counting toward a graduate degree at the sponsoring institution, be appropriate to the Bloomsburg University program, and be completed no more than six years from the expected date of graduation. Pass/fail grades are not acceptable. In general, workshop format courses are not acceptable in transfer; however, if the workshop fulfills the following requirements, it may be considered for transfer to Bloomsburg University:

- The workshop should consist of 45 contact hours (15 contact hours per semester hour) for a 3-semester hour course;
- The workshop must include exposure to the disciplinary research literature appropriate to the course;
- The workshop must include the opportunity for outside work such

as term or research papers or other major assignments appropriate to a graduate course; and

The workshop must be taught as part of a master's degree curriculum of the university at which the course was taken. Professional development workshops are not acceptable.

The course duration should be over one week for each credit (e.g., 3 weeks for a 3 credit course).

Under certain conditions, credits applying to an earned degree may apply to a subsequent degree. Courses transferred must be relevant to the program in which the student is matriculating. The transfer must be approved by the graduate program coordinator and assistant vice president and dean of graduate studies and research. Transferred credits must not reduce the number of credits earned in the program below 24. Credits transferred in this manner do not contribute to the QPA when determining academic standing.

Repeat of Courses

A maximum of one course in which a grade of less than C has been recorded or a maximum of two courses in which a grade less than B and greater than C- has been recorded (totalling not more than 6 semester hours) may be repeated upon application to the assistant vice president and dean of graduate studies and research. The application shall be approved upon written request by the student's graduate program coordinator and department chairperson.

The initial grade remains on the transcript as part of the student's permanent record. The grade of the repeated course is part of the permanent record and is used to calculate the student's quality point average. A course may be repeated only once. A course taken at Bloomsburg University in which a grade of D or E has been earned must be repeated at Bloomsburg University. Although this is a general graduate school policy, individual departments or graduate

programs may implement more stringent requirements.

Academic Grievance Procedure

Alleged academic injustices relating to grades or professional conduct should be resolved informally, if possible. The student should first discuss the matter with the concerned faculty member, appropriate chairperson, and college dean or the assistant vice president and dean of graduate studies and research. In order for the matter to be resolved expeditiously, the consultation(s) should take place as soon as possible after the alleged incident has occurred. If informal attempts to resolve the matter are unsuccessful, the student should consult with the assistant vice president and dean of graduate studies and research who will inform the student of procedures for initiating a formal grievance with the academic grievance coordinator for a hearing before the Academic Grievance Board.

Academic Probation

A graduate student not maintaining satisfactory academic progress may be placed in academic probationary status. Enrollment is limited to a maximum of 9 semester hours for the grading period in probationary status. A student on academic probation is not eligible to hold a graduate assistantship. To be removed from academic probation, a graduate student with a quality point average deficiency must attain the minimum overall quality point average of 3.0 as required by the School of Graduate Studies for regular graduate students and degree candidates. A student who attains a 3.0 Q.P.A. or higher for the first grading period in academic probationary status, but does not attain the required overall Q.P.A., may be recommended by his or her academic adviser, the graduate program coordinator, and the department chairperson to the assistant vice president and dean of Graduate Studies and Research for continuation on probation for one additional grading period.

Graduate students who fail to meet the minimal standards for satisfactory progress will be notified by the assistant vice president and dean of Graduate Studies and Research. Failure to request academic probation will result in academic dismissal. Such students may submit a request in writing to their academic advisers to be granted academic probation. Upon recommendation of the academic adviser, graduate program coordinator, and department chairperson, and approval by the assistant vice president and dean of graduate studies and research, probationary status will be granted. Exceptions to these procedures under extraordinary circumstances will be by written request to the assistant vice president and dean of graduate studies and research.

Academic Dismissal

A graduate student not maintaining satisfactory progress, who is not permitted to enroll in probationary status, is excluded from registration, and the student's academic record is marked "academic dismissal."

Dismissal is automatic if the overall Q.P.A. is below the minimum after two grading periods in probationary status or after failing to pass the comprehensive examination two times while in probationary status. Dismissal is also automatic upon receipt of grades below a C in two graduate courses. A graduate student under academic dismissal is not eligible to attend courses offered in the School of Graduate Studies for a period of at least one calendar year.

A dismissed graduate student may, after a period of one year, reapply to the School of Graduate Studies in order to undertake studies in a new degree program or to further their studies in non-degree status. A graduate student is not permitted to register for any courses in a program from which he or she was dismissed.

Under exceptional circumstances and with the approval of the assistant vice president and dean of graduate studies and research, a program may readmit a dismissed student. In the latter instance, the normal

six-year limitation for expired courses shall be applied. Graduate students dismissed for academic reasons may appeal their dismissal within one year, in writing, to the Graduate Council. The decision of the council is final.

Examinations

As part of the master's degree requirement, a comprehensive examination is likely to be required. Also, an examination in defense of a master's thesis is required of students who choose to write a thesis.

Master's Thesis or Departmental Paper

Normally, the master's thesis consists of an independent scholarly investigation which includes the experience of collecting, assembling, interpreting, and presenting a body of information to solve a formal research problem in the student's academic or professional field. Alternatively, it can include the preparation and exhibition or presentation of creative works in certain programs. The School of Graduate Studies requires that a thesis be a minimum of 6 semester hours. If the thesis is greater than 6 hours, only 6 semester hours may be counted toward degree requirements.

If a master's thesis is included in the student's program, a committee is appointed by the assistant vice president and dean of graduate studies and research from individuals nominated by the student's adviser. A form for the "Appointment of a Thesis Committee" is available for this purpose from the Office of Graduate Studies. The committee guides the study, approves the thesis in both form and content, arranges for the defense, certifies satisfactory completion of the thesis, and determines the grade. Final copies of every thesis must utilize the format as presented in "Master's Thesis: Procedures," and must be printed on 100 percent cotton paper suitable for archiving such as that available at the University Store.

Some master's degree requirements include a departmental paper. Such a paper is

interpreted as one that grows out of a course and therefore does not require special registration or carry its own credit. Completion of a departmental paper must be certified by your faculty adviser as part of the application for graduation.

Information about master's thesis procedures and departmental paper procedures is available from the Office of Graduate Studies and should be read by all graduate students prior to beginning a thesis or departmental paper project.

Human or Animal Research

In cases where a student research requires the use of any human or animal subjects, the student must seek appropriate approvals through the Institutional Review Board for Human Subjects and/or the Institutional Animal Care and Use Committee. Students should discuss the application process with their faculty adviser and obtain the appropriate approval application forms from the Office of Research and Sponsored Programs.

Admission to Candidacy

Candidacy requirements, when relevant, are described under each program. Not all programs have candidacy requirements.

Time Limitation

Each student is expected to complete the requirements for a master's degree within six calendar years. This includes courses accepted by transfer. Bloomsburg University will grant extensions for sufficient reason, upon application to the assistant vice president and dean of graduate studies and research and with the approval of the student's adviser. This extension must be requested before the six-year period ends.

Graduation Requirements

Students who are completing degree programs must apply for graduation at the Office of the Registrar, Benjamin Franklin Hall, telephone (570) 389-4263, prior to the deadline listed in the university calendar. Each program that leads to a master's de-

gree at Bloomsburg University requires at least 30 semester hours of graduate credit. Courses with grades below C earn no credit toward a master's degree and any course with a grade below C must be repeated.

Students must have a cumulative Q.P.A. of 3.0 or higher to graduate with a master's degree from Bloomsburg University. The graduate calendar gives deadlines for applying for graduation, completion of thesis and departmental papers, comprehensive examinations, etc. These are deadlines, but students should plan to complete each segment before the due date, whenever possible.

Graduate Transcripts

Students may request a graduate transcript through the Registrar's Office. This may be done by letter, or by filling out a form available from the Registrar's Office.

Grades

Grades and their commensurate quality points are as follows:

A = 4.00

A- = 3.67

B+ = 3.33

B = 3.00

B- = 2.67

C+ = 2.33

C = 2.00

C- = 1.67

D+ = 1.33

D = 1.00

E = 0.00

P = Passing grade in thesis/research

F = Failing grade in thesis/research

R = Research in progress

The grades given to each student for academic credit at Bloomsburg University are assigned by those faculty who are responsible for the course in which the student is enrolled.

I - Incomplete; work must be completed within four months unless the assistant vice president and dean of graduate studies and research extends the period for adequate reason. If the work is not made up,

the grade is changed to N, and the student is denied further opportunity to complete the work. If the work is not made up, the grade is changed to E, and the student is denied further opportunity to complete the work.

W - Withdrawn with approval of the assistant vice president and dean of Graduate Studies and Research. The graduate student must apply to the assistant vice president and dean of Graduate Studies and Research for permission to be withdrawn. If this permission is required before midpoint of the semester, the grade is W. If the withdrawal is after the midpoint of the semester, the grade is W, providing the student is passing the course, and E otherwise. The Registrar establishes the semester's midpoint.

V - Audit

X - No grade reported. This temporary notation is recorded until an official grade is received.

CR - This notation appears when a course has been repeated. A course may be repeated only once.

To calculate your Q.P.A., follow this process:

Multiply the number of quality points for each grade by the number of semester hours for that course. Add these points. Divide the total by the sum of the semester hours for all grades used in the computation. When a course has been repeated, use only the last entry.

Admissions

Admission to Bloomsburg University is determined by the applicant's academic and personal qualifications. Decisions are reached without regard to race, color, religion, sex, age, national origin, ancestry, life style, sexual orientation, disabilities, Vietnam era veteran status, or union membership.

Applicants must be graduates of, or seniors in, accredited bachelors programs at four-year colleges or universities or have the equivalent of a bachelors degree from a foreign institution.

Acceptance to a graduate program is determined by the assistant vice president and dean of graduate studies and research upon recommendation of the graduate program coordinator.

Acceptances are tentative if based on evaluations of transcripts that show work in progress; final action is taken after complete transcripts have been received and evaluated.

Procedures

Application materials and instructions for applications may be secured by contacting Office of Graduate Studies and Research, Bloomsburg University, 400 E. Second Street, Bloomsburg, PA 17815-1301; telephone (570) 389-4015; fax, (570) 389-3054; e-mail: carnold@bloomu.edu

To be eligible for admission:

1. Complete and submit an graduate school application to the School of Graduate Studies and Research.

2. Arrange for an official transcript of undergraduate grades be sent to the School of Graduate Studies and Research.

3. Provide other materials as required by the program to which application is made.

Consideration of an application will not occur until all required materials are received.

The non-refundable \$30 application fee must be paid prior to consideration of the application.

Entrance requirements to graduate studies at Bloomsburg University vary according to program. Minimum requirements for applicants for graduate study include a baccalaureate degree from an accredited college or university or the equivalent degree from a foreign institution and a minimum undergraduate quality point average (Q.P.A.) of at least 2.5 on a 4.0 scale. Most applicants will be required to take either the Graduate Record Exam, Miller Analogies

Test, National Teacher Examination, or Graduate Management Admissions Test as required by the program. Any testing fees must be paid by the student.

Special Categories

International Students - Individuals from foreign countries must complete a separate Graduate Admissions Application for International Students. This application form is available from the Office of Graduate Studies, Bloomsburg University, 400 E. Second Street, Bloomsburg, PA 17815-1301, U.S.A. International applicants must have the results from the Test of English as a Foreign Language (TOEFL) and the Test of Spoken English (TSE), if available, in the country of residence, submitted directly to the Office of Graduate Studies from the Educational Testing Service, P. O. Box 6151, Princeton, NJ 08541-6151, U.S.A.

A minimum score of 550 on the paper-based and 213 on the computer based TOEFL taken within two years prior to the date submitted is required. All international applicants must have their applications complete at least four months prior to the start of the semester for which they are applying.

Admissions Categories

In addition to regular admission to graduate programs, several other admissions categories are available:

Provisional - A student may be admitted as provisional in a degree program when the student possesses a baccalaureate degree but does not meet the criteria for regular admission as specified by the program. The reasons for a student's provisional status will be specified in the letter of admission. When these conditions are attained, transfer to regular student status is automatic upon certification by the student's adviser. If not attained, the student may be dismissed.

Transfers - The criteria and procedures described under admissions also apply to transfer students. Students may transfer up to nine hours, in which a grade of B or higher is earned, taken at another college or

university, with the approval of their graduate program director and the assistant vice president and dean of graduate studies and research. Transfer credits must be capable of counting toward a degree at the institution at which they were taken. Further, they must meet the Bloomsburg University standard of 15 contact hours per semester hour (credit hour) and no more than one semester hour completed per week. All courses whether taken at Bloomsburg University or other institutions counting toward a graduate degree must be completed within six years. For additional information on transfer credits, see "Transfer of Credits" under Academic Policies.

Non-Degree - Persons who desire graduate level university instruction, but do not intend to earn a master's degree, may be admitted as non-degree students provided they present official transcripts denoting graduation from an accredited undergraduate college or university. This is the category for students who are auditing a course, enrolling in the supervisory certificate program, or in the process of applying for regular classes but have not completed the regular admissions process prior to taking classes.

Non-degree students may apply to the Graduate School for transfer to provisional or regular status. However, no more than 12 semester hours earned as a non-degree student may be later applied toward a master's degree, except when special permission is granted by the assistant vice president and dean of graduate studies and research.

Adjunct - An adjunct student is one who enrolls in off-campus graduate courses. They may take three semester hours of graduate course work in this status before applying to regular or non-degree status.

Readmission

If a graduate student has not enrolled in any graduate course for a two-year period, the student's record is marked "withdrawn" and placed in the inactive files. A new application and \$30 fee must then be submitted for reactivation.

Graduate Courses in the Senior Year

Current Bloomsburg University undergraduates may register for graduate courses under certain conditions. First, they can only take a graduate course during the semester they will complete their undergraduate degree, and they must need less than a full load of classes to graduate. Second, a recommendation from their undergraduate adviser is required. These students must follow the regular graduate application process.

Audits

Courses may be audited for self-improvement. Students must follow the regular graduate application process, pay all the required fees, and obtain the approval of the assistant vice president and dean of gradu-

ate studies and research. Students auditing a course are not required to take tests. Upon completion of an audited course, a grade of V is recorded on the student's transcript.

Off-Campus Courses

Bloomsburg often offers graduate courses at other locations in the Commonwealth. These graduate courses are open to students who are not enrolled in a master's program at Bloomsburg University; however, these students must obtain approval from the assistant vice president and dean of graduate studies and research to enroll in these classes and must complete an application for admission to Graduate Studies prior to the completion of the semester in which they are enrolled.

Graduate Tuition, Fees

Graduate tuition and fees for the 2000-2001 academic year are subject to change by appropriate governing boards. (Fees are generally reviewed and revised in mid-summer, with changes effective in the fall semester). Prices shown are per semester

	Pennsylvania Resident	Out-of-State
Resident		
Tuition (9-15 hours, full time)	\$2,069	\$3,504
Tuition (per hour)	\$230	\$389
Academic Enhancement Fee		
12 or more semester hours	142	142
per semester hour	12	12
Student Union Fee		
10 or more semester hours	60	60
7 to 9 semester hours	30	30
1 to 6 semester hours	15	15
Recreation Fee		
12 or more semester hours	79	79
per semester hour	6.75	6.75
Student Union Operations Fee		
12 or more semester hours	29	29
per semester hour	2.50	2.50
Health Service Fee (9 or more hours)	37	37
Late Registration Fee	10	10
Late Payment Fee	25	25

All students taking nine or more semester hours and all international students are required to have health insurance. Students may also enroll in the university's student health plan. For information, contact the Health Center at (570) 389-4451 or (570) 389-4452. For information about billing, contact the Business Office, (570) 389-4013.

Refunds

All withdrawals require the approval of the assistant vice president and dean of graduate studies and research. Immediately after withdrawal, a letter requesting a refund must be directed to the assistant vice president for administration, Business Office, Bloomsburg University.

Depending on the time of withdrawal, a partial refund of fees is possible. Except for minimum forfeit of advanced deposits, refunds for tuition will be based on the following schedule (subject to change) if applicable after the first full class day of each semester:

First through second week	90%
Third through fourth week	50%
Fifth through eighth week	25%
After the eighth week	0%

A student who does not attend class for which he or she has been properly scheduled and does not submit a request to add/drop/withdraw courses by the appropriate dates is liable for billing and will not be eligible for refund.

Financial Help/Assistantships

Bloomsburg University provides several options to help graduate students financially. Graduate assistantships are available for students pursuing a master's degree. The number of assistantships in any particular program or department can vary. Stipends are awarded by the assistant vice president and dean of graduate studies and research upon the recommendation of departments that have graduate programs. Stipends are available during the academic year and the summer sessions. Most students are granted assistantships for one semester at a time. Some graduate students, however, are granted assistantships under a two-semester contract. Graduate students who

have had an assistantship in one program are not eligible for an assistantship in a second program.

Assistantships are either "half-time" which require 20 hours of work each week or "quarter-time" which require 10 hours of work each week. Both types of assistantships carry a partial tuition waiver. In addition, half-time graduate assistants receive a stipend of \$2,224 for the semester while quarter-time graduate assistants receive a \$1,112 stipend for the semester. Summer stipends are \$867.

As part of the university's commitment to Affirmative Action, 10 graduate assistantships are targeted for minority graduate students. The requirements and conditions of appointment for these assistantships are identical to regular assistantships

Applications for regular and minority graduate assistantships are available at the Office of Graduate Studies and should be submitted to the department or program to which you are applying. Upon award of a graduate assistantship, you will be provided with the document "Criteria for Graduate Assistantship" by the Office of Graduate Studies. This document describes Graduate School policies for the administration of assistantships.

Other Forms of Aid

Some federal fellowships may be offered in selected fields of study. Program coordinators should be contacted regarding availability. In addition, the Pennsylvania Higher Education Assistance Agency Loan Program is available as well as the student work-study program. For more information regarding these forms of financial aid, contact the Office of Financial Aid, Benjamin Franklin Hall, Bloomsburg University, 400 E. Second Street, Bloomsburg, PA 17815-1301, (570) 389-4279 or (570) 389-4297.

Art History, Art Studio (M.A.)

Administered By: Department of Art
 Campus Address: 213 Old Science Hall
 Bloomsburg University
 400 E. Second Street
 Bloomsburg, PA 17815-1301
 Telephone Number: (570) 389-4646
 Fax Number: (570) 389-4946
 Coordinator: Vera L. Viditz-Ward, M.F.A.
 Degree Awarded: Master of Arts

About Art History

The Master of Arts program in art history develops an advanced knowledge base, writing proficiency and research skills enabling the student to pursue a variety of professional options. A minimum of 30 semester hours is required including a thesis based on the student's area of interest. In conjunction with the student's committee, an individualized program of study is designed. Opportunities for interdisciplinary and off-campus experiences and internships are available.

About Art Studio

The Master of Arts program in art studio emphasizes the development of creative and scholarly competencies in one or more of the following studio areas: drawing, crafts, ceramics, graphics, painting, photography or sculpture, with concurrent or parallel work in the areas of art history, philosophy and psychology of art, and visual aesthetics for a minimum of 30 semester hours. Opportunities for off-campus experiences and internships are available.

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. Those choosing the master's degree in art studio need to submit an 8" x 10" plastic sleeve of slides representative of their recent creative work. Upon acceptance, students are re-

quired 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 this program are outlined in the graduate catalog.

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. 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.

Gallery. Permanent Art and Slide Collections. The department operates the Haas Gallery of Art, which features exhibitions of varied art forms throughout the year. A special exhibition of student artwork is held annually, and an exhibition organized and planned by students in the art gallery course is held in the spring of each year. The department of art maintains an extensive permanent art collection of more than 400 pieces with works displayed throughout the campus. The department's slide collection numbers more than 50,000 units.

Required Courses in Art Studio

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 Advanced Graphics 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

Required Courses in Art History

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
- 30.59I Visual Arts of the Exceptional Child

30.595 Master's Thesis

The preceding courses in art studio and 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.

Faculty Research Interests

- Karl A. Beamer, M.F.A., associate professor: Ceramics and sculpture.
- Carol B. Burns, M.F.A., associate professor: Crafts.
- Gary F. Clark, M.A., professor: Computer and video technology, drawing.
- Vince Hron, M.F.A., assistant professor: Painting, drawing.
- Stewart L. Nagel, M.F.A., professor: Graphics.
- Andrea Pearson, Ph.D., associate professor: Northern renaissance art, museum studies.
- Christine M. Sperling, Ph.D., professor: Renaissance art history.
- Barbara J. Strohman, M.F.A., professor: Drawing.
- Vera L. Viditz-Ward, M.F.A., associate professor: Photography, history of photography.
- Charles T. Walters, Ph.D., associate professor: American and oriental art history.

Accounting (M.Ac.)

Administered By: Department of Accounting

Campus Address: 219 Sutliff Hall

Bloomsburg University

400 E. Second Street

Bloomsburg, PA 17815-1301

Telephone Number: (570) 389-4755

Coordinator: Nancy Coulmas, Ph.D.

E-mail Address: ncoulmas@husky.bloomu.edu

Degree Awarded: Master of Accounting

About the Program

The Master of Accounting is designed for the individual who possesses a comprehensive undergraduate education in accounting and wishes to pursue applied graduate work in the discipline. Although the primary emphasis of the curriculum is in the area of advanced accounting theory, students will also spend time developing written and oral communication skills.

The course of study, which involves completion of 30 semester hours, can be accomplished in one year or the student can elect to complete the program at their own pace.

Admission. Applicants to the Master of Accounting must provide the School of Graduate Studies with the following:

1. Official Graduate Management Admission Test (GMAT) or Graduate Record Examination scores
2. An official copy of all academic transcripts
3. Three letters of recommendation from individuals who have the knowledge to comment on the applicant's potential to successfully complete a graduate level course of study
4. Completion of the prerequisites listed under "Minimum Prerequisite Course Work"
5. Additional requirements as stipulated by the School of Graduate Studies

Individuals who have not completed all admissions requirements may take up to 12 approved semester hours of graduate courses at Bloomsburg which may be applied toward the degree upon successful admission to the graduate program.

Prerequisite Course Work. A baccalaureate degree with an emphasis in accounting from an accredited college or university, or a baccalaureate degree from an accredited college or university and the following:

A. Prerequisite general business and related topics courses including: principles of economics, statistics, computer information systems, business law, finance, management, marketing, calculus and ethics.

B. Prerequisite accounting courses including: principles of accounting, managerial accounting, intermediate accounting, tax, auditing, cost and an advanced accounting elective.

Prerequisite Work Experience. Practical work experience in the field of accounting or an undergraduate accounting internship.

Retention and Graduation. Graduation will be conferred upon successful completion of a minimum of 30 semester hours of graduate-level course work fulfilling all program requirements. Students must complete all required course work for graduation while maintaining a minimum overall GPA of 3.0. No more than two courses with a grade of C will be counted toward graduation. A grade lower than C will not be viewed as satisfactory progress toward graduation, although it will be included in the students GPA.

Required Courses

Fall Semester

91.501 Financial Accounting

91.523 Advanced Tax Accounting

91.551 International Accounting

93.511 Statistical Analysis

Spring Semester

- 91.521 Advanced Cost Accounting
- 91.522 Advanced Audit Theory
- 91.553 Special Topics in Accounting
- 96.535 Financial Management
- Summer Session
- 91.552 Controllership
- Graduate elective

Faculty Research Interests

Richard L. Baker, professor - B.S., M.B.A., Bloomsburg State College; Ph.D., The Pennsylvania State University; C.P.A., C.M.A., C.I.A.: Financial, governmental and managerial accounting.

William Bealing, associate professor - B.S.B.A., Shippensburg University of Pennsylvania; M.B.A., University of Montana; Ph.D., The Pennsylvania State University: Financial, intermediate and advanced tax accounting.

Michael C. Blue, professor - B.S., University of Wisconsin; M.S.B.A., Boston University; M.S., University of Wisconsin; Ph.D., University of Idaho, C.P.A., C.M.A., C.F.E., C.G.F.M.: Cost, manage-

rial and behavioral accounting.

Nancy Coulmas, chairperson, associate professor - B.S., New York Institute of Technology; M.B.A., St. Bonaventure University; Ph.D., The Pennsylvania State University: Strategic cost management, managerial accounting and financial accounting.

Dennis B. K. Hwang, professor - B.A., Chengchi University; M.A., Ph.D., University of Oklahoma; C.P.A., C.M.A.: International, financial and managerial accounting, and international economics.

John Rude, associate professor - B.B.A., M.A., Western Illinois University; Ph.D., Kent State University, C.P.A., C.P.I.R., C.S.I.: Accounting education pedagogy, accounting ethical behavior, public financial reporting.

Michael Shapeero, associate professor - B.S., M.B.A., California State University; Ph.D., Virginia Polytechnic Institute and State University, C.P.A., C.M.A.: Financial accounting, managerial accounting, auditing.

Master of Business Administration (MBA)

Administered By: College of Business

Campus Address: Sutliff Hall

Telephone Number: (570) 389-4589

FAX: (570) 389-4912

Program Coordinator: Stephen J. Markell, Ph.D.

email: vale@bloomu.edu

Degree Awarded: Master of Business Administration

About the Program

College of Business Mission Statement -

Within our region, we provide the opportunity for a business education recognized by our stakeholders for its quality.

The Masters of Business Administration (MBA) program offers management education designed to impart business expertise and strengthen leadership skills. Successful students will demonstrate mastery of knowledge in management, marketing, accounting, finance, and information systems. The program provides the theoretical, analytical and operational expertise managers need to meet the challenges of managing human and material resources in dynamic, competitive environments.

The curriculum consists of 36 graduate credit hours delivered in 8 required and 4 elective courses. Students without sufficient preparation also complete prerequisite foundation courses.¹

Courses meet one evening each week for 15 weeks in spring and fall semesters. Summer semester courses meet two evenings for 6 weeks. Courses are described in the graduate catalog. Classes meet on the Bloomsburg campus and at convenient off-campus sites. Most students are part-time and take 1 or 2 courses each semester.

The course schedule requires a minimum of one year of full-time study to complete. Most part-time students finish in 3 years. Students must comply with Graduate School and MBA program policies and procedures, completing all requirements for graduation with an average grade of B (3.00/4.00 G.P.A.) within six years.

The university and its College of Business offer degree programs accredited by the

Middle States Association of Colleges and Schools. The MBA program is designed to meet the accreditation standards of the AACSB—The International Association for Management Education. The College of Business has completed its AACSB candidacy period and plans to apply for accreditation in 2003.

Faculty and Students

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 2000, the 70 active students were comprised of 36 percent women and 64 percent men, with an average age of 36. About 20 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.

A G.P.A. of 2.50 on a 4.0 scale is preferred.

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 provide official Test of English as a Foreign Language (TOEFL) score within the prior year. International applicants must also provide current evidence of financial capability.

Curriculum

Foundation Courses - Students take foundation courses to fulfill prerequisites to the curriculum. Combinations of prior college courses, business practice and evidence of mastery may be acceptable to fulfill prerequisites.

- 40.512 Economic Theory
- 91.504 Introduction to Financial Accounting
- 93.500 Managerial Principles
- 93.511 Statistical Analysis and Design Calculus (undergraduate)

Required Courses

- 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

- 91.501 Financial Accounting
- 91.502 Advanced Financial Accounting
- 91.503 Government and Fund Accounting
- 91.521 Advanced Cost Accounting
- 91.522 Advanced Auditing Theory

- 91.523 Advanced Tax Accounting
- 91.551 International Accounting
- 91.552 Controllership
- 93.540 Small Business Institute Seminar
- 93.545 Human Resource Management
- 93.556 International Management
- 93.562 Organizational Theory
- 93.563 Operations Research
- 93.583 Human Resources Development
- 96.540 International Finance
- 96.550 Security Analysis and Portfolio Management
- 97.552 Marketing Research
- 98.507 International Legal Environment of Business
Special Topics

Faculty

Accounting

- Richard L. Baker, Ph.D.
- William E. Bealing, Ph.D.
- Michael C. Blue, Ph.D.
- Nancy Coulmas, Ph.D.
- Dennis B. Hwang, Ph.D.
- John Rude, Ph.D.
- Michael Shapeero, Ph.D.

Computer and Information Systems

- Carl Chimi, Ph.D.
- Frank F. Davis, Ph.D.
- James S. Dutt, Ph.D.
- Charles J. Hoppel, Ph.D.

Finance and Business Law

- David G. Heskell, Ph.D.
- David Martin, Ph.D.
- Rand Martin, Ph.D.
- Bruce L. Rockwood, J.D.

Management

- Mainuddin Afza, Ph.D.
- M. Ruhul Amin, Ph.D.
- Lawrence Kleiman, Ph.D.
- Stephen Markell, Ph.D.
- Minoo Tehrani, Ph.D.
- Peter B. Venuto, Ph.D.
- Pamela Wynn, Ph.D.

Marketing

- Stephen Batory, D.B.A.
- Morry Gingham, Ph.D.
- Hank Laskey, Ph.D.
- Salim Qureshi, Ph.D.

Biology (M.Ed.)

Administered By: Department of Biological & Allied
Health Sciences

Campus Address: Hartline Science Center

Telephone Number: (570) 389-4780

Coordinator: Margaret L. Till, Ph.D.

E-mail: till@bloomu.edu

Degree Awarded: Master of Education

Affiliated website: <http://vesta.bloomu.edu/~biology/>

About the Program

The Master of Education program in biology is intended to enhance the competence of secondary school teachers of biology by extending their scholarship in content and method through formal courses, independent study and research.

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:

- 1) The student's academic advisor and tentative thesis committee (thesis option) or the student's tentative reading committee (non-thesis option);
- 2) At least three-fourths of the departmental graduate committee; and
- 3) 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.

Required Courses

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

Faculty Research Interests

- Joseph P. Ardizzi, associate professor, B.S., St. Joseph's University; Ph.D., Cornell University; Fungal genetics, microbiology and cell biology. E-mail: jardiz@bloomu.edu
- George P. Chamuris, professor, A.A.S., Dutchess Community College; B.S., State University of New York at Albany; M.S., James Madison University; Ph.D., State University of New York, College of Environmental Science and Forestry at Syracuse; Biology of bark-, wood- and litter-inhabiting fungi. E-mail: chamuris@bloomu.edu

- James E. Cole, professor, B.A., M.A., Western Michigan University; Ph.D., Illinois State University: Vertebrate zoology and allied health. E-mail: jcole@bloomu.edu
- George T. Davis, assistant professor: B.A., M.S., Southern Illinois University; Ph.D., University of Illinois: Plant molecular genetics, genetic engineering and maize genetics. E-mail: gdavis@bloomu.edu
- Judith P. Downing, professor, B.S., Bowling Green State University; M.A., Ph.D., State University of New York at Buffalo: Immunology and infectious diseases caused by bacteria. E-mail: jpdownd@bloomu.edu
- Phillip A. Farber, professor, B.S., King's College; M.S., Boston College; Ph.D., Catholic University of America: Human genetics and cytogenetics. E-mail: pfarber@bloomu.edu
- Frederick C. Hill, professor, B.S., M.S., Illinois State University; Ph.D., University of Louisville: Vertebrate zoology. E-mail: fhill@bloomu.edu
- Judith Kipe-Nolt, associate professor, B.A., Messiah College; M.S., Ph.D., The Pennsylvania State University: Biology of composting and soil microbiology. E-mail: kipenolt@bloomu.edu
- Thomas S. Klinger, professor, A.A., Bradford College; B.A., Macalester College; M.A., Ph.D., University of South Florida: Marine biology, physiological ecology, behavioral ecology and biometry. E-mail: tklinger@bloomu.edu
- Mark S. Melnychuk, professor, B.S., Moravian College; Ph.D., Kent State University: Nutrition, reproductive physiology, and seasonal weather changes and pollutant levels in fishing creeks. E-mail: mmelnch@bloomu.edu
- Lynne C. Miller, professor, B.S., College of Pharmacy, University of Rhode Island; M.S., University of Texas; Ph.D., New Mexico State University: Medical parasitology, parasite immunology and physiology, experimental pharmacology and toxicology. E-mail: lmiller@bloomu.edu
- Louis V. Mingrone, chairperson, professor, B.S., Slippery Rock State College; M.S., Ohio University; Ph.D., Washington State University: Phytochemical systematics and floristics. E-mail: lmingron@bloomu.edu
- James E. Parsons, professor, B.S., M.S., Ph.D., The Ohio State University: Clinical microbiology, medical mycology, epidemiology and secondary education biology. E-mail: jparsons@bloomu.edu
- Casey A. Shonis, associate professor, B.A., Slippery Rock University; M.S., Ph.D., University of Illinois at Champaign-Urbana: Neurophysiology, genetic hypertension, control of the autonomic nervous system and neuroanatomy. E-mail: cshonis@bloomu.edu
- Cynthia A. Surmacz, professor, B.S., The Pennsylvania State University; Ph.D., Milton S. Hershey Medical Center, The Pennsylvania State University: Cell physiology and cholesterol metabolism in exercise and aging. E-mail: surmacz@bloomu.edu
- Margaret L. Till, assistant chairperson and graduate program coordinator, professor, B.S., M.S., Ph.D., Auburn University: Endocrinology and cholesterol metabolism in women. E-mail: till@bloomu.edu
- Gary T. Wassmer, assistant professor, B.S., State University of New York at Binghamton; Ph.D., University of Delaware; environmental physiology, seasonal and daily rhythms. E-mail: gwassmer@bloomu.edu
- Kevin Williams, assistant professor, B.S., Northwestern Oklahoma State University; M.S., Fort Hays State University; Ph.D., Syracuse University: Physiological plant ecology. Email: kwillia4@bloomu.edu.
- Marianna D. Wood, assistant professor, B.S., Northland College, Ph.D., University of Kansas: Behavioral ecology, forest ecology and mammalogy. E-mail: mwood@bloomu.edu

Business Education (M.Ed.)

Administered By: College of Business

Campus Address: 217 Sutliff Hall

Telephone Number: (570) 389-4756/4121

Coordinator: Donna Cochrane, Ed.D.

E-mail Address: dcocoran@bloomu.edu

Department Website: www.bloomu.edu/departments/boeis/boeis.htm

Degree Awarded: Master of Education

About the Program

The Master of Education in Business Education program is designed to prepare students in the design, implementation and management of office systems in a business environment. The program offers practical and realistic learning activities, hands-on instruction in new information technology and field-based research projects. Admission to the program does not require evidence of a valid teaching certificate, but the program may lead to certification in business education with the completion of additional coursework. For information regarding certification, please contact the program coordinator.

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 2.5 on a 4.0 scale.

Graduate Record Examination results on the general knowledge test with a minimum score of 1300.

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 one required core course, two elective courses, and an office information systems emphasis consisting of seven courses.

Required Courses

Core Course (3 semester hours)

79.591 Foundations of Educational Research

Graduate Electives (6 semester hours)

Graduate-level courses to fulfill the elective requirements will be chosen by the student and the program coordinator based on career needs.

Office Systems Emphasis (21 semester hours)

90.581 Seminar in Business Education and Office Information Systems

94.500 Office Systems Information and Technology

94.510 Office Systems Applications

94.520 Administrative Communications

94.530 Telecommunications

94.540 Training and Development

94.550 Integrated Office Systems

(Students should enroll in 94.550

Integrated Office Systems during the last semester of the degree program or obtain instructor's permission.)

Certification. Students who wish to receive a Level I Professional Teaching Certificate in business education (accounting, data processing, marketing, and office technologies) from the Pennsylvania Department of Education must fulfill the following 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 II National Teacher Examination core battery and the specialty area(s) for business education.

Faculty Research Interests

Donna J. Cochrane, Ed.D., professor: Training and development, business teaching methodology, office technologies. E-mail: dcochran@bloomu.edu

Dennis O. Gehris, Ed.D., associate professor: Work attitude assessment, business teaching methodology, software applications in business. E-mail: dgehris@bloomu.edu

Janice C. Keil, Ed.D., associate professor: Training and development, business teaching methodology. E-mail: jkeil@bloomu.edu

John J. Olivo, Ph.D., professor: Ergonomics, impact of technology on organizations' policy and procedures, telecommunications, analyzing and improving workflow, end-user computing. E-mail: olivo@bloomu.edu

Curriculum and Instruction (M.Ed.)

Administered By: Department Educational Studies
and Secondary Education

Campus Address: 1210 McCormick Center for
Human Services

Telephone Number: (570) 389-4025

Degree Awarded: Master of Education

About the program

The program is field-based and designed to enhance the professional curricular and instructional competencies of individuals who work with children, youth and adults. The program's field-based approach ensures the needs of school-based faculty are continually addressed through faculty involvement in the following areas:

Planning and implementation of the
core courses

Advisee ment of theses

Development of research projects

Improvement of instruction

Development of curriculum

Continuous evaluation of the degree
program

Implementation of theory into the
classroom

The program offers areas of specializations in curriculum and instruction, classroom technology and multicultural/global education.

The field-based core curriculum of this program will permit unique and interesting applications of theory and research to each classroom. Individuals motivated to improve the quality of instruction will find a format that will enable them to expand (1) their knowledge of the subject they are teaching, (2) their knowledge of the curriculum and its applicable methodology, (3) their skills in individualization through diagnosis and prescription, and (4) their skills in communicating with students, parents and educational professionals.

The liberal arts core of 6 semester hours will increase the depth of the knowledge base and skills of each graduate student. Knowledge from several disciplines will be

combined into a program that will permit the graduate student to develop new and often unique educational perspectives. The individualized curriculum enables each graduate student to pursue 12 semester hours of graduate study within an area of concentration such as classroom technology, multicultural/global education, English, social sciences, mathematics and computer science, physical and life sciences, elementary, early childhood education, reading and humanities. Completion of the individualized curriculum may require that students enroll and pursue courses offered by other universities.

Admission. Applicants must satisfy the general admission requirements for the School of Graduate Studies. The following additional criteria are also required:

Meet with program adviser to clarify requirements, review academic records, discuss transfer of any courses and initiate planning for any research projects and the thesis.

Attain a score of 30 or higher on the Miller Analogies Test *or* submit a copy of your teaching certificate.

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 *or* an instructional project, and apply for graduation. All deficiencies, monetary and academic, must be satisfied before the degree can be granted.

Required Courses

The following courses constitute the 36-hour master's degree program in curriculum and instruction (other courses may be substituted by the program coordinator based upon the graduate student's needs):

Core Curriculum (12 semester hours)

79.593 Studies in Human Diversity

48.576 Theories of Human Learning

60.584 Curriculum and Instructional

Theory, Design and Development

79.591 Research in Education

Liberal Arts Curriculum (6 semester hours)

The Individualized Curriculum - Area of Concentration (12 semester hours), e.g., classroom technology, multicultural/global education, curriculum and instruction.

79.599 Thesis (6 semester hours)

OR a departmental paper and six semester hours of course work

Faculty research interests:

Any graduate faculty member from the Bloomsburg University arts and sciences or education departments may participate in this program.

C. Meade Beers, D.Ed., assistant professor - foundations, administration, curriculum and supervision

Neil L. Brown, Ed.D., assistant professor - social studies, early childhood education, multicultural/global education

Robert L. Clarke, Ed.D., assistant professor - supervision

Henry D. Dobson, Ph.D., professor - educational technology, mathematics education

M. Hussein Fereshteh, Ph.D., associate professor - foundations of education, multicultural/global education

Robert E. Gates, Ed.D., associate professor - supervision and administration

Mary Harris, Ed.D., professor - diversity studies

Frank W. Keating, Ph.D., assistant professor - administration and language arts

Raymond S. Pastore, Ph.D., associate professor - instructional technology and design

Donald L. Pratt, Ph.D., associate professor - educational technology, science education

Shelley C. Randall, Ph.D., assistant professor - guidance and counseling, educational leadership

Charles B. Starkey, Ph.D., associate professor - curriculum and instruction, gifted education

Viola C. Supon, Ed.D., associate professor - elementary education

David E. Washburn, Ph.D., professor - foundations of education, multicultural/global education

Mary Alice Wheeler, Ph.D., assistant professor - supervision

Patricia K. Wolf, Ph.D., associate professor - supervision

Elementary Education (M.Ed.)

Administered By: Early Childhood and Elementary Education

Campus Address: 3213 McCormick Center for Human Services

Telephone Number: (570) 389-4030

Coordinator: John R. Hranitz, Ed.D.

Degree Awarded: Master of Education

Required Courses.

Core Courses: (12 semester hours)

60.501 Major Philosophies of Education

60.506 Multicultural Education

60.514 Home, School and Community Relations

79.591 Research in Education

Electives: (18 semester hours) of course work related to an area of professional interest, e.g., early childhood education, reading, or a specialty area related to elementary education. For example, courses are listed under the following areas: (60) Supervision and Curriculum (62) Early Childhood and/or Elementary Education, (63) Reading or (70) Special Education.

About the Program

The master of education in elementary education program enhances the professional competence of an individual as a teacher and a leader through its emphasis on integrated learning experiences in the study of the child. Areas of study include elementary school curriculum and its trends, new techniques, current research and opportunities for study in the teacher's academic field of interest.

Admission: Applicants must satisfy the general admission requirements for the School of Graduate Studies as well as the following additional requirements:

Possess the Instructor Level I Certification for teaching in the elementary schools of Pennsylvania.

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 graduate students that score lower but have excellent academic records.

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

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.

All students seeking an M.Ed. in Elementary Education are required to demonstrate competency in writing skills by completing and in-depth research paper. This may take the form of a departmental paper or a 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, 3-6 credits, is an additional option. All theses must meet the requirements of the School of Graduate Studies.

All program requirements are to be completed within six years after admission into the program. 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.

Faculty Research Interests

Gary J. Doby, Ph.D., associate professor: English and fine arts.

Bonita B. Franks, Ph.D., associate professor: reading.

John R. Hranitz, Ed.D., professor: early childhood education and research.

Judith McVarish, Ph.D., assistant professor: mathematics

Frank L. Misisi, Ph.D., professor: science education.

William S. O'Bruba, Ed.D., professor: early childhood education and language arts.

Rosemary T. Radziewich, Ed.D., assistant professor: reading.

Lorraine A. Shanoski, Ed.D., professor: early childhood education and research.

Bonnie L. Williams, Ed.D., associate professor: social studies.

Sharon Solloway, Ph.D., assistant professor: early childhood education and research.

Reading (M.Ed.)

Administered by: Department of Exceptionality
Programs

Campus Address: 104 Navy Hall

Telephone Number: (570) 389-4092

Program Coordinator: Chris Cherrington, Ph.D.

E-mail: ccherrin@bloomu.edu

Degree Awarded: Master of Education (also Reading
Specialist Certification)

About the Program:

This program offers a Master of Education in Reading and reading specialist certification. It is designed for experienced professionals who wish to pursue advanced training and experience in reading. The graduate program focuses on reading assessment and instruction, as well as developing leadership in organizing, managing, and evaluating literacy programs. Graduate assistantships are available on a competitive basis and provide a partial tuition waiver and a stipend for working 10 to 20 hours per week in the Reading Center and the America Reads Project.

The graduate reading program has a long history of community service and continues to provide assessment and tutorial services through the campus-based Reading Center. In addition, the Reading Center coordinates the Bloomsburg University America Reads Project, a community outreach program that involves training undergraduate work-study students and volunteers to serve as literacy tutors in the public schools. Graduate assistants supervise the undergraduate tutors and provide on-going training and program evaluation.

The Bloomsburg University Annual Reading Conference provides a rich source of continuing professional development for educators from Pennsylvania and surrounding states. The conference attracts approximately 1,000 registrants and is held each year in May.

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.

Have a 2.5 undergraduate QPA.

Submit a one to two 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.

Students with a QPA under 3.0 must complete the GRE (recommended scores of 400 on each subtest) or the Millers Analogies Test (recommended score of 35).

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
- 63.543 Reading Practicum I
- 63.544 Reading Practicum II
- 63.545 Organization and Administration of Reading Programs
- 63.546 Reading in the Content Areas
- 63.548 Reading Instruction for the At-Risk Learner

63.550 Literature, Literacy, and Culture
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
- Two elective courses from a related field that are approved by the faculty adviser.

Faculty Research Interests

- Chris Cherrington, Ph.D., professor—literacy assessment and instruction in elementary schools, teaching struggling readers, multicultural literature
- Elaine Pongratz, D. Ed., assistant professor—adult and lifelong learning, literacy instruction in middle and high schools, literature for young adults

Audiology (M.S.)

Administered By: Department of Audiology and
Speech Pathology

Campus Address: 3rd Floor, Centennial

Telephone: (570) 389-4436

Graduate Coordinator: Vishakha W. Rawool, Ph.D.,
CCC-A, FAA

Department E-mail Address: rawool@bloomu.edu
Degree Awarded: Master of Science

About the Program

The purpose of the training program in audiology is to prepare graduates to provide diagnostic and habilitative audiological services in a variety of job settings. The program is accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing Association (ASHA) and is designed to afford its graduates the academic and clinical practicum requirements necessary to begin the clinical fellowship year (CFY). The CFY is necessary to receive the Certificate of Clinical Competence in Audiology (CCC-A) issued by ASHA as well as to meet the requirements for an audiology license issued by the Commonwealth of Pennsylvania.

Graduates of the program obtain employment in hospitals, medical centers, clinics, physicians offices, schools, industries, and in private practice settings. Students receive broad-based academic training and obtain practicum experience in a variety of practical settings including on campus and externship sites. Student's academic experiences include evaluating and conducting research in the discipline. Students may be accepted into the graduate audiology program with any undergraduate degree, but individuals without an acceptable undergraduate program in speech and hearing will, by advisement, be required to take prerequisite coursework and practicum as a part of their graduate audiology degree program.

Admission. The applicant is required to submit a one-page, typed letter of intent

stating professional background, experience and rationale for wanting to be admitted to audiology.

The applicant is required to submit three letters of recommendation with the names, addresses, positions and telephone numbers of the references who have knowledge of the applicant's academic and clinical background.

An applicant must have a baccalaureate degree from an accredited institution, with a minimum grade point average of 2.8. Students who do not have an undergraduate major in the area of communication disorders will be required to satisfactorily complete certain academic and practicum deficiencies as prescribed by the faculty following individual transcript analysis.

The Graduate Record Examination is required of all applicants. Typically, successful students have had scores of at least 470 on the verbal, 520 on the quantitative and 570 on the analytical portions of the exam.

Applicants who fail to satisfy the program's requirements may be admitted on a provisional basis. In such cases, the terms of the conditional admission will be specified for the individual applicant. Deadline for submission of application materials is March 1.

Retention. The student must maintain a QPA of 3.0 with a maximum of two Cs on average throughout the graduate program. A grade of C or lower in any clinical experience will necessitate repeating the course to achieve a grade of B or higher.

Graduation. A minimum of 54 semester hours is required to complete the master's program.

Required Courses

Undergraduate Courses

72.200 Introduction to Audiology

72.300 Auditory Training and Speech
Reading

Graduate Courses

72.500 Measurement of Hearing Loss

- 72.502 Physiological Methods in
Audiology
- 72.504 Hearing Aids and Auditory
Training
- 72.506 Externship: Clinical Practicum in
Audiology I
- 72.508 Externship: Clinical Practicum in
Audiology II
- 72.510 Research in Audiography
- 72.512 Seminar in Audiography: Special
Problems
- 72.514 Seminar in Audiography: Industrial
and Public Health Audiography
- 72.516 Seminar in Audiography: Auditory
Problems in Children
- 72.518 Seminar in Audiography:
Theoretical and Clinical Masking
- 72.520 Educational Audiography
- 72.522 Aural Rehabilitation: Theory
and Practice
- 72.524 Clinical Methods and Practicum
in Audiology I
- 72.525 Clinical Methods and Practicum
in Audiology II
- 72.526 Clinical Methods and Practicum
in Audiology III
- 72.527 Clinical Methods and Practicum
in Audiology IV
- 72.532 Electronics and Instrumentation
in Audiography
- 72.599 Master's Thesis

Elective Courses

- 72.528 Clinical Methods and Practicum
in Audiography
- 72.590 Independent Study and
Research
- 72.591 Independent Study and
Research
- 74.568 Advanced American Sign
Language

Other elective courses available via advertisement.

A thesis is required.

The M.S. in Audiography degree program has monitoring and exit criteria. There are periodic comprehensive reviews of each student's academic and clinical abilities.

Faculty Research, Teaching and Clinical Interests

Richard M. Angelo, Ph.D., Ed.D., chairperson, professor, director of clinical services: Basic and clinical electrophysiology; hearing aids.

Vishaka W. Rawool, Ph.D., professor: Electrophysiology; diagnostic audiology; aural rehabilitation, pediatric audiology, hearing aid, geriatric audiology. E-mail: rawool@bloomu.edu

Thomas Zalewski, M.S., assistant professor: vestibular & balance function and assessment, hearing aids, counseling, central auditory processing.

Biology (M.S.)

Administered By: Department of Biological & Allied
Health Sciences

Campus Address: Hartline Science Center

Telephone Number: (570) 389-4780

Coordinator: Margaret L. Till, Ph.D.

E-mail: till@bloomu.edu

Degree Awarded: Master of Education

Department website: [http://vesta.bloomu.edu/
~biology/](http://vesta.bloomu.edu/~biology/)

About the Program

This master's program in general biology offers students a diversity of course work and research opportunities. The program's small size allows students an opportunity to work closely with faculty on a variety of research projects. Class sizes are also small, providing for further association with professionals in the discipline.

The program prepares students for admission to a research-oriented doctoral program in the biological sciences or employment in a biological or health-oriented profession. The program also enhances the knowledge, perspective and experience of teachers of biology in secondary schools.

The program offers opportunities for study at the supraorganismal, organismal, cellular, and molecular levels of biology. A broad array of disciplines is represented among the faculty, allowing considerable flexibility in the selection of independent research topics. Thesis research may have laboratory or field components and may be carried out on campus or at an off-campus site.

The university is a member of the Marine Science Consortium. Courses in marine science are offered during the summer at Marine Science Center located near Wallops Island, Va. Graduate students may use this facility to take graduate-level courses in marine biology or to pursue research projects at the Bloomsburg University Marine Biology Laboratory.

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:

1) The student's academic advisor and tentative thesis committee (thesis option) or the student's tentative reading committee (non-thesis option);

2) At least three-fourths of the departmental graduate committee; and

3) 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.

Required Courses. 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

50.441 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

50.593 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. Specific guidelines are available from the program coordinator or the graduate office.

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: (1) 50.591 Directed Study in Biology for three semester hours, which must be defended orally, or (2) a departmental research paper based on the literature must be submitted and defended orally. The departmental paper carries no semester hour credit.

Faculty Research Interests

- Joseph P. Ardizzi, associate professor, B.S., St. Joseph's University; Ph.D., Cornell University: Fungal genetics, microbiology and cell biology. E-mail: jardiz@bloomu.edu
- George P. Chamuris, professor, A.A.S., Dutchess Community College; B.S., State University of New York at Albany; M.S., James Madison University; Ph.D., State University of New York, College of Environmental Science and Forestry at Syracuse: Biology of bark-, wood- and litter-inhabiting fungi. E-mail: chamuris@bloomu.edu
- James E. Cole, professor, B.A., M.A., Western Michigan University; Ph.D., Illinois State University: Vertebrate zoology and allied health. E-mail: jcole@bloomu.edu

- George T. Davis, assistant professor: B.A., M.S., Southern Illinois University; Ph.D., University of Illinois: Plant molecular genetics, genetic engineering and maize genetics. E-mail: gdavis@bloomu.edu
- Judith P. Downing, professor, B.S., Bowling Green State University; M.A., Ph.D., State University of New York at Buffalo: Immunology and infectious diseases caused by bacteria. E-mail: jpdown@bloomu.edu
- Phillip A. Farber, professor, B.S., King's College; M.S., Boston College; Ph.D., Catholic University of America: Human genetics and cytogenetics. E-mail: pfarber@bloomu.edu
- Frederick C. Hill, professor, B.S., M.S., Illinois State University; Ph.D., University of Louisville: Vertebrate zoology. E-mail: fhill@bloomu.edu
- Judith Kipe-Nolt, associate professor, B.A., Messiah College; M.S., Ph.D., The Pennsylvania State University: Biology of composting and soil microbiology. E-mail: kipenolt@bloomu.edu
- Thomas S. Klinger, professor, A.A., Bradford College; B.A., Macalester College; M.A., Ph.D., University of South Florida: Marine biology, physiological ecology, behavioral ecology and biometry. E-mail: tklinger@bloomu.edu
- Mark S. Melnychuk, professor, B.S., Moravian College; Ph.D., Kent State University: Nutrition, reproductive physiology, and seasonal weather changes and pollutant levels in fishing creeks. E-mail: mmelnch@bloomu.edu
- Lynne C. Miller, professor, B.S., College of Pharmacy, University of Rhode Island; M.S., University of Texas; Ph.D., New Mexico State University: Medical parasitology, parasite immunology and physiology, experimental pharmacology and toxicology. E-mail: lmiller@bloomu.edu
- Louis V. Mingrone, chairperson, professor, B.S., Slippery Rock State College; M.S., Ohio University; Ph.D., Washington

State University: Phytochemical systematics and floristics. E-mail: lmingron@bloomu.edu

James E. Parsons, professor, B.S., M.S., Ph.D., The Ohio State University: Clinical microbiology, medical mycology, epidemiology and secondary education biology. E-mail: jparsons@bloomu.edu

Casey A. Shonis, associate professor, B.A., Slippery Rock University; M.S., Ph.D., University of Illinois at Champaign-Urbana: Neurophysiology, genetic hypertension, control of the autonomic nervous system and neuroanatomy. E-mail: cshonis@bloomu.edu

Cynthia A. Surmacz, professor, B.S., The Pennsylvania State University; Ph.D., Milton S. Hershey Medical Center, The Pennsylvania State University: Cell physiology and cholesterol metabolism in exercise and aging. E-mail: surmacz@bloomu.edu

Margaret L. Till, assistant chairperson and graduate program coordinator, professor, B.S., M.S., Ph.D., Auburn University: Endocrinology and cholesterol metabolism in women. E-mail: till@bloomu.edu

Gary T. Wassmer, assistant professor, B.S., State University of New York at Binghamton; Ph.D., University of Delaware; environmental physiology, seasonal and daily rhythms. E-mail: gwassmer@bloomu.edu

Kevin Williams, assistant professor, B.S., Northwestern Oklahoma State University; M.S., Fort Hays State University; Ph.D., Syracuse University: Physiological plant ecology. Email: kwillia4@bloomu.edu.

Marianna D. Wood, assistant professor, B.S., Northland College, Ph.D., University of Kansas: Behavioral ecology, forest ecology and mammalogy. E-mail: mwood@bloomu.edu

Early Childhood Education (M.S.)

Administered by: Department of Early Childhood and
Elementary Education

Campus Address: 3213 McCormick Center for
Human Services

Telephone Number: (570) 389-4030

Coordinator: John R. Hranitz, Ed.D.

Department E-mail Address: hranitz@bloomu.edu

Degree Awarded: Master of Science

About the Program

This program is intended to enhance the professional competence of the individual as a teacher of young children. It includes integrated learning experiences in the study of the young child from prenatal through age eight, curriculum, current practice and areas of interest to the teacher of young children. Individuals not holding any type of certification can obtain the Instructional Level I Certificate in Early Childhood Education, N, K-3. The program also has an option that enables the teacher with an Instructional Level I Certificate in Elementary Education, K-6 to obtain N, K-3, Early Childhood Education Certification.

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 2.5 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 gradu-

ate 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.

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 Education 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

- 62.510 Methods and Materials in Early Childhood Education I
- 62.520 Methods and Materials in Early Childhood Education II
- 60.512 Computer Media, or more advanced courses in the use of computers may be substituted
- 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
- 62.596 Practicum in Early Childhood Education - 3 credits, partial semester

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 re-apply 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.

Faculty Research Interests

- Gary J. Doby, Ph.D., associate professor: English and fine arts.
- Bonita B. Franks, Ph.D., associate professor: reading.
- John R. Hranitz, Ed.D., professor: early childhood education and research
- Judith McVarish, Ph.D., assistant professor: mathematics
- Frank L. Misiti, Ph.D., professor: science education
- William S. O'Bruba, Ed.D., professor: early childhood education and language arts.
- Rosemary T. Radziewich, Ed.D., assistant professor: reading.
- Lorraine A. Shanoski, Ed.D., professor: early childhood education and research.
- Bonnie L. Williams, Ed.D., associate professor: social studies.
- Sharon Solloway, Ph.D., assistant professor: early childhood education and research.

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

Administered By: Department of Exceptionality Programs

Campus Address: 101 Navy Hall

Telephone Number: (570) 389-4439

Coordinator: Samuel B. Slike, D.Ed.

Department E-mail Address:

sslike@planetx.bloomu.edu

Degree Awarded: Master of Science

About the Program

The graduate program in Education of the Deaf/Hard of Hearing is offered through the Department of Exceptionality Programs. Prospective classroom teachers and itinerant teachers of the deaf/hard of hearing are provided a variety of courses to prepare them for working with individuals who are deaf and hard of hearing. Coursework furnishes conceptual as well as experiential background in the areas of academic teaching, speech-language therapy, communication, psycho-social development and curriculum and instruction. Depending on undergraduate major, students are prepared to work with preschool, elementary, secondary or multi-handicapped individuals who are deaf/hard of hearing.

In practica courses, students are provided the opportunity to work with individuals who are deaf/hard of hearing in one-to-one and group situations. Various sites throughout the northeast region are offered for practicum experience. These sites are chosen according to the needs of the student intern. These practica provide a classroom as well as an itinerant experience with students who are deaf/hard of hearing.

The education of the deaf/hard of hearing program does not advocate any single method of working with students with a hearing loss. Rather, persons with a hearing loss are viewed as individuals with varying needs. Prospective classroom teachers are afforded a background in all methods of instruction so as to prepare them to work with persons who are deaf/hard of hearing in a variety of educational settings.

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:

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

- 70.101 Introduction to Exceptional Individuals
- 72.200 Introduction to Audiology
- 72.450 Clinical Observation
- 74.153 Introduction to Sign Language
- 74.154 American Sign Language I
- 74.155 American Sign Language II
- 74.201 History, Education, and Guidance of the Deaf/Hard of Hearing
- 74.305 Introduction to Instructional Methods for the Deaf/Hard of Hearing

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:

- 74.254 The Deaf Culture
- 74.255 American Sign Language III
- 74.256 American Sign Language IV

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.

Required Graduate Courses

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

Summer Session (total of 12 weeks)

- 72.522 Aural Rehabilitation: Theory and Practice
- 74.560 Practicum with 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

- 74.564 Speech for the Deaf/Hard of Hearing
- 74.565 Problems and Trends in Education of the Deaf/Hard of Hearing
- 74.568 Advanced American Sign Language
- 74.569 Curricular Subjects for the Deaf/Hard of Hearing

Spring Semester

- 74.570 Student Teaching with the Deaf/Hard of Hearing

Summer Session (total of 6 weeks)

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

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.

Faculty Research Interests

Samuel B. Slike, D.Ed., professor: Teaching sign language and speech reading via videodisc/CD-ROM technology; teaching language and reading to deaf/hard of hearing students; use of computer-related technology in education of the deaf/hard of hearing.

Carmel Collum Yarger, Ed.D., assistant professor: Language acquisition and literacy development in students who are deaf/hard of hearing, educational interpreting, collaborative home-school partnerships.

Jamie N. Galgoci, M.S., assistant professor: Teaching Speech to deaf/hard of hearing students; aural habilitation/rehabilitation; assistive technology. B.S., Marywood University; M.S., Bloomsburg University.

Special Education/Exceptionalities (M.S.)

Administered By: Department of Exceptionality Programs

Campus Address: 101B Navy Hall

Telephone: (570) 389-4119

Program Coordinator: Sheila Dove Jones, Ed.D.

Program E-mail: sjones@bloomu.edu

Supervisory Certificate Coordinator: Carroll J. Redfern, Ed.D.

Supervisory E-mail: redfern@planetx.bloomu.edu

Degree Options:

Master of Science in Special Education

Master of Science in Exceptionalities

Master of Science in Exceptionalities and Certification in Teaching Mentally/Physically Handicapped

Special Education Supervisory Certificate Program

Total Enrollment: 135

About the Program

This program provides an opportunity for individuals to pursue one of three different Master of Science degrees.

The Master of Science in Special Education is designed for those who are certified to each physically/mentally handicapped on the undergraduate level. The objective of this program is to improve competencies through further graduate work in special education, qualifying for admissions into a doctoral program if desired.

The Master of Science in Exceptionalities has two dimensions. One is for individuals who work as support units in providing services for special needs individuals (nurse, physical therapist, occupational therapist, counselors, etc.). These individuals wish to acquire a more in-depth knowledge in servicing their clientele but will remain on their original job.

The second dimension is for individuals seeking the Master of Science in Exceptionalities and Certification in teaching physically/mentally handicapped youth, K-12. These individuals acquire the M.S. and are eligible for teacher certification upon passing the National Teacher's

Examination

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
- Graduate Record Examination
- 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. A QPA of 3.0 is required for retention in the program. A maximum of two Cs is permissible. If a C is earned in a practicum course, it must be repeated with a grade of B or better.

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

Master of Science in Special Education

(Prerequisite: B.S. in Special Education and certification)

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)

70.565 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
- 70.506 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.

Master of Science in Exceptionalities

(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
- 70.506 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.

Master of Science in Exceptionalities and 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
- 70.401 Student Teaching with Exceptional Individuals; and
- 70.461 Problems in Special Education

Electives

- 70.501 Administration and Supervision in Special 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.

Supervisory Certificate in Special Education

Those who hold the supervisor of special education certificate may supervise special education teachers in any of the 501 school districts, 29 intermediate districts, 10 detention centers, and 10 to 12 state centers, prisons and hospitals. Classes are designed to acquaint the prospective supervisor with special and regular education school law, current practices, budgets, curricular designs, management skills, staff development and group dynamics. Twenty-one credits beyond the master's degree in special education are required. The program is designed for individuals whose primary responsibility

is supervising and directing activities of special education teachers and paraprofessionals in the discipline.

Admission - Candidates must provide a valid teaching certificate in special education and a minimum of five years teaching experience in the area in which the candidate is seeking supervision prior to being recommended for this certificate. Two letters of recommendation by employers and/or supervisor are required. Emergency certification does not count toward the five year requirement.

Requirements - Candidates must complete a minimum of 21 credits beyond the Master of Science in Special Education. Competencies must be effectively exhibited in the following areas:

Management and Administration:

70.501 Administration and Supervision
in Education of Exceptional
Individuals

School Law and Finance:

60.576 School Law and Finance

Group Dynamics:

60.514 Home, School, Community
Relations or

60.578 Group Processes in Supervision

Research Techniques:

60.577 Educational Research for
Supervisors or

70.565 Reading and Interpreting
Research in Special Education or

79.591 Research in Education

Curriculum Development:

60.584 Curriculum and Instruction,
Theory, Design and Development
or

60.585 Curriculum and Instruction,
Evaluation

Practicum - Field Experience

70.595 Internship

Faculty Research Interests

Kenneth P. Hunt, Ph.D., professor: Behavior disorders, applied behavior analysis, behavior management. E-mail: hunt@planetx.bloomu.edu

Sheila Dove Jones, Ed.D., professor: Early childhood, assessment, inclusive practices. E-mail: sjones@bloomu.edu

Michael J. Karpinski, Ph.D., associate professor: Exceptionalities, vocational education, transition, supervision. E-mail: mkarp@planetx.bloomu.edu

James K. Krause, Ed.D., assistant professor: Special education administration, inclusive practices, ethics, language arts, exceptionalities. E-mail: jkrause@planetx.bloomu.edu

June Maddox, Ph.D., assistant professor: Inclusive practices.

Darlene E. Perner, Ed.D., assistant professor: Inclusive education, assessment.

Carroll J. Redfern, Ed.D., professor: Exceptionalities, supervision, special education hearing officer, program reviewer. E-mail: redfern@planetx.bloomu.edu

Cynthia N. Schloss, Ph.D., professor: transition, inclusive practices, advocacy and legislation. E-mail: schloss@planetx.bloomu.edu

Philip Tucker, Ed.D., associate professor: Moderate/severe disabilities, qualitative research, mental retardation, technology. E-mail: tucker@planetx.bloomu.edu

Joseph M. Youshock, Ed.D., professor: Vocational assessment, secondary education, transition, supervision. E-mail: youshock@planetx.bloomu.edu

Exercise Science and Adult Fitness (M.S.)

Administered By: Department of Health, Physical Education & Athletics

Campus Address: G42 Elwell Residence Hall

Telephone Number: (570) 389-4581

Coordinator: Linda M. LeMura

E-mail: llemura@bloomu.edu

Degree Awarded: Master of Science

About the Program

This program prepares students for advanced scholarly opportunities via doctoral study or employment in universities, rehabilitation centers, corporate fitness, wellness programs and geriatric continuing care facilities. The program is interdisciplinary in nature; students complete courses in Exercise Science and the Biological Health Sciences. Additionally, clinical and research internships are required, which encompass the full spectrum of health, including cardiac rehabilitation, physiological assessment and training for optimal performance.

Quality of instruction in the classrooms and laboratory is characterized by faculty who are continuously engaged as active learners. The faculty bring an excitement and enthusiasm for scientific inquiry by directly involving their students in both scholarship and discovery. These activities are augmented by learning resources such as library support (both on campus and at nearby Geisinger Medical Center) computer support, and well-equipped exercise physiology laboratories. With excellent facilities, highly qualified faculty, and practical field experiences that are integral to the program, the master's degree in Exercise Science and Adult Fitness provides strong preparation for successful careers in this burgeoning discipline.

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. The Master of Science in Exercise Science and Adult Fitness requires 40 semester hours of which 6 to 12 semester hours in a practicum experience are required for graduation. Additionally, attendance at the American College of Sports Medicine (ACSM), NATA, ISBS, AAHPERD meetings are recommended.

Required courses:*

05.500 Technology in Health/Fitness

05.510 Physiological Assessments

05.511 Concepts in Graded Exercise Testing

05.512 Current Research in Exercise Science

05.575 Adult Exercise Programming

05.576 Adult Exercise Physiology

05.595 Practicum (6-12 credits)

50.573 Systemic Physiology

50.576 Neuromuscular Physiology

05.599 Master's Thesis (6 credits)

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. The completed thesis will be presented to the thesis committee, peers, and the university community. Specific guidelines are available from the program coordinator or the graduate office. All papers must be written following the American

Psychological Association (APA) style guide.

* An alternate course structure with a non-thesis option is being developed; check with the program coordinator for the status of this option.

Faculty Research Interests

Tamra Cash, assistant professor, Ed.D.:

Sports psychology, mood states, exercise adherence, motivation, exercise programming, worksite wellness. E-mail: cash@bloomu.edu

Susan J. Hibbs, associate professor, Ed.D.:

Psychological components of performance, gender issues, stress management. E-mail: shibbs@bloomu.edu

Roch King, assistant professor, Ph.D.: Sport

Psychology, group performance. E-

mail: rking@bloomu.edu

Linda M. LeMura, professor, Ph.D.: Pediatric exercise physiology, energy metabolism, lipid metabolism. E-mail: llemura@bloomu.edu

Marilyn Miller, assistant professor, Ph.D.: Biomechanics, sports medicine. E-mail: mmiller@bloomu.edu

Swapan Mookerjee, associate professor, Ph.D.: Metabolic and thermal physiology, cardiopulmonary adaptations. E-mail: smooke@bloomu.edu

Leon Szmedra, professor, Ph.D.: Cardiopulmonary physiology, training-induced adaptation in the cardiac patient. E-mail: lszmedra@aol.com

Instructional Technology (M.S.)

Administered by: Department of Instructional
Technology
Campus Address: 1210 McCormick Center for
Human Services
Telephone Number: (570) 389-4506
Coordinator: Timothy L. Phillips, Ph.D.
E-mail: tphillip@bloomu.edu
Degree Awarded: Master of Science
Department website: <http://iit.bloomu.edu/>

About the Program

The Master of Science in Instructional Technology (MSIT) program emerged in response to the increasing need for professionals who can integrate interactive multimedia technology into both educational and professional training environments.

The curriculum concentrates on the application of multimedia and distance technologies to education and training, with an emphasis towards the design, development, production, and evaluation of interactive multimedia training.

The MSIT program offers two concentrations:

Corporate for those who:
wish to enter a career in the training and development sector of business, industry, non-profit institutions or government already work in business, industry or health care settings as trainers and developers, but seek a formalized degree structured for their needs and further development

Instructional Technology specialist for those who wish to become instructional technology resource specialists in private, public or higher education

Master's candidates have the opportunity to experience a variety of state of the art interactive technology configurations through an instructional systems approach.

The MSIT program at Bloomsburg University has become a nationally acclaimed, unique program for the preparation of in-

teractive multimedia technologists. This program integrates extensive experiences in instructional design and interactive technologies with a general coverage of media, communication skills, human resource development, and multimedia management. The program emphasizes applied learning, project management, and cooperative teamwork. Students work individually and in teams to design and produce interactive instructional applications founded on sound learning and instructional theories.

Curriculum Overview. Students study a variety of issues related to the design and development of effective instruction, and apply these principles in course projects. The program curriculum includes study in the following areas:

- Instructional design - systems approach, design and development of instructional materials, psychology of learning and interface design
- Instructional computing - computing literacy, programming and authoring, computer-assisted instruction, interactive video, computer graphics, web-based instruction and distance communications.
- Digital video production and post-production - equipment, aesthetics, scripts and editing
- Technology - past and current technologies, emerging technologies and networking
- Human resource development - teamwork, interpersonal communication, organizational psychology, project management and organization training

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

The application fee paid in full

Official transcripts from all undergraduate institutions attended

Three letters of recommendation

A one to two-page essay describing the applicant's interest in instructional technology

A personal interview, scheduled after the above materials have been processed

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 TOEFL is required for admission to the program.

An individual may begin taking courses in the MSIT program on a part-time basis prior to admission, but completion of such courses does not guarantee admission.

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.

Required Courses for Corporate Option

The Master of Science in Instructional Technology requires 33 semester hours. Parentheses indicate the semesters the courses are offered.

Required Courses (12 semester hours):

57.550 Instructional Design (fall, spring)

57.551 Advanced Instructional Design (fall, spring, summer)

57.570 Introduction to Interactive Technologies (fall, summer)

57.575 Managing Multimedia Projects (fall, spring)

Instructional Computing (at least two of the following three courses):

57.572 Authoring Tools for Cross Platforms (fall, spring)

57.573 Authoring Tools for Windows (fall, spring)

57.574 Authoring Tools for Networks (spring, summer)

Communications (at least one from the following):

93.566 Organizational Behavior (fall)

93.556 International Management (summer)

93.583 Human Resource Development (fall)

94.540 Training and Development

Elective Courses (minimum of 9 semester hours):

57.556 Applying Theories of Learning to Interactive Technologies (summer)

57.560 Multimedia Productions (fall, spring, summer)

57.584 Distance Communications (fall, spring)

32.595 Directed Study in Studio Art (fall, summer)

Final Requirement (one of the following two courses):

57.590 Graduate Internship (3 semester hours)

57.599 Graduate Thesis (6 semester hours)

Required Courses for Education Option

The Master of Science in Instructional Technology requires 33 semester hours. Parentheses indicate the semesters the courses are offered.

Required Courses (15 semester hours):

57.540 Technology Planning Across the Curriculum (fall, summer)

57.542 Technology Applications for the Classroom (fall, spring)

57.550 Instructional Design (fall, spring)

57.570 Introduction to Interactive Technologies (fall, summer)

57.580 Instructional Applications of Internet (spring, summer)

Elective courses (18 semester hours):

- 57.546 Research in Instructional Technologies
- 57.551 Advanced Instructional Design
- 57.560 Multimedia Productions
- 57.556 Applying Theories of Learning for Interactive Technologies (summer)
- 57.574 Authoring Tools for Networks (spring, summer)
- 57.584 Distance Communications (fall, spring)
- 32.595 Directed Study in Studio Art (fall, summer)
- 56.576 Networks: Configuration and Implementation (fall)
- Final Requirement** (one course):
- 57.590 Graduate Internship (3 semester hours)
- 57.599 Graduate Thesis (6 semester hours)

Note: The Instructional Technology Specialist Certification from the Pennsylvania Department of Education, requires the following courses:

57.546 Research in Instructional Technologies

- 57.551 Advanced Instructional Design
- 57.560 Multimedia Production
- 57.590 Graduate Internship

Faculty Research Interests

Helmut Doll, Ph.D., associate professor: Web-based database development, computer programming, design of multimedia and development of web-based applications.

David Falvo, Ph.D., assistant professor: web-based learning communities, instructional design, interactive technologies, instructional computing, and distance education

Karl Kapp, Ed.D., assistant professor: Analyzing business needs, corporate use of multimedia, and ROI analysis and LRP.

Mary J. Nicholson, Ph.D., associate professor: Distance learning systems, instructional design, design of interactive technologies, web-based instruction.

Timothy L. Phillips, Ph.D., associate professor: Instructional design, service-based learning, instructional robotics, authoring tools, web-based instruction, evaluation.

Nursing (M.S.N.)

Administered By: Department of Nursing

Campus Address: 3109 McCormick Center for
Human Services

Bloomsburg University

400 E. Second Street

Bloomsburg, PA 17815-1301

Telephone Number: (570) 389-4423

Coordinator: Sharon R. Haymaker, Ph.D., C.R.N.P.

Department E-mail Address:

haymaker@planetx.bloomu.edu

Degree Awarded: Master of Science in Nursing
(M.S.N.)

Affiliated website: <http://departments.bloomu.edu/nursing/>

About the Program

The Master of Science in Nursing (M.S.N.) program prepares nurses to function as an Adult Nurse Practitioner (A.N.P.; 42 credits), or Clinical Nurse Specialist (C.N.S.; 39 credits) in either Adult Health and Illness or Community Health. Nurses who are already certified as a C.R.N.P., C.N.M., or C.R.N.A. may receive credit for their previous education and complete a M.S.N. with 30 credits of coursework. Additional options under development include a Family Nurse Practitioner Program, Nursing Administration – with an option for also earning a Master of Business Administration, and a School Nurse option within the Community Health C.N.S. program. Graduates of the program are eligible to sit for national certification examinations.

Accreditation

The M.S.N. program is accredited by the National League for Nursing Accrediting Commission (NLNAC), and has preliminary approval from the Commission of Collegiate Nursing Education (CCNE). Preliminary approval by CCNE provides an indication that programs have been reviewed by the Commission and have met, at least, the following general requirements:

The nursing education program is viable and appears, based upon the review of the submitted materials, to be conducted in a manner that will enable eventual compliance with CCNE accreditation standards. The institution has a history of seeking and ensuring continuing accreditation and program recognition by appropriate accrediting and regulatory agencies. The institution has ensured the continuing viability of the nursing education program by being responsive to the concerns of accrediting and regulatory agencies. Any further information regarding the program and NLNAC accreditation status and/or CCNE preliminary approval contact the National League for Nursing Accrediting Commission at 350 Hudson Street, New York City, N.Y., 10014 or call (800) 669-9656, ext. 153 or the Commission on Collegiate Nursing Education at One DuPont Circle NW, Suite 530, Washington, D.C., 20036 or call (202) 887-6791. The Adult Nurse Practitioner Program is fully approved by the Pennsylvania State Boards of Nursing and Medicine. Graduates of the A.N.P. program are eligible to apply for certification as an Adult Nurse Practitioner by the Pennsylvania State Board of Nursing.

Community Health Specialization. This option is designed to prepare the graduate as a clinical specialist in community health nursing. The main focus is on preparing the graduate to assume a leadership /management role in the area of community health nursing, working with special populations and communities to promote and improve community health. Students develop competence in their multifaceted role as a clinical specialist and use their advanced knowl-

edge, responsible decision-making, innovative problem solving and communication to promote change in the community. As advanced practitioners, they engage in the competent use of the nursing process to diagnose the health problems of special populations to design programs to facilitate optimal wellness within the community environment, and improve the delivery of health care, health education, early detection and screening and prevention services. As advanced practitioners, they serve as consultants and engage in social, ethical and political actions to influence and initiate change in health care policy in order to promote community health.

Adult Health and Illness Specialization.

This option is designed to prepare the graduate to assume a leadership/manager position as a clinical specialist in the area of adult health and illness. Through the development of competence in their multifaceted role as a clinical nurse specialist, students engage in responsible decision-making, innovative problem-solving and independent/interdependent practice designed to meet the changing health needs of a specific adult population. Students use advanced knowledge, critical thinking and communication skills in the competent use of therapeutic interventions and technology to assist the adult client in attaining wellness. As advanced practitioners, the students serve as a consultant for clients and others to impact the delivery of health care for a specific adult population. Social, ethical and political actions are emphasized to initiate and affect change regarding the development of health care policy and its effect on health care delivery for a targeted adult population.

Adult Nurse Practitioner Specialization.

This option is designed to prepare the graduate as an adult nurse practitioner. The core concept of role development focuses on the progressive development of competence in the multifaceted roles of advanced nursing practice as practitioner, researcher, leader/manager, consultant and educator. The program emphasizes the role of ad-

vanced practitioner as a provider of independent and collaborative direct health care to adults. In addition, a rural community focus enables students to develop competence in assessing a community, identifying health needs and implementing programs which may occur at the individual level in the practice setting. Thus, adult nurse practitioners are keenly aware of the effect of the community on the individual seen in practice. Student nurse practitioners provide direct care for individuals under the guidance of their clinical preceptors. They also engage in social, ethical and political actions to influence and initiate change in health care policy and its effect on health care delivery. Finally, students are encouraged to continue their professional growth and aid the professional development of others by serving as role models and mentors.

Preceptors. Clinical preceptors act as essential role models, resource persons and liaisons for graduate students in all clinical specialties during clinical coursework. They are carefully selected based on the level of clinical course and individual needs and goals. In some courses, students are encouraged to identify preceptors with whom they wish to work. In all instances, preceptors will be educationally and experientially qualified to serve and will be willing and able to spend time with students and to help them achieve clinical goals.

Clinical Placements. Students are placed in a variety of settings as appropriate to the clinical course objectives and goals. The selection is made jointly by the faculty adviser and the individual student. Attention is given to selecting clinical sites relatively close to the student's place of residence insofar as possible.

Students must have documentation of CPR, liability insurance, a comprehensive health examination, current Pennsylvania nursing licensure, a current resume and criminal and child abuse background checks. All of the above are required by contractual agreements with agencies serving as practicum sites.

Admission - All admission requirements must be fulfilled no later than 3 credits or one semester of study into the program.

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:

- 1) A baccalaureate degree in nursing from a nationally-accredited program
- 2) A license to practice professional nursing in the state of Pennsylvania
- 3) 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)
- 4) Graduate Record Examination (GRE) scores of at least 400 on each section (verbal, quantitative and analytical); the test must have been taken within five years of application to the program
- 5) An undergraduate quality point average (QPA) of at least 3.0 on a 4.0 scale
- 6) Satisfactory completion of the following undergraduate courses: statistics, research and health assessment (as a separate course or integrated concept)
- 7) Three current letters of professional and/or academic recommendation
- 8) A resume which includes description of professional nursing or clinical experience
- 9) A narrative describing personal and professional goals for graduate education (rationale and goals for the selected area of advanced practice must be included)
- 10) 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 7-10 above and must also meet the following criteria:

- 1) Placement according to Bloomsburg University articulation model.

- 2) 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 A.N.P. Program: Post master's applicants may apply to the adult nurse practitioner program in one of the following ways:

- 1) 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.
- 2) If M.S.N. is from another university, follow admissions requirements for B.S.N.-M.S.N. applicant; however, GRE's are not required.

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 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 pro-

gram if they are applicable to the requirements and are approved by the specialty area adviser and the assistant vice president and dean of 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 of graduate studies and research once written approval has been obtained from the clinical option adviser.

Dismissal from the nursing program. Transfer to non-degree status without permission to reapply to the program constitutes dismissal from the program. Failure to meet the following factors leads to student dismissal from the program:

- Earn a grade of at least a B when repeating an advanced clinical course;

- Earn a grade of at least a B in subsequent advanced clinical courses;

- Complete the course of study within six years or within an extended time frame granted by the assistant vice president and dean for graduate studies and research;

- Demonstrate academic and professional progress required in advanced nursing practice;

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.

A comprehensive program assessment exit interview must be held with the program coordinator to provide student input to facilitate program evaluation.

Required Courses

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. 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 for all areas of specialization total 24 credits, or approximately half of the required number of credits. This reflects the philosophy that advanced nursing practice shares a common theoretical basis regardless of specialization.

Core Courses (24 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
- 82.504 Pathophysiology for Advanced Nursing Practice - 3
- 82.507 Pharmacology for Advanced Nursing Practice - 3
- 82.508 Adult Health Assessment and Promotion (clinical) - 6
- 82.520 Community Assessment and Planning - 3

Community Health Specialization (15 additional credits)

- 82.511 Community Health Nursing I (clinical) - 6
- 82.531 Community Health Nursing II (clinical) - 6
- Electives - 3 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.

Adult Health and Illness Specialization (15 additional credits)

- 82.512 Adult Health and Illness I (clinical) - 6
 82.532 Adult Health and Illness II (clinical) - 6
 Electives - 3 Elective requirements are as described under the community health specialization.

Adult Nurse Practitioner Specialization (18 additional 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

The adult nurse practitioner specialization is also available as a post-graduate certificate option. Two core courses are waived for students who already hold an M.S.N. and additional courses may be waived after assessment of prior academic background.

Nurse Anesthetist, Nurse Practitioner and Nurse Midwifery Specialization

A master's degree in nursing option is also available for C.R.N.A.'s, C.R.N.P.'s and C.N.M.'s. This program requires the 30 credits described below in addition to advanced placement credits

- awarded for prior education.
 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 - 6
 Electives - 3 Elective requirements are as described under the community health specialization.

Faculty Clinical and Research Interests

- M. Christine Alichnie, Ph.D., R.N., professor: Professional socialization of nursing students, relationship between interpersonal and personal values, predictors of success in nursing, cardiopulmonary nursing, advanced nursing practice and community/university nursing centers. E-mail: cmalic@bloomu.edu
 Julia Bucher, Ph.D., R.N., associate professor: Community health, community development. E-mail: buche2@yahoo.com
 Noreen Chikotas, M.S.N., C.R.N.P., assistant professor: Delivery of health care in rural areas, political action related to advanced practice and family health.
 Jacqueline Evans-Shields, Pharm.D., associate professor: Outcomes research and patient education related to pharmacotherapeutics.
 Michelle Ficca, R.N., D.N.Sc., assistant professor: community and school health
 Mary Gavaghan, Ed.D., R.N., associate professor: Causal attributions, coping and needs of cancer patients; practices of breast self-examination and psychosocial factors as possible determinants of breast cancer prebiopically; and information desired by patients undergoing

lymphangiography. E-mail:
mgavag@planetx.bloomu.edu

Annette Gunderman, Ed.D., R.N., associate
professor: Patterns of continued learn-
ing activities among registered nurses.
E-mail: agunde@planetx.bloomu.edu

Sharon Haymaker, Ph.D., C.R.N.P., associ-
ate professor: Advanced practice issues
and student health. E-mail:
haymaker@planetx.bloomu.edu

Cathy Livengood, M.S.N., C.R.N.P, assistant
professor: women's health

Joan Miller, M.S.N., C.R.N.P., assistant pro-
fessor: adult health, support systems for
recovery myuocardial infarction clients

Nancy Onuschak, Ed.D., R.N., C.S., profes-
sor: Quality of life of chronically ill pa-
tients. E-mail:
naonus@planetx.bloomu.edu

Dorette Welk, Ph.D., R.N., professor: Pat-
tern recognition as it relates to teach-
ing strategies. E-mail:
welk@planetx.bloomu.edu

Speech-Language Pathology (M.S.)

Administered by: Department of Audiology and
Speech Pathology

Campus Address: Navy Hall

Telephone Number: (570) 389-4436

Graduate Coordinator: Shaheen Awan, Ph.D.

Degree Awarded: Master of Science

About the Program

The graduate program in speech pathology prepares students for clinical practice with a variety of communication disorders and in a variety of clinical settings. The program is heavily based on clinical experience both in our in-house clinic and culminating with a full semester of externship practicum in a clinic, hospital and/or school setting.

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 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 1450.

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 48 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 the classroom and textbook information with clinical experience, certification and eventual employment in the field.

Required Courses

- 72.550 Adult Aphasia
- 72.552 Preschool Language Disorders
- 72.554 Stuttering
- 72.556 Phonology
- 72.558 Clinic I
- 72.560 Voice Disorders
- 72.562 Language Disorders of School-aged Children
- 72.565 Speech Disorders in Adults and Children
- 72.566 Clinic II
- 72.570 Adult II - Secondary Language Disorders
- 72.572 Augmentative Communication
- 72.574 Clinical Instrumentation
- 72.576 Clinic III
- 72.580 Communication Disorders of the Traumatologically Head Injured

- 72.582 Research in Speech and Language Pathology
- 72.583 Swallowing Disorders
- 72.584 Field Experience I
- 72.586 Field Experience II
- Seminar in Communication Disorders

Elective Courses

- 72.530 Fundamentals of Audiology
- 72.568 Speech Habilitation in the Schools
- 72.574 Seminar in Communication Disorders
- 72.590 Independent Study and Research
- 72.591 Independent Study and Research
- 72.592 Workshop in Audiology and/or Speech Pathology

- 72.593 Workshop in Audiology and/or Speech Pathology
- 72.594 Workshop in Audiology and/or Speech Pathology
- 72.599 Master's Thesis

Faculty Research Interests

- Shaheen Awan, Ph.D., professor: voice, research, speech science, clinic.
- Dianne H. Angelo, Ph.D., professor: Clinic, clinical methods, augmentative communication
- Ronald R. Champoux, Ph.D., professor: Neurogenic disorders of speech and language, orofacial disorders of speech, clinic.
- Robert J. Lowe, Ph.D., professor: Phonology, phonetics, clinic.
- Julia Mount Weitz, Ph.D., associate professor: Normal language, language disorders in children.

Supervisory Certificate Programs

Administered By: Department of Educational Studies
and Secondary Education

Campus Address: 1210 McCormick Center for
Human Services

Telephone Number: (570) 389-4025

About the Program

The Supervisor of Curriculum and Instruction Certificate Programs include the supervisor of curriculum and instruction certificate (N, K-12) and the subject specialist supervisory certificate programs designed for supervisors in an area of specialization. They are designed for individuals seeking certification with district-wide responsibilities that includes designing, coordinating, improving, evaluating, and extending instruction from N to 12

Admission. Candidates must provide proof of a valid Pennsylvania teaching certificate and must provide evidence of at least five years of satisfactory teaching experience. (Experience on an emergency certificate or an intern certificate is not acceptable.)

Requirements

Supervisory (N, K-12) certification. This program is designed for the person with primary responsibility supervising and directing the activities of professional and non-professional employees in given fields.

Candidates must complete a minimum of 36 semester hours at the graduate level from seven areas of competency:

- Curriculum and instruction-theory, design and development
- Curriculum and early childhood, elementary, middle and secondary education

- Research
- Supervision, management and administration
- Group dynamics
- School law and finance
- Practicum - field experience

Subject Specialist:

Curriculum and Instruction	36 semester hours
Early Childhood Education	30 semester hours
Elementary Education	30 semester hours
Reading	30 semester hours
School Health Service	30 semester hours
Secondary Education	30 semester hours
Communication	30 semester hours
Foreign Languages	30 semester hours
Mathematics	30 semester hours
Science	30 semester hours
Social Studies	30 semester hours
Special Education	21 semester hours

Prerequisites for Admission:

- Certification in the area for which supervisory certification is sought.
- At least five years of satisfactory teaching experience in the field for which certification is sought. (Valid certificate in the field is required)

Program Requirements

A minimum of 30 semester hours of graduate-level courses from the following areas:

- Management and administration
- Principles and practices in school supervision
- School law and finance
- Group dynamics
- Research techniques
- Curriculum development
- Practicum - field experience

Cooperative Doctoral Program

Bloomsburg offers a Doctorate of Education in cooperation with Indiana University of Pennsylvania (IUP). This is a cooperative doctoral program in elementary education that combines the resources of both institutions. The program includes areas of concentration in:

- curriculum and supervision;
- administration
- reading
- early childhood education
- educational psychology

- special education

Students take courses at both Bloomsburg and Indiana, and the doctoral committee guiding the dissertation consists of faculty from both institutions.

Those interested in this doctoral degree program, should contact John R. Hranitz, 3213 McCormick Center for Human Services, Bloomsburg University, 400 E. Second St., Bloomsburg, PA 17815-1301 (570) 389-4030.

Course Descriptions

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44	Political Science	77
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48	Psychology	81
63	Reading	94
65	Secondary Education	95
45	Sociology	78
70	Special Education	96
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Exercise Science and Adult Fitness

- 05.500 Technology in Health/Fitness (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 Physiological Assessments (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 Concepts in Graded 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.
- 05.575 Adult Exercise Programming (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.
- 05.576 Adult Exercise Physiology (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.
- 05.577 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.

Mass Communications

- 27.511 Television Production and Design (3) - Focuses on the practical aspects of planning and producing video tapes for specific instructional purposes. Covers pre-production planning, production activities, and post-production editing.

Art

- 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

- 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 Early European Art History (3) - Research focuses on specific topics relating to the periods from Pre-Historic to Gothic.
- 31.571 Readings and Research in Later European Art History (3) - Examines period from the early Renaissance through French Impressionism.
- 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. An introduction to both monuments and cultural ideas. 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.
- 31.585 Art and Culture of France (3) - Study-tour of France with specific attention to French Art seen in relation to its social and cultural environment. Visits will be made to places of artistic and cultural interest in and around Paris and specific areas of France related to the particular course of study. Course also offered through the School of Extended Programs for advanced students and members of the community.
- 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

- 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 Advanced Graphics I (3) - Advanced level exploration of traditional and/or experimental

- printmaking methods. Emphasis on personalized imagery and technical proficiency.
- 32.531 Advanced Graphics II (3) - Exploration of advanced level printmaking including color and color registration procedures.
- 32.532 Advanced Graphics III (3) - Focuses on personalized forms for potential thesis statement. Students are expected to be innovative and proficient in technology of printmaking.
- 32.533 Advanced Graphics 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.

Economics

- 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.

History

- 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.
- 42.452 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: 42.113.
- 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. Prerequisite: 42.112 or 42.133.
- 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.

Political Science

- 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.
- 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.
- 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 spring 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.
- 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. The subject of the seminar varies from semester to semester

Sociology

- 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) - Based on generalist social work model and uses problem-solving interventions in small groups integrating social work knowledge, skills and values. Offered fall semester only. Prerequisites: 45.133, 45.211, 45.215 and 45.297; 48.101, 48.210, 50.101.

- 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) - Based on Generalist social work model and examines problem-solving interventions with large groups, communities and organizations using the conceptual framework of social work knowledge, skills and values. Prerequisites: 45.133, 45.215 and 45.297, 40.211, 44.120.
- 45.453 Social Welfare Policy (3) - Frameworks for analyzing social and economic policies presented with special focus on legislative, judicial and administrative policies. Examines various public social services. Presents an advocacy/practice/problem solving model to effect policy change. 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.
- 45.495 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.
- 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 Welfare Internship (10-15) - Provides the social welfare major with the opportunity to integrate and apply knowledge, theory and understanding extracted from the foundation courses. Fosters skill development and evaluates the demonstration of beginning competencies in working with individuals, families, groups organizations and communities. 45.466 and 45.498 may be taken concurrently. Prerequisites: 45.133, 45.211, 45.215, 45.260, 45.297, 45.334, 45.450, 45.452, 45.453, 40.211, 44.120, 48.210.
- 45.498 Integrative Methods Seminar in Social Work and Social Welfare (3) - An examination of social work practice from a system theory perspective and its functional relevance to contemporary social problems. Internship and other practice experiences are critical elements in this review course, an evaluation of social work practice utilizing single subject design is implemented with students. Course is taken concurrently with or after the social welfare internship. Prerequisites: 45.133, 45.211, 45.215, 45.260, 45.297, 45.334, 45.450, 45.452, 45.453, 40.211.
- 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

- 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.
- 46.470 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.

Psychology

Note: all courses for which 48.101, 48.160 and/or 48.281 is a prerequisite requires a C in those courses.

- 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.
- 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 Arts and Sciences.
- 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, 48.160, 48.281 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. May be repeated for a total of 15 semester hours. 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, 48.160, 48.281 or consent of the instructor.

Biology

- 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, 53.141 or consent of the instructor.
- 50.441 Cytogenetics (3) - Examines structure and behavior of chromosomes and their effects on development. Describes human genetic syndromes and the effects of chromosome abnormalities. Explores relationships between chromosomes, oncogenes and cancer. Laboratory studies include cell culture methods, microscopic techniques and karyotype preparation. Two hours of lecture/ 2 hours of laboratory per week. Prerequisites: 50.233 or 50.332 and 50.271; or consent of the instructor.
- 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.
- 50.458 Fungal Ecology (3) - A broad treatment of the ecology of fungi, examination of such topics as fungal decomposition of wood and bark, fungal decomposition of forest litter, ecology of aquatic fungi, community structure of soil and/or dung fungi, ecology of predaceous fungi and aspects of mycorrhizal symbioses. Topics vary with each semester. Laboratory includes field component and stresses demonstration of basic principles, testing existing and formulating new hypotheses and research techniques. Two hours of lectures/3 hours of laboratory per week. Prerequisite: 50.351 or concurrent enrollment or consent of the instructor.
- 50.462 Plant Anatomy (3) - Outlines recent concepts of plant anatomy and historical consideration of classical researchers. Reviews the structure, function, growth and morphogenesis of the vascular plants. Addresses composition and growth of meristems and the phenomena of subsequent tissue differentiation. Describes anatomical organization by developmental and comparative methods in order to explain important cell, tissue and organ relationships. Two hours of lecture/3 hours of laboratory per week. Prerequisite: 50.115.
- 50.463 Biological Photographic Techniques (3) - Presents theory and practice of photography as applied to biology including negative and printmaking, gross specimen photography, copying, transparencies, filmstrips, autoradiography, nature work in close-ups, photomicrography, thesis illustrations and other special techniques. Open only to majors in biology or allied health with at least junior standing. Two hours lecture, 3 hours laboratory per week. Additional laboratory hours may be required.
- 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, 52.116, 52.232 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, 52.116, and 52.231, or permission of the instructor. Competence in college algebra.
- 50.477 Plant Physiology (Spring) (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, 52.231, junior standing or consent 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 52.231 or permission of the instructor. Students need an understanding of college algebra. Pre or Co-requisite: 50.472, 50.474, 50.478, or 50.477.
- 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) - Study of progressive changes and transformations that occur during the existence of various model organisms. Morphogenesis, differentiation, metabolism, and genetic control are discussed. Laboratory studies use amphibian eggs collected locally and other selected embryologic and microscopic material. Four hours per week. Offered in spring semester.
- 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.
- 50.550 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.
- 50.553 Neotropical Biology (3) - Studies the biology of the neotropics. Students will deliver a seminar, write a term paper, participate in class discussions, turn in a field trip notebook

and study selected readings in neotropical biology. A one to two-week trip to the neotropics is a required part of this course, with travel expenses exclusive of tuition and fees of approximately \$2,000.

- 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 of approximately \$75 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.
- 50.570 Medical Parasitology (3) - Presents life history, physiology, taxonomy, and morphology of parasites of medical importance to human-kind. Special attention given to clinical aspects such as pathology, symptomology, diagnosis, prevention, and treatment. Laboratory work stresses identification of parasitic disease through living and preserved material, proper handling of specimens, and methods of professional patient interviewing.
- 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.
- 50.572 Comparative Animal Physiology (3) - Compares higher vertebrate adaptations to various environments with respect to regulation of body fluid volume and composition, core temperature, and nitrogen metabolism. Four hours per week.
- 50.573 Systemic Physiology (4) - Examines how normal body function is maintained by the precise control and integration of the specialized activities of various organ systems. Three hours lecture, 3 hours laboratory per week.
- 50.575 Cell Physiology (3) - Explores cellular function in molecular terms. Topics include: membrane physiology, interactions between cells and their environment, aerobic respiration, photosynthesis, cytoplasmic membrane systems, cytoskeleton and cell motility, gene expression and its control, cellular reproduction, cell signalling and techniques in cell and molecular biology. Three hours lecture/discussion per week..
- 50.576 Neuromuscular Physiology (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. Prerequisites: 50.573 or equivalent and knowledge of chemistry and electrical circuitry.
- 50.590 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.

Mathematics

- 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 (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 (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 (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.
- 53.451 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.
- 53.461, 53.561 Probability Models and Applications (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 (Fall, 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: Analysis 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 : Analysis 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: Analysis 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.
- 53.563 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 (develop-

ment, 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 (Analysis 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

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 Schroedinger'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.

Marine Science

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.

55.464 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.

Instructional Technology

- 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.
- 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.
- 57.570 Introduction to Interactive Technologies (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 Authorware. 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 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.
- 57.573 Authoring Tools for Windows (3) - Provides a careful, in-depth study of various authoring systems and authoring tools in a Windows environment. Software packages, such as Toolbook, are used to develop computer projects. Specific areas of emphasis include types of authoring software, generalized authoring options, specific techniques for planning and creating instruction using the authoring tools, and principles of effective design of computer-based instruction.
- 57.574 Authoring Tools for Networks (3) - Provides further study of various network-based authoring languages and systems for network environments. Software and languages such as UNIX, IconAuthor and HTML are used to

develop computer projects. Areas of emphasis include types of authoring software, issues in selecting authoring software, developing various types of instruction with authoring tools, data management techniques, Electronic Performance Support Systems (EPSS), and instructional hypermedia.

- 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.
- 57.580 Instructional Applications of Internet (3) - Helps educators integrate the Internet into the curriculum to improve teaching and learning. Students learn basic and advanced concepts of the World Wide Web and the tools used to access Web sites, construct a web page, learn the educational applications of web sites, and web site management. Students learn techniques for gathering, organizing and managing Internet information, apply Internet multimedia applications to the classroom, and explore emerging Internet technologies, issues and trends.
- 57.584 Distance Communications (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.
- 57.590 Graduate Internship (3) - Allows students to put into practice the theories that they have learned in previous courses. Each internship must last at least 12 weeks, 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.

Educational Foundations

- 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-researched theories of learning and grounded with successful practices of these theories.
- 60.516 Computers in the Curriculum (3) - Provides curricula reforms that emphasize technology as an integral component of instruction. Helps teachers create opportunities for more effective, meaningful, integrated learning and provides 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 to complete 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.
- 60.533 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.
- 60.573 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.
- Elementary and Early Childhood Education*
- 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 the Curriculum in the Elementary School (3) - Studies the place of knowledge in developing a curriculum. Emphasis on content influenced by innovative practices.
- 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 Awareness of Environmental Education Problems for the Elementary Grades (3) - Helps classroom teacher organize environmental education activities. Areas of content include problem-solving activities, material sources, the use of resources, curriculum building, development of an awareness of environmental problems, and possible solutions to them. Camping and a camp fee are required.
- 62.531 Environmental Education Awareness Activities and Materials for the Elementary School (1-3) - Opportunity for students to broaden their

- experiences in environmental education. Camping and a camp fee are required. Prerequisite: 62.530
- 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

- 63.540 Introduction to the Teaching of Reading (3) - 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 (3) - 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.
- 63.543 Reading Practicum I (3) - Students tutor struggling readers who experience problems in one or more of the following areas: decoding, fluency, comprehension, or study skills. Parent involvement and parent training is included as part of the tutoring process. Prerequisites: 63.540, 63.541, 63.548 plus consent of program coordinator.
- 63.544 Reading Practicum II (3) - Students work in teams to teach small groups of struggling readers in an intensive, 3-week summer tutorial program. Focuses on designing instruction and developing materials to match

children's reading levels and learning styles.
Prerequisites: 63.540, 63.541, 63.543,
63.548, plus consent of program coordinator.

- 63.545 Organization and Administration of Reading Programs (3) - For classroom teachers, reading specialists, and resource room specialists who are involved with a school district's reading program; emphasizes a working knowledge of certification 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 (3) - 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.
- 63.548 Reading for the At-Risk Learner (3) - 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.
- 63.549 Teaching Reading to the Hearing Impaired/ Language Handicapped (3) - Principles, practices, methods, and materials of teaching reading to hearing impaired/language handicapped individuals; awareness of research and clinic practices which can be applied to classroom setting.
- 63.550 Literature, Literacy, and Culture (3) - 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 (3) - 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.

Secondary Education

- 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.
- 65.560 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.

Special Education/Exceptionalities

- 70.501 Administration and Supervision of Education for Exceptional Individuals (3) - Application of the fundamental principles of school administration and supervision to the areas of exceptionality and to problems unique to each. School law, teacher recruitment, in-service education, organization and integration of special education and ancillary services, evaluation of special provisions, and finance as these bear on special education.
- 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.
- 70.516 Psychology of Exceptional Individuals (3) - Symptomatology personality formation and developmental and therapeutic consideration for the exceptional individual.
- 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 moderately disabled students. Students evaluate, design and implement a math program for elementary, middle school and/or secondary students. Math education software, manipulatives, games, and materials will be evaluated and utilized.
- 70.525 Educating Individuals with Moderate/Severe Disabilities - (3) Presents an orientation to the nature and challenge of educating individuals with moderate/severe disabilities. Theory and technique for individual assessment, curriculum development and instructional strategies are provided. Content focuses on the dynamics of integrating students into home, school and community environments.
- 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 individual vocational assessment, development of functional vocational curriculum, and the instruction of vocational competencies will be content focus. Issues related to the transition planning process are presented.
- 70.533 Language Arts for Students with Special Needs (3) - Will provide 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. Prerequisite: Course in tests and measurements or its equivalent.
- 70.547 - Technology and Exceptional Individuals (3) - Provides an introduction to technology as it is being applied to meet the needs of exceptional individuals. 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 Teaching Methods for Individuals with Mild and Moderate Disabilities, Elementary (3) - Presents principles for effective teaching techniques and current best practices applicable to elementary students with diverse learning needs and abilities. Provides awareness of role expectations of the special education teacher, practice collaborative problem solving and selecting and adapting instructional materials for students with special needs.
- 70.551 Teaching Methods for Individuals with Mild and Moderate Disabilities, Secondary (3) - Will familiarize 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 Projects in Special Education (3) - Designed to further a student's own interest and competency in an area of special education for the exceptional child. Library research or individual projects involving service to the exceptional person may be agreed upon and conducted under supervision of a staff member.
- 70.556 The Mentally Gifted Individuals (3) - Principles and practices that are modifying school programs to conserve and develop to the optimum degree the capabilities of the more able individuals. Covers teaching techniques and devices used effectively in both the elementary and the secondary school.
- 70.559 Seminar in Education of Exceptional Individuals (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.
- 70.562 Issues of Individuals with Physical Disabilities (3) - Provides information and experience with educationally relevant motor disabilities. Covers normal motor development; formal and informal assessment of motor skills and problems; developmental and corrective preschool and elementary school programs; conditions resulting in severe motor disabilities, self-care, academic, and psychosocial aspects of physical disability; prevocational, and vocational adjustment of the physically handicapped; and current issues related to research and litigation.
- 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.
- 70.570 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 exceptional persons. Student spends a minimum of eight hours per week in practicum and meets regularly in a seminar fashion with the university instructors.
- 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/Speech Pathology

- 72.500 Measurement of Hearing Loss (3) - Studies anatomy and physiology of the hearing mechanisms. Covers etiology of hearing losses, interpretation of audiometric evaluations, and available rehabilitative procedures. Lab experience in the administration of clinical audiometric evaluation is provided. Prerequisite: 72.200, 72.300.
- 72.502 Physiological Methods in Audiology: Brainstem Evoked Response Audiometry and Electronystagmography (3) - Study of the electrophysiologic techniques used to assess cochlear and retrocochlear function. Review of theories and clinical applications of vestibular tests, auditory brainstem evoked responses, and electrocochleography.
- 72.504 Hearing Aids and Auditory Training (3) - Theoretical and clinical analyses of literature in relation to educational and other rehabilitative measures available to individuals with serious organic and nonorganic hearing problems. Study, interpretation, and evaluation of modern instruments and tests included.
- 72.506 Externship: Clinical Practicum in Audiology I (6) - Hearing losses and deafness affecting the personal and socio-economic adjustment of individuals evaluated and treated through supervised study and experience. Externships may be arranged in approved private and public institutions.
- 72.508 Externship: Clinical Practicum in Audiology II (6) - See course description for 72.506
- 72.510 Research in Audiology (3) - Application of clinical and non-clinical research literature to the solution of diagnostic and treatment problems encountered in the general practice of audiology.
- 72.512 Seminar in Audiology: Special Problems (3) - Analysis, interpretation, and study of selected problems in audiology and related disciplines that may include education, psychology, otology, rehabilitation, and other fields.
- 72.514 Seminar in Audiology: Industrial and Public Health Audiology (3) - Problems and programs of hearing conservation in public institutions and industries examined with special emphasis on legislation and medico-legal questions. Examines role and function of the public health and industrial audiologist.
- 72.516 Seminar in Audiology: Auditory Problems in Children (3) - Congenital and acquired hearing impairment in children examined with special emphasis on problems of differential diagnosis. Educational and social implication of hearing impairment in children discussed in conjunction with appropriate habitative procedures.
- 72.518 Seminar in Audiology: Theoretical and Clinical Masking (3) - Neurophysiological and acoustic basis of problems of masking in auditory measurement explored and training offered in clinical masking procedures.
- 72.520 Educational Audiology (3) - Deals with the diagnostic and rehabilitative aspects of audiology in the educational setting. Examines the effects of hearing loss on speech and language development, the use of amplification in the schools, and educational audiology alternatives and models.
- 72.522 Aural Rehabilitation: Theory and Practice (3) - Habilitation/rehabilitation of the hearing impaired including auditory training, speech reading, hearing aids, assistive listening devices, communication strategies, and counseling. Emphasis on the sensory

capabilities (auditory, visual, tactile, and auditory-visual training) - of the hearing impaired with practicum lab.

- 72.524, 72.525, 72.526, 72.527, 72.528 Clinical Methods and Practicum in Audiology (3) - Emphasizes the Speech, Hearing, and Language Clinic as an integral part of the teaching-training program of the Department of Communication Disorders. The clinic provides outpatient diagnostic and therapeutic services for persons of all ages with speech, hearing, and language problems, including students, other members of the university community, and residents of the Bloomsburg area; 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; gives students 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, and report writing - with a wide variety of clients.
- 72.530 Fundamentals of Audiology (3) - Designed for graduate students who are not audiology majors such as, but not limited to, students in speech pathology, education of the hearing impaired, reading, nursing, or special education. Presents a synopsis of the primary concepts in diagnostic and rehabilitative audiology. Attempts to relate the possible implications of the audiological topics to each of the fields of study listed above.
- 72.532 Instrumentation and Electronics: Clinical and Hearing Science (3) - Emphasis on solving practical equipment problems and understanding the operation of equipment used in clinical practice and hearing services.
- 72.534 Central Auditory Processing Disorders (3) - Describes the various aspects of central auditory processing disorders. Students learn about the underlying processes of auditory processing in the central nervous system, including a review of several evaluation and remediation approaches used in the management of clients with central auditory disorders.
- 72.550 Adult Aphasia (3) - Studies language disorders in brain-injured adults. Areas of concentration include history of aphasia, neurological basis for aphasia, symptomatology of aphasia, associated problems, intelligence and aphasia, evaluation of language and non-language functions, and current rehabilitative procedures.
- 72.552 Preschool Language (3) - Reviews normal language acquisition with primary emphasis on the application of developmental information to the diagnosis and habilitation of language disorders in children.
- 72.554 Stuttering (3) - Studies the development, diagnosis, and treatment of stuttering disorders with equal emphasis on academic understanding and clinical management.
- 72.556 Phonology (3) - Examines language-based disorders of articulation. Emphasis on identification, description, and remediation of phonological disorders. Generative and natural phonological processes are discussed.
- 72.558 Clinic I (3) - Prepares speech pathology graduate students for serving individuals with communication disorders in all aspects of clinical management in the Bloomsburg University speech, Hearing and Language Clinic. Allows students to develop necessary competencies in preparation for culminating experience (externship prior to graduation) in the professional community. Students earn a minimum of 150 hours of direct contact time with children and adults having various communication disorders over the three consecutive semesters.
- 72.560 Voice Disorders (3) - Studies diagnosis and clinical management of functional and organic voice disorders.
- 72.562 Language Disorders of School Aged Children (3) - Explores disorders of later language acquisition and the interaction of language disorders with academic achievement, especially in the acquisition of literacy skills. Diagnostic assessments and treatment approaches are developed.
- 72.565 Disorders of Speech in Children and Adults (3) - Considers the neuromuscular and structural disorders that may affect the speech process as an aerodynamic mechanism. Special emphasis on the adult, cerebral palsy, cleft palate and dysarthrias.

- 72.566 Clinic II (3) - See course description for 72.558.
- 72.568 Speech Habilitation in the Schools (3) - Examines the profession of speech and language pathology in a school setting as it interacts with the other school-related disciplines. Emphasis is placed on facilitating of communication among the disciplines.
- 72.570 Adult II - Secondary Language Disorders (3) - Study of secondary disorders of language in adults. Special emphasis on disorders of right hemisphere damage, dementia, and schizophrenia.
- 72.572 Augmentative Communication (3) - Explores the field of augmentative communication and non-speaking persons. Topics include candidacy issues, assessment, vocabulary configuration, symbol selection, and communication interaction training for language board and electronic device users. Examines current research practices and studies in communication interaction patterns of non-speaking individuals.
- 72.574 Clinical Instrumentation in Speech Pathology - (1) Provides 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 the clinical instrumentation discussed in these lectures will also be implemented whenever possible.
- 72.____ Seminar in Communication Disorders (1-6) - Selected theoretical and clinical areas of communication disorders and related disciplines. Selected areas may include clinical and research topics pertaining to student needs.
- 72.576 Clinic III (3) - See course description for 72.558.
- 72.580 Communication Disorders of the Traumatically Head Injured (3) - Studies the nature of traumatic head injuries, emphasizing assessment and treatment of resultant cognitive communication disorders.
- 72.582 Research in Speech and Language Pathology (3) - Application of clinical and non-clinical research literature to the solution of treatment problems encountered in speech and language pathology.
- 72.584 Field Experiences I (3) - Considers special clinical problems of clients through advanced study and experience. Externships in approved institutions or schools. Problem areas and student practicum must be approved by a graduate adviser.
- 72.586 Field Experiences 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) - Temporary workshops/seminars designed to focus 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 concepts that might be incorporated into one of the workshops/seminars.
- 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.

Studies in Hearing Loss

- 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)
- 74.564 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 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.
- 74.580 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)

Professional Studies

- 79.591 Research in Education (3) - Studies methods and techniques used in qualitative and quantitative educational research; development and interpretation of statistical data and application to professional problems.
- 79.593 Studies in 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.

Health Sciences

- 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

- 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 a select 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.
- 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.
- 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.
- 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 individuals 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.
- 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. Prerequisite: 82.504.
- 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.
- 82.511 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 and candidacy for MSN degree..

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: 82.501, 82.502, 83.503 and candidacy for MSN degree..

82.513 Management and Organizational Behavior in Advanced Nursing Practice (3) - Explores the concepts of organizational style and the theories of management behavior related to the role of the clinical nurse specialist in advanced practice. Focuses on leadership theories, strategies for motivation and change, concepts of power and influence, and organizational decision making. Prerequisite: consent of the instructor.

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.

82.520 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.

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 (3) - Seminar format that explores model building and the future directions of organizational structures for advanced nursing practice. Organizational theory provides the framework for organizational characteristics and identifying the organizational strategies and structures with greatest potential for promoting effective performance and organizational growth. Focuses on organizational environments and planned change in the health care delivery system. Course may be taught in another country to provide international aspects. Prerequisite: 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.

Business Education

- 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 Education and Office Information Systems (3) - Investigates and evaluates completed research in business education and office information systems 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 Systems (3) - Studies current or advanced topics in the field of business teacher education and/or office systems not normally presented in other courses.
- 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 reference to professional literature and uniform CPA examination problems.
Prerequisite: 91.501
- 91.503 Government & Fund Accounting (3) - Accounting principles and practices of governments and not for profit institutions including comparisons between the accounting principles and practices that apply to governments and non-profit organizations and those that 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. Covers the cycle for both service and merchandising activities in corporate form of business. 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 investment, long-term liabilities, capital and operating leases, pensions and other post-retirement benefits and financial statement disclosures. Financial statement analysis and interpretation are included. Actual financial statements, case studies and current readings are used throughout the course to aid the students' understanding of the topics covered. Course limited to MBA Level 1 students.

Accounting

- 91.501 Financial Accounting (3) - A conceptual study of financial accounting and reporting topics as they relate to asset valuation, income determination and reporting of cash flows. The course includes the study of development of the institutional structure of financial accounting and reporting and a review of the accounting theory and research that preceded the FASB's Conceptual Framework. Examines the effect of alternative theories on controversial topics, including deferred taxes, leases, pensions. Emphasis on critical thinking, written and oral communication skills and professional development.
- 91.521 Advanced Cost Accounting (3) - In depth study of strategic management accounting concepts and structure, implementation and maintenance of cost/management accounting information systems that add value to organizations.
- 91.522 Advanced Auditing Theory (3) - In-depth examination of auditing concepts and techniques used by CPA firms to perform financial statement audits. Emphasis on auditor responsibilities, generally accepted auditing standards, ethical issues and current

problems and trends facing the auditing profession.

- 91.523 Advanced Tax Accounting (3) - Requires students to perform an in-depth analysis of portions of the federal and Pennsylvania tax codes. Special emphasis on tax research and analysis issues and methods. Students employ archival research techniques to identify tax issues. Analytical techniques will be used to identify the ramifications of provisions of tax codes. Students expected to conduct independent research and will present findings in oral and written formats. Background in research methods and tools such as econometrics is helpful.
- 91.524 Managerial Accounting (3) - Introduction to tools, techniques, procedures and processes employed to provide information for management decision making.
- 91.551 International Accounting (3) - Addresses the global nature of accounting in the current business environment. Prerequisite: 91.220 or 91.222.
- 91.552 Controllership Accounting (3) - Focuses on the role of the controllership function in organizations, with emphasis on understanding how the controllership function can be a value-added service to the organization. Develops students' written and oral communication skills. Students become acquainted with controllership literature for accountants and non-accountants. Prerequisites: 91.220 or 91.222, 91.223 or permission of the instructor.
- 91.599 Special Topics (3) - 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.

Computer and Information Systems

- 92.550 Information Processing (3) - A comprehensive introduction and basic orientation to the use of information processing in the educational environment. Students required to investigate the impact of the computer and associated peripheral devices on the classroom. Emphasis on the effective use of available computer resources.
- 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 systems point of view organization as a system, information flows and nature of management information systems. Data bases and data base management systems will be investigated from the manager's perspective.

Management

- 93.511 Statistical Analysis: 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: (All level I courses shall be taken in advance).
- 93.512 Managerial Economics: Covers economic analysis of the firm and its environment. Addresses issues of input/output, employment, capital markets, infrastructure, labor pool and resources in relation to organizational decisions. Prerequisites: (All level I courses shall be taken in advance).
- 93.540 Small Business Institute Seminar: Provides experience in applying theoretical concepts to practical decision-making activities for entrepreneurs and small-businesses. The students work with small-business owners in the community to provide strategic planning and necessary consulting in implementation of the plan. Prerequisites: 91.254; 97.551; 96.535. Prerequisites: (All level I courses shall be taken in advance).
- 93.545 Graduate Human Resource Management (3) - Equips students with tools and procedures to address human resource issues and problems.
- 93.556 International Management: 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. Prerequisites: (All level I courses shall be taken in advance).
- 93.558 Social Responsibility and Business Ethics: Focuses on theories, concepts and tools for managing social responsibility and ethics in

different organizational settings. Prerequisites: 91.524; 97.551; 96.535; (All level I courses shall be taken in advance).

- 93.560 Operations Management: Analyzes manufacturing and service systems and application of managerial decision-making in resolving operational policy problems. Prerequisites: 93.511. (All level I courses shall be taken in advance).
- 93.562 Organizational Theory: Provides a macro level understanding of organizational structure, processes and management of external organizational relationships. Prerequisites: (All level I courses shall be taken in advance).
- 93.563 Operations Research: Covers quantitative models in dealing with the dynamics of manufacturing/service operations in an organization. Prerequisites: 93.511. (All level I courses shall be taken in advance).
- 93.566 Organization Behavior: 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.
- 93.581 Strategic Management: Examines complex industrial situations to determine better strategies to ensure a firms 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. (All level I courses shall be taken in advance).
- 93.583 Human Resources Development: 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.
- 93.599 Special Topic: 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. (All level I courses shall be taken in advance).

Office Information Systems

- 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 teaching strategies, 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 environments with automated information and communication systems. Topics include: telecommunication applications including web page development, oral and written reports, systems-related documents (reports, proposals, procedures) -, research methods, and information technology.
- 94.530 Telecommunications (3) - Introduction to telecommunications in the business environment. Topics include: telecommunication applications, including web page development, 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 education and training of employees in office systems. Topics include: instructional design, strategies, technology, and implementation, evaluation, and

management of training with 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.

Finance

- 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 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.
- 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.

Marketing

- 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.
- 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.

Law and Legal Elements

- 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.
- 98.599 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.

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