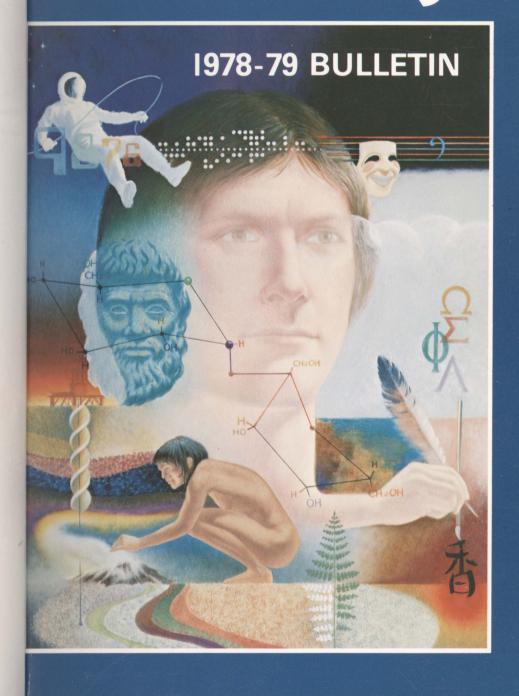
wilkes college



TREASURE ROOM LD6051 W226b 1978-79

An Educated Man

- seeks truth, for without truth there can be no understanding;
- possesses vision, for he knows that vision precedes all great attainments;
- is aware of the diversity of ideas and beliefs that exist among men;
- has faith in the power of ideals to shape the lives of men;
- knows that man's progress requires intellectual vigor, moral courage, and physical endurance;
- cultivates inner resources and spiritual strength, for they enrich his daily living and sustain him in times of crisis;
- has ethical standards by which he lives;
- respects the religious convictions of all men;
- participates constructively in the social, economic, cultural, and political life of the community;
- communicates ideas in a manner that assures understanding, for understanding unites men in their search for truth.
 - -Formulated and adopted by the
 Wilkes College faculty as a guide to learning.

Eugene S. Farley Library — named in honor of the College's first president

''May all who study in these halls
gain vision to inspire,
conviction to sustain, and
wisdom to guide.''

EUGENE SHEDDEN FARLEY LIBRARY

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WILKES COLLEGE WILKES-BARRE, PA.

WILKES COLLEGE Bulletin

UNDERGRADUATE STUDIES

1978 - 1979

The College reserves the right to change any provisions or requirements at any time within the student's term of residence.

Wilkes College is An Equal Opportunity / Affirmative Action Institution.

No applicant shall be denied admission to Wilkes College because of race, color, sex, religion, national or ethnic origin, or handicap.

Wilkes College shall not discriminate on the basis of race, color, sex, religion, national or ethnic origin, or handicap in the employment of staff, in the administration of its educational policies, scholarships, loan programs, athletics, or any other College-administered programs.

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Wilkes College

Wilkes College had its beginning in 1933 when Bucknell University, responding to a request of community leaders, established its Junior College in Wilkes-Barre. On June 26, 1947, Bucknell University Junior College came to an end and Wilkes College received its charter as a four-year, coeducational, liberal arts college. The College has grown to its current enrollment of approximately 2,100 full-time day students and 500 part-time evening school students and over 300 graduate students.

From its inception the College has been dedicated to these twin goals — a sound and stimulating intellectual experience for students and a program of service to the community.

It was inevitable that the new college should be nonsectarian, for its purpose was to serve all students equally and its supporters wished the College to integrate itself with all constructive efforts in the community. It was believed that these ends could be served best by an independent college that was interdenominational in its influence and nondenominational in its control. With responsibility came a pressing desire to strengthen the work of the faculty, united in their belief that the intellectual and spiritual resources of the student are vigorous where the creative mind is free.

A college that wishes to serve all groups requires both a definite philosophy and a working policy. Wilkes College has been guided by the thought that unity in our community, our nation, and our world requires not only great vision but warm understanding of peoples. In its small circle Wilkes College brings together students of many faiths, backgrounds, and countries. It encourages them to maintain their convictions and their loyalties. It also encourages them to create friendships based upon respect for differences, and to adhere to those ideals that create unity and good will amidst diversity.

Accreditation

Wilkes College is accredited by the Department of Education of the Commonwealth of Pennsylvania and the Middle States Association of Colleges and Secondary Schools.

In addition to the total program accreditation certain special areas are recognized by professional societies. The Chemistry curriculum is approved by the American Chemical Society.

The baccalaureate program in nursing is approved by the Pennsylvania State Board of Nurse Examiners and the Department of Nursing

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is also a member of the Council of Baccalaureate and Higher Degree Programs, National League for Nursing. Graduates of this program are eligible for admission to the examination for licensure to practice professional nursing in any state.

College Life

Student Activity

An active Student Government and numerous campus clubs and organizations provide a structure of activities for student life outside of the classroom. An Inter-Dormitory Council and Commuter Council plan and coordinate activities for on-campus and off-campus students as well.

In addition to the curricular and co-curricular activities of particular organizations, a number of all-campus events are held each year. Parents' Day, Homecoming, Winter Carnival, and the Cherry Blossom Weekend are typical of the social and cultural events which are regarded as important in the development of an active and involved student body.

The College also offers an outlet for students interested in developing their communications skills. Students publish the *Beacon*, a weekly newspaper; the *Manuscript*, a journal of art, poetry, and fiction; and the *Amnicola*, the College annual.

The College also maintains an FM radio station, WCLH, which is operated by students and broadcasts daily throughout the Wyoming Valley.

Other student activities include the theater, the symphonic band, choruses, numerous brass, woodwind, and percussion ensembles, madrigal singers, and an active intercollegiate forensics and debate organization.

Policy

It is College policy that all campus organizations be open to all students; consequently, groups that are exclusive do not exist. All student groups work in cooperation with faculty advisers and deans.

Athletics

The College views men's and women's athletics as an integral part of the activity program. An active intramural sports program is maintained each year, and the College also schedules intercollegiate athletic contests in ten men's and six women's varsity areas. The men's varsity program includes cross-country, football, soccer, swimming, basket-

ball, wrestling, golf, tennis, lacrosse, and baseball. Varsity programs for women include field hockey, tennis, swimming, basketball, volleyball, and softball.

One of the highlights of the athletic year is the Wilkes Open Wrestling Championship. This annual tournament attracts athletes from over sixty colleges, athletic clubs, and YMCA's throughout the United States. The tournament, the largest in the country, has the record for the greatest number of entries.

The College is a member of the Middle Atlantic Collegiate Athletic Conference, the National Collegiate Athletic Association, the Eastern Collegiate Athletic Conference, the Association for Intercollegiate Athletics for Women, the Eastern Association for Intercollegiate Athletics, Northeastern Pennsylvania Women's Intercollegiate Athletic Association, and the Susquehanna Field Hockey Association.

The College and the Community

The College has long recognized that its growth was related to the economic and social development of the Wilkes-Barre and North-eastern Pennsylvania communities and, therefore, it has sought actively and enthusiastically to participate in every effort for community betterment.

Institute of Regional Affairs

The Institute of Regional Affairs has been established by Wilkes as a multi-purpose organization which views regional problems as belonging to no single academic discipline, but rather as opportunities for multi-disciplinary community involvement. Its resources include not only the College faculty, but also those experts in the region who can lend their talents to the solution of various of the region's problems. Its four-fold purpose is education and training, community information, research, and consultation.

Included among the activities of the Institute of Regional Affairs are: a management training program under which special classes are organized for personnel in industry, commerce, and banking; individually-designed programs for members of labor unions; a Municipal Government Program which offers in-service training activities for local government officials; and a Research Center, which is available to faculty, administration, and alumni.

The growth and support of the College's Institute of Regional Affairs led to the establishment of an independent Economic Development Council to serve Northeastern Pennsylvania.

Educational Development Center

By mutual agreement with the Pennsylvania Department of Education, an arm of the Educational Development Center has been established on the campus of Wilkes College. The Center located at Wilkes has as its statewide mission the development of curriculum models in various disciplines for elementary and secondary education. At the local level the center has helped to plan the functions of local intermediate units and continues to work closely with the units to provide service to school districts in the area.

Act 101 Program

The Act 101 program at Wilkes College allows educationally underprepared students to improve their skills in verbal and written communication, reading comprehension, mathematics and problem solving, in an effort to acquaint students with and help them adjust to the many new experiences provided by a college education.

The program provides trained tutors to help in each course the student takes and to assist students in developing good study habits.

Individual and group counseling is available to aid students in developing self-confidence and in coping with any problems and anxieties that may develop.

Also, special instruction is provided to help each student to take advantage of all available financial assistance.

Reading Improvement Center

The primary goal of the Reading Center is to improve reading skills and related language arts and study skills of elementary, secondary, and post-secondary students.

Upon admittance to the program each student will be given a series of reading, auditory, and visual acuity and perceptual tests which will be used to develop the student's individual program. This program is designed to attempt to correct known deficiencies and/or generally strengthen each student's reading ability. Sophisticated levels of analysis, critical application, and advanced study skills follow the development of basic motor skills.

Volunteers for Literacy

Volunteers for Literacy is an Adult Basic Education Program oriented toward helping adults learn to read and write. The program has two major components: English to Speakers of other Languages (ESOL), and basic reading and writing for non-literate adults.

ESOL

The ESOL Program consists of 15-hour weekend workshops in which tutors are trained to instruct non-English speaking adults in English. The program utilizes the Laubach Method, which involves a series of manuals designed for tutors to instruct functionally illiterate adult speakers of other languages in English. A student's textworkbook from The New Streamlined English Series parallels each teacher's manual. The teacher's manual instructs the tutor in emphasizing and communicating to the non-English speakers listening and speaking conversation skills on a one-to-one basis.

BASIC

This program involves a 10-hour workshop broken up into three evening sessions in which tutors are trained to teach non-literate adults. The Laubach Basic Method is utilized involving principles which establish sound-symbol relationships, learning through association, and use of repetition to strengthen the visual image.

Sigma XI

Sigma XI, the Scientific Research Society of North America, has established a local affiliate on the Wilkes College campus. The Club serves as a forum for cooperation and exchange of ideas among research-oriented scientists in the area. The Club welcomes as members local collegiate, professional, and industrial researchers engaged in original scientific investigations.

Cultural Activities

Wilkes also plays an active role in the support and development of various cultural activities throughout the region. Members of the faculty and student body participate in the Northeastern Pennsylvania Philharmonic Orchestra, established under the aegis of the College, and the Wyoming Valley Oratorio Society. The College joins areawide cultural groups each year for the Fine Arts Fiesta, a three-day festival of music, drama, and the arts founded by the College and presented each spring, and the annual two-weekend Cherry Blossom Festival.

An active theater program, as well as a carefully selected Concert and Lecture Series, is presented throughout the regular college year. The Concert and Lecture Series is open to the College family and the public without charge as a Wilkes College service to the community as are the Town and Gown programs, presented by the Music Department faculty.

McClintock Hall — Women's Residence Hall



Bedford Hall — Men's Residence Hall

Policies and **Objectives**

Admissions

Counseling

Registration

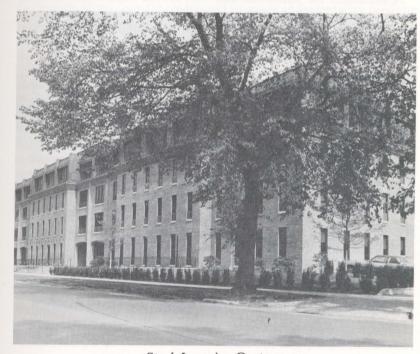
Expenses

Financial Assistance

Scholarships

Trust Funds

Awards



Stark Learning Center

Admissions

Candidates applying for admission to Wilkes should have at least fifteen units of work representing the equivalent of the usual four-year secondary school college preparatory school course. For entrance into certain departments, specific courses in secondary school are necessary.

Students intending to major in Biology, Chemistry, Computer Science, Engineering, Mathematics, Medical Technology, or Physics should have at least three years of college preparatory mathematics courses (including algebra II, geometry, and topics in trigonometry) so as to be prepared to take Math. 105 or 111 (calculus) in the first term of the freshman year. The student without such background is advised to take, preferably in the summer preceding entrance, Math. 100 (algebra and trigonometry) offered at Wilkes or an equivalent course at another college or university. Credits in such remedial courses will not exempt the student from any required elective in these programs.

Application for Admission

Applications for admission and instructions regarding secondary school records, recommendations, and entrance examinations may be obtained from the Dean of Admissions. The completed applications should be returned with a \$10 application fee.

Admissions Tests

The Scholastic Aptitude Test of the College Entrance Examination Board is required of all applicants. Students should plan to take this examination in December or January of their senior year. If unusual circumstances prevent the applicant from taking this test, he must notify the Dean of Admissions. Students who wish the Admissions Committee to review their application on the basis of College Boards taken in their junior year should make this request in writing to the Dean of Admissions. Wilkes is a member of the College Entrance Examination Board.

Students communicating with the Educational Testing Center in Princeton, New Jersey, or in Los Angeles, California, should refer to the Wilkes College code number 2977.

Acceptance of Admission and Deposit

After receipt of the secondary school record, the secondary school recommendations, and the senior College Board scores, the Admis-

sions Office acts upon all applications. Notification of action is sent immediately. Resident students are required to forward a \$100 tuition and dormitory deposit by May 1 in order to guarantee their entry into the College. Commuting students are required to forward a \$50 tuition deposit by May 1.

The College accepts a limited number of applications for the spring semester. Procedures are similar to those followed in the fall semester.

Personal Interviews

Although a personal interview with each student is not required, students and their families are encouraged to visit the College at their convenience. It is advisable to write for an appointment so that the appropriate deans may arrange to meet with them.

Music applicants are required to audition for the music faculty.

Transfer Students

Candidates from other institutions wishing to enter with advanced standing shall follow the regular procedure for admission. The student should have official transcripts forwarded to the Admissions Office of all college work completed. Students offered admission should secure a personal interview with the Dean of Admissions, at which time an evaluation of the transfer credits will be made and a tentative program scheduled. This program will be subject to final review by the faculty adviser at the time of registration. Acceptable credits will be placed on the Wilkes record of the student following a final evaluation. Students transferring into the nursing program will arrange their scheduling and registration in consultation with the Department of Nursing.

Grades earned for transfer credits are not included in the calculation of grade point averages.

Transfer students from junior colleges, community colleges, and other two-year institutions must complete a minimum of 60 credits at Wilkes College.

All transfer students must complete at least one-half of their major credits at Wilkes College.

College policy prohibits the Admissions Committee from considering or admitting any student who has been placed on academic probation or who has been dismissed from any other college or university until a period of one year has elapsed.

Advanced Course Standing

Students who have undertaken college-level courses in secondary school or students who have demonstrated ability in a particular sub-

ject area may request college credit for such work and permission to enter advanced courses. To qualify for advanced placement, the student must obtain the recommendation of the department involved based upon that department's criteria for granting such credit.

On the basis of comprehensive examinations, the College grants credits in certain courses to entering students who, by enrollment in advanced placement courses in secondary schools or self-study, can demonstrate mastery of the material covered in the courses involved. Interested persons may contact the chairpersons of the respective departments for further details.

CLEP (College Level Examination Program)

Wilkes College students may receive credit through the CLEP examinations.

Counseling

The guiding principle of all Wilkes counseling is to encourage students to discover their own abilities and potential and to assist them in making sound, independent decisions.

Freshman Orientation Program

The transition from the directed work of the high school to the independent and more intensive work of the College occasionally causes difficulty. Several days during the summer and at the beginning of the term are, therefore, set aside to assist freshmen in planning their academic programs.

During this period, new students may take aptitude and interest tests. New students are given an opportunity to become acquainted with one another and to learn about the College, the curriculum, and the student activities.

Student Advisement

Students sometimes need guidance in resolving personal, social, and academic difficulties. Since a student's physical and mental health affect his studies and his grades, he is encouraged throughout his college career to consult with his classroom instructors, his faculty adviser, the deans, or the department chairpersons concerning his scholastic progress.

Student Records

In accordance with the provisions of "The Family Educational Rights and Privacy Act of 1974," students, upon request, will be given access to all their evaluative records which have been established by Wilkes College. Such records might typically include those maintained

by the Placement Office, the Health Services Office, the Registrar's, and the Deans' Offices. These records will be open to inspection in the presence of the appropriate college official. Students wishing to review their files must make an appointment at least one day in advance.

Weekend Program

Wilkes offers upper-division courses on weekends on the campus of Keystone Junior College, La Plume, Pennsylvania. These courses provide students with the opportunity to complete their baccalaureate degree by attending college strictly on weekends. For more information on the Weekend Program, contact the Director of Continuing Education.

Evening Division

The Evening Division offers educational opportunities to adults who cannot attend day classes. Students may register for courses in the Evening Division and earn credits toward an undergraduate degree. Graduate courses are also offered during the evening hours.

Students will confer with the Director of the Evening Division to arrange a course of study to meet their needs, abilities, and special requirements. During the semester students will consult with the Director of the Evening Division concerning their program.

When the student completes thirty hours, his record is reviewed by the Admissions Committee. At this time the Committee recommends continued work for a degree, probation, or withdrawal from the Evening Division.

Non-degree students may be admitted to classes which they are qualified to take by reason of their maturity, previous education, and work experience. Secondary school training is desirable but not necessary, provided the student is qualified to follow such special courses of instruction.

Summer Division

The faculty offers selected courses during two five-week day sessions and one eight-week evening session. The course offerings are listed each year in the Summer College Bulletin.

A student from Wilkes College who wishes to take summer work at another institution must secure the approval of the Academic Standing Committee. Application in writing shall be made through the office of the appropriate dean.

Inquiries and information on course offerings should be directed to the Director of Continuing Education and Graduate Studies.

Graduate Division

Departments that offer graduate work are: Biology, Business Administration, Chemistry, Earth and Environmental Sciences, Education, English, Mathematics and Computer Science, Physics.

Information concerning admission to the Graduate Division may be obtained from the Office of the Director of Graduate Studies. The College issues a supplementary graduate bulletin.

Registration

Every student is expected to register on the dates specified in the College calendar. Students who register after these dates will pay a late registration fee of \$10.

Incoming freshmen will be registered during the summer for their first semester program. Inquiries regarding clarification or change should be directed to the Dean of Admissions.

Expenses

Tuition

The flat tuition fee of \$1,475 per semester (1978-79) will be charged to all students taking a course load of twelve to eighteen hours. A student who elects a heavier schedule than eighteen hours will be charged \$100 for each additional credit hour.

Students enrolled in day or evening courses on a part-time basis, eleven or fewer hours, as well as students enrolled in the Summer Division will be charged \$70 per credit hour.

Audit

A full-time enrolled student (12 hours or more) may audit a course for no additional charge. Part-time students may audit a course for one-half the regular tuition fee.

Fees

For courses that require individual faculty supervision or the addition of supplies and equipment it is necessary to charge nominal fees. These fees are listed in the Bulletin with the course description.

Medical technology students will be charged the regular College tuition in both the seventh and eighth semesters. The College will pay the hospital tuition charges.

The cost of individual instruction in applied music is \$75 for full-time students (12 credits or more) for a series of fourteen half-hour lessons. The College accepts a limited number of part-time and special students for individual instruction in applied music for a series of fourteen half-hour lessons at a cost of \$85 per semester.

A student activities fee of \$30 provides for special programs, including plays, concerts, recitals, lectures, and home athletic events.

All graduating seniors will be charged a graduation fee of \$40.

The cost of books and supplies will vary with the course of study, but will average approximately \$75 to \$150 per semester.

A Health Care Fee of \$25 is required of each student. Part of this fee provides the student with a \$1,500 Accident Insurance Plan. Sickness insurance is also available to all students on an optional basis. Protection is provided under both plans from September 1 to August 31 of the following year. The Health Care Fee is payable in full with the first semester charges. If sickness insurance is also desired the student should contact the Finance Office. The Health Care Fee of all resident students is prepaid as part of the dormitory fee.

Residence Halls

On-campus living is available to full-time single men and women students in separate men's and women's residence halls situated throughout the campus. Each residence hall is staffed by graduate or undergraduate Resident Assistants, who provide guidance and supervision and assist in the development of a constructive learning environment in each residence hall.

Each room is equipped with beds, desks, chairs, bureaus, and closets. Clean bed linen and towels are provided weekly. Students supply their own blankets, pillows, and study lamps. Each residence hall is equipped with television sets, laundry facilities, and lounges. Prospective students and their families are invited to visit the residence halls at any time.

All full-time undergraduate students who are under 18 years of age are required to reside in Wilkes College residence halls during their first and second semesters unless they have been granted permission from the Housing Office to reside off campus, or unless they commute from the home of their parents or legal guardian. Students who have achieved sophomore class standing may live off campus.

Returning resident students must file a signed residence hall contract with a \$50 deposit by May 1 to be eligible to select a room. Housing contracts are binding for the full academic year (see Refunds). The cost of room and board is \$800 per semester. This charge includes the cost of health service, linen rental, room rent, and twenty meals per week. If a student notifies the Housing Office prior to August 1 of his intentions not to return to residence, the \$50 residence hall deposit will be refunded. After August 1, no refund of this deposit is permitted.

Resident students are required to contract for board charges. Exception to this policy will not be made without formal recommendation from the College physician and approval of the Council of Deans.

Resident students are required to maintain a minimum balance of \$50 on deposit for damage with the College so long as the student is enrolled. Charges for damage to College property, parking fines, and other unpaid expenses may be automatically deducted from this deposit. When students graduate or terminate matriculation at the College, they will be given the refundable portion of this deposit.

Information regarding residence halls can be obtained from the Office of Admissions or the Housing Office.

Transcripts

There is no charge for the first transcript requested. The student will pay a fee for each additional transcript.

Liability Insurance

Students enrolled in health care curricula are required to carry their own liability insurance, which is available through their professional organizations.

Payments

All payments for tuition, room and board, fees, etc., are to be made at the Finance Office, Parrish Hall, before classes begin. Several plans have been developed to assist students who are experiencing financial difficulties. Students may consult with the Director of Financial Aid for information regarding these plans, as well as other scholarship and loan programs.

Deferred Payment Plans

The College has authorized the operation of three plans through which costs of tuition and other educational expenses may be met from current family income. These loan agreements are to be repaid during the year through monthly repayment plans. Additional information can be secured through the Financial Aid Office or by writing to:

The Tuition Plan
Concord, New Hampshire 03301
EFI Management Program
36 South Wabash - Room 1000
Chicago, Illinois 60603
Insured Tuition Payment Plan
53 Beacon Street
Boston, Massachusetts 02108

Refunds

Students in good standing who withdraw from the College for adequate and satisfactory reasons are eligible to receive a one-half tuition refund so long as the withdrawal occurs during the first six weeks of the semester. After the first six weeks no refunds are allowed and the student is obligated for the full costs of the term.

Refund of dormitory charges will not be made except under demonstrated conditions beyond the control of the student, nor will any suspended or expelled student be entitled to any refunds whatsoever.

Financial Assistance

To provide assistance for those who need financial help, the College receives substantial gifts from friends. These gifts provide scholarship aid to those who are already making every effort to help themselves.

In accepting any form of aid from the College, students accept an obligation to:

- 1. Maintain a good scholastic record.
- 2. Exert a constructive influence in the College and the community.
- 3. Participate constructively in an all-college activity of their own choice.

Inquiries and applications regarding all financial assistance programs should be initiated with the Director of Financial Aid.

Students requesting financial aid shall indicate this in the appropriate space on the application for admission. Before an application for financial aid will be considered, the student must first be admitted to the College.

Every applicant for financial aid shall submit confidential information pertaining to the applicant's financial needs and his/her record of achievement.

Wilkes College participates in the College Scholarship Service (CSS) of the College Entrance Examination Board. Participants in the College Scholarship Service subscribe to the principle that the amount of financial aid granted a student should be based on financial need. The College Scholarship Service assists colleges and universities in determining the student's need for financial assistance. All entering students applying for financial aid are required to submit a copy of the Financial Aid Form (FAF) to the College Scholarship Service, designating Wilkes College as one of the recipients, by February 1. The Financial Aid Form may be obtained from a secondary school

After the student has been accepted for admission and after a copy of the Financial Aid Form is received, the Committee on Financial Aid acts on all completed applications. Notification of action by the Committee is sent immediately.

Financial aid is awarded for a one-year period; however, aid will be renewed upon request, provided the request is supported by a good academic record, evidence of continued need, and constructive participation in at least one all-college activity of the student's choice.

Aid awarded to a student from sources outside the College must be reported to the College by the student. All such aid shall be taken into consideration to insure the most equitable distribution of funds. When necessary, a financial aid package awarded by the College may be adjusted in light of aid awarded by outside sources.

Financial aid will be forfeited if the student at any time carries fewer hours than are normal for his course of study.

The amount of the aid is confidential. Any breach of this confidence shall terminate the award.

The primary responsibility for financing the cost of education rests with the student and his family. Consequently, financial aid will be granted only after they have made every reasonable effort to finance as large a portion of the student's education as possible. When such support is lacking, the College will seek to develop with the student a plan whereby his education may be continued through work, loans, and scholarships.

Scholarships

To assist qualified students, friends and alumni support a substantial scholarship fund that enables the College to more adequately serve its students. Wilkes College is dedicated to the belief that no student who is eligible for admission to the College should be denied the chance to begin a college education, nor forced to withdraw after matriculation for purely financial reasons.

A number of scholarships are awarded without regard to financial need to students of outstanding achievement. High school seniors who desire to be considered for a scholarship should apply in writing to the Dean of Admissions at the time of application for admission.

Intercollegiate athletics are introduced for the benefit of all students and in consequence athletes receive the same consideration in admissions and in the awarding of scholarships that is given to other students.

Grants-in-Aid

Wilkes Scholarships

Wilkes Scholarship grants are available to students with good records of achievement and performance in high school or college who cannot finance fully the cost of their education. These funds, combined with those furnished by the State and Federal Governments, are offered to students in packages consisting usually of grants, loans, and work.

Basic Educational Opportunity Grants

Federal Grants ranging from \$200 to \$1,400 are available to those students who demonstrate need. The amount of individual grants is related directly to the student's eligibility index as determined by the Basic Grants Program and cost of education. Application forms are available at any Federal Office or the College Financial Aid Office.

Supplemental Educational Opportunity Grants

Federal grants ranging from \$200 to \$1,000 are available to those students demonstrating exceptional financial need who, except for this aid, would be unable to obtain a higher education. Although these grants are intended to supplement Basic Grants, these also may be awarded to students whose expected parental contribution, as determined by the College Scholarship Service, does not exceed one-half the student's educational costs.

State Scholarships

The Commonwealth of Pennsylvania offers direct grants to students meeting the criteria set forth by the Pennsylvania Higher Education Assistance Agency (PHEAA) program. High school students from other states wishing information concerning their state's program should contact their guidance counselor.

Loans

Student Loan Funds

The Florence and Joseph A. Goldman Loan Fund has been created by the donors to assist juniors and seniors whose education may be interrupted by unexpected difficulties. The loan bears no interest and is to be repaid by the student at the earliest practical time so that other students may receive needed assistance from this revolving loan fund.

The Robert W. Hall Student Loan Fund was established by Robert W. Hall, class of 1951, to assist students in meeting small emergency financial needs.

Gulf Oil Corporation Student Loan Fund

In 1972 the Gulf Oil Corporation established this revolving loan fund to make low-interest loans available to students who have exhausted all other means of obtaining financial assistance. Loans are interest-free while the student remains at the College and are to be repaid within five years after the student leaves Wilkes.

National Direct Student Loan Fund

Long-term, low-interest loans are available to students who demonstrate financial need. The amount of the loan is determined by need with a maximum of \$1,000 per academic year. Interest and repayment are deferred until the student leaves school. The program includes cancellation benefits for graduates who teach in schools having a high concentration of students from low-income families or who teach handicapped children. Graduates who enter military service are also accorded cancellation privileges. Applicants will be notified by the Committee if their financial aid package includes a National Direct Student Loan.

Nursing Student Loans

Federal loans of up to \$2,500, depending on demonstrated need, are available to students enrolled in the Department of Nursing. Interest and repayment are deferred until the student leaves school. Borrowers may cancel up to 85 per cent of the total loan, plus interest, if they are employed as a full-time registered nurse in any public or private non-profit agency, institution, or organization, or agree to serve as a registered nurse in an area designated as a shortage area. The actual percentage of cancellation depends on the type of service performed and the number of years of such employment completed.

State Guaranty Loan Programs

Most states now operate guaranteed loan programs which enable students to borrow from their local banks to meet educational expenses. Ordinarily, no interest is charged while the student remains in school if the family's adjusted gross income is below \$25,000, nor on that portion of the loan recommended by the Financial Aid Office after an evaluation of the financial need of the student. Applications and further information are available at the student's hometown bank, savings-and-loan association, or credit union participating in the program.

Employment

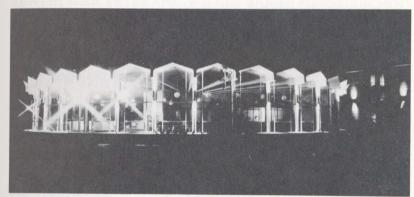
Part-Time Employment

The College cautions the student to limit off-campus work, especially during the freshman year, when working may result in academic failure.

However, part-time jobs in offices, stores, and industry are available for students wishing to earn part of their expenses. For such jobs the student will register with the College Placement Office.

College Employment

The College participates in the College Work-Study Program in conjunction with the Federal Government. Part-time employment, not to exceed 15 hours per week during class periods, is available in a variety of on-campus departments. Prospective employees must meet financial need requirements set forth by the Federal Government. Student-employees shall meet all obligations of their assignments or forfeit this help from the College.





Dining Complex and Pickering Hall

Founders of Scholarships

Some 1,000 friends contribute to the scholarship fund of the College on an annual basis. Other friends have created scholarships and awards which bear the names of the donors or of persons whom they have memorialized by means of a scholarship or other special recognition.

ARNAUD CARTWRIGHT MARTS SCHOLARSHIP was created by the associates of Dr. Arnaud C. Marts, in the firm of Marts & Lundy, to honor the chairman of their company.

As president of Bucknell University, Dr. Marts was instrumental in the establishment of Bucknell University Junior College, which became Wilkes College in 1947. After Wilkes College became an independent college, he joined its Board of Trustees and was elected vice-chairman of the Board.

The Arnaud C. Marts Scholarship will be awarded each year to the outstanding senior who has need of financial aid and who, by high scholarship and participation in college activities, has demonstrated those qualities of leadership that are needed in Wilkes College and in the nation.

KEVIN EDWARD BARKER MEMORIAL SCHOLARSHIP was created in 1972 in memory of a former student of Wilkes College, Kevin Edward Barker, by his family and friends. This fund provides partial scholarship assistance to a male graduate of Wyoming Valley West High School in recognition of high academic achievement and involvement in extracurricular activities.

WALTER S. CARPENTER SCHOLARSHIPS IN ENGINEERING are awarded annually to high school seniors planning on majoring in Materials Engineering or Electrical Engineering at Wilkes College. The recipients of these awards are selected by the faculty of the Engineering Department on the basis of the applicants' high school records and Scholastic Aptitude Test scores, without regard to financial need. Scholarships are renewable annually upon recommendation of the Department of Engineering. Interested students should apply in writing to the Chairperson, Department of Engineering, Wilkes College.

CONYNGHAM POST NO. 97, GRAND ARMY OF THE REPUBLIC, DEPARTMENT OF PENNSYLVANIA, SCHOLAR-SHIP. In 1968, Trustees of Post 97 established a trust at the College,

the annual income of which is used to provide partial scholarships for residents of Luzerne County, with preference given to descendants of veterans of the Civil War.

DR. AND MRS. S. M. DAVENPORT SCHOLARSHIP TRUST. Income from an endowed trust provides partial scholarship assistance to a worthy student enrolled in the medical science field. The scholarship bears the name of Dr. S. M. Davenport, one of the original members of the Wilkes College Board of Trustees and former College physician, and his wife, Mrs. Harriet M. Davenport.

CHARLES AND SADIE DONIN MEMORIAL SCHOLARSHIPS are supported by a substantial endowment created by Mr. Donin. These scholarships are awarded to able and highly motivated students of limited financial means.

JOHN WELLES HOLLENBACK SCHOLARSHIP. Miss Anna Hollenback has created a scholarship in memory of her father, John Welles Hollenback.

JEWISH WAR VETERANS, WILKES-BARRE POST 212 SCHOL-ARSHIP is established in honor of B. J. Levin, one of the Post's founders. The purpose of this scholarship is to aid the son or daughter of a local war veteran. The award shall be made on the basis of need and ability without regard for race or creed.

FRANCES AND LOUIS MASLOW MEMORIAL SCHOLARSHIP FUND has been established through the generosity of Frances and Louis Maslow, long-time friends and benefactors of Wilkes College, and in cooperation with their son, Richard Maslow, a member of the Wilkes Board of Trustees. The fund provides for scholarship aid to be awarded annually to a worthy student majoring in engineering or business administration.

DR. JAROSLAV G. MORAVEC MEMORIAL SCHOLARSHIP. The Dr. Jaroslav G. Moravec Memorial Scholarship Fund has been established for a student genuinely interested in sociology and anthropology who intends to pursue graduate studies in sociology, anthropology, law, or an allied field. Beginning in 1978-79, this scholarship will be awarded to a student for use during his/her senior year.

MABEL AND JOHN C. MOSTELLER SCHOLARSHIP FUND has been created to provide scholarships for needy and intelligent young men who have insufficient financial resources of their own and who would not have the opportunity to attend college if they were unable to secure financial assistance. The scholarships shall be granted only to young men of good moral character who are in the upper ten per cent of their class in academic standing and who have passed a qualifying competitive examination administered by Wilkes College.

PENNSYLVANIA INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS — NORTHEAST CHAPTER has created partial tuition scholarships for accounting students entering the senior year, in recognition of high academic endeavor in the study of accounting.

HENRY BLACKMAN PLUMB AND EDITH PLUMB SCHOL-ARSHIP TRUST has been established to provide scholarships for students of outstanding ability and character majoring in one of the sciences and attending Wilkes College.

KENNETH L. POLLOCK SCHOLARSHIP FUND. Earnings from the fund provide a scholarship of \$1,000 a year to a senior from Northwest Area High School who matriculates at the College. The recipient is determined by a selection committee of interested individuals from the Northwest Area. Further information concerning application procedures and eligibility requirements is available from the Director of Guidance, Northwest Area High School.

WILLIAM B. SCHAEFFER MEMORIAL SCHOLARSHIPS. In 1951 a substantial bequest was left to the College by Mr. Schaeffer to advance the interests of the College and the students. By action of the Board of Trustees a considerable portion of the income from this bequest has been set aside for scholarships.

MOHAMAD ABRAHAM SCHOLARSHIP has been created by a gift to the College made by Mohamad Abraham. Its purpose is to assist Palestinian Arabs, or their descendants, to obtain a college education. To qualify, the student must demonstrate the ability to successfully complete the work of the College and must submit evidence of financial need.

ROBERT MARC SCHUB MEMORIAL SCHOLARSHIP was established by Mr. and Mrs. Marvin Schub in memory of their son. This scholarship is to be awarded to a local student, preferably studying in the area of the humanities or sciences, who otherwise could not attend college. The scholarship will be awarded annually to a worthy student of high potential.

ANDREW J. SORDONI FOUNDATION SCHOLARSHIP. This scholarship is used to assist students of unusual promise and proven ability.

JESSIE STURDEVANT MEMORIAL SCHOLARSHIP is awarded to a student of unusual promise and ability and has been made available from a fund established by the late Miss Sturdevant.

MRS. LEWIS H. TAYLOR left a bequest to the College to be used in assisting students of outstanding scholastic ability who otherwise could not gain a college education.

ESTHER WECKESSER WALKER SCHOLARSHIP. This is an endowed scholarship created by Mrs. Walker to assist students of outstanding promise and achievement during their junior and/or senior years.

FRANCIS A. UMPHRED MEMORIAL SCHOLARSHIP was established in 1973 by members of the College administration and will be awarded to a capable student demonstrating leadership and ability during each academic year.

MYVANWY WILLIAMS THEATER SCHOLARSHIP is presented each year to a student who has demonstrated outstanding interest and ability in drama.

EMORY AND MAMIE ZIEGLER SCHOLARSHIP TRUST provides a full-tuition scholarship to a deserving member of the Catholic, Jewish, or Protestant faiths, who is a resident of Wyoming Valley. Selection is made by a special committee of the counseling Deans of Wilkes College.

THE FORTINSKY SCHOLARSHIP was established in 1978 by Robert Fortinsky and will be awarded annually to a capable student demonstrating promise and ability.

Annual Name Scholarships

M. W. WOOD SCHOLARSHIP. A half-tuition scholarship is awarded annually to a student of high scholastic ability and financial need.

RICHARD H. ROYER SCHOLARSHIP is awarded annually to a student who has demonstrated outstanding ability in his studies and in student activities.

College and Community Organizations

WILLITS COLEMAN MEMORIAL SCHOLARSHIP has been established in memory of Willits Coleman, a member of the Wilkes-Barre Rotary Club. The scholarship will be awarded to a senior who has demonstrated ability in the classroom and in student activities.

POLISH ROOM COMMITTEE SCHOLARSHIP was created to express appreciation of services rendered to Wilkes College and the community of Northeastern Pennsylvania by Dr. and Mrs. Joseph J. Kocyan. It is awarded annually to a student of Polish extraction who has graduated in the upper fifth of his high school class and tested above 600 on each part of the College Entrance Examination Board. The Director of Financial Aid, the Dean of Admissions, and a member of the Scholarship Committee shall select a qualified student and award the scholarship.

GREATER WILKES-BARRE JUNIOR CHAMBER OF COM-MERCE awards a partial scholarship to a deserving student who without financial assistance could not attend college. NEIL DADURKA MEMORIAL SCHOLARSHIP is awarded annually by the Wilkes College Lettermen's Club. The money for this scholarship is earned and donated by the Wilkes College Lettermen's Club. The scholarship itself is named in honor of Neil Dadurka, a former Wilkes athlete, who was killed while flying for the United States Marine Corps.

This half-tuition scholarship is given to an incoming freshman who is in need of financial aid and who is an outstanding athlete. The scholarship is given to enable an athlete to participate in the sport for which the scholarship is awarded.

ROBERT J. McBRIDE MEMORIAL SCHOLARSHIP is awarded annually to an incoming freshman. The award was established to honor the memory of Robert J. McBride, an athlete at Wilkes College. Initial funding of the scholarship came from donations received at the time of his death.

This half-tuition scholarship is awarded to a football player from the Greater Wyoming Valley Area selected by the football coaches and the athletic director of the College.

THETA DELTA RHO, the all-college women's service organization, offers a scholarship yearly to a woman student achieving a high score in a competitive examination conducted by the College.

WILKES COLLEGE FACULTY WOMEN'S CLUB SCHOLAR-SHIP is given in memory of Eleanor Coates Farley and awarded annually to a female student in need of financial support.

Commercial and Industrial Concerns

ARNOLD FOUNDATION. Arnold Biscontini, president, provides scholarship assistance to students who demonstrate need and academic achievement.

FRANK E. BALDWIN, INC., SCHOLARSHIP. A half-tuition scholarship is awarded annually to a student maintaining high academic standing and in need of financial assistance.

CONSOLIDATED CIGAR CORPORATION. This scholarship is awarded annually to students demonstrating scholarship and financial need.

FRANKLIN FEDERAL SAVINGS AND LOAN ASSOCIATION OF WILKES-BARRE awards a one-half tuition scholarship to a student of high scholastic achievement who is active in campus and community activities.

MEDICO INDUSTRIES awards a partial tuition scholarship to a deserving student of high scholastic standing.

NELSON OF KINGSTON, INC., awards a one-half tuition scholarship to a student of high scholastic standing.

ADRIAN AND RICHARD PEARSALL have created a half-tuition scholarship which will be awarded to a high school graduate who has demonstrated leadership in scholastic and extracurricular activities and who, without scholarship aid, would be unable to attend college.

LAVENTHOL & HORWATH SCHOLARSHIP. This award is presented annually to a senior accounting major by the firm of Laventhol & Horwath in recognition of high academic endeavor.

PENNSYLVANIA MILLER'S MUTUAL INSURANCE COM-PANY awards a partial tuition scholarship to a student who has demonstrated outstanding ability in his studies and in student activities.

A. RIFKIN AND COMPANY awards a partial tuition scholarship to a worthy young man or woman of outstanding scholastic ability.

Employees' Family Scholarships

THE LESLIE FAY SCHOLARSHIP is granted each year to the son or daughter of an employee of the Company whose record in high school and on the admissions tests has been outstanding.

A recipient of the scholarship will be selected on a competitive basis by the Scholarship Committee of Wilkes College. The scholarship will be retained by the student for the four years in college, provided his achievement and influence at Wilkes College are deemed outstanding by the faculty.

THE METROPOLITAN WIRE GOODS CORPORATION has created scholarships of \$500, \$300, or \$200 at Wilkes College for the sons or daughters of its employees. To qualify for candidacy, a student must graduate in the upper half of his secondary school class, must test above 1100 on the S.A.T. portion of the C.E.E.B., and must demonstrate financial need.

The scholarship will be granted through the College to the applicant making the best record in high school and on the Scholastic Aptitude Test. To retain this scholarship, a student must make a strong academic record and must exert a constructive influence in the College.

THE W. S. CARPENTER MEMORIAL AWARD FUND was established in 1965 by W. S. Carpenter, Jr., and his sons in memory of W. S. Carpenter, who was born in Wilkes-Barre on April 5, 1853, and lived in this community during his entire active business life. The fund was given to strengthen the work of the science division by subsidizing research projects, assisting the College in attaining able teachers, providing scholarships for outstanding students, providing lectures by speakers of national prominence, purchasing exceptional tools, apparatus, or other equipment for use in the science departments.

THE ALLAN HAMILTON DICKSON CHAIR OF ENGLISH LITERATURE was created by Dorothy Dickson Darte in memory of her father, Allan Hamilton Dickson, to encourage enlightened teaching, extended scholarship, and creative writing in the field of literature.

GILBERT S. McCLINTOCK was the chairman of the Junior College Committee of Bucknell University when Bucknell University in 1933 established the Junior College in Wilkes-Barre. As the first chairman of the Board of Trustees of Wilkes College, Attorney McClintock left his entire estate to Wilkes College with the understanding that the income shall be used to improve faculty salaries.

Awards

At the end of the academic year a number of awards are presented to outstanding students in selected fields. These awards are presented either at Commencement or at a Special Awards luncheon held for the recipients.

Commencement Awards

THE DEAN'S SCHOLARSHIP AWARD is granted to the man and woman in the graduating class who have excelled in scholarship throughout their four years at the College.

THE HUMANITIES AWARD is given each year in memory of Miss Annette Evans to the man or woman in the graduating class who has demonstrated outstanding scholarship in the humanities.

THE NATURAL SCIENCE AND MATHEMATICS AWARD is given annually in recognition of scholarship within the division of Natural Sciences and Mathematics.

THE SOCIAL SCIENCE AWARD is given each year in memory of Hugo V. Mailey to the man or woman in the graduating class who has demonstrated outstanding scholarship in the social sciences and has manifested intellectual curiosity and creative imagination.

ALUMNI AWARD FOR LEADERSHIP is given by the Wilkes College Alumni Association to the graduate considered by a special committee to have made the strongest contribution to the life of the College.

THE INTERNATIONAL STUDENT AWARD, established in 1972 in memory of Nada Vujica, is given annually to a deserving international student in the graduating class.

All-College Awards

THE BEACON ATHLETE OF THE YEAR AWARD is presented annually to the athletes considered by the Beacon staff to have been the most outstanding in athletics during the year.

THE BIOLOGY RESEARCH AWARD is presented annually to the graduating senior who has demonstrated exceptional ability in a research project.

THE BIOLOGY DEPARTMENT SCHOLAR AWARD is presented annually to the graduating senior with the highest academic average.

THE BIOLOGICAL SOCIETY SOPHOMORE AWARD is presented annually to the sophomore major with the highest academic average.

THE BLOOD DONOR AWARD is presented annually to the women's dormitory, men's dormitory, and club with the highest percentage of participating students.

THE BRANDWENE AWARD in philosophy has been created by the family and friends of Mr. and Mrs. M. D. Brandwene. The award is given annually to a student who has demonstrated scholarly achievement in the Department of Philosophy. The student is selected by the faculty of this department.

THE PROFESSOR CATHERINE H. BONE AWARD is presented by the Chemistry Department to a graduating senior for academic excellence and chemistry proficiency.

THE PROFESSOR ALFRED W. BASTRESS AWARD is presented by the Chemistry Department to a graduating senior for proficiency in chemical research.

THE CHEMISTRY FRESHMAN AWARD is presented annually to the freshman major with the highest scholastic average.

THE W. F. DOBSON AWARD IN ACCOUNTING is presented annually to the graduate who has made the most outstanding record in accounting during his four years at the College.

THE J. J. EBERS MEMORIAL AWARD is presented by the Institute of Electric and Electronic Engineers to the electrical engineering senior who, in the opinion of the Engineering Department, has demonstrated outstanding scholastic ability, professional interest, and leadership in the I.E.E.E. Student Branch at Wilkes.

THE ELECTRICAL ENGINEERING ACHIEVEMENT AWARD is presented by the faculty of the Engineering Department to the graduate who has demonstrated exceptional ability and maintained an excellent scholastic average in the field of electrical engineering.

THE ENGINEERING AWARD is presented annually to the graduate of the Engineering Department who has maintained an outstanding scholastic average, shown exceptional ability, and demonstrated professionalism throughout his or her college career.

THE ENGLISH AWARD is given annually in honor of Frank J. J. Davies, former chairperson of the Department of English, to an outstanding English major.

THE EARTH AND ENVIRONMENTAL SCIENCES ACADEMIC ACHIEVEMENT AWARD is given annually by the department faculty to an outstanding earth and environmental sciences graduating senior.

THE INTER-DORMITORY COUNCIL'S OUTSTANDING DOR-MITORY STUDENT AWARD is presented annually to the female and male dormitory students who have contributed most to dormitory life

THE JOHN F. KENNEDY MEMORIAL AWARD is presented annually to the student who has indicated outstanding achievement in the social sciences.

THE LETTERWOMEN'S SCHOLARSHIP AWARD is presented annually to the woman who has been most outstanding in women's athletics.

THE MATERIALS ENGINEERING ACHIEVEMENT AWARD is presented by the faculty of the Engineering Department to the grad-

uate who has demonstrated exceptional ability and maintained an excellent scholastic average in the field of materials engineering.

THE MATHEMATICS AWARD is presented annually to the senior who, in the opinion of the mathematics faculty, has done the most outstanding work in the fulfillment of the major requirements in mathematics.

DEPARTMENT OF NURSING AWARD is presented annually to two students in nursing who have the highest academic achievement during their four years at the College and the most outstanding scholastic average in nursing.

POLITICAL SCIENCE AWARD is presented annually to the senior political science major who has demonstrated proficiency in the social sciences and who has contributed significant services to the College and community.

THE PENNSYLVANIA INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS AWARD is presented annually to a graduating senior who has received high grades in accounting and demonstrated qualities of leadership in other activities.

PHI SIGMA TAU. Membership in Phi Sigma Tau, the national honor society in philosophy, is awarded each year to qualified students who have demonstrated excellence in scholarship and philosophical inquiry.

THE PHILOSOPHY DEPARTMENT AWARD is presented annually in memory of Stanko M. Vujica to the student beginning the study of philosophy who shows the greatest promise in and potential for continued achievement in philosophy.

THE PHYSICS AWARD is presented annually to the graduate of the department who has maintained throughout his or her college career the highest average in physics courses.

THE WILKES COLLEGE CLUB OF THE SIGMA XI annually recognizes those seniors who have demonstrated research excellence.

THE WILKES COLLEGE THEATER AWARD is presented annually to the senior who has contributed significantly to the development of the theater.



Chase Hall on South River Street houses the Admissions office.

The Facilities of the College

Buildings and Plant



Dorothy Dickson Darte Hall and Center for the Performing Arts

The College is constantly seeking to implement and improve its facilities for instruction. A growing campus provides added classrooms, modern laboratories, and research facilities.

Eugene Shedden Farley Library

The library, completed in the summer of 1968, has been named by the Trustees in honor of Dr. Eugene Shedden Farley, first president of Wilkes College.

From 1947 to 1968 Kirby Hall, the former residence of Mr. and Mrs. Fred Morgan Kirby, was used as the College library. The building, first named the Kirby Home for Education, was presented to the College in 1941 as a gift of Allan Kirby, son of Wilkes-Barre's most generous benefactors. It is occupied presently by the English and Foreign Languages and Literatures department. The language laboratory (initiated by a gift of the graduating class of 1962), the Debate Union, and the Manuscript Society are also located there.

The Eugene Shedden Farley Library occupies the northwest corner of West South and South Franklin Streets. The four floors contain student study carrels; faculty research offices; media and microforms; special collection rooms. One room is devoted to Polish art treasures and exhibits of craftsmanship furnished by the Women's Committee for the Polish Room at Wilkes College; another contains books and papers from the estate of Attorney Gilbert McClintock; another holds memorabilia presented by Admiral Harold Stark; and there is a room dedicated in memory of Eleanor Coates Farley.

Library space has been provided for 300,000 volumes and study area for 500 students. Also, students may borrow books from twelve nearby libraries (public and private) through the interlibrary loan system.

Stark Hall of Science

The Departments of Biology, Chemistry, and Physics are housed in Stark Hall of Science, named in honor of the late Admiral Harold R. Stark, former Chief of Naval Operations and former Honorary Chairman of the Board of Trustees of the College. This building was completed in 1958 and enlarged in 1963, so that it now provides approximately 85,000 square feet of modern classroom, laboratory, and office space. Complete facilities are included for undergraduate instruction and student research in all departments, and for graduate study in biology, chemistry, and in physics.

In addition to the usual instructional facilities, faculty, graduate students, and selected undergraduate students conduct research programs, many with industrial or governmental financial support.

Outside sponsors of recent research programs included the National Science Foundation, the Pennsylvania Heart Association, the National Institutes of Health, the United States Air Force, the Petroleum Research Fund of the American Chemical Society, and numerous private industries and individuals.

Stark Learning Center

A new \$7,000,000 Stark Learning Center connects with the Hall of Science. This facility provides classrooms, laboratory space, staff offices and studios for the programs in electrical and materials engineering, earth and environmental sciences, art, mathematics-computer science, nursing, and psychology.

Also located in the Learning Center is the Computer Center. The facilities and services of the Computer are available to students and faculty who are involved in computer programming, research, and large-scale problem-solving.

Sordoni Art Gallery

The Sordoni Art Gallery, given to Wilkes College by The Andrew J. Sordoni Foundation, Inc., to encourage the appreciation of art, is located in the Stark Learning Center on South River Street. The main purpose of this professionally equipped gallery is to present art exhibitions of a professional caliber to enrich the lives of both the Wilkes College community and the people of Northeastern Pennsylvania.

Dorothy Dickson Darte Center for the Performing Arts

A fully equipped, 500-seat theater is the gift of Dorothy Dickson Darte. The site, with a view of the Susquehanna River and Kirby Park, was deeded to the College by the Wyoming Valley Society of Arts and Sciences.

Until 1965, theatrical activity was in Chase Theater, formerly the carriage house behind Chase Hall, presented to the College in 1937 by Admiral and Mrs. Harold R. Stark as a memorial to Fred M. Chase and his wife, the sister of Admiral Stark.

The College, in cooperation with the Wilkes-Barre Kiwanis Club, has presented a variety of theatrical productions, the proceeds from which have assisted in the establishment of the Wilkes-Barre Kiwanis Charitable Foundation.

Faculty offices, studios, practice, and rehearsal rooms are located in the music center opened in the summer of 1969. This facility is integrated with the Center for the Performing Arts, completed in the fall of 1965.

The band and the choruses present concerts locally and on tour. The Department of Music has been host to Pennsylvania Collegiate Choral Festivals and Pennsylvania Intercollegiate Band Festivals. Nationally known music educators, clinicians, and performers have participated in workshop and classroom activities. Throughout the year solo recitals and ensemble concerts are presented by students and faculty before audiences from the College and the community.

Conyngham Gallery

The art club holds its annual Art Fair in the Conyngham Gallery, where the works of students and of local and professional artists are shown. The public is invited to the displays and exhibits. Opportunities are offered to the students to enter their works in local and regional competition.

Gymnasium and Outdoor Athletic Plant

Completed in September of 1950, the Gymnasium is well equipped for intramural and intercollegiate athletic events. It has a seating capacity of 2400. Recently, the College added modern training room facilities off campus adjacent to Kirby Park. Here also are located Ralston Field, named in honor of Wilkes' first athletic coach and present Dean of Student Affairs, and the playing fields for soccer, baseball, and hockey, as well as asphalt tennis courts and an archery range. All students are invited by the Jewish Community Center, on South River Street, and the YM-YWCA, on South Franklin Street, to use their swimming pools and bowling alleys. During the 1973 football season the Robert J. McBride Field House was dedicated at Ralston Field.

Guidance Center

The College maintains a testing center to assist the deans in their counseling of students. The College Testing Service is available at no charge to all Wilkes students and, for a fee, to members of the community. The testing center also provides assistance to the State Bureau of Rehabilitation and other agencies. The Guidance Center, on South River Street, was the law offices of the late Gilbert S. McClintock, the first Chairman of the Board of Trustees.

Career Planning and Placement Office

The Career Planning and Placement Office assists seniors in finding permanent employment in positions suitable to their talents and training. It also extends such assistance to any graduate of the College. The Office also assists students in securing part-time employment during the school year and during the summer.

To aid students in choosing an occupational goal, a Careers Library is available for browsing. The Library includes a large amount of occupational information, both printed and audio-visual, on a wide variety of careers, as well as self-directed materials for occupational aptitude exploration, company literature, and graduate school information.

Comfortable quarters are provided for representatives from industry, school systems, and from graduate schools to interview and discuss with students opportunities available to them.

All students seeking employment are invited to register with the Career Planning and Placement Office.

Full credentials are on file so that prospective employers may be given adequate information regarding the student.

Credentials and recommendations from faculty members are submitted to the office upon the request of either the student or the Career Planning and Placement Office.

The Career Planning and Placement Office is located in the Guidance Center, on South River Street, next to McClintock Hall. The Careers Library is located in the building behind the Guidance Center.

The Bookstore

Books, stationery, and supplies may be purchased at the College Bookstore in the lower level of Pickering Hall. The bookstore is operated on a cash basis. (The cost of books and supplies will vary with the course of study, but will average approximately \$75 to \$150 per semester.)

Student Union Building (S.U.B.)

The Student Union Building is a multi-functional unit available to clubs and organizations for student activity and for relaxation.

The Commons

The Commons, facing South Street, provides cafeteria service for commuting students and includes a lounge and recreation area.

Snack Bar

Cafeteria service is also provided at the College Snack Bar, behind Parrish Hall.

Offices of Administration

Chase Hall, 184 South River Street, the first building on the campus, was donated in 1937 by Admiral and Mrs. Harold R. Stark. On the first floor are the Dean of Admissions and the Director of Financial Aid.

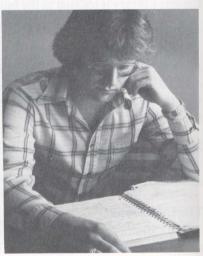
Weckesser Hall, 170 South Franklin Street, is the gift of Mr. and Mrs. Frederick J. Weckesser. The President, the Provost, and the Dean of External Affairs have their offices in Weckesser Hall. Also in Weckesser Hall are the Deans of Student Affairs, the Director of Athletics, the Alumni Office, the Public Relations Office, the Office of College Development.

Parrish Hall, formerly the Glen Alden Building of the Lehigh and Wilkes-Barre Coal Company, was acquired in 1958. The following offices are located at Parrish Hall: Finance Office, Business Office, Registrar's Office, Recorder's Office, and the Division of Continuing Education and Graduate Studies.

Pickering Hall, constructed in 1965, is the location of the Housing Office.

The Annette Evans Faculty and Alumni House, South River Street, is the home of the first president of the College. It currently provides space for alumni and faculty meetings and contains the offices of the Dean of Health Sciences and the Dean of Special Programs.





The Academic Program

Undergraduate Programs

Academic Requirements

Academic Majors and

Course Descriptions



Undergraduate Degree Programs

Degree programs have been carefully designed so that students may meet the entrance requirements of graduate and professional schools. Students planning to go to graduate school should consult as early as possible with their department chairperson. In the Bachelor of Arts and Bachelor of Science degree programs the faculty encourages students to achieve intellectual, social, and spiritual development.

Bachelor of Arts Degree

Programs leading to the Bachelor of Arts degree are primarily concerned with the cultivation of an understanding of our civilization and of the people who have created it and lived in it. Studies center around cultures and events, thoughts and institutions, art and science. Programs are designed to create breadth and perspective as opposed to more specialized skills.

A liberal arts program must acquaint the student with the nature and extent of knowledge in all the principal fields. The student will carry on explorations in the humanities, social sciences, and sciences.

Selection of a Major

To provide depth of knowledge, some concentration is required. It is essential that the major field of concentration be elected before the beginning of the junior year.

Majors in the Bachelor of Arts degree program may be selected from the following subject areas:

Art	English	Music
Biology	Foreign Languages:	Philosophy
Business Education	French	Physics
Chemistry	German	Political Science
Computer Science	Spanish	Psychology
Earth and	History	Social Science/
Environmental Sciences	Individualized Studies	Urban Affairs
Economics	International Relations	Sociology -
Elementary Education	Mathematics	Anthropology

Bachelor of Science Degree

The Bachelor of Science degree programs require more concentration within a restricted area of human thought and activity. Although these programs emphasize knowledge and skill in special fields, a basic program of general education is coupled with this specialized effort.

Selection of a Major

Majors in the Bachelor of Science degree program may be selected from the following subject areas:

Engineering Mathematics Medical Technology Music Education Nursing Physics

Double Major

Students who wish to complete the requirements in two programs may elect to graduate with a double major. The student must declare intent to graduate with a double major by completing the appropriate form available at the Registrar's Office. It is the student's responsibility to seek the approval of the chairpersons of both departments to ensure that all requirements of the two majors are fulfilled.

Academic Requirements

Grades

The primary purpose of any marking system is to inform the student of his achievement. Marks also aid in evaluating students for the purpose of recommendation. Grade reports are sent to students at the end of each term. Mid-term reports are sent if the work is unsatisfactory.

Eight numerical grades are given for academic work.

Grade	Interpretation
4.0	. Academic achievement of outstanding quality Academic achievement above high quality.
3.0	Academic achievement of high quality. Academic achievement above acceptable quality in
	meeting requirements for graduation. Academic achievement of acceptable quality in meeting requirements for graduation.
	. Academic achievement above the minimum quality required for credit.
	. Academic achievement of minimum quality required for credit.
0.0	. Academic achievement below the minimum required for course credit.
	. Passing, no credit.
N	Audit, no credit.

Course Credits

Each course at the College is assigned a specific number of credits. For example, English 101 is a 3-credit course and Chemistry 201 is a 4-credit course. Usually, credits assigned to the course are determined by the number of hours that the class meets per week.

Below is an example illustrating the method used to compute point averages.

Course Bio. 101	Credit Hrs. Carried	Grade	Points	Credit Hrs. Passed
Eng. 101		0	0	0
Fr. 101		2.5	7.5	3
Hist. 101	3	1.5	4.5	3
Mus. 101		3	9	3
Total credit hours passed .				12
Total points earned Average $33 \div 15 = 2.20$			33	

Notice that the student has accumulated 12 credits toward graduation. The zero grade in English means that the student must repeat that course.

Averages are cumulative; the work of each semester will be added to the total. To graduate a student must have at the end of the senior year at least a 2.00 average for all courses and a 2.00 average in the major field.

Transfer credits are not included in the calculation of grade averages.

Class Standing

Grades and averages at the end of each semester of the four academic years indicate a student's progress. Unless the following minimum averages are met, a student's record is automatically reviewed by the Academic Standing Committee.

Freshman Vear	General Average	Major Average
Freshman Year	1.60	1.60
Sophomore Year.	1.90	1.90
Junior Year	2.00	2.00

If these minimum averages are not attained during each semester of the year indicated, the Academic Standing Committee will review the student's record and take action resulting in the student's being placed on probation or dismissed from the College.

Probation and Dismissal

A student placed on probation must attain the required grade average in the next semester or be subject to dismissal from the College.

Unless special permission is granted by the Academic Standing Committee, a student dropped for academic failure will not be considered for readmission until one year after being dropped.

If readmitted the student will still be on probation and shall be given one semester in which to prove his or her ability to continue in college.



- 2. They must obtain a minimum cumulative average of 2.00 for all courses.
- 3. They must obtain a minimum cumulative average of 2.00 for all subjects within their major.
- 4. They must satisfy all requirements pertaining to the physical education program.
- 5. They must demonstrate competence in written and spoken English.

It is the student's responsibility to meet graduation requirements.

No student shall be graduated until all financial obligations to the College have been satisfied.

B.A. and B.S. Degree Program Requirements

The following pages describe specific courses and requirements for each degree major. The student is responsible for meeting the requirements of his or her major program.

A candidate for graduation during the senior year should report during the first week in January to the Office of the Registrar to submit an order for a diploma, review requirements for a degree, and complete other necessary forms required of candidates for degrees.

Second Degree

Students who hold a degree from this or another accredited institution may be awarded a second baccalaureate degree in certain circumstances. One of the degrees must have a major in Commerce and Finance, Engineering, Music Education, or Nursing. Candidates for a second degree must earn at least thirty credits beyond those completed for the first degree; these thirty credits must be earned at Wilkes College.

General Core Requirements

The General Core Requirements consist of a broad spectrum of courses in the liberal arts and sciences. These courses, which are central in a liberal arts education, are required of all Wilkes College students in both the B.A. and B.S. programs except the B.S. programs in Engineering, Medical Technology, Music Education, Nursing, and Physics.

The General Core Requirements for all programs in the Bulletin are listed as "core elective" except English 101-102 and Physical Education 100, 105-106, which are specifically designated.

Required General Core Courses	Credit Hours
English 101-102	DOWNER OF BUILDING
Physical Education 105-106	6
Physical Education 100	2
Art 101 or Music 101 or Theater Arts 101	0
Distribution Areas	3
Humanities	
Any three of the following four six-hour sequences: English 151-152	18
History 101-102	

of the student. Science/Mathematics

Any two of the following five departmental sequences: Biology 101-102 or other courses with permission of Biology

Department.

Chemistry 101-102, 105-230, 201-202 or other courses with per-

Philosophy 101 or 201, and one additional course in philosophy

Foreign Languages 101-102 or 203-204 or at the competence level

mission of Chemistry Department.

Earth and Environmental Sciences — any two courses of the set

101 through 105, or other courses with the prior permission of Earth and Environmental Sciences Department.

Mathematics and Computer Science — any two courses in

mathematics or computer science with the exception that Mathematics 100 must be followed by Mathematics 105 or Mathematics 111.

Physics 101-102, 105-106, 201-202 or other courses with permission of Physics Department.

Social Sciences

Any two of the following four departmental sequences:

Psychology 101-102 or other courses with permission of Psychology Department.

Economics 101-102, 227-228, and other courses with permission of Commerce and Finance Department.

Political Science 101-102 or other courses with permission of Political Science Department.

Anthropology 101 (an upper level anthropology course may be substituted by permission of the department) and Sociology 101 (an upper level sociology course may be substituted by permission of the Sociology and Anthropology Department). Sociology 101 may be taken prior to Anthropology 101.

Total 53-57

12

Individual exceptions to the foregoing core must be approved by the Academic Standing Committee after consultation with the departments involved, the student, and the student's adviser.

Course Requirements in the Majors Anthropology

(see Sociology and Anthropology)

Associate Professor Sterling, chairperson; Professor Colson; Associate Professor D'Vorzon; Assistant Professors Fuller, Maxwell, Simon; Adjunct Professor Richards.

Students who major in art must complete a minimum of 41 credits in art. The following courses are required (with the recommended semester sequence):

First Semester—Art 201; Second Semester—Art 202, 208; Third Semester—Art 215, 220; Fourth Semester-Art 216, 221; Fifth Semester-Art 225, 233; Sixth Semester-Art 218; Seventh Semester-Art 252; in addition, one course in Art 241, 243, or 248; one 300-level art course; one free art elective.

Students seeking certification in Art Education (K-12) are required to take the following minimum program, resulting in a double major of art and education:

	SECOND SEMESTER	
3	Art 202	3
3	Art 208	3
3	Eng. 102	
6	Psy. 102	3
0	Core electives	6
1	P.E. 100	0
16		18
	FOURTH SEMESTER	
3	Art 216	3
3	Art 221	3
1/2	Ed. 102	1/2
3	Ed. 202	3
3	Phil. 216	3
3		3
0		0
1000	P.E. 106	1011
151/2		161/2
	SIXTH SEMESTER	0
3		3 3 3
3		3
		6
6	Core electives	
15		15
	EIGHTH SEMESTER	7.
15	Art 252	2
		2 3 3 5
		3
	Electives	
15		13
	3 3 6 0 1 1 16 3 3 3 7/2 3 3 3 0 15/2 15	3

Total minimum credits required for B.A. degree in Art — 124.

ART 101. EXPERIENCING ART I

Lectures and discussion on the elements of art and the forerunners of modern and contemporary art. Two and three dimensional studio work is explored through the creative process in a variety of media.

ART 102. EXPERIENCING ART II

A continuation of Art 101. Prerequisite: Art 101.

ART 201. FUNDAMENTALS OF COLOR AND DESIGN I A fundamentals course for all art majors involving the basic elements of design and the study of color systems including their physical, psychological, and sociological proper-

ART 202. DRAWING AND COMPOSITION An introductory course exploring the organization and potential of line, space, and texture through a variety of media and subject matter, including still life and figure draw-

ART 208. FUNDAMENTALS OF COLOR AND DESIGN II A continuation of Fundamentals of Color and Design I with a concentration on the similarities and differences between two and three dimensional design.

Prerequisite: Art 201. ART 215. HISTORY OF ART 1 A survey of the history of architecture, sculpture, and painting from the prehistoric

period through the Gothic era. ART 216. HISTORY OF ART II Three credits A survey of the history of architecture, sculpture, and painting from the Renaissance

through the nineteenth century. ART 218. HISTORY OF MODERN ART A survey of the development of architecture, sculpture, and painting from the late nine-

teenth century to the present. ART 220. LIFE DRAWING

Advanced study and research for art majors in the development of drawing skills using the live model. Prerequisite: Art 202 or permission of instructor.

ART 221. PAINTING I

Three credits An introduction to painting methods, techniques, and materials. Emphasis on the organization of composition and painting techniques. Prerequisite: Art 202 and 208, or permission of instructor.

ART 225. PRINTMAKING I Three credits An introduction of relief, intaglio, and planographic techniques including block printing, etching, lithography, and silk screen. Prerequisite: Art 202 and 208, or permission of instructor.

ART 228. WATER COLOR PAINTING Three credits An exploration into painting methods of transparent and opaque paints involving still life, landscape, and a wide range of other subject matter.

Prerequisite: Art 202 and 208, or permission of instructor. ART 233. SCULPTURE I

Three credits

An introductory course into the basic concepts of three dimensional form and space. Modeling in clay from life; casting and direct building techniques in plaster; basic carving experiences in stone and wood.

ART 241. METALWORK AND JEWELRY Three credits A course in basic metalwork, enameling, and jewelry techniques and design. Lecture, two hours; studio, two hours

Prerequisite: Art 202 and 208, or permission of instructor.

Three credits

Exploration into the basic methods and techniques of hand building and wheel work. Experimentation in surfaces decoration, glazing, and kiln firing.

Three credits

An exploration of both traditional and contemporary methods of the batik process of fabric enhancement. Three credits ART 248. FIBER I

basic weaving processes.

An introduction to the techniques and aesthetic uses of fiber in its single element and

ART 252. CONTEMPORARY DESIGN A study of contemporary design in advertising, graphics, industrial design, architecture,

and landscaping. Prerequisite: Art 202 and 208, or permission of instructor.

ART 260. ART IN THE ELEMENTARY CLASSROOM An exploration of common situations in elementary education to discover the oppor-

tunities for creative work and the methods and materials by which they may be realized. An extension of personal experience with a variety of arts and crafts materials and processes used by children.

ART 270. PHOTOGRAPHY I

Three credits

An introduction to the fundamentals of photography; camera usage, subject consideration, lighting, darkroom techniques, and the preparing of photographs for exhibit.

ART 310. TOPICS IN ART HISTORY

One to three credits

Special topics in the history, theory, and criticism of the visual arts.

Three credits ART 316. HISTORY OF ITALIAN RENAISSANCE ART A study of Italian art and architecture from the beginning of the 14th century to the end of the 16th century.

ART 325. PAINTING II

Increased emphasis on development of style and experimentation in contemporary art methods and techniques. Prerequisite: Art 221.

Three credits

ART 328. PRINTMAKING II Individual experimentation using plastics, photographic techniques in silk screen, lithography, and intaglio, as well as traditional methods.

Prerequisite: Art 225.

Three credits

ART 333. SCULPTURE II An exploration into metal sculpture employing gas and electric welding processes; plastics. Advanced work in carving, construction, and assemblage in various media. Prerequisite: Art 233 or permission of instructor.

ART 344. CERAMICS II

Three credits

Advanced work in both hand-built and wheel-thrown ceramics.

Prerequisite: Art 243.

Three credits

ART 348. FIBER II Advanced study of weaving processes using a variety of loom structures. Prerequisite: Art 248.

ART 380. TOPICS IN STUDIO ART

One to three credits

Special topics in various studio disciplines.

ART 395-396. INDEPENDENT RESEARCH

One to three credits

Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

Prerequisite: Approval of department chairperson is required.

ART 397. SEMINAR (Maximum of three credits per student) One to three credits Presentations and discussions of selected topics.

Prerequisite: Permission of department chairperson is required.

Biology

Associate Professor Turoczi, chairperson; Professor Reif; Associate Professors Hayes, Houseknecht, Ogren; Assistant Professors Doty, Erickson, Rigley.

The biology program is a general program covering basic areas of biology. Specific pre-professional training is minimized in favor of the broadest possible background in the liberal arts as well as the biological sciences.

The B.A. curriculum offers flexibility so that those students in secondary education who are preparing to teach can include the professional semester of student teaching either in the seventh or eighth semester. In addition, this program provides the opportunity for students to double major and jointly satisfy the requirements of both the Department of Biology as well as those of the other department in-

The B.S. curriculum meets all of the liberal arts requirements for the Bachelor of Arts degree. In addition, it provides a greater concentration of advanced biology courses. This program is recommended for those students planning to enter industry or continue with graduate study in biology.

In order to emphasize the broadening aspects of biological knowledge, the department has established categories of specific biological fields from which the student must achieve reasonable diversity in the selection of upper-level courses. The four categories are (1) botanical biology, (2) organismic biology, (3) populational biology, and (4) molecular/cellular biology. The B.A. major is required to take one 300-level course from each of the above named four categories; the B.S. major must take one 300-level course from each of the four categories and additionally select any two courses from those same categories.

Courses within the four categories are constituted as follows:

- (1) Botanical Bio. 301, 316, 385
- (2) Organismic Bio. 303, 304, 305, 310, 313
- (3) Populational Bio. 309, 311, 340, 360
- (4) Molecular/Cellular Bio. 302, 306, 307, 308, 312, 315

FIRST SEME	STER		SECOND SEM	ESTER	
TINOT OLIVIE	B.A.	B.S.		B.A.	B.S.
Bio. 201-202	5	5	Bio. 203-204	5	5
Chem. 201	4	4	Chem. 202	4	4
Eng. 101	3	3	Eng. 102	3	3
Math. 105	4	4	Math. 106	4	4
P.E. 100	Ó	0	P.E. 100	0	0
	16	16		16	16
THIRD SEMI	ESTER		FOURTH SEM		0.0
	B.A.	B.S.		B.A.	B.S.
Bio. 205-206	5	5	Bio. 207-208	5	5
Chem. 237	4	4	Chem. 238	4	4
Core Electives	6	6	Core Electives	6	6
P.E. 105	1	1 1	P.E. 106	1	1
P.E. 100	0	0	P.E. 100	0	0
	16	16		16	16
			Streigt Waterdeningskipp	के का ब्रा	
FIFTH SEM	ESTER		SIXTH SEM		0.0
	B.A.	B.S.		B.A.	B.S.
Bio. 397*	1	1	Bio. 397*	1	1
Bio. Elective/Research	3	6	Bio. Elective/Research	3	6
Phys. 105	4	4	Phys. 106	4	4
Core Elective	6	3	Core Elective	6	3
Elective	3	-	Elective	3	_
Math. 150	OF THE	3	C.S. 123	3008, 250	3
	16-17	16-17		16-17	16-17
			EIGHTH SEM	AESTER	
SEVENTH SE			EIGHTH SE	B.A.	B.S.
ONLY OF AMERICA PROPERTY.	B.A.	B.S.	Bio. Elective/Research	3	3
Bio. Elective/Research	3	3	Core Electives	3	9
Core Electives	6	6		9	3
Electives	6	6	Electives	15	15
	15	15		15	15

Note: A standardized examination is administered upon completion of the eight modules (201 through 208) at the end of the fourth semester to all majors in the Department of Biology.

Total credits required for either B.A. or B.S. degree with major in Biology — 127.

BIO. 101-102. BIOLOGICAL SCIENCE

Fee: \$15.

Three credits each

Four credits

Biological Science is a survey course intended for students who take no other course in biology. It presents the essential general information about plants and animals, explains fundamental laws governing the biological world, and emphasizes their relationship to man. Class, three hours a week.

BIO. 113. MICROBIOLOGY

This course presents the basic principles of bacteriology and the relationship of microorganisms to disease and its prevention, control, and treatment. It considers the effects of microbes within the body and the body's reaction to them. Lecture, three hours a week; laboratory, three hours a week. Fee: \$20.

BIO. 115-116. HUMAN ANATOMY AND PHYSIOLOGY Four credits each This course provides a general study of the human body, its structure and normal function. It provides an appreciation of the complex nature of the human body with relation to the promotion of a healthy organism. Lecture, three hours a week; laboratory, three hours a week. Fee: \$20 each course.

BIO. 201. PRINCIPLES OF MODERN BIOLOGY Two and one-half credits
This course provides an introduction to the basic physical and biochemical properties of
life, and a survey of representative plant and animal types. Fee: \$15.

BIO. 202. CHORDATE ANATOMY

Two and one-half credits
This course is a study of the principle organ systems of representative chordates. Evolution and taxonomy of the phylum Chordata are emphasized. Fee: \$15.

BIO. 203. EMBRYOLOGY

Two and one-half credits
Embryology is the study of the early development of animals. Growth is traced from the
egg to later stages in the life of the frog, chick, and man. Fee: \$15.

BIO. 204. HISTOLOGY

Two and one-half credits
Histology is the study of tissues and the arrangement of tissues to form organs and
organ systems. The material included in this course is restricted to vertebrate structures.

BIO. 205. GENETICS Two and one-half credits
Genetics is the study of the inheritance of normal characters and the variation of these characters in plants and animals. Fee: \$15.

BIO. 206. GENERAL PHYSIOLOGY

Two and one-half credits
Physiology is the study of the physical and chemical activities of all living organisms.
Fee: \$15.

BIO. 207. MICROBIOLOGY

Two and one-half credits

Microbiology is the scientific study of micro-organisms. The fundamental characteristics of procaryotes and eucaryotes are discussed. Biology of viruses and principles of infection and immunity are included. Fee: \$15.

BIO. 208. ECOLOGY

Two and one-half credits

Ecology is the study of the interrelationships between organisms, singly and collectively, and their environment. Fee: \$15.

BIO. 301. GENERAL BOTANY

Three credits

This course in Botany presents a broad survey of the major divisions of the plant kingdom (excluding bacteria and fungi), from the standpoints of classification, habitat, life
cycles, structure, development, evolution, and physiology. Emphasis is placed on the
higher land plants. Lecture, two hours a week; laboratory, three hours a week. Fee: \$15.

BIO. 302. ENDOCRINOLOGY

Endocrinology is a study of the endocrine system and its secretions. The roles of hormonal integration in the regulation and coordination of life processes and functions are

^{*} Only one semester of Bio. 397 is required but it must be taken in either the fifth or sixth semester.

Prerequisite: Bio. 201-208, or permission of instructor.

BIO. 303. BACTERIOLOGY

Bio. 303 is a general introductory course covering the morphology and growth of bacteria, sterilization, and applied uses of bacteria. The laboratory work covers techniques of staining, culturing, and biochemical testing for the identification of bacteria. Lecture, two hours a week; laboratory, three hours a week. Fee: \$20.

Prerequisite: Bio. 201-208, or permission of instructor.

BIO. 304. LIFE OF THE VERTEBRATES

Three credits

This course presents a view of chordate animals with particular emphasis on the natural history, evolution, and classification of these forms. Lecture, two hours; laboratory, three hours a week. Fee: \$20.

Prerequisite: Bio. 201-208, or permission of instructor.

BIO. 305. INVERTEBRATE BIOLOGY

Three credits

This course is a study of the major invertebrate phyla with respect to their taxonomy, evolution, morphology, physiology, and ecology. Fee: \$20.

Prerequisite: Bio. 201-208, or permission of instructor.

BIO. 306. NEUROBIOLOGY

This course is a study of the functional aspects of excitable cells and nervous systems of living animals. Laboratory includes techniques in the stimulation and recording of excitable cells and organs. Fee: \$20.

Prerequisite: Bio. 201-208, or permission of instructor.

BIO. 307. ANALYTICAL CYTOLOGY

This course presents an experimental analysis of cell structure, organelles, chemistry, and activities by means of microscopic techniques, and instrumentation. Fee: \$20. Prerequisite: Bio. 201-208, or permission of instructor.

BIO. 308. ADVANCED GENETICS

Three credits

This course is a study of plant and animal genetic systems with respect to contemporary literature, techniques, and modes of analysis. Fee: \$20.

Prerequisite: Bio. 201-208, or permission of instructor.

BIO. 309. EVOLUTION

Evolution is the study of living things with time. Theories relating to the origin of life, natural selection, and speciation as processes of organic evolution are emphasized. Lecture, two hours; laboratory, three hours a week. Fee: \$20.

Prerequisite: Bio. 201-208, or permission of instructor.

BIO. 310. ANIMAL BEHAVIOR

Three credits

Animal Behavior is a course emphasizing behavior as the response of an organism to physical and social environmental change, and covering the processes that determine when changes in behavior occur and what form the changes take. Laboratories, using local fauna, demonstrate principles discussed in lecture. Lecture, two hours; laboratory, three hours a week. Fee: \$20.

Prerequisite: Bio. 201-208, or permission of instructor.

BIO. 311. POPULATION AND COMMUNITY ECOLOGY

Three credits

This course is a study of populations and communities as living systems integrated with their environments. Field investigations of local plant and animal assemblages constitute a major portion of the course. Lecture, two hours; laboratory, three hours a week. Fee: \$20.

Prerequisite: Bio. 201-208, or permission of instructor.

BIO. 312. COMPARATIVE PHYSIOLOGY

Three credits

Comparative Physiology provides an extensive consideration of the physiology of organs and organ systems in comparative animal forms. Emphasis is placed on the similarities and differences in which related and/or divergent forms have solved various physiological problems. Lecture, two hours; laboratory, three hours a week. Fee: \$20. Prerequisite: Bio. 201-208, or permission of instructor.

BIO. 313. PARASITOLOGY

Parasitology is the study of organisms that live on or within other organisms and the relationship of these organisms to their hosts. This course deals with the common parasites that infect man and other animals. Lecture, two hours; laboratory, three hours a week. Fee: \$20.

BIO. 315. MOLECULAR BIOLOGY

Molecular Biology is the study of the energetics, metabolism, and biochemical aspects of living systems. A general biochemical presentation will be provided with reference to proteins, carbohydrates, and lipids with extensive coverage of molecular genetics. Lecture, three hours a week. Fee: \$20.

Prerequisite: Bio. 201-208, Chem. 237-238, or permission of instructor.

BIO. 316. PLANT PHYSIOLOGY

Three credits

This course will provide a strong correlation between plant structural and functional considerations in a general phylogenetic context. Laboratory activities will expand upon techniques developed in other physiology courses. Lecture, two hours; laboratory, three hours. Fee: \$20.

Prerequisite: Bio. 201-208, or permission of instructor.

BIO. 340. LIMNOLOGY

A study of the chemical, physical, and biological aspects of freshwater systems. Laboratory investigations will consist of in-depth analyses of local lakes and streams. Lecture, two hours; laboratory, three hours. Fee: \$20.

Prerequisite: Bio. 201-208, or permission of instructor

BIO. 360. OCEAN SCIENCE

A study of the fundamentals of oceanography, including physical, chemical, and bio-Three credits logical aspects. Intended for science majors. Three lectures a week.

Prerequisite: Bio. 201-208, or permission of instructor.

BIO. 385. FLORISTIC BIOLOGY

This is a specialized summertime field course which emphasizes a taxonomic, phylogenetic, and ecological survey of higher plants indigenous to Northeastern Pennsylvania. Due to the extensive field work, enrollment is somewhat more restricted than in other courses; therefore, written permission from the instructor is the prime prerequisite of those upperclassmen wishing to register for the course.

BIO. 395-396. INDEPENDENT RESEARCH

This course involves independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

Prerequisite: Approval of department chairperson is required.

BIO. 397. SEMINAR

One credit

Presentations and discussions of selected topics.

Prerequisite: Approval of department chairperson is required.

Three credits

A study of topics of special interest not extensively treated in regularly offered courses.

Elective

The chemistry curriculum is planned to provide thorough training in the fundamentals of the science and to contribute to the general education of the student. Graduates with a B.S. degree may enter industry immediately upon graduation or may continue their studies in graduate school. The B.A. degree is designed for the student interested in a major in chemistry in preparation for a career in teaching, medicine, dentistry, technical sales, technical librarianship, technical translator, etc. The student will choose electives after consultation with his adviser.

Wilkes is approved by the American Chemical Society for the professional training of chemists. Students who complete the B.S. program may be certified for full membership in the Society at graduation.

	EMECTED		SECOND S	SEMESTER	
FIRSTS	EMESTER	الخاشيست		B.A.	B.S.
	B.A.	B.S.	Oham 202	4	4
Chem. 201	4	4	Chem. 202	3	3
Eng. 101	3	3	Eng. 102	1	4
Math. 111	4	4	Math. 112	3	3
Core Elective	3	3	Core Elective	0	0
P.E. 100	0	0	P.E. 100	0	1
P.E. 105	1	1	P.E. 106	STORIL - LONGE	
P.E. 103	15	15		15	15
			FOURTH	SEMESTER	
THIRD	SEMESTER		1001111	B.A.	B.S.
	B.A.	B.S.	0.10	D.A.	4
Chem. 237	4	4	Chem. 212	4	4
Math. 211	4	4	Chem. 238	4	Α
Phys. 201	4	4	Math. 212	_	1
Core Elective	3	3	Phys. 202	4	0
	0	0	P.E. 100	0	1
P.E. 100		2	Core Flective	3	

Chemistry majors must demonstrate competence in a foreign language through the Foreign Language 204 level. No more than six credit hours may be counted in fulfillment of the core requirements.

Core Elective

FIFTHS	EMESTER		SIXTHS	SEMESTER	
	B.A.	B.S.		B.A.	B.S.
Chem. 221	4	4	Chem. 262	2	2
Chem. 341	4	4	Chem. 336	-	4
Phys. 203	3	3	Chem. 342		4
Core Electives	6	6	Core Electives	6	6
			Electives	9	-
	17	17		17	16
SEVENTH	SEMESTER		EIGHTH	SEMESTER	
	B.A.	B.S.		B.A.	B.S.
Chem. 261	1	1	Chem. 376	li ol n ei nubo	4
Chem. 397	1	1	Chem. 397	1	1
Core Electives	6	6	Core Electives	3	6
Electives ¹	9	9	Electives ¹	12	6
	17	17		16	17

Total credits required for B.A. degree with major in Chemistry—130. Total credits required for B.S. degree with major in Chemistry—131.

CHEM. 100. BASIC MATHEMATICS FOR INTRODUCTORY CHEMISTRY

No credit

A remedial course for students desiring an intensive survey of basic mathematical principles used in beginning chemistry courses. Topics include arithmetical operations, exponential notation, equations, graphing, logarithms, dimensional analysis, and the use of a slide rule. Fee: \$50.

CHEM. 101-102. CHEMICAL SCIENCE

Three credits each

Chemical Science is a course which will consider a variety of applications of chemistry in everyday life, This course is primarily intended for students who take no other chemistry courses. It does not provide prerequisite background for any advanced chemistry courses. Class, three hours a week.

Prerequisite for Chem. 102, Chem. 101, or permission of instructor.

CHEM. 105. INTRODUCTION TO CHEMICAL REACTIONS **AND PRINCIPLES**

Four credits

Three major areas of emphasis will be developed: descriptive inorganic chemistry; acids, bases, and buffers; and radiochemistry. These areas will include gas laws, oxidation-reduction, equilibrium, stoichiometry, the periodic table, and solutions. Not open to chemistry majors. Class, three hours a week; laboratory, three hours a week.

CHEM. 201. ELEMENTS AND COMPOUNDS

Emphasis is placed on the periodic table and stoichiometry, including chemical properties, physical states, and structure. Class, three hours a week; laboratory, three hours a week. Fee: \$20.

CHEM. 202. THE CHEMICAL REACTION

A detailed study of chemical equilibria in aqueous solution. Class, three hours a week; laboratory, three hours a week. Fee: \$20.

Prerequisite: Chem. 201.

¹ Electives must include at least one advanced chemistry course in Semester 7 or 8.

Prerequisite: Chem. 201, Engineering majors only.

CHEM. 212. SYSTEMATIC INORGANIC CHEMISTRY Four credits A systematic description of the chemistry of the elements based on fundamental chemical principles. Fundamental techniques of inorganic synthesis. Class, three hours a week; laboratory, three hours a week. Fee: \$20.

CHEM. 221. INORGANIC QUANTITATIVE ANALYSIS Four credits An introduction to the theory and practice of typical analyses: volumetric, gravimetric, and instrumental. Class, two hours a week; laboratory, six hours a week. Fee: \$30.

Prerequisite: Chem. 202, or permission of instructor.

Prerequisite: Chem. 202, or permission of instructor.

CHEM. 230. ORGANIC AND BIOLOGICAL CHEMISTRY Four credits An introduction to the structure and reactions of carbon compounds as a background for the study of interactions of biologically active compounds such as carbohydrates, proteins, and nucleic acids. Not open to chemistry majors. Lecture, three hours a week; laboratory, three hours a week. Fee: \$20.

Prerequisite: Chem. 105, Chem. 201, or equivalent.

CHEM. 237. ORGANIC CHEMISTRY I

An introduction to the chemistry of carbon compounds through the reactions of common functional groups in aliphatic, alicyclic, aromatic, and heterocyclic systems. Reaction pathways will be considered. Emphasis in laboratory will be placed on the development of fundamental techniques. Class, three hours a week; laboratory, three hours a week. Fee: \$20.

Prerequisite: Chem. 202, or permission of instructor.

CHEM. 238. ORGANIC CHEMISTRY II A continuation of Chem. 237. Class, three hours a week; laboratory, three hours a week. Fee: \$20.

Prerequisite: Chem. 237.

CHEM. 261. HISTORY OF CHEMISTRY

A study of chemistry in terms of the personalities responsible for its development. Class, one hour a week.

Prerequisite: Completion of twenty chemistry credits.

CHEM. 262. CHEMICAL LITERATURE Two credits

Discussion of the nature and use of the important sources of chemical information. Laboratory problems emphasize techniques of information retrieval from journals, abstracts, and other source material. Literature preparation for independent research (Chem. 395-396) is included. Class, one hour a week; library laboratory, three hours a

Prerequisite: Completion of twenty chemistry credits, or permission of instructor.

CHEM. 336. CHEMICAL STRUCTURE DETERMINATION A study of structure determination techniques used by the chemist with emphasis on the areas of organic, inorganic, and biochemistry. Techniques studied include nuclear magnetic resonance, infrared, ultraviolet-visible, and electron spin resonance spectroscopy. Electrophoresis, ion exchange chromatography, gelpermeation chromatography, and vapor pressure osmometry are also covered. Class, two hours a week; laboratory, six hours a week. Fee: \$30.

Prerequisite: Chem. 212, Chem. 238, or equivalent.

CHEM. 341. PHYSICAL CHEMISTRY I

The first and second laws of thermodynamics are developed, leading to an emphasis on the applications of the free energy concept: electrochemistry, the phase rule, and colligative properties. The quantum chemistry of some simple systems is studied. Chemical kinetics is introduced. Class, three hours a week; laboratory, three hours a week. Fee:

Prerequisite: Chem. 202, Math. 211, Phys. 203, or permission of instructor.

CHEM. 342. PHYSICAL CHEMISTRY II Theoretical kinetics, kinetic molecular theory, and nuclear chemistry are studied in detail. The molecular orbital theory and other approximate methods of quantum theory are developed. Statistical mechanics and surface chemistry are introduced. Class, three hours a week; laboratory, three hours a week. Fee: \$20. Prerequisite: Chem. 341, or permission of instructor.

CHEM. 376. ADVANCED ANALYTICAL CHEMISTRY The theory and application of modern techniques and instrumental procedures, such as spectrophotometric, electro-analytical, and chromatographic. Theory and practice of analysis of more complex materials. Class, two hours a week; laboratory, six hours a

Prerequisite: Chem. 342.

CHEM. 395-396. INDEPENDENT RESEARCH Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required. Cannot be taken for credit before the seventh semester but may be a continuation of work begun before the seventh semester. Fee: \$20. Prerequisite: Approval of department chairperson is required.

CHEM. 397. SEMINAR Presentations and discussions of selected topics in chemistry conducted by senior chemistry majors and the staff. All chemistry majors are invited to attend the meetings.

Prerequisite: Approval of department chairperson is required. CHEM. 398. TOPICS Three credits

A study of topics of special interest not extensively treated in regularly offered courses. CHEM. 401. APPLIED CHEMISTRY I Consideration will be given to a variety of applications of chemistry. Major areas of emphasis will include nuclear chemistry, food, drugs, energy, and home products. The course is intended primarily for students pursuing an advanced degree in education.

Prerequisite: Four semesters of college-level chemistry, or permission of instructor.

CHEM. 402. APPLIED CHEMISTRY II A continuation of Chem. 401. Class, three hours a week. Three credits Prerequisite: Chem. 401, or permission of instructor.

CHEM. 411. ADVANCED INORGANIC CHEMISTRY Introduction to ligand field theory; chemistry of the first transition series, organo-Three credits metallic, and acceptor compounds; mechanisms of inorganic reactions. Prerequisite: Chem. 342, or permission of instructor.

CHEM. 431-432. ADVANCED ORGANIC CHEMISTRY A detailed study of modern theories of mechanism and structure. Topics include nucleophilic and electrophilic substitution, elimination reactions, molecular rearrangements, carbonyl reactions, stereochemistry, kinetics. Class, three hours.

A detailed study of symmetry classifications, stereoisomerism, optical activity and conformational analysis, including related theory and experimental applications of ORD, CD, and NMR.

CHEM. 440. QUANTUM CHEMISTRY

The experimental foundations and the mathematical formulation of the quantum theory, including the quantum mechanics of simple systems, the hydrogen atom, and approximate methods. Group theory is introduced and the use of symmetry properties is applied to molecular orbital theory. Class, three hours.

Prerequisite: Chem. 342.

Three credits CHEM. 451. BIOCHEMISTRY I

A study of the physical and chemical properties of biological molecules with emphasis on enzyme kinetics, coenzymes, and various metabolic pathways. Class, three hours a week.

Prerequisite: Chem. 238, or equivalent. CHEM. 452. BIOCHEMISTRY II

Three credits

A study of metabolism with emphasis on metabolic regulation and regulated enzymes. Certain special topics such as photosynthesis may also be covered. Class, three hours a

Prerequisite: Chem. 451, or equivalent.

Commerce and Finance

The Commerce and Finance Department offers a B.S. degree program which provides for a variety of alternative career choices:

Accounting

Professor R. Werner, chairperson; Professor R. Capin; Associate Professor Pawlenok; Assistant Professors Gettinger, Hall, Morrison.

Major in Accounting

FIRST SEMESTER		SECOND SEMESTER	
Acct. 101	3	Acct. 102	3
B.A. 101	3	C.S. 124	3
Eng. 101	3	Eng. 102	3
Core Elective	3	Core Elective	3
Math. 100 or 101 or 105	3-4	Math. 102 or 106	3-4
P.E. 100	0	P.E. 100	0
P.E. 105	1	P.E. 106	1
	16-17		16-17
THIRD SEMESTER		FOURTH SEMESTER	
Acct. 111	3	Acct. 112	3
B.A. 231	3	B.A. 232	3
Ec. 101	3	Ec. 102	3
Core Electives	6	Core Electives	6
Speech 101	3	P.E. 100	0
P.E. 100	0		
	18		15

FIFTH SEMESTER		SIXTH SEMESTER	
Acct. 201	3	Acct. 204	3
Acct. 241	3	Acct. 242	3
Ec. 201	3	Ec. 228	3
Ec. 231	3	Ec. 232	3
Core Electives	6	Core Electives	6
	18		18
SEVENTH SEMESTER		EIGHTH SEMESTER	
Acct. 221	3	Acct. 252	3
Acct. 231	3	B.A. 226	3
B.A. 209	3	Electives ¹	6
B.A. 225	3	towages and thus district to the	O
B.A. 251	3		
Elective ¹	3		
	18		12

Note: Accounting courses should be taken in sequence.

Total minimum credits required for B.S. degree with a major in Accounting — 130.

ACCT. 101. ELEMENTARY ACCOUNTING I

Fundamental theory of debits and credits; problems of classification and interpretation of financial data; technique of recording; preparation of financial statements. Class, three hours a week; tutorial, two hours a week.

ACCT. 102. ELEMENTARY ACCOUNTING I

A continuation of Acct. 101. Principles of partnership and corporation accounting; introduction to departmental, manufacturing, and branch accounting; financial analyses of statements. Class, three hours a week; tutorial, two hours a week.

ACCT. 111. INTERMEDIATE ACCOUNTING I

Three credits

A comprehensive analysis of the accounting process and the financial statements. Intermediate problems pertaining to cash, receivables, inventories, current liabilities, and investments in stocks. Class, three hours a week; tutorial, two hours a week. ACCT. 112. INTERMEDIATE ACCOUNTING II Three credits

A continuation of Intermediate Accounting I. Intermediate problems pertaining to in-

and stockholders equity; financial statement analysis and fund and cash flow reporting. Class, three hours a week; tutorial, two hours a week.

costing concepts are discussed.

vestments in bonds and funds, plant and equipment, intangibles, long-term liabilities,

ACCT. 201. COST ACCOUNTING Principles and practices of cost accounting including a study of job, process, and standard cost systems. Informative systems design, budgeting, variance analysis, and direct

ACCT. 204. MANAGERIAL ACCOUNTING

Uses of accounting data in planning and controlling business activities. Includes problem areas in accountability, cost and profit analysis, pricing decisions, capital investment problems, and quantitative techniques. The tax consequences of business decisions are discussed.

Students intending to sit for the New York State C.P.A. examinations should elect subjects in the humanities. All students should choose electives from outside the major field.

Three credits

The preparation of Federal income tax returns for individuals based on current law, regulations, and court decisions; problems of inclusion and exclusion from income; gains and losses from sales and exchanges; allowable deductions. Class, two hours a week; laboratory, two hours a week.

Prerequisite: Acct. 112, or approval of instructor.

ACCT. 222. TAXES II

Three credits

Tax accounting for installment and deferred payment sales; Federal tax returns for partnerships; fiduciaries and corporations; miscellaneous Federal and Pennsylvania corporate taxes. Class, three hours a week.

Prerequisite: Acct. 221.

ACCT. 231. AUDITING

An analysis of modern auditing concepts involving staff organization, professional ethics and legal responsibility, internal control, audit programs and working papers, and original record examination. Class, three hours a week.

ACCT. 241. ADVANCED ACCOUNTING I

Three credits

A comprehensive review of partnerships; special procedures and problems of installment sales, consignments, home office and branch relationships; introduction to accounting for business combinations and consolidations. Class, three hours a week.

equisite: Acct. 112.

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ACCT. 242. ADVANCED ACCOUNTING II

A detailed analysis of the problems of consolidations; analysis of the procedure in accounting for bankruptcies, receiverships, estates and trusts, foreign exchange, and governmental units. Class, three hours a week.

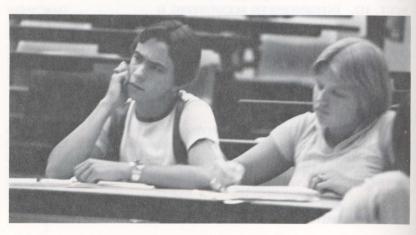
Prerequisite: Acct. 241 and permission of instructor.

Three credits

ACCT. 252. ACCOUNTING INTERNSHIP

Three credits
This course provides on-the-job accounting experience for accounting majors. A minimum of 240 hours is provided with either certified public accounting firms, government agencies, or private industry. Internships are offered on a competitive basis following student interviews with interested firms and agencies. Students not obtaining an internship must substitute a course approved by the Commerce and Finance Department.

NOTE: Accounting courses should be taken in sequence.



Business Administration

Professor R. Werner, chairperson; Professors Elliot, Farrar; Associate Professors Engel, Gera; Assistant Professors Cooney, Gurdin.

Major in Business Administration

FIRST SEMESTER		SECOND SEMESTER	
Acct. 101	3	Acct. 102	
B.A. 101	3	Eng. 102	3
Eng. 101	3	Speech 101	3
Core Electives	6	Core Electives	
P.E. 100	0	P.E. 100	9
P.E. 105	1	1.2.100	0
	16		18
THIRD SEMESTER			10
B.A. 231	0	FOURTH SEMESTER	
Ec. 101	3	B.A. 232	3
Core Electives	_	Ec. 102	3
Math. 100 or 101 or 105	6 3-4	Core Electives	6
P.E. 100		B.A. 115 or Math. 102 or 106	3-4
	0	P.E. 100	0
	1	P.E. 106	1
	15-16		16-17
FIFTH SEMESTER		CIVILIONA	
B.A. 251	3	SIXTH SEMESTER B.A. 222	
Ec. 201	3	B.A. 252 or 254	3
Ec. 231	3	Ec. 202 or 228 or	3
Core Elective	3	C. & F. elective	
Electives	6	Ec. 232	3
		Core Elective	3
		Elective	3
	-	Elocity 6	3
	18		18
SEVENTH SEMESTER		EIGHTH SEMESTER	
B.A. 209	3	B.A. and Ec. electives	40
B.A. 225	3	Elective	12
B.A. and Ec. electives	9		3
Elective	3		
	18		15
			10

Total minimum credits required for B.S. degree with a major in Business Administration — 133.

Students who major in business administration will select their electives from the following. At least six courses in one of these groups are required of students concentrating in this field.

BANKING AND FINANCE

Acct. 111 — Intermediate Accounting I	Ec. 202 — Theory of Money
Acct. 112 — Intermediate Accounting II	Ec. 224 — Economic Development
B.A. 220 — Real Estate	Ec. 225 — International Trade
B.A. 226 — Investments	Ec. 236 — Public Finance
B.A. 240 — Property Insurance	Ec. 241 — Economic Analysis
B.A. 241 — Life Insurance	Ec. 252 — Introduction to
C.S. 124 — COBOL Programming	Mathematical Economics
C.S. 224 — Advanced COBOL and	Math. 105 — Introductory Calculus I
File Management	Math. 106 — Introductory Calculus II

ECONOMICS

Ec. 228 — Economic Geography of
Asia, Africa, and Latin America
Ec. 229 — Comparative Economic
Systems
Ec. 230 — Business Cycles
Ec. 236 — Public Finance
Ec. 241 — Economic Analysis
Ec. 245 — Consumer Economics
Ec. 252 — Introduction to
Mathematical Economics
Ec. 395-396 — Research
Math. 105 — Introductory Calculus I
Math. 106 — Introductory Calculus II

MANAGEMENT AND INDUSTRIAL RELATIONS

America, Europe, and the

Soviet Union

Acct. 201 — Cost Accounting	C.S. 224 — Advanced COBOL and
Acct. 204 — Managerial Accounting	File Management
B.A. 217 — Logistics & Distribution	Ec. 222 — American Labor Movement
Management	Ec. 223 — Collective Bargaining
B.A. 240 — Property Insurance	Math. 105 — Introductory Calculus I
B.A. 241 — Life Insurance	Math. 106 — Introductory Calculus II
B.A. 252 — Operations & System	Math. 262 — Operations Research
Management or	P.S. 207 — Public Administration
B.A. 254 — Organizational Design &	P.S. 222 — International Relations
Behavior	Psy. 232 — Human Behavior
B.A. 256 — Business Policies &	Psy. 242 — Psychological Tests or
Corporate Responsibility	Psy. 243 — Industrial Psychology
C.S. 124 — COBOL	Soc. 265 — Sociology of Industry
Programming	

MARKETING

B.A. 114 — Sa	lesmanship	Ec. 224 — Economic Development
B.A. 216 — Ad	vertising	Ec. 225 — International Trade
B.A. 217 — Lo	gistics & Distribution	Ec. 245 — Consumer Economics
Management		Math. 105 — Introductory Calculus
B.A. 240 — Pro	operty Insurance	Math. 106 — Introductory Calculus I
B.A. 241 — Lif	e Insurance	P.S. 222 — International Relations
B.A. 261 — Pri	nciples of Retailing	Psy. 232 — Human Behavior
B.A. 264 — Re	tail Buying	Psy. 243 — Industrial Psychology
C.S. 124 — CC	BOL Programming	Soc. 265 — Sociology of Industry
C.S. 224 — Ad	vanced COBOL &	
File Manager	nent	

B.A. 101. INTRODUCTION TO PRIVATE SECTOR BUSINESS Three credits Designed to orient freshman students to the framework within which business enterprises function in the economy. Stress is placed on decision-making, small business operation, and problems of financial resources.

Three credits **B.A. 114. SALESMANSHIP** The art of selling; the motive behind all buying; creation of interest and desire; presentation of services; meeting objections; types of customers.

B.A. 115. MATHEMATICS OF BUSINESS AND FINANCE Three credits This course will include progressions, logarithms, per cent, interest, discounts, equation of value, annuities, sinking funds, depreciation, taxes, profit and loss.

B.A. 209. BUSINESS CORRESPONDENCE AND REPORTS Three credits Fundamental principles of business writing with emphasis on letters and reports.

B.A. 216. ADVERTISING

B.A. 222. MARKETING

A study of basic principles of advertising. Elements of advertising; a survey of different departments of advertising work, including copy, art, display, engraving, trademarks, and media. Analysis of current advertisements. Advertising as a social force.

B.A. 217. LOGISTICS AND DISTRIBUTION MANAGEMENT Three credits Development and organization of the domestic and international transportation system; regulatory considerations. Distribution management practices; e.g., rates, routes, scheduling, services, insurance, materials handling, warehousing.

B.A. 220. REAL ESTATE

Three credits Economic theories of value applied to real estate, valuation as a guide to decisions, market analysis, real estate, finance, property development and management, locational theory and site selection.

The fundamentals and functions of the marketing system, its institutions and their importance in the economy are studied; marketing pricing policies and practices are in-

vestigated; reference is made to marketing activities and government participation. **B.A. 225. MANAGERIAL FINANCE**

A study of the economic principles underlying the capital structure of modern business

enterprise. Consideration given to alternate types of business organization, corporate securities, and financial policies involved in promotion, disposition of net earnings, working capital and short-term financing, mergers, expansion, financial readjustments, and reorganization.

B.A. 226. INVESTMENTS Three credits

Consideration of leading types of investments, tests, and investment programs; financial reports of leading companies, forecasting methods and agencies, stock exchanges, brokerage houses, methods of buying and selling securities, fraudulent promotions and their detection. Laboratory work and case studies.

CONTRACTS, AND SALES

The foundation for all subjects in the field of business law. The nature, classification, and sources of law. Examination of the essential elements of a contract and the nature of contract rights under both the common law and the Uniform Commercial Code. A study of the law of sales of goods: the transfer of title and risk of loss, warranties and product liability, and secured transactions.

B.A. 232. BUSINESS LAW — AGENCY, PARTNERSHIPS,

Three credits CORPORATIONS, AND REAL PROPERTY A study of the principles of law governing partnerships and corporations, with respect to formation, operation, internal relationships, and dissolution, as well as the advantages and disadvantages of these forms of business association. A survey of the law of real property, nature and types of interests in land. A discussion of deeds and their prerequisites.

B.A. 234. BUSINESS LAW — PROPERTY

The law of real property, nature and types of interests in land. A discussion of deeds and their prerequisites. The rights and duties of the landowner to the public. Rights of the government versus rights of the landowner. The landlord-tenant relationship, the mortgagor-mortgagee relationship.

Three credits **B.A. 240. PROPERTY INSURANCE**

This course is a study of the fundamentals of fire, casualty, and marine insurance.

B.A. 241. LIFE INSURANCE

This course is a study of the principles, practices, and uses of life insurance from the overall viewpoint of the product, cost, market, and industry.

Three credits **B.A. 251. PRINCIPLES OF MANAGEMENT** Nature and evolution of management thought. Fundamental universal concepts covered: decision-making, policy formulation, planning, organizing, staffing, actuating, communicating, directing, controlling, etc. Views management as process of integrating knowledge developed by many disciplines. Social and ethical dimensions of the management process summarized.

B.A. 252. OPERATIONS AND SYSTEMS MANAGEMENT Principles of decision-making, systems design, introduction to quantitative tools of analysis; fundamentals of production, inventory, financial, and distribution manage-

Three credits B.A. 254. ORGANIZATIONAL DESIGN AND BEHAVIOR Current organizational principles of authority, responsibility, leadership, span of control, departmentalization, line/staff relationships, decentralization, committees, staffing, directing, and work groups, with emphasis on behavioral science applications.

B.A. 256. BUSINESS POLICIES AND

Three credits CORPORATE RESPONSIBILITY Integration of background acquired by the student to policy issues. Study of current

ideologies and ethics within the institutional framework of the capitalist tradition. Discussion of actual cases.

B.A. 261. PRINCIPLES OF RETAILING

Three credits

Three credits

A basic course that discusses opportunities in retailing; types of retail institutions; problems of store policy, store location; study of organizational structure of department stores; organization and functions of all store divisions.

B.A. 264. RETAIL BUYING

Three credits

A study of the principles of what, when, and how much to buy; a study of customer demand. Special attention is given to the technique of buying; markups, markdowns, stock turns, and other factors that are necessary to keep lines complete.

B.A. 395-396. INDEPENDENT RESEARCH One to three credits Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term

B.A. 397. SEMINAR (Maximum of three credits per student) One to three credits Presentations and discussions of selected topics.

Economics

Professor R. Werner, chairperson; Professors Elliot, Farrar, Taylor; Associate Professors DeYoung, Engel, Williams.

Students who major in economics are required to complete twentyfour hours of work in economics beyond Ec. 101-102 in addition to the general requirements for the B.A. degree. Selection and scheduling of these courses will be done in consultation with the student's adviser. The twenty-four hours in economics which the major must carry include Ec. 201, 231, 232, 241, and 251. Students who elect a program in economics should take Math. 105, 106 and, if necessary, Math. 100.

Total minimum credits required for B.A. degree with a major in Economics — 121.

EC. 101. PRINCIPLES OF ECONOMICS I

An introductory course which presents basic economic problems and shows how these problems are solved in a free enterprise economy; the effects of the increasing importance of the economic role of government are pointed out. The course provides orientation in the broad field of economics and makes use of the analytical trends by means of which the student can understand the economic problems of his environment.

EC. 102. PRINCIPLES OF ECONOMICS II

Three credits

This course is a logical sequence to Ec. 101. It is based upon a broad microeconomic foundation concentrated on such units as the firm, the industry, and the consumer.

EC. 201. MONEY AND BANKING

A study of money, credit, and banking operations. Development of American monetary and banking system. Central banking and the Federal Reserve System. Instruments of monetary control. Financial intermediaries. Monetary standards and international monetary relations.

EC. 212. GOVERNMENT AND BUSINESS

A study of the relationship of government to economic enterprises with special attention to conditions in the United States; the regulatory activities of government agencies; administrative methods, objectives, and results of governmental control. Reference is made to monopoly and quasi-monopoly situations, public utilities, trusts, transportation, extractive industries, and public enterprise.

EC. 223. COLLECTIVE BARGAINING

An introduction to labor problems and an analysis of major issues in the field of labor. This course deals with collective bargaining, employment, wages, hours, and union policies. Governmental participation in labor relations and collective bargaining is also investigated. Reference is made to social welfare devices such as social security, unemployment compensation, and workmen's compensation.

EC. 224. ECONOMIC DEVELOPMENT

A study and analysis of the theories of economic development. Guidelines are provided for development policy in various underdeveloped areas of the world. Objective comparisons are made which deal with factors that underlie the transition from economic backwardness to sustained economic growth.

EC. 225. INTERNATIONAL TRADE

Three credits

Theory and practice of international trade with special reference to contemporary problems and policies. The topics covered include tariffs, quotas, foreign exchange, equilibrium in international payments. A study will be made of geographic, economic, social, and political influences on international trade. Review of current policies and developments in the United States.

EC. 227. ECONOMIC GEOGRAPHY OF NORTH AMERICA,

EUROPE, AND THE SOVIET UNION Three credits

A study and analysis of the characteristics, potentials, and problems of the more advanced nations of the Northern Hemisphere.

EC. 228. ECONOMIC GEOGRAPHY OF ASIA, AFRICA,

AND LATIN AMERICA

Three credits

A study and analysis of the characteristics, potentials, and problems of the less developed nations of the world.

EC. 229. COMPARATIVE ECONOMIC SYSTEMS

Three credits

The institutions of a market economy are analyzed as a foundation for purposes of comparisons. Marxist theory of prices, wages, and the demise of capitalism is studied in order to establish the theoretical basis of Socialism and Communism. Particular stress is placed on the performance of the Soviet economy. Attention is also given to important operational aspects of the Chinese, British, and Swedish systems.

EC. 230. BUSINESS CYCLES

Three credits

Historical analysis of major business cycles. Contemporary theories and a critical examination of public policy toward business cycles.

EC. 231. APPLIED GENERAL STATISTICS

A course in statistical methods and their application. A collection and interpretation of statistical data, frequency distribution and measures of central tendency, fitting the normal curve, analysis of variance. Lecture, three hours; laboratory, two hours. Fee: \$15.

EC. 232. ECONOMIC STATISTICS

Three credits

A continuation of Ec. 231. This course will include time-series analysis, construction of index numbers, methods of correlation analysis, multiple and partial correlation, and test of significance for samples; Chi-square test. Lecture, three hours; laboratory, two hours. Fee: \$15.

EC. 234. ECONOMIC RESEARCH

Three credits

The purpose of this course is to provide an introduction to the methods and logic of linear programming, input output analysis, queuing theory, index numbers, and other techniques of research in economics. Students are advised to take Ec. 101 and 102 to obtain the theoretical background for this course.

EC. 236. PUBLIC FINANCE

Three credits

Fundamental principles of public finance; government expenditures; revenue; financial policies and administration; taxation; principles of shifting and incidence of taxation; public debts and the budget; fiscal problems of federal, state, and local government; the relation of government finance to the economy.

EC. 241. MICROECONOMICS I

Three credits

The study of the interaction between households and businesses in product and resource markets. Topics covered include consumer preferences, production theory, cost analysis, market structures and the determination of wages and prices.

EC. 242. MICROECONOMICS II

Three credits

The study of the market system as a whole, through welfare economics and general equilibrium analysis with emphasis on social preferences, market failure, and policy

Prerequisite: Ec. 241 or permission of instructor.

EC. 245. CONSUMER ECONOMICS

Three credits

The place of the consumer in the economic system. Theories of consumption; consumption minima; problems of the individual consumer as affected by income, taxes; consumer habits and standards of living are investigated. A study is made of the trends in consumption, income disposition, and marketing and pricing of consumer goods. Relationships between government activities and the consumer are studied.

EC. 251. MACROECONOMICS I

The study of behavior of the important economic aggregates; national income, consumption, investment, public spending, and taxes. Special emphasis is on the problems of inflation and unemployment and the post-Keynesian search for their causes and solu-

EC. 252. MACROECONOMICS II

Three credits

An introduction to the Keynesian and Neoclassical growth theory and the various explanations of behavior of consumption, investment, unemployment, and inflation. The course is designed to present an alternative treatment of some topics covered in Macroeconomics I and to extend the student's knowledge into areas not covered.

EC. 395-396. INDEPENDENT RESEARCH

One to three credits

Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

EC. 397. SEMINAR (Maximum of three credits per student) One to three credits Presentations and discussions of selected topics.

Computer Science

Professor Wong, chairperson; Associate Professors Earl, Merrill, Sours, T. Richards, Tillman; Assistant Professors DeCosmo, Koch, Parker, Salsburg; Adjunct Professor Mantione.

A program of study leading to a B.A. or B.S. degree with a major in computer science is administered by the Department of Mathematics and Computer Science. It is designed to prepare students for graduate studies in computer science or for careers in the computing and data processing field.

Since the program is application-oriented, all students are strongly advised to acquire competence, through attainment of a double major or election of a cluster of well-chosen electives, in an area that lends itself to meaningful computer applications. The B.A. option is intended for those who lean toward the management and social sciences, whereas the B.S. option allows for greater concentration of electives in the engineering and physical sciences.

With the approval of the department, a student may earn credits in a maximum of five courses in mathematics or computer science by passing special challenge examinations in them. Interested students may obtain further details and application forms from the department chairperson.

Commo	on requirements for B.A. and B.S. degrees:	credit hours
(1)	The general core requirements listed on page 49, except the science/mathematics area which is specified below.	41
(2)	C.S. 123, 124, 223 or 224, 227, 322	15
(3)	Math. 111, 112, 202, and 211	15
Additio	nal requirements for B.A. degree:	credit hours
(4A)	Any three courses, including a two-semester sequence, in Biology, Chemistry, Earth and Environmental Sciences, or Physics.	9
(5A)	Any four courses in Computer Science or Mathematics numbered above 200, including at least two among: C.S. 262, 321, and 324.	12
(6A)	Free electives	33

Additio	onal requirements for B.S. degree:	credit hours
(4S)	Phys. 201 and a two-semester sequence in Biology, Chemistry, Earth and Environmental Sciences, or Physics courses numbered above 200	11
	or	
	Phys. 201-202 and at least three credits in Biology, Chemistry, Engineering, Earth and Environmental Sciences, or Physics courses numbered above 200, Phil. 350, or Phil. 352.	
(5S)	Any five courses in Computer Science or Mathematics numbered above 200, including at least two among C.S. 320, 323, 326, and 328.	15
(6S)	Free electives	30
Minimu	m total credit requirements for computer science major:	
B.A.	the state of the s	125
B.S.	(1) + (2) + (3) + (4S) + (5S) + (6S).	127

C.S. 122. BASIC PROGRAMMING

Introduction to computer programming using the BASIC language, the principal high level language of microcomputers and processors. A maximum of three credits will be allowed for this course and Math. 102. Fee: \$10. (same as Engr. 241)

Offered every fall semester.

C.S. 123. FORTRAN PROGRAMMING
Introduction to computer programming using the FORTRAN IV language. The computer is used to solve problems geared to the individual interest of the students. Fee: \$25. (same as Engr. 244)
Offered every fall, spring, and summer.

C.S. 124. COBOL PROGRAMMING
Introduction to computer programming using the American National Standard Common Business Oriented Language. The computer is used to solve problems commonly found in a business environment. Fee: \$25.

Offered every fall, spring, and summer.

C.S. 223. ADVANCED PROGRAMMING: FORTRAN

A study of advanced programming techniques using FORTRAN IV. Topics include advanced data types, program optimization, and the use of various storage devices. Fee: \$25. (same as Engr. 245)

Prerequisite: C.S. 123/Engr. 244.

C.S. 224. ADVANCED COBOL AND FILE MANAGEMENT Three credits A study of advanced programming techniques using ANS COBOL. Topics include efficiency techniques, modular programming, table searching, indexed, direct, and relative file techniques. Fee: \$25.

Prerequisite: C.S. 124. Offered every spring and summer.

Offered every spring semester.

C.S. 227. COMPUTER DATA STRUCTURES

A study of the use of a high-level language to implement complex data structures. These include lists, trees, graphs, networks, storage allocation, file structure, and information storage and retrieval. (same as E.E. 343)

Prerequisite: C.S. 223/Engr. 245 or C.S. 224. Offered every fall semester.

C.S. 262. OPERATIONS RESEARCH

Three credits

Mathematical modeling of and solution algorithms for optimization problems of the following types: linear programming (including duality and sensitivity analysis); transportation, transshipment and assignment problems; network models (including shortest route, critical path, and maximal flow problems); dynamic programming, (same as Math. 262)

Prerequisite: Some elementary knowledge of matrices.

Offered every spring.

C.S. 320. LOGIC AND SWITCHING CIRCUITS

Three credits

Application of Boolean algebra to the design of Number system logic networks, solidstate switching circuits and devices. Minimization techniques to the synthesis of combinatorial switching circuits including AND-OR and NAND-NOR logic. Analysis and synthesis of sequential switching circuits clocked and asynchronous operation. Effect of microelectronic technology on logic design optimization. Fault masking by redundancy techniques. (see E.E. 341)

Prerequisite: E.E. 211 or Phys. 202 Offered in the fall semester of even years.

C.S. 321. SIMULATION AND DATA ANALYSIS

Three credits

Methods of handling large data bases including statistical analysis and computer simulations. The emphasis will be upon discrete simulation models with a discussion of relevant computer languages, GPSS, GASP, SIMSCRIPT and others.

Prerequisite: C.S. 223/Engr. 245 or C.S. 224.

Offered in the fall semester of even years.

C.S. 322. MACHINE LANGUAGE Basic principles of machine language programming. Computer organization and representation of numbers, strings, arrays, list structures at the machine level. Examples utilize all levels of computer architecture. Fee: \$25. (same as Engr. 342)

Prerequisite: C.S. 223/Engr. 245. Offered every spring semester.

C.S. 323. FORMAL LANGUAGES & AUTOMATA THEORY Three credits This course formalizes many topics encountered in previous computing courses. Topics include alphabets, languages, grammars, finite automata, regular expressions and type 3 grammars, context-free languages, push-down automata.

Prerequisite: Math. 202.

Offered in the fall semester of even years.

C.S. 324. SYSTEMS ANALYSIS

Three credits

A study of the design and implementation of large computer projects. Special emphasis is placed on applications to business systems.

Prerequisite: C.S. 224 and 227

Offered in the fall semester of odd years.

Three credits

C.S. 325. DATA BASE MANAGEMENT Practical experience in solving a large-scale computer problem including determination of data requirements, appropriate data organization, data manipulation procedures, implementation, testing and documentation.

Prerequisite: C.S. 324.

Offered in the spring semester of even years.

C.S. 326. OPERATING SYSTEM PRINCIPLES

Analysis of the computer operating systems including Batch, Timesharing, and Realtime systems. Topics include sequential and concurrent processes, processor and storage management, resource protection, processor multiplexing, and handling of interrupts from peripheral devices. (same as E.E. 344)

Prerequisite: C.S. 227/E.E. 343.

Offered in the fall semester of odd years.

C.S. 327. COMPILER DESIGN

Three credits

A study of compiler design including language definition, syntactic analysis, lexical analysis, storage allocation, error detection and recovery, code generation and optimization problems.

Prerequisite: C.S. 227/E.E. 343 and C.S. 323. Offered in the spring semester of odd years.

C.S. 328. ANALYSIS OF ALGORITHMS

Three credits

Theoretical analysis of various algorithms. Topics include sorting, searching, selection, matrix multiplication and multiplication of real numbers.

Prerequisite: C.S. 227/E.E. 343.

Offered in the fall semester of even years.

C.S. 329. MICROCOMPUTER OPERATION AND DESIGN

Microprocessor architecture, microcomputer design, and peripheral interfacing. Microprogramming, soft-ware systems, and representative applications. Associated laboratory experiments consider topics such as bus structure, programming, data conversion, interfacing, data acquisition, and computer control. Two hours lecture and one twohour laboratory per week. (see E.E. 342)

Prerequisite: E.E. 341.

Offered in the spring semester of odd years.

C.S. 364. NUMERICAL ANALYSIS

Three credits

Numerical methods of differentiation, integration, solution of equations and of differential equations with emphasis on problems that lend themselves to solution using computers. (same as Math. 364)

Prerequisite: C.S. 123/E.E. 244 and Math. 211 or permission of instructor. Offered every spring semester.

C.S. 198/298/398/498. TOPICS IN COMPUTER SCIENCE Variable credit Study of one or more special topics in computer science. May be repeated for credit. Prerequisite: Varies with topics studied.



Assistant Professor Berryman, chairperson; Instructor Redmond.

The department offers fundamentals and advanced concepts in both the earth and environmental science areas. The B.S. degree program requires 124 credits, including liberal arts courses; work in each of the basic sciences (mathematics, chemistry, biology, and physics); training in each of the earth sciences (geology, oceanography, and meteorology); and a choice of a concentration of study in either earth sciences or environmental sciences (land use, water quality, air pollution, and ecology). This program may appeal to those with an interest in environmental monitoring or graduate work in an earth or environmental science.

The B.A. degree program requires 124.5 credits, including liberal arts courses; introductions to the basic sciences; training in both the earth and environmental areas; and a concentration of coursework in the social sciences. This program may appeal to those with an interest in one of the various aspects of environmental planning. Both degree programs emphasize an interdisciplinary approach to the subject matter and include both laboratory and field work.

E. & E.S. 101. ASTRONOMY

Three credits

Survey of major astronomical concepts and features. Topics covered include stars, constellations, galaxies, sun, planets, and satellites. Intended for non-science majors. Two hours lecture and two hours laboratory. Fee: \$20.

E. & E.S. 102. GEOLOGY

Three credits

Survey of major geological concepts and features. Topics covered include origin of earth, rocks and minerals, earthquakes, erosion, continental motion. Intended for nonscience majors. Two hours lecture and two hours laboratory. Fee: \$20.

E. & E.S. 103. METEOROLOGY

Survey of major atmospheric concepts and features. Topics covered include temperature, precipitation, wind, weather, maps, weather phenomena, and climate. Intended for non-science majors. Two hours lecture and two hours laboratory. Fee: \$20.

E. & E.S. 104. OCEANOGRAPHY

Survey of major oceanic concepts and features. Topics covered include water properties, ocean structure, surface currents, deep flow, waves, marine life, shore features. Intended for non-science majors. Two hours lecture and two hours laboratory. Fee: \$20.

E. & E.S. 105. ENVIRONMENTAL AWARENESS

A summary of the effects of human activity on the ecosystem. Topics surveyed include air pollution, water pollution, and solid waste disposal. Examples and historical background of important environmental problems; reappraisal of past failures, survey of present problems and potential effects of present trends, and the precautionary measures to be taken against future mistakes. Two hours lecture and two hours laboratory. Fee: \$20.

E. & E.S. 150. WORLD PHYSICAL GEOGRAPHY

Three credits

Global patterns of major earth features are described. Causes, variations, and interactions of land forms, vegetation, ocean and atmospheric circulation, settlement, and resources are discussed. Intended for an interdisciplinary audience. Two hours lecture and two hours laboratory

E. & E.S. 211. PHYSICAL GEOLOGY

Description, analysis, and laboratory studies of earth materials, structures, and processes; earth's surface features, interior, age, and origin. Intended for science majors. Two hours lecture and two hours laboratory. Fee: \$20.

E. & E.S. 212. HISTORICAL GEOLOGY

Three credits

The methods of historical geology; record of earth history; the history of life; theory and lab. Two hours lecture and two hours laboratory. Fee: \$20. Prerequisite: Consent of instructor.

E. & E.S. 222. WATER QUALITY

Three credits

The waters of lakes, rivers, oceans, and rainfall are characterized chemically. The distribution of dissolved substances is described spatially and temporally. Special emphasis is placed on carbonate and metal equilibria and on nitrogen cycling. Chelation, corrosion, and the role of micro-organisms are other topics included. Three hours lec-

Prerequisite: Chem. 105 or 202.

E. & E.S. 251. SYNOPTIC METEOROLOGY

Topics include weather systems, weather phenomena, thunderstorms, thermodynamic diagrams, jet stream, climate, and local weather influences. Synoptic map analysis and interpretation are emphasized. Intended for science majors. Two hours lecture and two hours laboratory. Fee: \$20.

E. & E.S. 252. THEORETICAL METEOROLOGY

Three credist

Topics include precipitation processes; atmospheric stability; heat, moisture, and momentum transfer; vorticity; atmospheric forces and motion fields, and adiabatic processes. Two hours lecture and two hours laboratory. Fee: \$20. Prerequisite: Consent of instructor.

E. & E.S. 281. PLANETARY ASTRONOMY

Three credits

Topics include Kepler's laws, origin of the solar system, members of the solar system, rockets, orbital mechanics, and remote sensing techniques. Emphasis is given to planetary probes and their results. Intended for science majors. Two hours lecture and two hours laboratory. Fee: \$20.

E. & E.S. 282. STELLAR ASTRONOMY

Topics include telescopes, cosmology, galaxies, nebula, spectroscopy, and celestial sphere coordinate system. Emphasis is given to stellar evolution and nuclear processes. Intended for science majors. Two hours lecture and two hours laboratory. Fee: \$20.

E. & E.S. 320. HYDROLOGY

The physical elements and processes which constitute the hydrologic cycle are examined with emphasis on the relationships of land and water. Special topics include floods and flood control, water resources, water uses, and water pollution problems. Two hours lecture and two hours laboratory. Fee: \$20.

Prerequisite: Consent of instructor.

E. & E.S. 330. ENVIRONMENTAL QUALITY MEASUREMENTS Four credits Training in the instrumentation and analytical techniques used in monitoring and assessing the environment. Water, soil, and air measurements are made in the laboratory and in the field. Two hours lecture and two hours laboratory. Fee: \$20.

Prerequisite: E. & E.S. 222, or consent of instructor.

Four credits

A continuation of E. & E.S. 330 with emphasis on water pollution and treatment technologies. Included are eutrophication; sewage pollution and treatment; acid mine drainage; herbicide, pesticide, and oil pollution; radiochemistry of water; and thermal water pollution. Two hours lecture and four hours laboratory. Fee: \$20.

Prerequisite: E. & E.S. 330.

E. & E.S. 340. LIMNOLOGY

Three credits

A study of the chemical, physical, and biological aspects of freshwater systems. Laboratory investigations will consist of in-depth analyses of local lakes and streams. Two hours lecture and three hours laboratory. Fee: \$20.

Prerequisite: Consent of instructor.

E. & E.S. 350. ENVIRONMENTAL DEVELOPMENT

Three credits

Presents a framework through which environmental planning and management techniques are applied to metropolitan areas. Emphasis is placed on preservation of air, water, and land resources within developing and redeveloping metropolitan environments. Three hours lecture.

Prerequisite: Consent of instructor.

E. & E.S. 360. OCEAN SCIENCE

Three cred

A study of the fundamentals of oceanography including physical, chemical, and biological aspects. Intended for science majors. Three hours lecture.

Prerequisite: Upper-class standing and consent of instructor.

E. & E.S. 370. GEOMORPHOLOGY

Three credits

A study of the human role in changing the surface of the earth with emphasis on the utilization of geologic and hydrologic information in land-use planning. Remote sensing techniques and field investigations will constitute a major portion of the course. Two hours lecture and one three-hour laboratory. Fee: \$20.

Prerequisite: E. & E.S. 211 and 320.

Three cree

E. & E.S. 380. MINERALOGY

Three credits

Ionic structure of minerals; physical properties and external form as consequences of
structure; determination of minerals by physical tests. Two hours lecture and two hours
laboratory. Fee: \$20.

Prerequisite: E. & E.S. 211 and Chem. 105 or 201.

E. & E.S. 395-396. INDEPENDENT RESEARCH I & II One to three credits each Independent study or research of a specific earth or environmental science topic at an advanced level under the direction of a departmental faculty member. For full credit, a defensible research paper is required.

Prerequisite: Approval of department chairperson and upper-class standing.

E. & E.S. 397. PROFESSIONAL SEMINAR

One to three credi

This extended program presents faculty, guest, and student lectures on current issues in the earth and environmental sciences. Also included is career planning information. For full credit, a student lecture presentation is required.

E. & E.S. 398. TOPICS

One to three credits

Departmental courses on topics of special interest, not extensively treated in regularly scheduled offerings, will be presented under this course number on an occasional basis. Available for undergraduate credit only.

E. & E.S. 401-402. ADVANCED TOPICS I & II One to three credits each Departmental courses on advanced topics of special interest, not extensively treated in regularly scheduled offerings, will be presented under this course number on an occasional basis. Available for either undergraduate or graduate credit.

Prerequisite: Senior or graduate standing.

Education

Professor Hammer, chairperson; Professor Darte; Associate Professors Barone, Bellucci, Fahmy, Siles; Assistant Professors Gera, Giordano, Johnson, Rees.

Students wishing to prepare for public school teaching in business subjects or music complete the B.S. program described for these subjects. Prospective elementary school teachers complete the B.A. program.

Prospective secondary school teachers:

- a. may elect to major in Anthropology, Biology, Chemistry, Economics, English, Foreign Languages, History, Mathematics, Physics, Political Science, Psychology, or Sociology. Students who major in Economics, History, Political Science, Psychology, or Sociology must complete the Social Studies Certification Program. A description of the program is given below.
- b. must complete the **second** major in education which includes twenty-five credits:

Admission to this **second** major requires satisfactory completion of Ed. 101, 102, 201, and 202; a cumulative G.P.A. of 2.30; recommendation by the major department; recommendation by the Dean of Student Affairs; and recommendation by the Teacher Education Committee.

Transfer students must take at least one course in education at Wilkes College prior to enrolling in the professional semester. Teacher certification requirements for most states may be met at Wilkes College. Students are expected to familiarize themselves with specific state requirements.

Business Education

Programs in Business Education offer a variety of career options. Students may select the two-year program leading to a certificate of proficiency in secretarial or clerical work. Those who complete this program may continue on into the degree program without loss of credit.

Certificate of Proficiency

HUMANITIES: Hist. 101-102 (six credits), P.E. 100 (four semesters), P.E. 105-106 (two credits), HUMANITIES: Hist. 101-102 (six credits), SCIENCE/MATHEMATICS: see page 49 (six credits), SOCIAL SCIENCES: Ec. 101 (three credits), Psy. 101-102 (six credits).

B.S. Degree — Major in Business Education

This curriculum combines preparation for business careers with a baccalaureate program in the liberal arts. Students who do not seek certification for secondary school teaching are not required to complete the professional work in education.

Students should elect Ec. 101-102* and Psy. 101-102 to fulfill the Social Sciences component.

Acct. 101, 102; B.A. 261; Bus. Ed. 107, 108, 205; Ec. 101, 102* plus at least two of these sets: (a) Acct. 111, 112; (b) Bus. Ed. 201, 202; (c) Bus. Ed. 105, 106, 207, 208; (d) two of these: B.A. 114, 216, 222, 264.

B.A. 115, 209, 231, 232, 252, 254 or 256; Speech 101.

Students seeking certification for teaching will elect Ed. 101-102, 201, 202, 203B, 380; other students must complete a second major.

Total minimum credits required for B.S. degree with major in Business Education — 124 credits.

B.A. Degree — Major in Elementary Education

General Core Requirements.												 53 credits
Major Requirements												 40 credits
Ed 101 102 201 202 203E). 20	041). :	251	. 2	52.	, 25	3,	25	4, 3	380.	

Math. 232, 243; Psy. 221; Science (a second 101-102 sequence).

Electives in one Department other than Education 12 credits

Total minimum credits required for B.A. degree with major in Elementary Education — 120 credits.

A suggested schedule for completing these requirements may be obtained in the Education Department office.

Social Studies Certification Program

General Core Re	equirements		53-57 credits
Hist. 101-102	and Psy. 101-102	must be taken	as part of the core or as

Anthropology, Economics, History, Political Science, Psychology, or Sociology.

Ed. 201, 202, 330.

Courses in at least two of the social sciences enumerated above other than the major. Each program must include Anth. 101, Ec. 101, Ec.

Electives (to complete degree requirements).

227 or 228, P.S. 102, and Soc. 101.

A suggested schedule for completing these requirements may be obtained in the Education Department office.

ED. 101-102-103-104-105-106. PRACTICUM IN One-half credit each **EDUCATION**

Provides an opportunity for students to gain experience as teachers' aides in school classrooms under supervision. Seminars on campus will provide opportunity to discuss and evaluate practicum experiences.

ED. 201. INTRODUCTION TO EDUCATION Three credits A study of the historical development of American education, the role of the school

in American life, educational philosophies, educational organization and administration, school finance, school curricula, school personnel, and current issues in educa-

Prerequisite: Sophomore standing.

ED. 202. EDUCATIONAL PSYCHOLOGY

Three credits

A study of the principles of learning and the application of psychological principles in the practice of education.

Prerequisite: Psy. 102.

ED. 203. SPECIAL METHODS OF TEACHING

Three credits

A study of instructional methodology in the various disciplines. Attention is given to characteristic problems faced by teachers in these several fields. Reading and other specialized techniques are examined.

Section A — Art (Grades K-12)

Section B — Business (Grades 7-12)

Section C — Communication/English (Grades 7-12)

Section D — Elementary (Grades K-6)

Section F — Foreign Languages (Grades K-12) Section G — Mathematics (Grades 7-12)

Section H — Music (Grades K-12)

Section I — Sciences (Grades 7-12)

Section J — Social Studies (Grades 7-12)

^{*}The six credits for Ec. 101-102 are counted in the General Core Requirements.

An examination of curricula in the various disciplines. Programs of study developed by various organizations are examined.

Section A - Art (Grades K-12)

Section B — Business (Grades 7-12)

Section C — Communication/English (Grades 7-12)

Section D — Elementary (Grades K-6)

Section F — Foreign Languages (Grades K-12)

Section G — Mathematics (Grades 7-12)

Section H — Music (Grades K-12)

Section I — Sciences (Grades 7-12) Section J — Social Studies (Grades 7-12)

ED. 251. THE TEACHING OF ELEMENTARY READING

Three credits

ED. 252. THE TEACHING OF ELEMENTARY MATHEMATICS Three credits

ED. 253. THE TEACHING OF ELEMENTARY SCIENCE Three credits

ED. 254. THE TEACHING OF ELEMENTARY SOCIAL STUDIES Three credits

Three credits

ED. 351. EDUCATIONAL MEASUREMENTS A study of the characteristics, construction, and use of various educational measuring instruments commonly available in schools.

Prerequisite: Ed. 202.

Three credits

ED. 352. GUIDANCE An introduction to general principles and the techniques employed in guidance programs in public schools.

Prerequisite: Ed. 202.

ED. 380. PROFESSIONAL SEMESTER IN EDUCATION Fifteen credits This course examines professional problems common to all teachers and provides practical experience in classroom teaching. Fee: \$25.

Prerequisite: Approval by the Teacher Education Committee.

Credit will be transcripted as follows:

ED. 381. PROFESSIONAL PRACTICUM

Four credits

ED. 382. INTERN TEACHING

Eleven credits

ED. 395-396. INDEPENDENT RESEARCH One to three credits Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

Prerequisite: Approval of department chairperson is required.

(Maximum of three credits per student) One to three credits ED. 397. SEMINAR Presentations and discussions of selected topics.

Prerequisite: Approval of department chairperson is required.

ED. 398. TOPICS IN EDUCATION

Three credits

A study of topics of special interest not extensively treated in regularly offered courses.

BUS. ED. 100. PERSONAL TYPEWRITING

Designed as a one-semester elective for all students, regardless of major, except Business Education and Secretarial Science majors. Emphasis will be on attaining basic typewriting skill, the typing of personal and business letters, term papers, and manuscripts. Four hours per week. Fee: \$50.

BUS. ED. 105. ELEMENTARY SHORTHAND

Presentation, development, and completion of principles of Gregg Shorthand, Diamond Jubilee Series. Consideration given to non-shorthand factors of transcription, as spelling, punctuation, grammar, and word usage. Introduction to dictation and transcription skills. Four hours a week. One hour lecture, three hours laboratory.

BUS. ED. 106. INTERMEDIATE SHORTHAND

Two credits

Review and strengthen knowledge of Gregg Shorthand, Diamond Jubilee Series shorthand theory. Development of new word-building power through progressive skill-building dictation. Extending knowledge and skill in basic elements of transcription. Four hours each week. One hour lecture, three hours laboratory,

Prerequisite: Bus. Ed. 105, or approval of instructor.

BUS. ED 107. ELEMENTARY TYPEWRITING

Two credits Mastery of the techniques of touch typewriting. Emphasis is placed on skill-building practices with proper techniques through motivating drills and timed writings. Learning to type simple problems on a production basis such as memorandums, personal communications, tabulations, business letters, outlines, manuscripts, and composing. Four hours each week. One hour lecture, three hours laboratory. Fee: \$15.

BUS. ED. 108. INTERMEDIATE TYPEWRITING

Two credits

Building typewriting competence by strengthening basic and problem skills. Developing higher degree of proficiency through speed and accuracy timed writings, and production typing problems, such as business letters with special features; special communication forms; technical papers and business reports; tables; business forms; and executive communications. Four hours each week. One hour lecture, three hours laboratory. Fee:

Prerequisite: Bus. Ed. 107, or approval of instructor.

BUS. ED. 201. ADVANCED TYPEWRITING I

One credit

Increased emphasis is placed on higher speed and accuracy. Measuring of production skill competencies. A series of simulated on-the-job experiences in which a minimum of direction and a maximum of realism are provided. Advanced skills applied to typing in general, accounting, and executive offices. Three hours laboratory. Fee: \$15.

Prerequisite: Bus. Ed. 108.

BUS. ED. 202. ADVANCED TYPEWRITING II

Continuation of speed and accuracy development and reinforcement. Independent specialized production typing, with high degree of speed and accuracy on simulated onthe-job experience: technical, professional (medical, legal, scientific) and government offices. Three hours laboratory. Fee: \$15.

Prerequisite: Bus. Ed. 201.

BUS. ED. 205. OFFICE PROCEDURES AND BUSINESS MACHINES

Four credits

A study of technical procedures in typical business and professional offices; analysis of personal and professional requirements for office personnel; a general survey and comparison of major office machines classifications; administrative machine procurement problems and procedures: operation and use of office machines and equipment. Eight hours a week. Two hours lecture, six hours laboratory. Fee: \$15.

Prerequisite: Approval of instructor.

Mastering of Gregg Shorthand Diamond Jubilee Series theory. Progressive speed forcing and speed building, reinforcement, and control dictation given. Building transcription quality and speed. Five hours each week. Two hours lecture, three hours laboratory.

Prerequisite: Bus. Ed. 106.

BUS. ED. 208. ADVANCED SHORTHAND II

Three credits

Development of shorthand facility and transcription competency when working with highly specialized material. The specialized areas of dictation and transcription are: medical, legal, technical and scientific, international trade, and congressional. Emphasis is placed on specialized terminology. Five hours each week. Two hours lecture, three hours laboratory.

Prerequisite: Bus. Ed. 207.







Engineering

Professor Nejib, chairperson; Emeritus Professor Thomas; Associate Professors Aston, Hostler, Orehotsky; Assistant Professors Afrashteh, Koch, Parker; Adjunct Professors Kaby, Osadchy; Assistant Petyak.

The Department of Engineering offers four-year programs in Electrical Engineering and Materials Engineering leading to the Bachelor of Science degree. The programs provide a broad foundation in a number of important areas in addition to specialization in one or more. Students can choose to concentrate in bioengineering, electronic material, computer engineering, electronic and logic circuit design, microwaves, antenna systems, or semiconductor devices and applications.

Specialization in engineering is achieved through the technical electives. With the approval of his or her faculty adviser a student with special career goals may substitute the appropriate electives.

A five-year B.A./B.S. program in engineering is also available. This program offers a student the opportunity to obtain broader education in the arts or sciences, while completing the requirements for a degree in engineering. The program allows the student to spread his or her engineering studies over a five-year period, rather than within the typical four-year period. Upon successful completion of this program, the student is awarded the combined degrees of Bachelor of Arts in a discipline and Bachelor of Science in a particular branch of engineering.

A student may enter this program at any time during the first six semesters of one of the engineering B.S. programs. A student may also enter this program from other programs offered by the College. The timing for this change is, of course, critical because of the sequential nature of the courses in engineering.

In addition the Department offers two-year academic programs in Aeronautics Engineering, Chemical Engineering, Civil Engineering, Industrial and Management Engineering, and Mechanical Engineering. Upon completion of the second year, students in any of these programs may transfer to the junior year at other engineering schools.

The student chapters of the Institute of Electrical and Electronic Engineers (I.E.E.) and the American Socity for Metals (A.S.M.), in conjunction with the Department, periodically offer seminars on subjects of a timely nature, and attendance at these seminars is mandatory for completion of degree requirements.

Students intending to major in engineering are encouraged to be prepared in the basic sciences and to take calculus (Math. 111) in the first term of the freshman year.

FIRST YEAR COMMON TO ALL ENGINEERING PROGRAMS

FIRST SEMESTER		SECOND SEMESTER	
Chem. 201 Elements and Compounds	4	Chem. 204 Chemistry for Engineers	3
Eng. 101 Composition	3	Eng. 102 Composition	3
Engr. 111 Introduction to Engineering	4	Engr. 243 Fortran IV	3
Math. 111 Calculus I	4	Math. 112 Calculus II	4
P.E. 105 Hygiene	1	Phys. 201 General Physics II	4
P.E. 100 Physical Education	0	P.É. 106 Hygiene	1
		P.E. 100 Physical Education	0
	16		18
	10		10

Two-Year Academic Programs

Aerospace Engineering Civil Engineering Mechanical Engineering

THIRD SEMESTER		FOURTH SEMESTER	
E.E. 211 Circuit Theory I	3	Engr. 232 Strength of Materials	3
Engr. 231 Static and Dynamics	3	or 224 Thermodynamics & Heat Transfer	3
Engr. 283 Measurement Lab. I	1	Engr. 284 Measurement Lab. II	1
Math. 211 Intro. to Differential Equations	4	Ma.E. 210 Materials Engineering	3
Phys. 202 General Physics II	4	Math. 212 Multivariable Calculus	4
Non Technical Elective	3	Phys. 203 General Physics III	3
		Non Technical Elective	3
	10		7
	18		1

Chemical Engineering

	FOURTH SEMESTER	
4	Chem. 212 Inorganic Chemistry	4
3	Engr. 284 Measurement Lab. II	1
1	Ma.E. 210 Materials Engineering	3
5 4	Math. 212 Multivariable Calculus	4
4	Phys. 203 General Physics III	3
3	Non Technical Elective	3
10		18
	3 1 5 4 4	4 Chem. 212 Inorganic Chemistry 3 Engr. 284 Measurement Lab. II 1 Ma.E. 210 Materials Engineering 5 4 Math. 212 Multivariable Calculus 4 Phys. 203 General Physics III 3 Non Technical Elective

Industrial and Management Engineering

THIRD SEMESTER		FOURTH SEMESTER	
E.E. 211 Circuit Theory I	3	B.A. 252 Operations & Systems Man.	3
Engr. 231 Statics and Dynamics	3	or Non Technical Elective	3
Engr. 283 Measurement Lab. I	1	Engr. 232 Strength of Materials	3
Math. 211 Intro. to Differential Equations	4	or 224 Thermodynamics & Heat Transfer	3
Phys. 202 General Physics II	4	Engr. 284 Measurement Lab. II	1
Non Technical Elective	3	Ma.E. 210 Materials Engineering	3
		Math. 212 Multivariable Calculus	4
		Non Technical Elective	3
	10	mbarm milk o mangadan si da sa-	-
	18		1

B.S. Degree Programs

Electrical & Materials Engineering Second Year

THIRD SEMESTER		FOURTH SEMESTER	
E.E. 211 Circuit Theory I	3	E.E. 212 Circuit Theory II	3
Engr. 231 Statics & Dynamics	3	Engr. 232 Strength of Materials	3
Engr. 283 Measurement Lab. I	1	or 224 Thermodynamics & Heat Transfer	3
Math. 211 Intro. to Differential Equations	4	Engr. 284 Measurement Lab. II	1
Phys. 202 General Physics II	4	Ma.E. 210 Materials Engineering	3
N.T.E.	3	Math 040 M III 111 0 1 1	4
		DI 000 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3
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Electrical Engineering

Third Year

FIFTH SEMESTER E.E. 251 Electronics I E.E. 331 Electromagnetics I	4 4	SIXTH SEMESTER E.E. 252 Electronics II E.E. 332 Electromagnetics II	4 4
E.E. Elective N.T.E.	6	E.E. 272 Solid State Devices E.E. Elective	3
	17	N.T.E.	$\frac{3}{17}$

Electrical Engineering

Fourth Year

SEVENTH SEMESTER E.E. 335 Microwaves & Antenna Systems 3 E.E. 381 Advanced Microelectronics Lab. 4 E.E. 397 Senior Seminar 1 E.E. Elective 6 N.T.E. 3	EIGHTH SEMESTER E.E. 320 Electric Machines 4 E.E. 382 Communication & Antenna Lab. 4 E.E. 397 Senior Seminar 1 E.E. Elective 3 N.T.E. 6
17	18

- 1. Total minimum credits for B.S. degree 138.
- 2. Students desiring computer or bioengineering concentrations should consult their adviser for proper E.E. electives.
- 3. E.E. electives may be chosen from any mathematics, science, or engineering course numbered 200 or above, with at least six of the credits being in engineering.
- 4. Non Technical Electives (N.T.E.) can be taken in all areas, with nine of the credits being in the humanities and nine in the social sciences.

Materials Engineering Third Year

FIFTH SEMESTER		SIXTH SEMESTER	
Chem. 221 Inorganic Quant. Analysis	4	Chem. 212 Sys. Inorganic Chemistry	4
	4	Ma.E. 332 Engineering Polymers	3
Ma.E. 311 X-Ray Diffraction	3	or 322 Thermo & Phase Equilibria II	3
or 321 Thermo & Phase Equilibria I	3	Ma.E. 342 Mechanical Metallurgy	3
Ma.E. 241 Physical Metallurgy	3	or 234 Electrochemistry	3
or 231 Ceramics	3	Ma.E. Elective	3
E.E. 271 Physical Electronics	3	Non Technical Elective	3
Non Technical Elective		Non reclinical Elective	_
	16-17		16

Materials Engineering

Fourth Year

SEVENTH SEMESTER		EIGHTH SEMESTER	
Ma.E. 311 X-Ray Diffraction	4	Ma.E. 332 Engineering Polymers	3
	3	or 322 Thermo & Phase Equilibria II	3
	3	Ma.E. 342 Mechanical Metallurgy	3
or 231 Ceramics	3	or 234 Electrochemistry	3
Ma.E. 381 Advanced Laboratory	3	Ma.E. 397 Seminar	1
Ma.E. 397 Seminar	1	Ma.E. Elective	3
Ma.E. Elective	3	Non Technical Elective	6
Non Technical Elective	3		
	16-17		16
	Ma.E. 311 X-Ray Diffraction or 321 Thermo & Phase Equilibria I Ma.E. 241 Physical Metallurgy or 231 Ceramics Ma.E. 381 Advanced Laboratory Ma.E. 397 Seminar Ma.E. Elective	Ma.E. 311 X-Ray Diffraction 4 or 321 Thermo & Phase Equilibria I 3 Ma.E. 241 Physical Metallurgy 3 or 231 Ceramics 3 Ma.E. 381 Advanced Laboratory 3 Ma.E. 397 Seminar 1 Ma.E. Elective 3	Ma.E. 311 X-Ray Diffraction 4 Ma.E. 332 Engineering Polymers or 321 Thermo & Phase Equilibria I 3 or 322 Thermo & Phase Equilibria II Ma.E. 241 Physical Metallurgy 3 Ma.E. 342 Mechanical Metallurgy or 231 Ceramics 3 or 234 Electrochemistry Ma.E. 381 Advanced Laboratory 3 Ma.E. 397 Seminar Ma.E. 397 Seminar Ma.E. Elective 3 Non Technical Elective 3

- 1. Total minimum credits for B.S. degree 136.
- 2. Students desiring electronic materials concentration should select the sequence E.E. 251, 272, 381, and N.T.E.
- 3. Ma.E. electives may be chosen from any mathematics, science, or engineering course numbered 200 or above, with at least three of the credits being in engineering.
- 4. Non Technical Electives (N.T.E.) can be taken in all areas, with nine of the credits being in the humanities and nine in the social sciences.

General Engineering

ENGR. 111. INTRODUCTION TO ENGINEERING

Four credits

A general introduction to the techniques of engineering analysis. Emphasis on: methods of solving engineering problems; data presentation and interpretation including graphs, schematics, and P.C. layouts; fundamentals of drafting; vectors and vectors algebra; matrices and matrix operation. Introduction to computer logic, structure, and programming. Problem solving using computers. Four hours lecture-recitation per week.

ENGR. 224. HEAT AND MASS TRANSFER

Fundamental principles of heat transmission by conduction, convection and radiation; application of the laws of thermodynamics; mass transfer; application of these principles to the solution of engineering problems. Three hours lecture per week.

Prerequisite: Phys. 201.

ENGR. 231. STATICS AND DYNAMICS

Three credits

Equilibrium of force systems; computation of reactions and internal forces; determination of centroids and moments of inertia. Kinematics and dynamics of particles and rigid bodies; Newton's laws, kinetics and potential energy, linear and angular momentum, impulse, and inertia properties. Three hours lecture per week. Prerequisite: Phys. 201.

ENGR. 232. STRENGTH OF MATERIALS

Analysis of statically determinate and indeterminate structural systems; computation of reactions, shears, moments, and deflections of beams, trusses, and frames. Bending and torsion of slender bars; buckling and plastic behavior. Three hours lecture per week. Prerequisite: Engr. 231.

ENGR. 241. BASIC PROGRAMMING

One credit

Introduction to computer programming using the BASIC language, the principal high level language of microcomputers and minicomputers. One hour lecture per week. Fee: \$10. (see C.S. 122)

ENGR. 244. FORTRAN IV

Three credits

Introduction to computer programming using the FORTRAN IV language. The computer is used to solve problems geared to the individual interest of the students. Three hours lecture per week. Fee: \$25. (see C.S. 123)

ENGR. 245. ADVANCED FORTRAN

A study of advanced programming techniques using FORTRAN IV. Topics include: advanced data types, program optimization, and the use of various storage devices. Three hours lecture per week. Fee: \$25. (see C.S. 223)

Prerequisite: Engr. 244/C.S. 123.

ENGR. 283-284. ENGINEERING MEASUREMENT LAB I, II A laboratory for the development of measurement techniques and data gathering. The

understanding and the use of instrumentation for the measurement of various electric quantities, displacement, temperature, pressure, and other engineering-related quantities. Three-hour laboratory per week. Fee: \$20 per semester.

ENGR. 342. MACHINE LANGUAGE

Three credits

Basic principles of machine language programming. Computer organization and representation of numbers, strings, arrays, list structures at the machine level. Examples utilize all levels of computer architecture. Three hours lecture. Fee: \$25. (see C.S. 322) Prerequisite: Engr. 245/C.S. 223.

ENGR. 360. INDUSTRIAL TRAINING

One to three credits

Industrial and/or research experience gained through assignments or jobs with the community, government, business, or industry.

Prerequisite: Approval of the Engineering Department.

Electrical Engineering

E.E. 211-212. CIRCUIT THEORY I, II

Three credits each

Formulation of circuit equations and theorems. Various techniques for circuit analysis. Time and frequency domain analysis. Natural modes, initial conditions, and forced response. Two-part circuit descriptions and characterizations. Transfer functions and terminal behavior of linear network. Fourier, series, and integral computer methods in analysis. Three hours lecture per week.

Prerequisite: Math. 112.

The development of operating principles and terminal characteristics of electronic devices, particularly semiconductor devices. Amplifiers, oscillators, and rectifiers at audio and radio frequencies. Modulation and detection. Design considerations for small and large signals. The design of complete systems using such subsystems. Three hours lecture and one three-hour laboratory a week. Fee: \$20 a semester.

Prerequisite: E.E. 212.

E.E. 271. PHYSICAL ELECTRONICS

Three credits

Structure of the solid state, wave mechanics, statistics, band theory of solids, semiconductors and semiconductor electronics. Emission (thermionic, field, and photo-), photoconductivity and luminescence. Diodes, transistors, and other devices. Dielectrics, non-linear optics, piezoelectrics, ferroelectrics, ferro, and ferrimagnetism. Three hours class a week.

E.E. 272. SOLID STATE DEVICES

Transistor processes and types, properties of semiconductors, junction characteristics and theory. Junction transistor characteristics and theory. High-current effects and low frequency feedback effects. Low frequency and high frequency hybrid parameters. Three hours class a week.

Prerequisite: Phys. 203.

E.E. 320. ELECTRIC MACHINES

Four credits

Principles of electromagnetic and electrostatic energy conversion and their application to develop a unified treatment of electric machinery. Idealized machines and transformers. Engineering considerations applied to d.c. and a.c. machines. Three hours lecture and one three-hour laboratory a week. Fee: \$20.

Prerequisite: E.E. 331.

E.E. 331-332. ELECTROMAGNETICS I, II Four credits each Vector analysis applied to static and magnetic fields. Development of Maxwell's equations and boundary-value problems. Plane wave propagation and reflection and boundaries, the Poynting Theorem. Guided TEM, TE, and TM waves. Transmission lines and strip lines. Impedance transformation and Smith Charts. Radiation from dipole antenna. Three hours lecture and one three-hour laboratory a week. Fee: \$20 each

Prerequisite: Math. 212, Phys. 202.

E.E. 335. MICROWAVES AND ANTENNA SYSTEMS

Wave propagation in waveguides, resonant cavities and passive microwave devices. Retarded potentials. Relation of radiation fields to source distributions; antenna gain concepts and techniques in antenna design. Characterization and analysis of various types of antennas. Radoms and reflectors. Principles of phased-arrays. Three hours lec-

Prerequisite: E.E. 332.

E.E. 341. LOGIC AND SWITCHING CIRCUITS

Three credits

Application of Boolean algebra to the design of Number system logic networks, solidstate switching circuits and devices. Minimization techniques to the synthesis of combinatorial switching circuits including AND-OR and NAND-NOR logic. Analysis and synthesis of sequential switching circuits clocked and asynchronous operation. Effect of microelectronic technology on logic design optimization. Fault masking by redundancy techniques. Three hours lecture a week. (same as C.S. 320)

Prerequisites: E.E. 211 or Phys. 202.

E.E. 342. MICROCOMPUTER OPERATION AND DESIGN

Three credits

Microprocessor architecture, microcomputer design, and peripheral interfacing. Microprogramming, soft-ware systems, and representative applications. Associated laboratory experiments consider topics such as bus structure, programming, data conversion, interfacing, data acquisition, and computer control. Two hours lecture and one two-hour laboratory a week. Fee: \$25. (same as C.S. 329)

Prerequisite: E.E. 341/C.S. 320.

E.E. 343. COMPUTER DATA STRUCTURES

Three credits

A study of the use of a high-level language to implement complex data structures. These include lists, trees, graphs, networks, storage allocation, file structure, and information storage and retrieval. Three hours lecture a week. (see C.S. 227)

Prerequisite: Engr. 245

E.E. 344. OPERATING SYSTEM PRINCIPLES

Analysis of the computer operating systems including Batch, Timesharing, and Realtime systems. Topics include sequential and concurrent processes, processor and storage management, resource protection, processor multiplexing, and handling of interrupts from peripheral devices. Three hours lecture a week. (see C.S. 326)

Prerequisite: E.E. 343/C.S. 227.

E.E. 361. COMMUNICATION SYSTEMS

Three credits

Fundamental properties of signals. Principles and techniques of linear signal processing. Modulation and demodulation systems, including pulse. Sampling, channel capacity, and coding. Methods of multiplexing. Modulator and multiplexer design. Noise and its effects on communication. Three hours lecture a week.

Prerequisite: E.E. 212, Math. 351.

E.E. 376. OPTO-ELECTRONIC ENGINEERING

Wave optics, diffraction, and interference. Lasers and applications including modulation and detection. Optical components and devices. Fiber optics and couplers. Communication and system design concepts. Three hours lecture a week. Prerequisite: E.E. 271.

E.E. 381. ADVANCED MICROELECTRONICS LAB

The theoretical and practical aspects of techniques utilized in the fabrication of semiconductor devices. Crystal growth, solid solubility, alloying and diffusion, oxide masking and epitaxy. Thin and thick film techniques. Device fabrication procedures in microelectronics, and the electrical performance of devices based on these techniques. Ion implantation system and method of fabrication. One hour lecture and one six-hour lab a week. Fee: \$25.

Prerequisite: Senior standing.

E.E. 382. ADVANCED COMMUNICATION AND ANTENNA LAB Four credits Characterization and measurement of microwave components, devices, and systems.

Emphasis on testing and design criteria using swept frequency and dynamic techniques. Network and spectrum analyzers. Antenna radiation pattern measurements using the antenna range test facility. Microwave communication link design and testing. Coherent optical wave generation and modulation. Laser communication. One hour lecture and one six-hour laboratory a week. Fee: \$25.

Prerequisite: Senior standing.

E.E. 395-396. INDEPENDENT RESEARCH

One to three credits each

Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term

Prerequisite: Approval of department chairperson is required.

Prerequisite: Senior standing or by special permission.

Three credits

E.E. 398. TOPICS IN ELECTRICAL ENGINEERING Selected topics in the field of electrical engineering. These may include one or more of the following: information theory, signals and noise, communication systems, network synthesis, magnetic and non-linear circuits, cryogenics, electrodynamics, plasmas, telemetry, laser and semiconductor technology, digital and analog systems, etc. May be repeated for credit. Three hours lecture each week.

Prerequisite: Junior or Senior standing.

Materials Engineering

MA.E. 210. INTRODUCTION TO MATERIALS SCIENCE Three credits Introduction to the properties and the crystal structure of materials. Fundamentals of iron, steel, and non-ferrous materials. The behavior of materials in environmental conditions. Three hours lecture a week.

Prerequisite: Engr. 231 or Phys. 201.

Three credits

MA.E. 231. CERAMICS Structure and properties of ceramic crystalline solids, glasses, and clays. Ceramic phase diagrams. Preparation and industrial utilization of ceramic materials. Three hours lec-

Prerequisite: Junior standing.

MA.E. 234. ELECTROCHEMISTRY Fundamentals of electrochemistry and the application of electrochemical concepts to corrosion, batteries, fuel cells, electroplating, and electrolytic industries. Three hours lecture a week.

Prerequisite: Junior standing.

MA.E. 241. PHYSICAL METALLURGY Properties of pure metals, constitution, structure, and properties of alloys. Mechanical and thermal treatments of metals and alloys. Influence of microstructure on properties of metals and alloys. Three hours lecture a week.

Prerequisite: Ma.E. 210.

Four credits

MA.E. 311. X-RAY DIFFRACTION Crystallography. Properties of X-rays. Diffraction theory. Crystal structure analysis. Reciprocal lattice concepts. Debye-Scherer and Preferred Orientation Techniques. Lane, Rotating, Weissenberg and Precession Single Crystal Methods. Three hours lecture and one three-hour laboratory a week. Fee: \$25.

Prerequisite: Ma.E. 210 or Phys. 203.

MA.E. 321-322. THERMODYNAMICS AND PHASE EQUILIBRIA I, II

Three credits each

Fundamentals of thermodynamics. Phase and reaction equilibria. Behavior of gases and solutions. Theory of alloy phases. Thermodynamic approach to phase diagrams and electrochemistry. Electron theory of phase formation. Three hours lecture a week. Prerequisite: Ma.E. 210.

MA.E. 332. ENGINEERING POLYMERS

Three credits

Introduction to high polymers as an engineering material and the mechanical, electrical, and optical properties of polymers. Three hours lecture a week.

Prerequisite: Ma.E. 210.

MA.E. 342. MECHANICAL METALLURGY

Three credits

The mechanical properties of materials including: elasticity, plasticity, anelasticity, viscoelasticity, dislocation theory, fracture, fatigue, deformation of single crystal and polycrystalline materials, testing and plastic forming of materials. Three hours lecture a week

Prerequisite: Ma.E. 210 or Phys. 203.

MA.E. 371. CRYSTALLINE ANISOTROPY

Three credits

Groundwork of crystal physics and transformation of second-rank tensors. Paramagnetic and diamagnetic susceptibility. Electric polarization. Stress, strain, and thermal expansion. Elasticity and fourth-rank tensors. Matrices. Thermodynamics of equilibrium thermal conductivity, and thermoelectricity. Three hours lecture a week. Prerequisite: E.E. 271.

MA.E. 381-382. ADVANCED ENGINEERING

Three credits each

LABORATORY I, II The application of X-ray methods in materials engineering, X-ray spectrometers and spectrochemical analysis. Techniques for quantitative analysis. The electron probe and microanalysis. Techniques for quantitative analysis. Applications. Two three-hour laboratories a week. Fee: \$25 per semester.

MA.E. 395-396. INDEPENDENT RESEARCH One to three credits each Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

Prerequisite: Approval of department chairperson is required.

MA.E. 397. SEMINAR

One to three credits

Presentations and discussions of selected topics.

Prerequisite: Senior standing, or by special permission.

MA.E. 398. TOPICS IN MATERIALS ENGINEERING Selected topics in the field of materials engineering. These may include one or more of the following: X-ray diffraction, structure analysis, phase equilibria, metallurgy, ceramics, physical, mechanical, or electrical properties of materials. May be repeated for credit. Three hours lecture a week.

Prerequisite: Junior or Senior standing.

English, Modern Foreign Languages and Literatures

Professor Kaska, chairperson; Professors Fiester, Rizzo; Associate Professors Belic, Gutin, R. Heaman, Marban, Terry; Assistant Professors Ayres, Fox, Karpinich, Kinney, Leslie, Jr., Powlick; Instructors Eaton, Hardie, Weal; Adjunct Professors Hawley (spring), P. Heaman, Lord, Pawlush.

The Department of English, Modern Foreign Languages and Literatures offers a variety of programs for students interested in language and the language arts: they may concentrate in literature, in writing, in linguistics, in speech, in communication studies, or in theater arts. These programs are broadly based in the values traditionally associated with humane learning, and prepare students for such diverse careers as teaching, law, government service, theater, communications, and business.

Students who major in English are required to take Eng. 101 and

102 in their freshman year; and Eng. 151, 253, and 254 in their sophomore year. They may choose concentrations as follows:

Literature. The concentration in literature requires 24 credit hours in advanced literature courses. These must include at least one course in a major writer, one course in either the novel or drama, two period courses in literature before 1900, and one seminar.

Honors. Qualified students who concentrate in literature may be invited to participate in an honors program, which may lead to graduation with distinction in English. The program consists of a planned series of seminars and independent research in the junior and senior years, culminating in a thesis and a comprehensive examination.

Writing. The concentration in writing requires 12 credit hours in advanced literature courses; Eng. 201 and nine additional credit hours in advanced writing courses; and the submission of a portfolio of the student's work.

Linguistics. The concentration in linguistics requires 12 credit hours in advanced literature and writing courses and 12 in linguistics.

Speech. The concentration in speech requires 15 credit hours in advanced English courses and 15 in speech.

Communication Studies. The concentration in communication studies requires 15 credit hours in advanced English courses and 15 in communication studies. Students are expected to work out a coherent program through close consultation with their adviser.

Theater Arts. The concentration in theater arts requires 29 credit hours in theater arts courses, including 131, 210, 241, 330, 343, 352, and 380. It also requires 21 credit hours in advanced literature courses including 221 and any two of 321, 341, 374, and 384.

Certification. Students who seek certification as public school teachers must be especially careful in selecting courses to meet their professional needs. They are expected to arrange their programs in close consultation with their advisers.

Total minimum credits required for B.A. degree — 122.

ENG. 99. ENGLISH AS A SECOND LANGUAGE An introduction to English for non-native speakers.

No credit

ENG. 100. WRITING WORKSHOP

Three credits A developmental course concentrating on the fundamentals of writing. Combines extensive practice in the writing of expository prose with systematic study of grammar and

ENG. 101. COMPOSITION

Principles of exposition; collateral reading; writing of themes.

ENG. 102. COMPOSITION Three credits Principles of exposition continued; introduction to literature; writing of themes;

Prerequisite: Eng. 101 or Eng. 100.

ENG. 151. WESTERN WORLD LITERATURE Three credits Study of western world literature to the beginning of the eighteenth century; lectures, quizzes, conferences.

Prerequisite: Eng. 102, or equivalent in composition.

ENG. 152. WESTERN WORLD LITERATURE Three credits Survey of western world literature from the eighteenth century to the present. Prerequisite: Eng. 151.

ENG. 201. ADVANCED COMPOSITION Three credits A study of rhetorical types and strategies. Reading and intensive practice. Prerequisite: Eng. 102.

ENG. 202. TECHNICAL WRITING Three credits A study of the types and strategies of technical writing. Reading and intensive practice. Prerequisite: Eng. 102.

ENG. 203. CREATIVE WRITING Three credits Training in the selection and use of materials for writing the short story; attention is also given to some poetic forms and to the writing of short plays. Prerequisite: Eng. 102.

ENG. 220. HISTORY OF THE ENGLISH LANGUAGE Three credits Study of the origins of the English language and of the principal phenomena of later development. Prerequisite: Eng. 152 or 254.

ENG. 222. INTRODUCTION TO LINGUISTICS Three credits An introduction to the methods and materials of linguistic analysis. Prerequisite: Eng. 152 or 254 and 220 and consent of instructor.

ENG. 225. COMPARATIVE GRAMMAR Three credits A comparative and critical study of traditional and structural English grammar. Prerequisite: Eng. 152 or 254 and 220 or consent of instructor.

ENG. 226. TRANSFORMATIONAL GRAMMAR Three credits Intensive study of the principles of generative-transformational grammar and their applications in the analysis of English.

Prerequisite: Eng. 152 or 254 and 220 or consent of instructor. ENG. 253. SURVEY OF ENGLISH LITERATURE

Three credits A study of the works and movements in English literature from Anglo-Saxon period through the eighteenth century. Prerequisite: Eng. 102.

ENG. 254. SURVEY OF ENGLISH LITERATURE A study of the works and movements in English literature from the Romantic movement to the present. Prerequisite: Eng. 253.

ENG. 301. LITERARY CRITICISM A study of literary theory and the techniques of analysis. Prerequisite: Eng. 152 or 254.

Three credits

ENG. 305-306. THE TEACHING OF ENGLISH Six credits A study of the problems of teaching the language arts in the secondary schools. Prerequisite: Eng. 152 or 254 and permission of department chairperson.

ENG. 310. MEDIEVAL ENGLISH LITERATURE Three credits A study of English literature to 1500, exclusive of Chaucer and the drama. Prerequisite: Eng. 152 or 254.

ENG. 312. CHAUCER

Study of Chaucer's life and major works, including "The Canterbury Tales" and "Troilus and Criseyde."

Prerequisite: Eng. 152 or 254.

ENG. 320. TUDOR PROSE AND POETRY
Study of English non-dramatic literature from 1485 to 1603.
Prerequisite: Eng. 152 or 254.

ENG. 321. EARLY ENGLISH DRAMA

Three credits
Study of the drama from the tenth century to 1642; reading of plays by pre-Elizabethan
and Elizabethan dramatists exclusive of Shakespeare.

Prerequisite: Eng. 152 or 254.

ENG. 325. SHAKESPEARE

A study of selected plays; written reports on others not studied in class.

Prerequisite: Eng. 152 or 254.

ENG. 330. SEVENTEENTH CENTURY PROSE AND POETRY

A study of the non-dramatic literature of the period.

Three credits

Prerequisite: Eng. 152 or 254.

ENG. 335. MILTON
A study of Milton's poetry and major prose.

Prerequisite: Eng. 152 or 254.

ENG. 341. RESTORATION & EIGHTEENTH CENTURY DRAMA Three credits
Study of the drama from 1600 to 1780.
Prerequisite: Eng. 152 or 254.

ENG. 343. THE EIGHTEENTH CENTURY

Study of the chief poets and essayists of the eighteenth century.

Prerequisite: Eng. 152 or 254.

ENG. 345. EARLY ENGLISH NOVEL

Study of English prose fiction of the sixteenth and seventeenth centuries; rise of the novel to the close of the eighteenth century.

Prerequisite: Eng. 152 or 254.

ENG. 354. ROMANTIC PROSE AND POETRY

Study of Blake, Wordsworth, Coleridge, Shelley, Keats, and Byron, with related prose writers of the Romantic Period.

Prerequisite: Eng. 152 or 254.

ENG. 360. VICTORIAN PROSE AND POETRY

Readings in Tennyson, Browning, Arnold, and other significant writers of the Victorian Age.

Prerequisite: Eng. 152 or 254.

ENG. 366. LATER ENGLISH NOVEL

Study of the major novelists of the nineteenth and early twentieth centuries.

Prerequisite: Eng. 152 or 254.

ENG. 370. MODERN BRITISH POETRY

Study of major British poetry of the twentieth century.

Prerequisite: Eng. 152 or 254.

ENG. 372. MODERN NOVEL
Study of the major novels of the twentieth century.
Prerequisite: Eng. 152 or 254.

ENG. 374. MODERN DRAMA

Study of important dramatists, European and American, from the time of Ibsen.

Prerequisite: Eng. 152 or 254.

ENG. 381. AMERICAN LITERATURE I

A study of American literature to the Civil War.

Prerequisite: Eng. 152 or 254.

ENG. 382. AMERICAN LITERATURE II

A study of American literature from the Civil War to the present time.

Prerequisite: Eng. 152 or 254.

ENG. 383. AMERICAN NOVEL

A study of the American novel from its beginning to the present.

Prerequisite: Eng. 152 or 254.

ENG. 384. AMERICAN DRAMA

A study of the American drama from the colonial period to the present.

Prerequisite: Eng. 152 or 254.

ENG. 386. MODERN AMERICAN POETRY

Study of major movements and representative figures in modern American poetry.

Prerequisite: Eng. 152 or 254.

ENG. 391-392. PROJECTS IN WRITING

One to three credits
Independent projects in writing for advanced students.

Prerequisite: Six credits in advanced writing, and permission of department.

ENG. 395-396. INDEPENDENT RESEARCH

One to three credits
Independent study and research for advanced students in the field of the major under
the direction of a staff member. A research paper at a level significantly beyond a term
paper is required.

Prerequisite: Approval of department chairperson is required.

ENG. 397. SEMINAR (Maximum of three credits per student) One to three credits Presentations and discussions of selected topics.

Prerequisite: Approval of department chairperson is required.

ENG. 398. TOPICS

A study of special topics in English and American literature.

Prerequisite: Eng. 152 or 254.

Speech

SPEECH 101. FUNDAMENTALS OF SPEECH
Introduction to the theory and practice of public address; preparation and delivery of short speeches.

SPEECH 102. VOICE AND DICTION

A study of voice production and articulation; analysis of regional speech differences and standards.

Prerequisite: Speech 101.

SPEECH 105. ARGUMENTATION AND DEBATE

Training in the fundamentals of argumentation and debate. Practice in gathering and organizing evidence and supporting materials.

Prerequisite: Speech 101.

Three credits

Three credits

An approach to literature that combines analysis with interpretative oral performance. Prerequisite: Speech 101.

SPEECH 201. ADVANCED PUBLIC SPEAKING

Three credits
Study of rhetorical strategies and models of speech composition; preparation and presentation of specific forms of public address.

Prerequisite: Speech 101.

SPEECH 202. BUSINESS AND PROFESSIONAL SPEAKING Three credits A study of the needs and problems of business and professional speaking; preparation and delivery of short speeches; interview and conference techniques.

Prerequisite: Speech 101.

SPEECH 211. RHETORIC

A study of the foundations and development of rhetorical theory.

Prerequisite: Speech 101.

SPEECH 212. PERSUASION
A study of the theories and techniques of persuasion.
Prerequisite: Speech 101.

SPEECH 298. TOPICS

A study of special topics in speech.

Prerequisite: Permission of department.

SPEECH 395-396. INDEPENDENT RESEARCH One to three credits Independent study of select subjects or problems in speech and speech communication. Prerequisite: Permission of department.

Communication Studies

COMMUNICATION 101. PRINCIPLES OF COMMUNICATION Three credits A study of the theory and process of communication.

COMMUNICATION 105. INTERPERSONAL COMMUNICATION Three credits A study of theories and models of interpersonal communication.

COMMUNICATION 106. GROUP COMMUNICATION Three credits A study of the principles, methods, and types of small-group communication and its role in the democratic process.

COMMUNICATION 201. MASS MEDIA Three credits
A study of the mass media and their role in contemporary society.

COMMUNICATION 211. JOURNALISM: BASIC NEWS WRITING Three credits A study of the basic techniques and responsibilities of gathering and writing news. Prerequisite: Eng. 102.

COMMUNICATION 212. JOURNALISM: EDITING AND ADVANCED NEWS WRITING

A study of specialized reporting and introduction to the principles of news editing. Prerequisite: Communication 211.

COMMUNICATION 240. INTRODUCTION TO BROADCASTING Three credits The history, technology, law, and business of the broadcast industry, with experience in the organization and operation of a radio station, particularly the creation and presentation of radio programming. Lecture and laboratory.

COMMUNICATION 252. INTERNSHIP

Three credits

A supervised program of work and study. Students are assigned to a member of the Pennsylvania Newspaper Publishers Association; a licensed radio or television news staff; or a public relations office or firm. They will work out a schedule of fifteen hours of professional work per week, and spend two additional hours each week in conference with their instructor and others in the program.

Prerequisite: Communication 212 or 240.

COMMUNICATION 298. TOPICS

Three credits

Three credits

A study of special topics in communication.

Prerequisite: Permission of department.

COMMUNICATION 395-396. INDEPENDENT RESEARCH One to three credits Independent research of select subjects of problems in communication.

Prerequisite: Permission of department.

COMMUNICATION 397. SEMINAR

Presentations and discussions of selected topics.

Prerequisite: Permission of department.

Modern Foreign Languages

A major in any of the modern foreign languages consists of twenty-four credit hours in advanced language courses beyond the 102 course. These twenty-four credits must normally include 206, 301-302, and for students seeking public school certification, 390.

French

FR. 101. ELEMENTARY FRENCH
Introduction to French grammar; practice in reading, writing, and speaking the language. Students presenting two or more units from high school in French will not be granted credit for this course.

FR. 102. ELEMENTARY FRENCH

Continuation of Fr. 101. Students presenting two or more units from high school in French will not be granted credit for this course.

Prerequisite: Fr. 101, or the equivalent.

FR. 203. INTERMEDIATE FRENCH

Review of grammar; practice in oral and written French; selected readings of modern French prose.

FR. 204. INTERMEDIATE FRENCH
Introduction to French civilization; practice in oral and written French.

Prerequisite: Fr. 102, or the equivalent.

Prerequisite: Fr. 203, or the equivalent.

FR. 205. TECHNICAL FRENCH
Intensive practice in translating. A course designed for students who wish to be able to read material in French in their particular fields of interest.

Prerequisite: Fr. 203, or the equivalent.

FR. 206. FRENCH CONVERSATION

Intensive practice in the spoken language, with emphasis on idiomatic usage. Use of records and language laboratory to acquire fluency in speaking French.

Prerequisite: Fr. 204, or the equivalent.

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IN TRANSLATION

Problems of dramatic and novelistic form. Comparative analysis of plays by Corneille, Anouilh, Racine, Sartre, Moliere, Ionesco. The idea of the novel in France as seen in such writers as Mme. de Lafayette, de Laclos, Balzac, Stendhal, Gide, Proust, Robbe-

May not be taken concurrently with or after completion of Fr. 301-302.

May not be taken concurrently with or after completion of Fr. 301-302.

FR. 252. MASTERPIECES OF FRENCH LITERATURE

IN TRANSLATION

Three credits

French thought from Renaissance Humanism to twentieth century Existentialism: analysis of such writers as Montaigne, Pascal, Voltaire, Rousseau, Camus.

FR. 261. FEMININE PERSPECTIVES IN

FRENCH LITERATURE

Three credits

French readings in translation exploring woman's situation in a male-dominated society. Feminist criticism replaces traditional literary criticism.

FR. 301-302. SURVEY OF FRENCH LITERATURE Three credits each A survey of the evolution of French literature from the Middle Ages to the present, with stress on general ideas, literary genres, and outstanding writers of each century. Reading of representative selections from different periods of French literature. Prerequisite: Fr. 204, or the equivalent.

FR. 305. EIGHTEENTH CENTURY FRENCH LITERATURE Three credits Study of the literature and thought in the eighteenth century, with special emphasis on Montesquieu, Diderot, Voltaire, and Rousseau.

Prerequisite: Fr. 301-302, or the equivalent.

FR. 306. NINETEENTH CENTURY FRENCH LITERATURE The Romantic Movement: a study of the revolt against the classical tradition leading to the triumph of the Romantic School, with emphasis on Chateaubriand, Constant, Lamartine, Hugo, Vigny, Musset, Balzac, and Stendhal.

Prerequisite: Fr. 301-302, or approval of department chairperson.

FR. 307. NINETEENTH CENTURY FRENCH LITERATURE Three credits Naturalism and Symbolism: a study of the rise of naturalism and symbolism in the second half of the century with emphasis on Baudelaire, Zola, Flaubert, Leconte de Lisle, Verlaine, and Rimbaud.

Prerequisite: Fr. 301-302, or approval of department chairperson.

FR. 308. TWENTIETH CENTURY FRENCH LITERATURE Three credits Study of representative works of the major genres, with particular attention to Surrealism, Existentialism, the Theater of the Absurd, and the New Novel.

Prerequisite: Fr. 301-302 or equivalent.

FR. 350. ADVANCED FRENCH GRAMMAR Intensive, in-depth review of grammar with emphasis on intricacies tending to cause persistent difficulties. Reading, writing, and oral exercises significantly above Fr. 204 with goal of superior accuracy and proficiency. For majors and others with sufficient preparation.

Prerequisite: Fr. 204, or the equivalent.

FR. 390. FOREIGN LANGUAGE METHODOLOGY

Three credits

An opportunity for French language majors to synthesize their four years of study by examining language as a cultural device. Class sessions are supplemented by activities such as student teaching and language laboratory supervision.

Prerequisite: Senior standing, permission of department chairperson.

FR. 395-396. INDEPENDENT RESEARCH

Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

Prerequisite: Approval of department chairperson is required.

FR. 397. SEMINAR (Maximum of three credits per student) One to three credits Presentations and discussions of selected topics.

Prerequisite: Approval of department chairperson is required.

FR. 398. TOPICS

Three credits

A study of topics of special interest not extensively treated in regularly offered courses.

German

GER. 101. ELEMENTARY GERMAN

Three credits

Introduction to German grammar; practice in reading, writing, and speaking the language. Students presenting two or more units from high school in German will not be granted credit for this course.

GER. 102. ELEMENTARY GERMAN

Three credits

Continuation of Ger. 101. Reading of easy prose and poetry. Some stress on German culture, life, and customs. Students presenting two or more units from high school in German will not be granted credit for this course.

Prerequisite: Ger. 101, or equivalent.

Three credits

GER. 203. INTERMEDIATE GERMAN Emphasis on difficult grammatical construction and idioms. Reading of prose; practice in speaking and writing German.

Prerequisite: Ger. 102, or equivalent.

GER. 204. INTERMEDIATE GERMAN

Three credits

Continuation of Ger. 203. Rapid reading of German works representative of German life and history; practice in writing and speaking German.

Prerequisite: Ger. 203, or equivalent.

GER. 205. SCIENTIFIC GERMAN

Three credits

Reading of selections from scientific German.

Prerequisite: Ger. 203, or equivalent.

GER. 206. GERMAN CONVERSATION Three credits Emphasis on speaking, with drill in the colloquial vocabulary. Use of records and language laboratory to acquire fluency in speaking German.

Prerequisite: Ger. 204, or equivalent.

GER. 251. MASTERPIECES OF GERMAN LITERATURE IN

TRANSLATION: NOVEL, DRAMA

Three credits

The development of the novel and novelle in German literature as seen through representative writers such as Grimmelshausen, Goethe, Holderlin, Fontana, Storm, Mann, Hesse, and Kafka.

Dramatic form in analysis. Representative plays from Gryphius to Weiss including plays by Lessing, Schiller, Kleist, Buchner, Hofmannstal, Hartmann, Kaiser, Brecht, Hochhuth, and Weiss.

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GER. 252. MASTERPIECES OF GERMAN LITERATURE IN TRANSLATION: THOUGHT AND CRITICISM

Three credits

The change in man's view of his world from Humanism to the present, reflected in drama, critical essays, short philosophical writings, and satire.

Analysis of social criticism through satire, dramas, and essays of writers such as Saaz, Luther, Sachs, Lessing, Schiller, Heine, Buchner, and Brecht. Short philosophical essays from Kant to Nietzche.

Three credits each GER. 301-302. SURVEY OF GERMAN LITERATURE A survey of the literature of the important periods from the beginning to 1932. Prerequisite: Ger. 204, or equivalent.

GER. 304. THE AGE OF ENLIGHTENMENT Three credits The development of German literature in the eighteenth century with emphasis on the works and theories of Lessing.

Prerequisite: Ger. 301-302, or approval of department chairperson.

GER. 305. GOETHE AND SCHILLER Three credits Study of major works (drama, poetry, essay, novel) of Goethe and Schiller. Prerequisite: Ger. 301-302, or equivalent.

GER. 306. THE ROMANTIC MOVEMENT Study of the revolt against the classical tradition from "Sturm und Drang" and the Schlegels to Holderlin, Novalis, and other representatives of the Romantic School. Prerequisite: Ger. 301-302, or equivalent.

GER. 307. NINETEENTH CENTURY GERMAN LITERATURE Three credits Study of major literary works from late Romanticism through Realism. Prerequisite: Ger. 301-302, or equivalent.

GER. 308. TWENTIETH CENTURY LITERATURE The study of the development of German Literature from the turn of the century until the present.

Prerequisite; Ger. 301-302, or approval of department chairperson.

GER. 350. ADVANCED GERMAN GRAMMAR Intensive, in-depth review of grammar with emphasis on intricacies tending to cause persistent difficulties. Reading, writing, and oral exercises significantly above Ger. 204 with goal of superior accuracy and proficiency. For majors and others with sufficient preparation.

Prerequisite: Ger. 204, or equivalent.

GER. 390. FOREIGN LANGUAGE METHODOLOGY Three credits An opportunity for German language majors to synthesize their four years of study by examining language as a cultural device. Class sessions are supplemented by activities such as student teaching and language laboratory supervision. Prerequisite: Senior standing, permission of department chairperson.

GER. 395-396. INDEPENDENT RESEARCH One to three credits Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term

GER. 397. SEMINAR (Maximum of three credits per student) One to three credits

Prerequisite: Approval of department chairperson is required.

Presentations and discussions of selected topics. Prerequisite: Appoval of department chairperson is required. GER. 398. TOPICS A study of topics of special interest not extensively treated in regularly offered courses.

Spanish

SP. 101. ELEMENTARY SPANISH Three credits Introduction to Spanish grammar; practice in reading, writing, and speaking the language. Students presenting two or more units from high school in Spanish will not be granted credit for this course.

SP. 102. ELEMENTARY SPANISH Three credits Continuation of Sp. 101. Students presenting two or more units from high school in Spanish will not be granted credit for this course. Prerequisite: Sp. 101, or equivalent.

SP. 203. INTERMEDIATE SPANISH Three credits Review of grammar; practice in oral and written Spanish; selected readings from modern Spanish prose. Prerequisite: Sp. 102, or equivalent.

SP. 204. INTERMEDIATE SPANISH Three credits Introduction to Spanish civilization; practice in oral and written Spanish. Prerequisite: Sp. 203, or equivalent.

SP. 205. COMMERCIAL SPANISH Three credits The study of Spanish as it pertains to economic relations between the Spanish-speaking countries and the United States. Special emphasis on the writing of business letters. Prerequisite: Sp. 203, or equivalent.

SP. 206. SPANISH CONVERSATION Three credits Intensive practice in the spoken language, with emphasis on idiomatic usage. Use of records and language laboratory to acquire fluency in speaking Spanish. Prerequisite: Sp. 204, or equivalent.

SP. 208. SPANISH-AMERICAN CULTURE Three credits The cultural, economic, and political development of the Spanish-American countries. Prerequisite: Sp. 203, or equivalent.

SP. 301-302. SURVEY OF SPANISH LITERATURE Three credits each A survey of the evolution of Spanish literature from the Middle Ages to the present, with stress on general ideas, literary genres, and outstanding writers of each century. Reading of representative selections from different periods of Spanish literature. Prerequisite: Sp. 204, or equivalent.

SP. 303. THE GOLDEN AGE OF SPANISH LITERATURE Three credits Study of the great authors of the sixteenth and seventeenth centuries. Prerequisite: Sp. 301-302, or equivalent.

SP. 304. NINETEENTH CENTURY SPANISH LITERATURE Three credits Study of major literary works of the period, with emphasis upon Romanticism and Prerequisite: Sp. 301-302, or equivalent.

SP. 306. TWENTIETH CENTURY SPANISH LITERATURE Study of the development of Spanish literature from 1898 to the present. Prerequisite: Sp. 301-302, or equivalent.

SP. 307. CERVANTES AND DON QUIXOTE

Three credits

Study of the works of Cervantes with special emphasis on Don Quixote.

Prerequisite: Sp. 301, or equivalent.

SP. 308. SURVEY OF SPANISH-AMERICAN LITERATURE

Study of the evolution of Spanish-American literature from the discovery to the beginnings of the Mexican revolution. Readings from outstanding works from different periods and regions.

Prerequisite: Sp. 204, or equivalent.

SP. 309. SURVEY OF SPANISH-AMERICAN LITERATURE

Study of the evolution of Spanish-American literature from the Mexican revolution to the present. Readings from works representing principal modern movements and regional tendencies.

Prerequisite: Sp. 204, 208, or equivalent.

SP. 350. ADVANCED SPANISH GRAMMAR

General grammatical review; systematic, in-depth study of points of grammar that generally tend to cause persistent difficulties for the student; intensive reading, writing, and oral exercises significantly above intermediate college level language courses.

Prerequisite: Sp. 204, or equivalent.

SP. 390. FOREIGN LANGUAGE METHODOLOGY

Three credits
An opportunity for Spanish language majors to synthesize their four years of study by
examining language as a cultural device. Class sessions are supplemented by activities
such as student teaching and language laboratory supervision.

Prerequisite: Senior standing, permission of department chairperson.

SP. 395-396. INDEPENDENT RESEARCH One to three credits Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

Prerequisite: Approval of department chairperson is required.

SP. 397. SEMINAR (Maximum of three credits per student) One to three credits Presentations and discussions of selected topics.

Prerequisite: Approval of department chairperson is required.

SP. 398. TOPICS

A study of topics of special interest not extensively treated in regularly offered courses.

Russian

RUS. 101. ELEMENTARY RUSSIAN

Three credits
Basic systematic introduction to the grammatical essentials of Russian; practice in
reading, writing, and speaking the language.

RUS. 102. ELEMENTARY RUSSIAN

Continuation of Rus. 101. Graded elementary readings depicting the culture, life, and customs of the Russian people.

Prerequisite: Rus. 101, or equivalent.

RUS. 203. INTERMEDIATE RUSSIAN

A review of basic grammar followed by emphasis on advanced grammatical structure.

Reading of selected prose, directed standard-situation conversation, and composition of Russian

Prerequisite: Rus. 102, or equivalent.

RUS. 204. INTERMEDIATE RUSSIAN

Three credits

Continuation of Rus. 203. Stress on conversational and written Russian to provide the student wih confidence for self-expression and a basic active vocabulary. Practice in topical readings.

Prerequisite: Rus. 203, or equivalent.

History

Professor Leach, chairperson; Professors Cox, Rodechko; Associate Professors Berlatsky, Shao; Assistant Professors Berg, Meyers.

Students who major in history are required to take Hist. 101-102 in the freshman year, Hist. 207-208 in the sophomore year, and 18 additional credit hours in advanced history courses. Advanced courses taken must include a minimum of six hours each in American and non-American topics.

Total minimum credits required for B.A. degree — 121.

HIST. 101-102. WORLD CIVILIZATION

Three credits each

This course is designed as a survey of all the basic cultures of the world. The major portion of the course will be devoted to the development of western civilization. Attention will also be given to the part played by America in world history, especially during the expansion of Europe and in the twentieth century.

HIST. 207-208. AMERICAN HISTORY
A general survey of American history from colonial times to the present.

HIST. 313-314. HISTORY OF SCIENCE

The development of science and technology from earliest times to 1800, and from 1800 to the present.

HIST. 315. ANCIENT HISTORY: NEAR EAST

Three credits
The birth of civilization in Mesopotamia and Egypt. Babylonian, Persian, and Judaic backgrounds of western civilization. Attention will also be paid to certain lesser civilizations, with emphasis on the role of archaeology.

HIST. 316. ANCIENT HISTORY: CLASSICAL WORLD

Three credits
The direct Greco-Roman antecedents for western civilization will be developed, beginning with Mycenae, through Homer, the Golden Age, Hellenistic world, and the rise and fall of Rome. Emphasis will be on the cultural contributions of each group and period to our present world.

HIST. 321-322. AMERICAN SOCIAL AND INTELLECTUAL HISTORY

Three credits each

A study of social and intellectual developments in the United States from the colonial period to the present time. During the first semester emphasis will be placed on the influence of the American environment during the colonial period and of expansion and sectional disputes in the federal period upon society and upon religious, economic, and political thought. During the second semester the influence of industrialization, the rise of nationalism, and the emergence of the United States as a world power will be emphasized.

fluence in world affairs.

HIST. 323-324. AMERICAN ECONOMIC HISTORY

Three credits each
The evolution of the American economy from colonial dependency to modern industrial maturity. Emphasis will be placed upon the transformation of an agrariancommercial economy to an urban-industrial economy which exercises a dominant in-

HIST. 325. AMERICAN ETHNIC HISTORY

A study of the institutions and problems that have characterized various immigrant, black, and Indian communities from colonial times to the present.

HIST. 326. URBAN HISTORY

A survey of the origins and development of the modern city. Primary emphasis is given to the evolution of the city in America and its influence on American society and culture. Reference is made to the cities of modern Europe and Asia primarily for comparative purposes.

HIST. 327-328. HISTORY OF THE FOREIGN POLICY
OF THE UNITED STATES
Three credits each
A study of the evolution of the several policies that give direction to the relations of the
United States with other nations.

HIST. 331. COLONIAL AMERICA Three credits
Discovery, exploration, and settlement; development of social, political, religious, and intellectual institutions; independence and political reorganization.

HIST. 332. THE NATIONAL PERIOD Three credits A study of the political and enonomic history of the United States from 1783 to 1865. Special attention will be given to the evolution of sectional differences and the culmination of these differences in intersectional warfare.

HIST. 333. THE AGE OF BIG BUSINESS, 1865-1914 Three credits A study of the political and economic history of the United States from 1865 to 1914. Special attention will be paid to the period of congressional dominance and the restoration of presidential power at the turn of the century; the economic, social, and political consequences of the industrial revolution; and the rise of urban America.

HIST. 334. TWENTIETH CENTURY AMERICA

Three credits
The emergence of the United States as an industrial, urban, world power and the corresponding development of its political, economic, social, religious, and intellectual institutions.

HIST. 341-342. HISTORY OF GREAT BRITAIN AND THE BRITISH EMPIRE AND COMMONWEALTH

A study of British history from the Neolithic period to present times. The first semester will cover social, economic, and political developments to 1783, including expansion overseas. The second semester will cover the consequences of the industrial revolution and the evolution of the Empire into the Commonwealth.

HIST. 347-348. HISTORY OF RUSSIA

A study of the political, social, and intellectual history of Russia.

HIST. 351. MEDIEVAL EUROPE

Consideration will be given to political, economic, and cultural institutions and activities, and intellectual development in Medieval Europe to the early Renaissance.

HIST. 352. THE RENAISSANCE AND REFORMATION Three credits Within the political and economic framework of the period, study will be made of the culture of the Renaissance, the religious reforms and conflicts resulting from the crisis in the sixteenth century.

HIST. 353-354. EARLY MODERN EUROPE, 1648-1815 Three credits each Topics include the absolutism of Louis XIV, the growth of Brandenburg-Prussia, the French Revolution and French Empire, the economic forces of mercantilism and the early Industrial Revolution. The growth of science and the Enlightenment will receive careful attention.

HIST. 355. EUROPE IN THE NINETEENTH CENTURY

A study of the political, social, and cultural development of Europe from the Congress of Vienna to World War I.

HIST. 356. EUROPE IN THE TWENTIETH CENTURY

Against a background of the internal and international developments of the leading powers, the class will study the origins and results of the two World Wars.

HIST. 361-362. HISTORY OF THE FAR EAST

A study of the history of the civilizations developed in India, China, and Japan with emphasis on their inter-relations and distinctive characteristics and on their transformation in response to the penetration of western civilization from the sixteenth century onward. Some attention will be given to similar developments and changes among the countries of Southeast Asia. Fall semester: to c. 1760. Spring semester: 1760 to present.

HIST. 363. HISTORY OF MODERN CHINA

A study of Chinese history since 1840 with special emphasis on social, political, economic, and intellectual developments.

HIST. 364. DIPLOMATIC HISTORY OF THE FAR EAST

A study of the relationship of the states of the Far East with one another and the West in the nineteenth and twentieth centuries.

HIST. 367. MODERN SOUTH ASIA

A study of the political, social, and economic development of the Indian sub-continent since 1500.

HIST. 381-382. HISTORY OF LATIN AMERICA

First semester: a survey of Latin American history from ancient times to 1820. Second semester: Latin America since 1820.

HIST. 391. HISTORIOGRAPHY AND RESEARCH

An introduction to historical research and writing. The writings and ideas of major historians of the past and present are examined. The student is exposed to research methods, particularly in the area of primary sources, and to the construction and criticism of the historical monograph.

Prerequisite: Approval of instructor.

HIST. 395-396. INDEPENDENT RESEARCH

One to three credits
Independent study and research for advanced students in the field of the major under
the direction of a staff member. A research paper at a level significantly beyond a term
paper is required.

Prerequisite: Approval of department chairperson.

HIST. 398. TOPICS

Special topics in history. This course will be offered from time to time when interest and demand justify it.

HIST. 497. SEMINAR (Maximum of three credits per student) One to three credits Presentations and discussions of selected topics.

Prerequisite: Approval of instructor is required.

Mathematics

Professor Wong, chairperson; Associate Professors Earl, Merrill, Sours, T. Richards, Tillman; Assistant Professors DeCosmo, Koch, Parker, Salsburg.

Programs of study leading to the B.A. or B.S. degree with a major in mathematics are offered by the Department of Mathematics & Computer Science. Also available are the M.S. in Mathematics and, in cooperation with the Education Department, the M.S. in Education with a concentration in mathematics. A combined five-year B.S.-M.S. degree program in mathematics is offered (see page 150). Descriptions of graduate programs are contained in a separate graduate bulletin.

The Department offers three tracks through which the baccalaureate degree requirements in mathematics may be met: general mathematics (GM), applied mathematics (AM), and teacher certification (TC). The program in general mathematics provides preparation for graduate study and research in mathematics. The applied mathematics track is designed to provide a background for graduate study in applied mathematics or statistics, and for careers in industry or government service. The teacher certification track provides preparation for secondary school teaching. All three tracks share a common background in algebra, analysis, probability, and basic computing.

In recent years the mathematical sciences have played an ever-expanding role not only in the physical sciences, but also in the social and biological sciences. The mathematics degree requirements at Wilkes permit sufficient flexibility for a student to complete the requirements for another major in addition to mathematics with properly chosen courses in other fields. A student will be able to obtain excellent preparation for graduate or professional study leading to careers in actuarial science, statistics, computing, economics, business and management, law, medicine, physical, environmental, or engineering sciences, and many interdisciplinary fields. Many professional schools particularly welcome applicants with a strong undergraduate mathematics background.

The B.A. degree is intended for those who wish to elect more humanities and social science courses, whereas the B.S. degree allows for greater concentration of physical and engineering science electives. Both B.A. and B.S. programs are available in all three tracks.

With the approval of the department, a student may earn credits in a maximum of five mathematics or computer science courses by passing special challenge examinations in them. Interested students may obtain further details and application forms from the department chairperson.

Comm	on requirements for B.A. and B.S. degrees:	redit hours
(1)	The general core requirements listed on page 49, except the science/mathematics area which is specified below.	ept 41
(2)	Math. 111, 112, 202, 212, 311, 331, 334, and 351	29
(3)	C.S. 122, 123, or 124	1-3
Additio	onal requirements:	redit hours
(4A)	Any three courses, including a two-semester sequence, in Biology, Chemistry, Earth and Environmental Sciences, Physics.	9 or
(4S)	Phys. 201 and a two-semester sequence in Biology, Chemistry, Earth and Environmental Sciences, or Physi	11 cs

Phys. 201, 202 and at least three credits in Biology, Chemistry, Engineering, Earth and Environmental Sciences, or Physics courses numbered above 200, Phil. 350 or 352.

courses numbered above 200, or

		B. A. degree		B.S. degree			
		AM	GM	TC	AM	GM	TC
	Math. 211	4	4	armiro.	4	4	
	Math. 203, 343, and 262 or				CHARLE		
	352			9	shall beats		9
	Ed. 101, 102, 201, 202, 380			22	101 uljahan		22
	One of Math. 342, 413, and				ON DESIGNATION		
	432		3		lacionisi	3	
	One of Math. 314, 361, and				101 101 11		
	362				3		
	One of Math. 262, 352, and				the period to		
	364	3			3		
	One of Math. 262, 314, 352,				Resime		
	361, 362, and 364	3	3		max mer	3	
	Any mathematics or computer science courses				dostavii		
	numbered above 200	3	3	1201101	6	6	6
(5)	Other major and education				ATTENDED		
	courses	13	13	31	16	16	37
(6)	Free electives	32-30	32-30	14-12	29-27	29-27	8-6

 Minimum total credit requirements for mathematics major:

 B.A. (1)+(2)+(3)+(4A)+(5)+(6) 125

 B.S. (1)+(2)+(3)+(4S)+(5)+(6) 127

MATH. 100. PRE-CALCULUS MATHEMATICS

A remedial course in advanced algebra and trigonometry designed to prepare students for calculus. Content of this course should normally be studied in secondary school. Prerequisite: Two years of secondary school mathematics in algebra and geometry. Offered every fall, spring, and summer.

MATH. 101. FUNDAMENTALS OF MATHEMATICS I Three credits Basic quantitative and analytic techniques and concepts designed to help the student understand science, technology, and human institutions as they bear on the individual citizen. Topics include: graphical presentation of data, exponential growth and decay, probability and statistics, error analysis, introduction to computing, vectors and matrices, and linear programming. Not open to students with credits in Math. 103 or

Offered every fall and summer.

MATH. 102. FUNDAMENTALS OF MATHEMATICS II Three credits A continuation of Math. 101. Not open to students with credits in Math. 103-104.

Prerequisite: Math. 101. Offered every spring and summer.

MATH. 103. MATHEMATICS FOR ELEMENTARY

Three credits

SCHOOL TEACHERS I A study of the theory of arithmetic, structure of the number systems, and other topics relevant to the teaching of mathematics in elementary schools. Not open to students with credits in Math. 101 or 102.

Offered every fall and summer.

MATH. 104. MATHEMATICS FOR ELEMENTARY

SCHOOL TEACHERS II A continuation of Math. 103. Not open to students with credits in Math. 101 or 102. Prerequisite: Math. 103.

Offered every spring and summer.

MATH. 105. INTRODUCTORY CALCULUS I

Intended primarily for students of social and natural sciences. Topics include: review of algebra, limit, differentiation, integration, sequences and series, partial differentiation, differential equations, and probability. Not open to students with credits in Math. 111 or 112.

Prerequisite: Geometry, Algebra II, and some knowledge of Trigonometry. Offered every fall, spring, and summer.

MATH. 106. INTRODUCTORY CALCULUS II

A continuation of Math. 105. Not open to students with credits in Math. 111 or 112. Prerequisite: Math. 105.

Offered every fall, spring, and summer.

MATH. 111. CALCULUS I

Four credits Calculus of functions of one variable. Topics include: functions, limits and continuity, differentiation, integration and their applications, infinite sequences and series. Not open to students with credits in Math. 105 or 106.

Prerequisite: Math. 100 or at least three years of secondary school mathematics including Geometry, Algebra II, and topics in Trigonometry. Offered every fall and summer.

MATH, 112. CALCULUS II

Four credits

A continuation of Math. 111. Not open to students with credit in Math. 106.

Offered every spring and summer.

MATH. 150. ELEMENTARY STATISTICS

Three credits

This course covers the elementary statistical concepts, with emphasis on ideas and techniques rather than on proof of theorems. Applications to management science, social science, and natural sciences will be stressed. Major topics include probability, random variables, sampling, point estimation, interval estimation, tests of hypotheses, regression, and correlation. Not open to mathematics majors or students with credit in Math.

Prerequisite: Two years of high school algebra. Offered every fall and spring.

MATH. 202. SET THEORY AND LOGIC

Three credits

Designed to provide the logical and set theoretical prerequisites for the upper-level courses in analysis, algebra, computer science, and topology. Topics include: informal logic and propositional calculus, sets, relations, functions, axiom of choice and its equivalents, cardinal and ordinal numbers. Three hours lecture and one hour problemdiscussion per week.

Prerequisite: Math. 112 or consent of department chairperson. Offered every spring.

MATH. 203. THE TEACHING OF MATHEMATICS IN SECONDARY SCHOOLS

Three credits

This course deals with topics and perspectives that are relevant to the teaching of mathematics in secondary schools (7-12). Topics include: history of modern algebra and geometry as deductive, axiomatic systems; recommendations of and material published by the various organizations (CUPM, SMSG, UICSM, etc.) concerned with the improvement of school mathematics curricula; local and national professional organizations, evaluation of instruction. (same as Ed. 203G)

Prerequisite: Junior standing in mathematics.

MATH. 211. INTRODUCTION TO LINEAR ALGEBRA AND DIFFERENTIAL EQUATIONS

Four credits

Topics include: Matrices; determinants; vector spaces; linear transformations; eigenvalues and eigenvectors; first order, linear higher order, and systems of differential equations.

Prerequisite: Math. 112.

Offered every fall and summer.

MATH. 212. MULTIVARIABLE CALCULUS

Four credits

Differential and integral calculus of real and vector valued functions. Topics include continuity, partial differentiation, implicit functions, Taylor's Theorem, gradient, curl, line, surface and multiple integrals, inverse functions, theorems of Green and Stokes.

Prerequisite: Math. 112.

Offered every spring and summer.

MATH. 232. ABSTRACT ALGEBRA FOR ELEMENTARY SCHOOL TEACHERS

Three credits

A study of basic concepts of abstract algebra for elementary school teachers. Not open to mathematics or computer science majors or those with credit in Math. 331. Prerequisite: Math. 104 or consent of instructor.

Offered every fall and summer.

MATH. 243. GEOMETRY FOR ELEMENTARY SCHOOL TEACHERS

Three credits

A study of topics in informal geometry and measurements for elementary school teachers. Not open to mathematics or computer science majors or those with credit in Math. 343.

Prerequisite: Math. 104 or consent of instructor.

Offered every spring and summer.

MATH. 262. OPERATIONS RESEARCH

Three credits

Mathematical modeling of and solution algorithms for optimization problems of the following types: linear programming (including duality and sensitivity analysis); transportation, transshipment, and assignment problems; network models (including shortest route, critical path, and maximal flow problems); dynamic programming. (same as C.S. 262)

Prerequisite: Some elementary knowledge of matrices.

Offered every spring.

MATH. 311. FUNCTIONS OF A REAL VARIABLE

Four credits

A rigorous study of the topology of the real line, limits, continuity, differentiation, integration, and series of functions.

Prerequisite: Math. 202 or consent of instructor.

Offered in the fall semester of odd years.

MATH. 314. FUNCTIONS OF A COMPLEX VARIABLE

Three credits

Complex functions, limit, continuity, analytic functions, power series, contour integration, Laurent expansion, singularities and residues.

Prerequisite: Math. 211 or consent of instructor.

Offered every spring and summer.

MATH. 331. INTRODUCTION TO ABSTRACT ALGEBRA I

Four credits

A study of elementary number theory, groups, rings, and fields. Prerequisite: Math. 202 or consent of instructor.

Offered in the spring semester of odd years.

MATH. 334. LINEAR ALGEBRA

Three credits

Vector spaces, linear transformations, matrices, determinants, bilinear and quadratic forms, matrix polynomials.

Prerequisite: Math. 211 or consent of instructor.

Offered every fall and summer.

MATH. 342. INTRODUCTION TO TOPOLOGY

Metric spaces, topological spaces, countability and separation axioms, compactness, connectedness, product spaces.

Prerequisite: Math. 311 or consent of instructor.

Offered in the spring semester of odd years.

MATH. 343. INTRODUCTION TO GEOMETRY A study of selected topics from Euclidean geometry, affine geometry, projective geometry, and convexity.

Prerequisite: A year of calculus or consent of instructor.

Offered in the fall semester of even years.

MATH. 351-352. PROBABILITY AND MATHEMATICAL

STATISTICS I AND II

Three credits each Random variables, probability distributions, expectation and limit theorems, estimation, statistical hypotheses testing, confidence intervals.

Prerequisite: Math. 106 or 112 or consent of instructor.

Offered every year.

MATH. 361-362. INTRODUCTION TO APPLIED

Three credits each

MATHEMATICS I AND II Intended for physical science and engineering students. Topics to be selected from: vector, integral, and differential calculus; power series; differential equations; Fourier series; matrices, determinants, and eigenvalue problems.

Prerequisite: Math. 212.

Offered every year.

MATH. 364. NUMERICAL ANALYSIS

Three credits

Numerical methods of differentiation, integration, solution of equations and of differential equations with emphasis on problems that lend themselves to solution using computers. (same as C.S. 364)

Prerequisite: Math. 211 and C.S. 123 or consent of instructor. Offered every spring.

MATH. 397. SEMINAR

One to three credits

Presentations and discussions of selected topics. Prerequisite: Approval of department chairperson.

MATH. 413. FUNCTIONS OF SEVERAL VARIABLES Three credits A modern treatment of calculus of functions of several real variables. Topics include: Euclidean spaces, differentiation, integration on manifolds leading to the classical

theorems of Green and Stokes. Prerequisites: Math. 311 and 334. Offered in the summer of odd years.

MATH. 432. INTRODUCTION TO ABSTRACT ALGEBRA II Three credits A continuation of Math. 331. Polynomial rings, ideals, field extensions, and Galois

Theory. Prerequisite: Math. 331.

Offered in the summer of even years. MATH. 470. READING COURSE

One to three credits

Individual study of special topics under the supervision of a faculty member. Designed for students who have completed a substantial amount of course work in mathematics. May be repeated for credit.

Prerequisite: Senior standing and consent of department chairperson.

MATH. 198/298/398/498. TOPICS IN MATHEMATICS Variable credits A study of topics of special interest. It may be a continuation and intensive study of topics begun in the upper-level courses in analysis, topology, algebra, and probability. May be repeated for credit.

Prerequisite: Varies with topics studied.

Additional 500-level graduate courses in mathematics are open to qualified mathematics majors. See the graduate bulletin for complete listing.



Music and Music Education

Professor Gasbarro, chairperson; Professor Chapline; Assistant Professors Fall, Garber, Haberkorn, Santos, Veremeychik; Adjunct Professor A. Liva.

Students who major in music or music education are required to complete the following programs of study. Those who desire teacher certification will pursue the B.S. degree program.

There is a fee of \$20 per semester for all music and music education majors, and fees for private instruction are in addition to the regular tuition charge

tuition charge.	
B.A. Degree — Major in Music	
General Core Courses Major (Mus. 105, 106, 107, 108, 109, 110, 121 or 125 or 131, 215, 216, 217, 218, plus applied music — private instruction)	53 credits 51 credits
Electives	27 credits
MINIMUM TOTAL	131 credits
B.S. Degree — Major in Music Education	
General Core Courses	38 credits
Major	32 credits
Correlative Courses	72 credits
Electives	0-6 credits

A suggested schedule for completing these requirements may be obtained in the Music Department office.

MINIMUM TOTAL....

Music

APPLIED MUSIC

Individual and group instruction are offered at all levels of difficulty to students in piano, pipe organ, voice, and orchestral and band instruments. The student receives a series of fourteen lessons a semester. A performing examination before the music faculty is necessary if credit is to be obtained for such study. Music majors are required to attend a series of weekly performances provided by personnel of the department.

Students who are not music majors may receive one credit each semester for voice or instrumental study. No performing examination is necessary if credit is not desired by the student.

The ability, interest, and progress of students intending to major in music will be evaluated at the end of the sophomore year by the music faculty. Students will be advised before the opening of the following semester if the faculty does not recommend a continuation of the music major.

MUS. 101. INTRODUCTION TO THE MATERIALS AND LITERATURE OF MUSIC I

Three credits

The materials of music and their interrelationships. Illustrations are derived from literature of all periods for the purpose of developing understanding and enjoyment through perceptive listening.

MUS. 102. INTRODUCTION TO THE MATERIALS

AND LITERATURE OF MUSIC II

Three credits

A survey of performance literature extending from the Baroque period to the present. Directed listening to illustrations of various media, forms, and styles characteristic of each period for the purpose of stimulating critical judgment in the listener. Prerequisite: Mus. 101.

MUS. 105-106-107-108. THEORY OF MUSIC Five credits each course

The study of the theory of music is centered upon three main principles:

- 1. The recognition of intervals and meter through dictation.
- 2. The structure of chords and chord progressions through keyboard harmony.
- 3. The writing of music through exercises in harmonic and contrapuntal techniques. The first two semesters of theory include ear training, two hours; solfeggio, two hours; harmony, one hour. The third and fourth semesters include ear training, one hour; solfeggio, one hour; harmony, three hours.

There is no prerequisite for Mus. 105. Students may be admitted to Mus. 106, 107, and 108 by examination.

MUS. 109. HISTORY OF MUSIC I

A detailed study of the history of music from the beginning of civilization to the seventeenth century.

MUS. 110. HISTORY OF MUSIC II

Three credits

A continuation of Mus. 109, beginning with J. S. Bach and tracing musical development to the present day. Twentieth century music will be emphasized in the final weeks

MUS. 111-112. PIANO CLASS 1 AND 2

Two credits each semester

Class instruction in piano. The classes will be divided into suitable groups according to proficiency. This course is required for all music education majors who are not enrolled in applied music in piano.

No prerequisite.

MUS. 113-114. PIANO CLASS 3 AND 4

Two credits each semester

Advanced class instruction in piano. This course is a continuation of the required course for all music education majors who are not enrolled in applied music in piano. Prerequisite: Mus. 112.

MUS. 121. BAND

One-half credit each semester

The band offers the student a varied program for concerts and for various athletic events. Students desiring to participate in the band should consult with the director.

All instrumental music education and music majors are required to participate in the band each semester

MUS. 125. CHORUS

One-half credit each semester

The chorus offers the student a complete range of sacred and secular choral music. Students desiring to participate in the chorus should consult with the director.

All music education and music majors studying voice or piano are required to participate in the chorus each semester.

One-half credit each semester

Participation in the Northeastern Pennsylvania Philharmonic Orchestra gives the student experience in the complete range of symphonic literature. Students desiring to participate in the Orchestra should consult with the department chairperson.

MUS. 215. INSTRUMENTATION

The instruments of the modern symphonic orchestra, their capabilities and limitations. The technique of scoring for small instrumental combinations; transposition and clef manipulation.

Prerequisite: Mus. 108, or approval of department chairperson.

MUS. 216. ORCHESTRA AND BAND ARRANGING Two credits Scoring for the large orchestra or the modern symphonic band. The student may select his field of concentration.

Prerequisite: Mus. 215.

Two credits

MUS. 217. ANALYSIS The technique of composition as disclosed by melodic, harmonic, and structural analysis of music in varied styles and from diverse periods.

Prerequisite: Mus. 108, or equivalent as demonstrated by an examination.

MUS. 218. COUNTERPOINT

Three credits

A study of the sixteenth century art of contrapuntal writing. Prerequisite: Mus. 108.

MUS. 395-396. INDEPENDENT RESEARCH One to three credits

Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

Prerequisite: Approval of department chairperson is required.

MUS. 397. SEMINAR (Maximum of three credits per student) One to three credits Presentations and discussions of selected topics.

Prerequisite: Approval of department chairperson is required.

Music Education

MUS. ED. 101-102. CLARINET CLASS AND **METHODS**

Two credits each semester

Methods of teaching and instruction in the clarinet.

MUS. ED. 103-104. BRASS CLASS AND **METHODS**

Two credits each semester

Methods of teaching and instruction in brass instruments.

MUS. ED. 105. WOODWIND CLASS METHODS

A class conducted as an introduction to the teaching of such woodwinds as flute, oboe, clarinet, bassoon, and saxophone, with demonstrations of the class teaching of these instruments.

Prerequisite: Mus. Ed. 102.

MUS. ED. 106. BRASS CLASS METHODS

Two credits

A class conducted as an introduction to the teaching of such brass instruments as trumpet, horn, trombone, baritone, and tuba, with demonstrations of the class teaching of these instruments.

Prerequisite: Mus. Ed. 104.

MUS. ED. 121. VIOLIN CLASS AND STRING METHODS A class in violin playing and in the teaching of string instruments.

Two credits

MUS. ED. 122. VIOLA CLASS AND STRING METHODS A class in viola playing and in the teaching of string instruments.

Two credits

No prerequisite. MUS. ED. 123. VIOLONCELLO AND BASS CLASS AND

STRING METHODS Two credits A class in the playing of the violoncello and the bass and in the teaching of string in-

struments. No prerequisite.

No prerequisite.

MUS. ED. 125. PERCUSSION CLASS METHODS Two credits A class in the fundamentals of percussion performance and demonstrations of class teaching.

No prerequisite.

MUS. ED. 127-128. VOICE CLASS AND METHODS Two credits each semester A course in the fundamentals of voice production: breathing, breath control, elementary study of vowel forms, and consonants. Elementary songs are used to develop the student's own voice as well as to train him in voice pedagogy. No prerequisite.

MUS. ED. 201. ELEMENTARY SCHOOL MUSIC METHODS Two credits The course involves a general preparation for the teachers of music in the elementary grades. It entails a study of the principles, procedures, and objectives in school music. Prerequisite: Junior class standing.

MUS. ED. 202. SECONDARY SCHOOL MUSIC METHODS Two credits The course is planned to provide a preparation for teaching the various aspects of music in the secondary school.

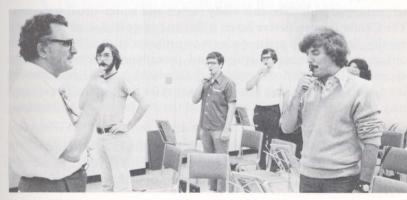
Prerequisite: Junior class standing.

MUS. ED. 209-210. CONDUCTING AND SCHOOL **MUSIC MATERIALS**

Two credits each semester

The development of an adequate baton technique and the presentation of various kinds of school music materials, stressing particularly elementary and secondary school instrumental materials the first semester and secondary school choral materials the second

No prerequisite.



Nursing

Professor McHenry, chairperson; Associate Professors Bednarski, McKenna, Schuler; Assistant Professors Alexander, Alichnie, Berry, Champagne, Demyun, Favareau, Godek, Hansom, Manganiello, Onuschak, Rarig, Scaduto, Schreiber, Slabinski, Taylor; Instructor Telban; Adjunct Professors Babcock, Duffy, Jamieson, Morgan, Proeller, Schapira, Torregiani.

Purpose of the Nursing Program

The Nursing Program at Wilkes College leads to a Bachelor of Science degree with a major in nursing and reflects a curriculum design that is responsive to the changing needs of society for health care.

The purposes of the department are to:

- 1. Prepare a beginning self-directed professional practitioner capable of initiating and implementing the nursing process on behalf of clients in a variety of circumstances.
- 2. Provide a foundation for graduate study in Nursing.
- 3. Promote the utilization of new knowledge through the provision of continuing educational experiences for nursing practitioners.

Philosophy of Nursing

Professional nursing involves a deliberative process of assessment, planning, implementation, and the evaluation of nursing outcomes.

The baccalaureate program offers an educational experience to prepare a professional nurse practitioner who exerts leadership in the emerging roles of primary, secondary, and tertiary care. Emphasis is on the maintenance of health and the surveillance of the health practices of people.

The curriculum is designed to enable the student to integrate the arts, the sciences, and the humanities with nursing and to choose electives in areas related to personal interests and career goals.

The opportunity for self-learning is provided in the Learning Center, equipped with electronic study carrels and audio-visual materials. The Center is open twelve hours a day and is staffed at all times with nursing faculty who assist students to progress at their own pace, to utilize the equipment, supplies, and procedures which will be encountered in the various settings. A simulated hospital environment introduces the student to the elementary skills in nursing. The student may return to the Center at any time of the day for review and study.

Clinical Resources

Written agreements with the cooperating hospitals and agencies in Northeastern Pennsylvania insure clinical facilities for the student's practice, which is concurrent with the classroom theory.

The cooperating hospitals which are utilized are: (1) Wyoming Valley, (2) Nesbitt Memorial, (3) Mercy, (4) Veterans Administration, (5) Wilkes-Barre General, (6) St. Joseph's Maternity and Children's Hospital in Scranton, and (7) the National Institutes of Health, Clinical Center, Bethesda, Maryland.

The agencies utilized are: (1) Rural Health Corporation of Northeastern Pennsylvania, (2) the Luzerne/Wyoming Mental Health Center, (3) the Hazleton/Nanticoke Mental Health Center, (4) St. Stanislaus Medical Care Center, (5) the Maternal Health Services of Northeastern Pennsylvania, (6) the State Health Departments in Wilkes-Barre and Scranton, (7) the Home Health Services of Northeastern Pennsylvania, (8) the Allied Services for the Handicapped in Scranton, (9) the United Rehabilitation Services of Wilkes-Barre, (10) the RCA Corporation, Dunmore, Pa., (11) the Wilkes-Barre Area School District, (12) the Northwest Area School District, Shickshinny, and (13) the Nanticoke Area School District.

Students are responsible for their own transportation to assigned clinical areas.

Expenses of the Nursing Program

The student of nursing assumes all the financial obligations listed in the section on fees in this bulletin. Additional expenses incurred in the nursing program include: uniforms, name pins, yearly physical examinations, immunizations, dental and eye examinations, NLN achievement and comprehensive tests, liability insurance, transportation to assigned clinical areas, and the College nursing pin upon completion of the program. A price list for the above items may be obtained at the Nursing Department.

Comprehensive Examinations

In addition to fulfilling the academic requirements of the College, students majoring in nursing are required to successfully complete the comprehensive examinations administered by the Department of Nursing. The examinations are given during the senior year.

Advanced Placement by Examination

The Department of Nursing provides advanced credit examinations for applicants to enter the program at their level of competency. Previous education and/or practical experience which would involve repetitive learning justify advancing the applicant to higher level responsibilities.

Transfer and registered nurse students are required to have a personal interview with a faculty member in the department to plan their program before acceptance into the Wilkes nursing program can be completed.

License to Practice

Candidates for a license to practice in the health field are required to have "good moral character" (Section 6, of Act 151, amended May 29, 1968 - P.L. 135, No. 73). The Pennsylvania State Board of Nurse Examiners may take into consideration, when deciding on the applications for registration and a license to practice under their jurisdiction, whether candidates have been included in any legal action or legal proceedings, either civil or criminal.

The curriculum is an integrated program covering a four-year academic period, totaling 127 credits.

Satisfactory completion of all liberal arts courses in the freshman year is required and is prerequisite to the nursing courses, which include both theory and practice. Only with the permission of the chairperson of the Nursing Department may changes be made.

Nursing courses are introduced in the second year and the nursing experiences progress from the simple to the complex throughout the three-year period. Examinations in nursing may be repeated only once.

The student will have the option to select his/her area of concentration in Nursing for the senior practicum and will be assigned a faculty adviser who is a clinical expert in the student's chosen field of interest.

B.S. Degree with a Major in Nursing

FIRST SEM	MESTER	SECOND SEMEST	TER
Bio. 115	4	Bio. 116	4
Chem. 105	4	Chem. 230	4
Eng. 101	3	Eng. 102	3
Psy. 101	3	Psy. 102	3
Soc. 101 or	3	Soc. 200	3
Anth. 101	3	P.E. 100	0
P.E. 100	0		
	abnounced to TT		
	1/		1/

	FOURTH SEMESTER	
4		8
3		
6	Ed. 398	3
3	Core Elective	3
0	Elective	3
	P.E. 100	0
16		17
	SIXTH SEMESTER	
8	Nsg. 204. Nursing Care of the Adult Family II	8
3	Core Elective	3
3	Elective	3
14		14
	EIGHTH SEMESTER	
8	Nsg. 302. Senior Practicum	6
		3
6	in Nursing and/or Elective	
	Core Elective	6
3		1991
17		15
	3 6 3 0 	Growing Family Ed. 398 Core Elective Elective SIXTH SEMESTER SIXTH

A grade of 2 or better is required in all nursing courses, in order to progress through the

Total minimum credit requirements for B.S. degree, with a major in Nursing — 127.

NSG. 200. PRINCIPLES OF NORMAL AND THERAPEUTIC NUTRITION

Three credits

An introduction of the basic science of human nutrition; principles of normal and therapeutic nutrition, meal planning, computation of diets, physiological, psychosocial and social effects of food and its constituents; and some contemporary local, national, and international nutrition problems.

Prerequisite: Chem. 230.

Corequisite: Nsg. 201.

NSG. 201. INTRODUCTION TO NURSING

A basic course in nursing explores the concepts of man, family, and community as clients; defines and develops the components of the nursing process; and provides practical experience in the acquisition of related skills. Self-instruction in the Learning Center, under supervision, is required. Hours weekly: 5 hours class, 3 hours clinical practice. Placement: third semester. Fee: \$20.

Prerequisite: Bio. 116, Chem. 230, Psy. 102, Soc. 200.

Corequisite: Nsg. 200, Bio. 113.

NSG. 202. NURSING CARE OF THE GROWING FAMILY Eight credits

The nursing process is utilized to assist in meeting the health care needs of young families during the childbearing and childrearing years. Basic concepts of parent-child, community, and mental health nursing are synthesized in the course as parts of total nursing care, oriented toward assisting young family clients to achieve and maintain optimum level of wellness. Theory is concurrent with clinical practice in various primary and secondary health care settings. Hours weekly: 5 hours class, 9 hours clinical prac-

Prerequisite: Nsg. 201, Nsg. 200, and Bio. 113. Corequisite: Ed. 398, Research Analysis.

NSG. 203. NURSING CARE OF THE ADULT FAMILY I Eight credits The nursing process is utilized in assisting adults and their families to maintain optimum wellness and to resolve selected health problems. Nursing theory as related to the biopsychosocial aspects of adult care is correlated with clinical practice in primary, secondary, and tertiary health settings. Continuity of care is emphasized in the clinical component. Relevant findings from nursing research are incorporated. Hours weekly: 4 hours class, 12 hours clinical practice. Fee: \$20.

Prerequisite: Nsg. 202.

NSG. 204. NURSING CARE OF THE ADULT FAMILY II Eight credits The nursing process is utilized in the care of the adult family member with increasingly complex biopsychosocial problems. Acute and long-term care are viewed through related clinical experiences in primary, secondary, and tertiary health care settings. Continuity of care and relevant findings from nursing research are incorporated. Hours weekly: 4 hours class, 12 hours clinical practice. Fee: \$20.

Prerequisite: Nsg. 203

NSG. 301. MAJOR HEALTH PROBLEMS IN TODAY'S SOCIETY Eight credits Health problems of present day society are viewed in greater depth. The extent of the problem, the impact on society, and the available resources for prevention and control are explored. Clinical practice is directed toward health promotion and maintenance in the general application. Hours weekly: 2 hours class, 18 hours clinical practice. Fee:

Prerequisite: Nsg. 204.

NSG. 302. SENIOR PRACTICUM

From a variety of health care facilities, students select a clinical practice and study experience congruent with their special interest and career goals. Under the guidance of a faculty adviser and a preceptor in the clinical area, the student synthesizes knowledge gained in all previous nursing and supportive courses in the management of care for groups of clients with common health needs. Complex problems in the selected area of nursing practice are explored in weekly sessions. Hours weekly: 2 hours class, 12 hours clinical practice. Fee: \$20.

Prerequisite: Nsg. 301.

NSG. 303. CONTEMPORARY PROBLEMS IN NURSING The principles and processes are developed through exploration of systems of nursing and health care. Students examine contemporary problems in nursing within the context of a dynamic society and an evolving profession. Hours weekly: 3 hours class.

Prerequisite: Nsg. 204.

Philosophy

Associate Professor Henson, chairperson; Associate Professors Kay, Williams; Visiting Assistant Professor Arnold; Adjunct Professor Barras.

The study of philosophy, whether by those who pursue a major in philosophy or by those who elect only a few courses of special interest, contributes to the development of the most basic skills and habits of mind which are characteristic of educated men and women: clarity of thought, precision in the analysis of conflicting claims, the power to

render sound judgments based upon an appreciation of differing perspectives, and the ability to express and defend one's own views with force and imagination. Students who develop these skills through the study of philosophy are not only ideally prepared for a variety of professional careers in law, medicine, teaching, and the ministry; they are also the beneficiaries of the traditional liberal arts education essential in today's world for success in numerous careers in government, business, and industry.

Since students may elect to pursue a double major in philosophy and a related area of interest, philosophy majors are invited to design their own majors in consultation with their advisers and with the approval of the department chairperson. The typical program consists of 30 credit hours in philosophy, including either Phil. 101 or Phil. 201, and Phil. 152.

Total minimum credits required for B.A. degree — 121.

PHIL. 101. INTRODUCTION TO PHILOSOPHY An introduction to the major figures, problems, and concerns of western philosophical thought. Students in this course typically examine a variety of philosophical questions and problems, such as the existence of God; human nature and the good life; fatalism, freedom, and responsibility; skepticism and the nature of knowledge; and theories of

PHIL. 152. INTRODUCTION TO LOGIC An introduction to the principles of deductive reasoning. The recognition of fallacies; general rules of inference; distinguishing good and bad arguments; the use and abuse of

language; and the application of logical principles to related disciplines. PHIL. 201. ORIGINS OF WESTERN THOUGHT: SOCRATES TO AUGUSTINE

Three credits

The development of western philosophical thought from its beginnings in the Greek world to Christian thought in the Middle Ages. Special attention will be focused upon the writings of the Pre-Socratics, Plato, Aristotle, Plotinus, Aquinas, Duns Scotus, William of Ockham, and Augustine.

PHIL. 202. MODERN PHILOSOPHY: DESCARTES TO KANT Three credits Western philosophical thought from the Renaissance to the end of the eighteenth century, including the writings of Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume, and Kant.

Prerequisite: Phil. 101 or 201.

PHIL. 203. NINETEENTH CENTURY PHILOSOPHY An examination of the writings of the major English and European philosophers in the nineteenth century, including the works of Fichte, Schopenhauer, Mill, Kierkegaard, Nietzsche, McTaggart, Bradley, and Marx.

Prerequisite: Phil. 101 or 201.

PHIL. 204. TWENTIETH CENTURY PHILOSOPHY Major figures and movements in contemporary philosophical thought, with special emphasis upon English philosophy since 1900. Major philosophers to be studied include Moore, Russell, Ayer, Wittgenstein, Bergson, Husserl, Heidegger, and Sartre. Prerequisite: Phil. 101 or 201.

PHIL. 206. AMERICAN PHILOSOPHY A survey of the distinctively American contributions to philosophical thought, from Jonathan Edwards to the present. Included in the course is an examination of major

Prerequisite: Phil. 101 or 201.

PHIL. 210. ETHICS

Three credits

A study of the values, ideals, and ideologies which comprise the foundations of human conduct. Several major ethical theories will be examined, e.g., egoism, altruism, and utilitarianism, along with a number of ethical problems such as moral skepticism, relativism, the concept of authority, and the role of facts in ethical theory. The application of ethical theory to specific human problems such as racism and sexism, homosexuality, political corruption, punishment, violence, and drug abuse is also examined. Prerequisite: Phil. 101 or 201.

PHIL. 214. MEDICAL ETHICS

An inquiry into the ethical issues which underlie the practice of medicine. Classical ethical theories such as those of Plato, Hume, Kant, and Mill are examined in a context involving such medical problems as: patients' rights, genetic counseling, abortion, human experimentation, elective death, birth defects, and the limits of lifesaving therapy. Prerequisite: Phil. 101 or 201.

PHIL. 216. PHILOSOPHY OF ART

Three credits

An examination of the nature of artistic creativity, imagination, perception, and expression as such notions arise in the literary arts of fiction and poetry, the visual arts of painting, photography, motion pictures, and television, and the performing arts of drama, music, and dance. Emphasis will also be placed upon the development of at least one major theory of art such as that of Plato, Aristotle, Kant, Dewey, or Collingwood. Prerequisite: Phil. 101 or 201.

PHIL. 220. PHILOSOPHY OF RELIGION

Three credits

An examination of various problems that arise when religion is made the object of philosophical reflection. The nature and forms of religious experience; the relationship between faith and reason; arguments for the existence of God; the problem of evil; arguments for immortality; the concepts of worship and miracle; the nature of religious language; and the possibility of religious knowledge.

Prerequisite: Phil. 101 or 201.

PHIL. 225. LITERATURE OF THE OLD TESTAMENT The course aims at giving students an insight into the books of the Old Testament and the range and depth of the religious heritage received from Israel. The biblical message is studied in its dynamic context of the culture, geography, and history of the ancient

Prerequisite: Phil. 101 or 201.

PHIL. 226. LITERATURE OF THE NEW TESTAMENT

Three credits

An examination of the form and content of the books of the New Testament as literary products and as records of the faith that gave rise to the Christian Church. The teachings of Jesus and the Apostolic Church are studied against the background of their own time and examined in their significance for contemporary life.

Prerequisite: Phil. 101 or 201.

PHIL. 228. CONTEMPORARY RELIGIOUS THOUGHT

A study of the development of religious thought from neoorthodoxy to the "Death of God" theologies. The impact of scientism, linguistic philosophies, and ecumenism on modern theologizing; the thinkers whose views will be considered include Barth, Brunner, the Niebuhrs, Bultmann, Farmer, Weiman, Maritain, Buber, Sartre, Heidegger, Tillich, Rahner, Rubenstein, Altizer, Cox, Brown, and Weigel.

Prerequisite: Phil. 101 or 201.

PHIL. 230. SOCIAL AND POLITICAL PHILOSOPHY

Three credits

Social and political institutions as seen by such classical critics as Plato, Aristotle, Hobbes, Hume, Burke, Bentham, and others. Special attention to analysis of the problems of censorship, relation of church and state, prejudice, aims and methods of democratic institutions.

Prerequisite: Phil. 101 or 201.

PHIL. 232. PHILOSOPHY OF HISTORY

Three credits

A study of the various interpretations of history. The views of Augustine, Vico, Rousseau, Kant, Hegel, Marx, Comte, Spengler, Schweitzer, Toynbee, Sorokin, Niebuhr, and others on the meaning of historical events.

Prerequisite: Phil. 101 or 201.

PHIL. 240. PROBLEMS IN METAPHYSICS

Three credits

A critical examination of one or more problems of ontology and cosmology as dealt with by both classical and contemporary metaphysicians. Problems to be considered may include the concepts of substance, existence, causality, God, space and time, the problem of change and motion, free will and causal determination, fatalism, the relationship between mind and body, and the nature of universals.

Prerequisite: Phil. 101 or 201.

PHIL. 298. TOPICS

Three credits

The study of a topic of special interest not extensively treated in other courses. Possible topics include philosophy of law; philosophy of biology; technology and value; philosophy of death; philosophy of literature; etc.

Prerequisite: Phil. 101 or 201.

PHIL. 301. STUDIES IN GREEK PHILOSOPHY

Three credits

A critical examination of a single major philosopher or text in the period of classical Greek philosophy. Variable content: this course may be repeated for credit. Normally preceded by Phil. 201.

Prerequisite: Phil. 101 or 201.

PHIL. 302. STUDIES IN MODERN PHILOSOPHY

Three credits

A critical examination of a single major philosopher or text in the modern period from Descartes to Kant. Variable content: this course may be repeated for credit. Normally preceded by Phil, 202.

Prerequisite: Phil. 101 or 201.

PHIL. 310. STUDIES IN MORAL PHILOSOPHY

Three credits

A critical inquiry into the development of a rational ethical theory. The ethics of Plato. Aristotle, Hume, Kant, and Mill are examined along with the analytical, existential, and normative extensions of these theories in contemporary ethical thinking. The role which such important ethical concepts as virtue, justice, responsibility, and happiness play in structuring a sensible moral philosophy is examined in depth. Normally preceded by

Prerequisite: Phil. 101 or 201.

PHIL. 320. ADVANCED PHILOSOPHY OF RELIGION

Three credits

An intensive examination of a major problem or figure in the philosophy of religion. Variable content: this course may be repeated for credit. Normally preceded by Phil.

Prerequisite: Phil. 101 or 201.

PHIL. 350. PHILOSOPHY OF SCIENCE

A critical examination of the nature of science; meaning, verifiability, and experimentation in the sciences; the principle of verifiability in physics and psychology; induction and the various interpretations of probability; causality and laws of nature; and the nature of explanation and justification.

Prerequisite: Phil. 101 or 201.

Prerequisite: Phil. 152 or Math. 202 or permission of instructor.

PHIL. 360. EXISTENTIALISM

Three credits

A close examination of the literature of the major existentialist writers, both theistic and atheistic, together with a consideration of its impact upon philosophy, religion, psychology, and art. Special attention will be given to the thought of Kierkegaard, Nietzsche, Jaspers, Heidegger, Marcel, and Sartre.

Prerequisite: Phil. 101 or 201.

PHIL. 395-396. INDEPENDENT RESEARCH

ne to three cred

Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

Prerequisite: Approval of department chairperson is required.

PHIL. 397. SEMINAR (Maximum of three credits per student) One to three credits Presentations and discussions of selected topics.

Prerequisite: Approval of department chairperson is required.

Physical Education and Hygiene

Professor Reese, chairperson; Associate Professors Saracino, Schmidt; Assistant Professors Bearde, Bloomburg, Meyers; Instructor Kaschak.

Attention is given to the physical well-being of students as a regular part of the curriculum; mass athletics and some form of sport or exercise for each student are included in the program of physical education. Physical education is required of both men and women, except by statement of a physician, during the freshman and sophomore years.

At the beginning of each year students are given a medical and physical examination. Activity in physical education includes soccer, football, basketball, baseball, volleyball, and other competitive games. Also included are bowling, tennis, badminton, bicycling, swim instruction, senior life-saving, body mechanics, tumbling and floor exercise, self-defense, golf, modern dance, social and folk dance, elementary games and recreational games.

P.E. 100. PHYSICAL EDUCATION¹

No credit

This course is designed to promote physical well-being and good health habits and to encourage participation in activities that will provide relaxation and exercise throughout life. Two hours each week. Four semesters are required.

P.E. 105-106. HYGIENE

One credit each

A study of present-day health problems. The course undertakes to help students enjoy maximum health and happiness through better understanding of food, diet, exercise and physical fitness, infection, communicable and non-communicable diseases, emotional and mental disorders, and problems of everyday living. One hour each week. Class instruction in personal hygiene is required of all students, even those excused by physicians from taking physical education.

Physics

Professor Donahoe, chairperson; Professors Bellas, Holden; Associate Professors Bailey, Hostler; Assistant Professor Placek.

The B.A. curriculum in physics is designed for the student interested in a major in physics in preparation for a career in teaching, medicine, dentistry, patent law, technical sales, technical translation, technical writing, etc. The student will choose electives after consultation with his adviser.

Normally, students will begin the physics program in the first semester. In exceptional cases the mathematics and physics sequence may be started in the third semester.

The student must choose at least six credits from the following list in addition to those prescribed in the curriculum:

Physics 330 (4)	Physics 332 (4)
Physics 321 (3)	Physics 361 (4)
Physics 340 (3)	Physics 380 (4)
Physics 312 (3)	Physics 391-392 (1-2

A student electing the minimum of 24 credits in physics must elect an additional four credits in chemistry.

The student must choose 12 credits from the following course combinations: Anth. 101 and Soc. 101; Ec. 101 and 102; P.S. 101 and 102; or Psy. 101 and 102.

Students who are prospective secondary school teachers should consult the information on education course requirements listed in the section on programs in Education.

The B.S. curriculum is designed to provide a thorough grounding in the fundamentals of this rapidly expanding science, as well as to acquaint the student with current knowledge and research. Upon completion of the requirements for the degree, the student will be well prepared to pursue graduate study leading to an advanced degree or to undertake an industrial position.

FIRST SE	EMESTER		SECOND S	SEMESTER	
	B.A.	B.S.		B.A.	B.S.
Phys. 201	4	4	Phys. 202	4	4
Eng. 101	3	3	Eng. 102	3	3
Math. 111	4	4	Math. 112	4	4
Core elective ¹	3	3	Speech 101	Total Andrews	3
P.E. 105	1	1	Core elective ¹	3	3
P. E. 100	0	0	P.E. 106	And plant I were	1
			P.E. 100	0	0
	15	15		15	18

German or Russian through 204 or 205 level is required of B.S. candidates. Students with proficiency in either language are urged to seek advanced standing and to commence language study as early as possible but no later than the third semester. C.S. 123 and 223 may be substituted for the last two semesters of language with the approval of the student's adviser.

^{&#}x27;Students enrolled in AFROTC may substitute AS 101-102-201-202 for the P.E. 100 series.

Total minimum credits required for B.A. degree — 127. Total minimum credits required for B.S. degree — 129.

PHYS. 101-102. PHYSICAL SCIENCE

Three credits each

A course for the non-science student to enable an understanding and appreciation of the universe in which he lives. The methods, concepts, and vocabulary of physics and applications of some of its outstanding principles to the needs of the individual and the community; and the manner in which the continually expanding frontiers of science affect our future way of life. Lecture, demonstration, and discussion three hours a week.

Prerequisite: Background in science and mathematics not necessary.

PHYS. 105-106. INTRODUCTORY PHYSICS

Four credits each

An introductory course designed to promote an understanding of the more important fundamental laws and methods of the major sections of physics. Laboratory work to emphasize basic principles and to acquaint the student with measuring instruments and their use as well as the interpretation of experimental data. First semester: mechanics, wave motion, sound, and heat. Second semester: electricity, magnetism, and optics. Demonstration-lecture two hours a week, recitation one hour a week, and laboratory three hours a week. Fee: \$20.

PHYS. 201. GENERAL PHYSICS I

Four credits

A thorough grounding in the concepts, principles, and physical laws of mechanics, thermodynamics, and wave motion. Instruction by demonstration-lecture, recitation, and experimental work. Demonstration-lecture two hours a week, recitation one hour a week, and laboratory three hours a week. Fee: \$20.

PHYS. 202. GENERAL PHYSICS II

Four credits

Continuation of Phys. 201. Electricity and magnetism, and optics and light. Demonstration-lecture two hours a week, recitation one hour a week, and laboratory three hours a week. Fee: \$20.

Prerequisite: Phys. 201

PHYS. 203. GENERAL PHYSICS III

Three credits

Continuation of Phys. 201 and 202. Modern physics. Including the experimental basis, concepts, and foundational principles of modern atomic and nuclear physics. Demonstration-lecture three hours a week.

Prerequisite: Phys. 202.

PHYS. 307. TOPICS IN THEORETICAL PHYSICS

Three credits

Selected topics depending upon the interests of the instructor and students. Topics might include advanced mechanics, fluid mechanics, electromagnetic theory, relativity, etc. Three hours class a week.

Prerequisite: Approval of instructor and department chairperson.

PHYS. 308. TOPICS IN APPLIED PHYSICS

Three credits

Selected topics depending upon the interests of the instructor and students. Topics might include astrophysics, biophysics, geophysics, medical physics, optical instrument design, reactor physics, etc. Three hours class a week.

Prerequisite: Approval of instructor and department chairperson.

Phys. 392 Advanced Laboratory, may be a corequisite.

Phys. 392, Advanced Laboratory, may be a corequisite.

Three credits each

Intermediate level courses designed to develop a thorough understanding of the principles of mechanics and the application of mathematical methods to the solution of problems. Topics include harmonic oscillator, central force problems, rotations of rigid bodies, moving coordinate systems, continuous media, inertia and stress tensors, Lagrange's equations of motion, theory of small vibrations. Recitation-lecture three hours a week.

Prerequisite: Phys. 202 and Math. 212.

PHYS. 311-312. MECHANICS

PHYS. 320. ELECTRONIC INSTRUMENTATION FOR THE

Three credits

Three credits

LIFE AND BEHAVIORAL SCIENCES

PHYS. 321. ELECTRONIC INSTRUMENTATION FOR THE PHYSICAL SCIENCES

Construction, calibration, and use of electronic instruments. Operat

Construction, calibration, and use of electronic instruments. Operational amplifiers and integrated circuits as device components. Students will be encouraged to follow their own interests in designing simple devices for special applications. Two hours class and one three-hour laboratory per week. Fee: \$20.

Prerequisite: Phys. 106 or 202.

PHYS. 330. OPTICS AND LIGHT

Four credits

The principles of geometrical and physical optics are considered in considerably greater detail than in the introductory course. Image formation, refraction, diffraction, origin of spectra, polarized light, optical activity, etc. Three hours class and one three-hour laboratory a week. Fee: \$20.

Prerequisite: Phys. 202.

¹Students contemplating graduate study in physics should elect Phys. 351 (Quantum Mechanics). B.S. degree candidates must elect an advanced mathematics course each semester.

Four credits each

Static and dynamic electricity, magnetism, electromagnetism, thermoelectricity, etc., are covered in considerable detail. The emphasis in this course is on fundamental analysis rather than applications. Three hours class and one three-hour laboratory a

Prerequisite: Phys. 202 and Math. 212.

PHYS. 340. THERMODYNAMICS

The fundamental concepts of thermodynamics. The laws of thermodynamics, Carnot cycle, entropy, and an introduction to kinetic theory and statistical mechanics. Three hours lecture-discussion a week.

Prerequisite: Phys. 202

PHYS. 351. QUANTUM MECHANICS

An introduction to quantum mechanics; Schrodinger's equation and its application to the harmonic oscillator, the potential-well, and the hydrogen atom; perturbation theory; angular momentum; identical particles and Pauli's exclusion principle; introduction to the relativistic wave equation and the origin of electron spin. Three hours lecture-discussion a week

Prerequisite: Phys. 312, Math. 362.

Four credits

PHYS. 361. ATOMIC PHYSICS Black body radiation, wave-particle quality, hydrogenic atoms, multielectron atoms, molecules, solids. Three hours class and one three-hour laboratory a week. Fee: \$20. Prerequisite: Phys. 203, 311, 331.

PHYS. 370. INTRODUCTION TO SOLID STATE PHYSICS Topics include bonding and structure, translational symmetry, direct and reciprocal lattices, lattice dynamics, electronic structure of simple metals, insulators and semiconductors. Three hours class a week.

Prerequisite: Phys. 361, Math. 362 or approval of instructor.

PHYS. 380. NUCLEAR PHYSICS

Four credits

Special relativity, natural and induced radioactivity, nuclear structure, nuclear reactions, reactors, etc. Three hours class and one three-hour laboratory a week. Fee: \$20. Prerequisite: Phys. 361.

PHYS. 391-392. ADVANCED LABORATORY Students desiring to undertake laboratory work in topics of their own choosing should consult the department chairperson. Hours to be arranged. Fee: \$20.

Prerequisite: Phys. 203, Math. 212.

One to three credits PHYS. 395-396. INDEPENDENT RESEARCH Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

Prerequisite: Approval of department chairperson is required.

PHYS. 397. SEMINAR (Maximum of three credits per student) One to three credits Presentations and discussions of selected topics.

Prerequisite: Approval of department chairperson is required.

THE 400-SERIES COURSES ARE GRADUATE COURSES AVAILABLE TO UNDERGRADUATE SENIORS WITH PERMISSION OF INSTRUCTOR AND THE DEPARTMENT CHAIRPERSON

PHYS. 401-402. METHODS OF MATHEMATICAL PHYSICS Three credits each Study of different branches of mathematics and their applications in physics. Topics include: ordinary and partial differential equations; Fourier series and integrals; complex variables; matrix methods; Green's functions; tensor analysis; group theory; and others. Three hours lecture-discussion.

PHYS. 423. X-RAY DIFFRACTION

Modern developments in X-ray diffraction. Generation, detection, and measurement of X-rays. Elastic and inelastic scattering. The geometry of crystals and diffraction by polycrystalline and amorphous materials. The kinematical theory and pair distribution functions. The dynamical theory for perfect and imperfect crystals as derived from Maxwell's equations. Total cross-sections, line shape functions, one-electron factors, and determination of crystal structure. Experimental X-ray methods and applications. Laboratory, one period a week. Fee: \$20.

Prerequisite: Phys. 401.

PHYS. 427. SOLID STATE DEVICES

Three credits

Application of energy band theory. Fermi-Dirac statistics. Conduction theory. Intrinsic and impurity conduction. Semiconductor properties and characteristics of p/n junctions. Transistors and transistor theory. Characteristics of transistors. High-current characteristics. Feedback effects.

PHYS. 473. ANISOTROPIC PROPERTIES OF CRYSTALS Application of matrices and tensors to represent anisotropic physical properties of crystalline solids. The stress-strain and elastic properties. Paramagnetic and diamagnetic susceptibility, and electric polarization. Thermal expansion and thermodynamics of equilibrium properties of crystals. Thermal and electrical conductivity, and thermoelectricity. Double refraction, optical activity, and crystal optics.

Political Science

Professor Driscoll, chairperson; Professor Soter; Associate Professor Belic; Assistant Professor Tuhy; Instructor Freysinger; Adjunct Professors McDonald, Shaw.

The major in political science is designed to give the students some introduction to the many subject matters subsumed in the discipline of Political Science and to acquaint them with the broad spectrum of political problems in today's complex and rapidly changing world. At the same time, the offerings above the introductory level are grouped into major areas, which will permit the student to do considerable indepth study and analysis.

Students majoring in political science may plan to seek careers in state and local government, urban planning, the federal bureaucracy, journalism, higher education, secondary education, politics, lawassociated activities, or in any of the proliferating private and quasipublic organizations which seek to monitor the political processes or influence the content of public policy. The major is also excellent preparation for law school or for graduate work in a variety of social science and humanist disciplines.

A major in political science must take the two introductory courses, P.S. 101 and P.S. 102; at least one course in each of four substantive areas (American Politics: Government and Administration: Comparative and International Politics; Constitutional Law and Political Thought); and one course in the 390 sequence, which includes special

topics, methodology, research, and intern-type experience. The number of credits required is 30 semester hours — 24 above P.S. 101 and 102.

Majors are strongly advised to take Statistics (Math. 150) and Fortran Programming (C.S. 123) unless their area of greatest interest is Comparative and International Politics, in which case knowledge of at least one foreign language is strongly recommended. Pre- law students are advised to take work in Accounting.

Total minimum credits required for B.A. degree — 121.

I. Introductory Courses

P.S. 101. POLITICAL SCIENCE I

Three cred

A broad, comprehensive introduction to the great issues of politics: legitimacy and power; liberty and authority; the varying structures of political systems and their relations with each other.

P.S. 102. POLITICAL SCIENCE II

Three credits

A descriptive and analytical study of the theory and practice of American government: its constitutional basis, organization, powers, functions, and problems.

II. American Politics

P.S. 203. AMERICAN POLITICS, PARTIES, POLITICAL BEHAVIOR

Three credits

Analysis of the process through which people relate to, influence, and control their government. Publics and public opinion formation; role of interest groups; political parties; voting behavior.

Prerequisite: P.S. 102 recommended.

P.S. 204. POLICY FORMATION

Three cre

Analysis of the policy-making process at the national level of American government. Role of the President and Congress as leaders and participants in policy-making, with attention to the role of the bureaucracy, interest groups, political parties, and judicial review

Prerequisite: P.S. 102 recommended.

P.S. 205. AMERICAN STATE AND LOCAL POLITICS

IN THE FEDERAL SYSTEM

Three credits

Analysis of the structures and processes of state and local governments within the constitutional framework of a changing Federal system. Emphasis is on institutional and political processes and functions, and interrelationships between local, state, and Federal policies and agencies.

Prerequisite: P.S. 102 recommended.

P.S. 207. PUBLIC ADMINISTRATION

Three credits

An introduction to the principles and problems of public administration in an increasingly complex society. Attention to topics such as leadership, informal organizational processes (infra-structure), the relation of administration to its cultural context, and the question of administrative responsibilities, as well as the more technical problems of personnel, finance, and administrative law.

Prerequisite: P.S. 102 recommended.

III. Government Organization and Administration

P.S. 207. PUBLIC ADMINISTRATION Same as course listed above in Group II.

Three credits

P.S. 210. PROBLEMS IN METROPOLITAN AREAS

hree credits

An examination of the politics and the processes of contemporary urban government, with special emphasis upon the complex problems presented by the rapidly expanding population in standard metropolitan areas.

Prerequisite: P.S. 102 recommended.

P.S. 211. PROBLEMS IN LOCAL GOVERNMENT AND ADMINISTRATION

Three credits

Identification of the major problems in administration of local government. Study of the accepted methods, skills, and techniques of management of local functions and services. Emphasis on practical applications.

Prerequisite: P.S. 102 recommended.

P.S. 214. PLANNING IN URBAN DEVELOPMENT

Three credits

Origins and evolution of city planning, influences of urban growth, legal and institutional framework, and scientific and philosophical premises. Survey of city planning as it has evolved in the United States since 1800 in response to physical, social, and economic problems.

Prerequisite: P.S. 102 or 205 or 210 or 211.

EC. 236. PUBLIC FINANCE

Three credits

See description under Economics.

IV. Comparative and International Politics

P.S. 222. INTERNATIONAL RELATIONS

Three credits

Survey of essential elements in international relations such as national power, imperialism, balance of power, collective security, international law, international organization, and problems of peace.

Prerequisite: P.S. 101 recommended.

P.S. 223. COMPARATIVE POLITICS: THE POLITICAL SYSTEMS OF WESTERN EUROPE

sections.

SYSTEMS OF WESTERN EUROPE

A comparative study of the various forms of government in selected nations of western Europe — their development and changing politics and political systems.

Prerequisite: P.S. 101 and 102 recommended.

P.S. 224. COMPARATIVE POLITICS: THE U.S.S.R. AND THE COMMUNIST COUNTRIES OF EASTERN EUROPE

Three credits

The development of the Soviet system; some attention to the Russian culture pre-1917, early Marxism and Leninism and the Russian Revolution. Emphasis on the development, maintenance, and possibilities of change in the interlocking system of Party and government. Comparison with events and processes in nations under Soviet domination.

Prerequisite: P.S. 101 and 102.

Offered in alternate years.

P.S. 225. INTERNATIONAL ORGANIZATION

Three credit

Analysis of theory and practice in international organization; structure of the United Nations organization; making of peace and enforcement action; human rights and promotion of welfare.

Prerequisite: P.S. 101 and 102.

P.S. 226. COMPARATIVE POLITICS: EAST ASIAN

GOVERNMENTS

Three credits

Analysis of the distinctive institutions, processes, and problems of political development in Asia, with emphasis on the contrast in modernization and modern institutions of government and politics in China and Japan.

Prerequisite: P.S. 101 and 102. Offered in alternate years.

V. Constitutional Law and Political Thought

PHIL. 230. SOCIAL AND POLITICAL PHILOSOPHY

Three credits

See description under Philosophy. P.S. 231. CONSTITUTIONAL LAW I

Three credits

Study of the growth and change of the American Constitution through analysis of the leading cases decided by the U.S. Supreme Court. Analysis of the powers of the three branches of government and of the relations between the states and the Federal Govern-

Prerequisite: P.S. 101 and 102.

P.S. 232. CONSTITUTIONAL LAW II

Three credits

Continuation of the study of meaning of the Constitution as interpreted by the Supreme Court. Analysis of the landmark decisions regarding free speech and press, separation of church and state, rights of persons accused of crime, equal protection of the laws, voting rights.

Prerequisite: P.S. 101 and 102.

P.S. 235. AMERICAN POLITICAL THOUGHT

Study of the political ideas, ideals, and ideologies as they contributed to and developed from the American experience. Analysis of the ways of thought which underlie our political institutions and practices

Prerequisite: P.S. 102 recommended.

VI. Advanced Special Studies

P.S. 393. POLITICAL SCIENCE: CONCEPTS AND METHODS

Three credits

Survey of major concepts, theories, and methods of current political science as a discipline. Some attention to research design and techniques.

Prerequisite: At least 4 courses in P.S. or consent of instructor.

P.S. 394. PRACTICUM

Three to six credits

Internship or similar experience in an administrative office, community agency, election campaign, or work related to administration or politics.

Prerequisite: At least 4 courses in P.S., or Urban Studies, or field in which internship will be served, such as Earth and Environmental Sciences. Student must consult with department before registering.

P.S. 395-396. INDEPENDENT RESEARCH

One to three credits

Independent study and research for advanced students in the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is re-

Prerequisite: Approval of department.

P.S. 397. SEMINAR

Three credits

Presentations and discussions of selected topics by students.

Prerequisite: P.S. 393.

P.S. 398. TOPICS IN POLITICAL SCIENCE A study of topics of special interest not extensively treated in regularly offered courses. Examples of possible topics would be: leadership in Congress; minorities in the political process; women and power; environmental policies; urban design; international law; war and peace; political thought in the Far Eastern tradition; The First Amendment in law and practice; equality at law in an unequal society; etc. May be repeated when topic

Prerequisite: Permission of department, criterion depending on topic.

Psychology

Professor Riley, chairperson: Associate Professor Stetten; Assistant Professors Charnetski, Truckenmiller, Raslear; Adjunct Professor Kanner.

Psy. 101-102 are the starting point for the psychology program and must be taken by all psychology majors. These two courses do not count toward the 24 credit hours of psychology required of majors.

To allow the greatest possible flexibility in the psychology program, there is only one additional psychology course required of all psychology majors once the Psy. 101-102 sequence has been taken, that being Psy. 215, Research Design and Analysis. Students are then free to tailor a program of study to fit their own needs and interests. It is strongly recommended, however, that students take Psy. 211-212, Experimental Psychology, especially if they have any intention of pursuing graduate training. Students are reminded that professional psychological work presumes advanced graduate study. Psy. 206, History of Psychology, would be useful to the students so that they might appreciate the breadth and nature of psychological thought and effort.

It would be highly desirable for the student to take at least one course from each of the interest areas listed below to achieve a reasonably balanced exposure. Because some courses have prerequisites and all courses are not offered each semester, it is advised that the individual program be started early and be well planned. Research Design and Analysis would then be taken in the sophomore year along with History of Psychology and/or Contemporary Psychological Theories. Experimental Psychology and interest area courses would then be reserved for the junior year, saving Seminars and Independent Research for the final semesters.

Required Courses: Psy. 101-102 General Psychology

Psy. 215 Research Design and Analysis

Strongly Advised: Psy. 211-212 Experimental Psychology

Psy. 206 History of Psychology

Interest Areas: I: Psy. 203 Contemporary Psychological Theories

Psy. 213 Physiological Psychology

Psy. 214 Sensation and Perception

Psy. 311 Comparative Psychology

II: Psy. 242 Psychological Tests

Psy. 243 Industrial Psychology

Ed. 202 Educational Psychology*

Soc. 255 Social Psychology*

III: Psy. 221 Child Psychology

Psy. 232 Human Behavior

Psy. 245 Clinical Psychology

Psy. 331 Abnormal Psychology

Total minimum credits required for B.A. degree — 121.

PSY. 101-102. GENERAL PSYCHOLOGY

Three credits each

An introduction to the field of psychology with emphasis on objective and systematic methods of inquiry. Extensive treatment of major psychological topics such as sensation, perception, learning, motivation, intelligence, and personality development. Frustration, conflict, and mental health also receive attention.

PSY. 201. ADVANCED GENERAL PSYCHOLOGY

Three credits

A more detailed study of topics treated only superficially in the introductory course. There will be emphasis on contemporary readings. Prerequisite: Psy. 101-102.

PSY. 203. CONTEMPORARY PSYCHOLOGICAL THEORIES An examination of current theories in psychology, with emphasis upon the major sys-

tematic and "miniature" learning theories. Prerequisite: Psy. 101-102.

PSY. 206. HISTORY OF PSYCHOLOGY

Three credits

A study of the philosophic and scientific roots of contemporary psychology, with emphasis on the applicability of past questions and knowledge to current psychological thought.

Prerequisite: Psy. 101-102.

PSY. 211-212. EXPERIMENTAL PSYCHOLOGY

Three credits each

A lecture and laboratory course designed to familiarize the student with the methods and the results of modern psychological research. The course includes a study of several of the famous experiments in the field of psychology. Also included is practice with the older as well as the more recent methods of experimental research. Lecture and laboratory. Fee: \$20 each semester.

Prerequisite: Psy. 215.

PSY. 213. PHYSIOLOGICAL PSYCHOLOGY

A systematic study of the physiological mechanisms mediating behavior. Emphasis is on the neuro-physiological bases of sensation, perception, adaptation, motivation, emotion, learning, and memory. Methods and techniques used in the study of the nervous system and sensory and muscular systems will be investigated and demonstrated.

Prerequisite: Psy. 101-102.

PSY. 214. SENSATION AND PERCEPTION

Various principles and phenomena of sensation and perception are studied within the visual, auditory, olfactory, haptic, and bodily-orientation systems. An introduction to major perceptual theories is also given.

Prerequisite: Psy. 101-102 and 213.

PSY. 215. RESEARCH DESIGN AND ANALYSIS

Three credits

An introduction to the use of scientific methods as a means of studying behavior. This course is required of all majors.

PSY. 221. CHILD PSYCHOLOGY

The course is designed to present a general view of the development and growth of the child. It is concerned primarily with the heredity and native equipment of the child and the manner in which this equipment is modified during childhood. Emotional development, language development, and social relations are considered.

Prerequisite: Psy. 101-102.

PSY. 232. HUMAN BEHAVIOR

Three credits

Human adjustment and maladjustment to life situations with emphasis on motivation, emotional control, personality formation, and the treatment of the lesser personality

Prerequisite: Psy. 101-102.

PSY. 242. PSYCHOLOGICAL TESTS

A survey of the functions measured by psychological tests with emphasis on intelligence and personality. A variety of the group and individual tests which measure these functions are studied. This course is a prerequisite for Psy. 245.

Prerequisite: Psy. 101-102.

PSY. 243. INDUSTRIAL PSYCHOLOGY

A survey of the applied areas of personnel, organizational, human factors, and consumer psychology.

Prerequisite: Psy. 101-102.

PSY. 245. CLINICAL PSYCHOLOGY

Three credits

A survey of the clinical method in psychology with consideration of diagnostic and treatment techniques and the role of the professional psychologist in various settings. Prerequisite: Psy. 242 and Psy. 331.

PSY. 311. COMPARATIVE PSYCHOLOGY

Three credits

A comprehensive survey of animal behavior including both vertebrates and invertebrates. The influence of neurological and endocrine evolution will be studied in relation to adaptation and behavior.

Prerequisite: Psy. 101-102.

PSY. 331. ABNORMAL PSYCHOLOGY

A general survey of the principle forms of mental abnormalities, with emphasis on causes, symptoms, course, and treatment. Prerequisite: Psy. 232.

PSY. 395-396. INDEPENDENT RESEARCH

One to three credits

Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

Prerequisite: Approval of department chairperson is required.

^{*}While not given within the Department of Psychology, these courses may still be counted toward the 24 credit hours required of the psychology major.

PSY. 397. SEMINAR (Maximum of three credits per student) One to three credits Presentations and discussions of selected topics.

Prerequisite: Approval of department chairperson is required.

PSY. 398. TOPICS IN PSYCHOLOGY Three credits A study in topics of special interest not extensively treated in regularly offered courses.

Sociology and Anthropology

Associate Professor Goldman, chairperson; Assistant Professors Brown, Demory, Natzke, Rasson.

Students majoring in sociology, anthropology, or sociology-anthropology must fulfill the following requirements: Anth. 101 and Soc. 101 are required, but are not accepted as credit hours toward the major. Phil. 230 or 350 may be taken for credit toward the major. Students who intend to major in anthropology, sociology, or sociologyanthropology are requested to consult with the department chairperson. Additional requirements pertaining to each of the three departmental programs are specified below.

The department offers two options in its sociology program:

A major in sociology (option A) consists of twenty-four hours, and shall include Soc. 255, 370, 380, and at least one additional course in anthropology.

The department offers a supervised practicum for advanced students. Students approved for the B.A. degree with a major in sociology (option B) must complete thirty hours, including Soc. 255, 370, 380, and one additional course in anthropology.

Anthropology

The department offers two options in its anthropology program:

A major in anthropology (option A) consists of twenty-four hours, and shall include Anth. 370, 380, and at least one additional course in sociology. The following courses are strongly recommended: Anth. 270, 271, 272, and 273. Proficiency in at least one foreign language at the 204 level is required.

The department offers a supervised practicum for advanced students. Students approved for the B.A. degree with a major in anthropology (option B) must complete thirty hours including Anth. 270, 271, 272, 273. Proficiency in at least one foreign language at the 204 level is required.

Sociology-Anthropology (Joint Major)

A major in sociology-anthropology consists of thirty hours, and shall include Anth. 370 or Soc. 370, and Anth. 380 or Soc. 380. A

minimum of twelve hours in each field is required. Proficiency in at least one foreign language at the 204 level is strongly recommended.

Total minimum credits required for B.A. degree — 121.

Urban Studies Concentration

The urban studies concentration is an interdisciplinary program designed to meet the needs of students interested in the phenomenon of urbanization as a crucial aspect of our changing world, a phenomenon whose study cuts across the major academic disciplines. It is of particular importance to students who wish to enter careers in agencies, both public and private, concerned with urban problems.

Because this program is interdisciplinary and the College believes that a student must be exposed to the theory, methodology, and fundamentals of research in a discipline, the urban studies concentration may be taken only in addition to a regular discipline major.

Requirements for the urban studies concentration are as follows:

Introductory Courses: Soc. 101, Ec. 101, P.S. 102. (Two of the sequences would have to be completed to fulfill the core curriculum requirement in Social Science.)

Core Courses in Urban Studies: Soc. 215, P.S. 214, Hist. 326, Practicum in either Political Science or Sociology, or the Methods course in Political Science or Sociology. (Students planning to do graduate work are strongly advised to take two methods courses, one in addition to that taken in their discipline major.)

Electives: 15 hours selected from the following: Anth. 370, 393; Ec. 212, 223, 224, 236, 245; P.S. 203, 205, 207, 210, 211, 232; Soc. 235, 251, 252, 275; Topics (398) in Economics, Political Science, Sociology and Anthropology, when topic applicable to Urban Studies.

No more than two courses from the core or electives may be double counted in the discipline major and the urban studies concentration.

Earth and Environmental Sciences is recommended as the student's choice in the natural science sequence of the core curriculum.

Advising will be in the department of the student's choice, but admission to the program and the keeping of records will be under the supervision of the Political Science Department.

Anthropology

ANTH. 101. INTRODUCTION TO ANTHROPOLOGY

Three credits

A general survey of the processes that generate human cultural and biological variation through time and among contemporary human groups. An introduction to cultural and physical anthropology, archaeology, and anthropological linguistics.

ANTH. 270. CULTURAL ANTHROPOLOGY

A detailed examination of the methods and theories employed in the description and comparison of human cultures, as applied to problems in intercultural relations. Course content is based upon case and cross-cultural studies.

Prerequisite: Anth. 101, or approval of instructor.

ANTH. 271. PHYSICAL ANTHROPOLOGY

Three credits

The study of human biological make-up, diversity, and evolution. Topics presented include primate studies, primate taxonomy, and human biological and cultural evolu-

Prerequisite: Anth. 101, or approval of instructor.

ANTH. 272. LINGUISTIC ANTHROPOLOGY

Three credits

The structural and historical properties of human language. The study of relationships between language, culture and perception, and patterns of language use.

Prerequisite: Anth. 101, or approval of instructor.

ANTH. 273. ARCHAEOLOGY

Three credits

A survey of the methods, techniques, and concepts employed by anthropologically oriented archaeologists to reconstruct and explain sociocultural variation through time. Illustrative material will be based on scientific findings. The course will include several

Prerequisite: Anth. 101, or approval of instructor.

ANTH. 300. MEDICAL AND PSYCHIATRIC ANTHROPOLOGY Three credits The study of physical and mental health and treatment from a cross-cultural perspective. The role of culture in defining health-related categories. The study of treatment systems in other cultures. The relationships between culture, environment, and disease. The role of medical and psychiatric anthropology in designing inter-cultural health care

delivery systems. Prerequisite: Anth. 101, or Soc. 101, or approval of instructor.

ANTH. 301. ARCHAEOLOGICAL FIELD METHODS

The study and use of archaeological field and laboratory techniques. Students will participate in the field and laboratory conducting an archaeological excavation or survey under faculty supervision.

Prerequisite: Anth. 101, or approval of instructor.

ANTH. 370. ANTHROPOLOGICAL METHODS

A comprehensive survey of the methods employed by anthropologists to describe and analyze the properties of human cultures. The study of field techniques and the methods used in cross-cultural comparison.

Prerequisite: Anth. 101, or approval of instructor.

ANTH. 380. ANTHROPOLOGICAL THEORY

An intensive survey of the various strategies anthropologists have employed to characterize human culture. A critical evaluation of attempts to explain the nature of culture and the causes of cultural diversity.

Prerequisites: Anth. 101, or approval of instructor.

ANTH. 392. SOCIOCULTURAL CHANGE

Three credits

A systematic evaluation of various attempts by social scientists to document and explain the phenomenon of change. A comprehensive survey of the field is presented through selected readings and discussion of major studies from sociology, cultural anthropology, and archaeology.

Prerequisite: Soc. 101 or Anth. 101, or approval of instructor.

ANTH. 395-396. INDEPENDENT RESEARCH

One to three credits

Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

Prerequisite: By arrangement with an instructor.

ANTH. 397. SEMINAR

Three credits

Presentations and discussions of selected themes and issues in anthropology. Prerequisite: Criteria will vary according to content of seminar.

ANTH. 398. TOPICS

Three credits

A study of topics of special interest not extensively treated in regularly offered courses.

ANTH. 399. PRACTICUM

A supervised practical field experience designed for anthropology majors that involves work in a professional setting.

Prerequisite: Approval of department.

Sociology

SOC. 101. INTRODUCTION TO SOCIOLOGY A systematic view of sociology, providing essentials for an approach to questions about

Three credits

man in society; analysis of social processes, structures, and functions. SOC. 200. THE FAMILY History and ethnological studies of family. Role of family in the development of the in-

dividual. Interrelation of church, state, and family. Social conditions and changes affecting the American family. Family stability and disorganization.

Prerequisite: Soc. 101 or Anth. 101, or approval of instructor. SOC. 215. SOCIOLOGY OF URBAN LIFE

Three credits The development of modern cities; effects of urban life upon social organization and personality patterns; major social problems of the cities.

Prerequisite: Soc. 101 or Anth. 101, or approval of instructor.

SOC. 230. SOCIAL PROBLEMS

Three credits

A suvey of most pressing contemporary social problems and an examination of current theories of social disorganization.

Prerequisite: Soc. 101 or Anth. 101, or approval of instructor.

SOC. 235. CRIME AND JUVENILE DELINQUENCY

Evaluation of current theories and research into causative factors and sociological implications of criminal and delinquent behavior. Examination of problems, programs, and issues in prevention and treatment of deviant behavior.

Prerequisite: Soc. 101 or Anth. 101, or approval of instructor.

SOC. 240. MEDICAL AND PSYCHIATRIC SOCIOLOGY

A general survey of the application of sociology in two fields: (1) medicine — social and cultural factors affecting health and illness, doctor-patient relationships, the role of the patient, the hospital environment; and (2) psychiatry — social factors affecting the diagnosis, etiology, and treatment of mental disorders, the mental hospital as a social system, community psychiatry.

Prerequisite: Soc. 101 or Anth. 101, or approval of instructor.

SOC. 251. FIELDS OF SOCIAL WORK

A survey of the main problems of social work and of agencies and methods that have developed to cope with them. The nature and requirements of the different fields of social work.

Prerequisite: Soc. 101 or Anth. 101 or Psy. 101-102, or approval of instructor.

SOC. 252. COMPARATIVE SOCIAL WELFARE SYSTEMS Three credits Examination of the social welfare institution within a societal and cultural context. Exploration of historical and conflicting views on responsibility for developing measures to cope with social problems in North American, European, Asiatic, and African coun-

Prerequisite: Soc. 101 or Anth. 101, or approval of instructor.

Prerequisite: Soc. 101 or Anth. 101, or approval of instructor.

SOC. 255. INTRODUCTION TO SOCIAL PSYCHOLOGY A general survey of the field of social psychology. Social factors in human nature; psychology of individual differences; social interaction; collective behavior; psychology of personality; social pathology.

Prerequisite: Soc. 101 or Anth. 101 or Psy. 101-102, or approval of instructor.

SOC. 260. PERSONALITY, CULTURE, AND SOCIETY Examination of current theories and research bearing upon the relationship among personality, culture, and society; contributions and convergent development in psychology, anthropology, and sociology.

Prerequisite: Soc. 101 or Anth. 101 or Psy. 101-102, or approval of instructor.

SOC. 265. SOCIOLOGY OF INDUSTRY An analysis of the formal and informal social organization of the work plant and of the relationship between modern industrial organization and the community.

SOC. 275. SOCIOLOGY OF MINORITIES Three credits A theoretical analysis of inter-group tensions and processes of adjustment with special reference to modern racial, national, and religious conflicts.

Prerequisite: Soc. 101 or Anth. 101 or Psy. 101-102, or approval of instructor.

SOC. 370. METHODS OF RESEARCH IN SOCIOLOGY Introduction to sociological research; selected problems of research in social relations; interviewing techniques; questionnaire design and case studies.

Prerequisite: Soc. 101, or approval of instructor. SOC. 380. SOCIOLOGICAL THEORY Three credits

The aim of the course is to provide the student majoring in sociology, or in one of the related fields, with a historical background necessary for understanding of the current trends in sociology as well as for clarification of its distinct subject matter, problems, and methods.

Prerequisite: Soc. 101, or approval of instructor.

SOC. 394. SOCIOLOGICAL ANALYSIS The systematic critical evaluation of data by means of concepts and methods consistent with the principles of sociology. Both quantitative and qualitative procedures will be

Prerequisite: Soc. 101 or Anth. 101, or approval of instructor.

Prerequisite: Criteria will vary according to content of seminar.

SOC. 395-396. INDEPENDENT RESEARCH One to three credits Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

Prerequisite: By arrangement with an instructor.

Three credits

Presentations and discussions of selected themes and issues in sociology.

SOC. 398. TOPICS A study of topics of special interest not extensively treated in regularly offered courses.

SOC. 399. PRACTICUM Six credits A supervised practical field experience designed for sociology majors that involves work in a professional setting.

Theater Arts

Associate Professor Groh; Assistant Professor Holm.

The Department of Theater Arts provides opportunities for the student to prepare for teaching in elementary and secondary schools or for graduate study. It is recommended that the student combine work in theater arts along with another discipline. A student planning to teach must meet the certification requirements in that discipline. The program is designed to meet the practical and academic needs of the student interested in an active career in educational and community theater. Inquiries on the program should be directed to the Office of the Provost at Weckesser Hall.

TH. ARTS 101. APPROACH TO THEATER Attention will be directed to the importance of the dramatic imagination in reading and viewing plays, with the objective of developing a critical appreciation of the theater. Lecture, discussion, demonstration, films.

TH. ARTS 131. SPEECH FOR THE STAGE Students will receive instruction and experience in diction, delivery, interpretation. Classroom exercises will be assigned. This course is designed for those students especially interested in elementary and secondary school teaching and may be substituted for Speech 101. Credit toward graduation requirements in any degree program may be granted for one speech course only.

TH. ARTS 210. ACTING Three credits Students will study the art of creating a variety of characters for the stage through the use of vocal interpretation and physical movement. Each student will extend his acting range and experience by performing various roles in selected dramatic scenes for classroom evaluation.

TH. ARTS 241. PRODUCTION The student will study the influences of social changes upon methods of staging and will explore the many facets of theatrical production. He will learn to translate the concept of the playwright into physical actuality and will learn to adapt a production to the requirements of a stage. Class and workshop.

TH. ARTS 250. THEATER: PRINCIPLES AND PRACTICE Three credits The student will study creative concepts and theories in the evolution of dramatic writing, staging of plays, and methods of acting that affect the modern theater. Special attention will be given to Theater of Alienation, Theater of Cruelty, and Theater of the Absurd.

TH. ARTS 260. DOCUMENTARY DRAMA The student will study scripts dramatizing issues and problems relating to man's opinion of himself, of his society, and his world. He will analyze and evaluate material presented on stage, on film, and on television.

TH. ARTS 330. THEATER HISTORY

Three credits

The student will study the historical development and background of theatrical art from ancient times to the present.

TH. ARTS 343. LIGHTING FOR THE STAGE

Three credits

The student will learn the principles of lighting a show so that he may use these principles in either simple or sophisticated lighting systems. He will work with instruments and equipment of the lighting technician.

TH. ARTS 344. SCENE DESIGN

Three credits

The student will study the nature and function of scenic art. Emphasis will be on contemporary theories and techniques, with special reference to stage designers Robert Edmond Jones, Jo Mielziner, Donald Oenslager, Oliver Smith.

TH. ARTS 352. DIRECTING

Three credits

This course deals with play selection; the practical use of the stage; blocking; interpretation of a role; relation of performer and audience. There will be presentation by individual class members of exercises and scenes from plays, to demonstrate stage picturization, dialogue, and movement. Each student must attend rehearsals, assist in the production, and write an analysis of a play or musical performed at the College. Class and workshop.

TH. ARTS 380. THEATER WORKSHOP

Three credi

This course provides an opportunity to prepare the full production of a short play for an audience: the student will cast and direct the play, plan and supervise the lighting, design the setting and supervise its construction for the production. The student will work closely with members of the theater staff.

TH. ARTS 395-396. INDEPENDENT RESEARCH

Independent study and research for advanced students in the theater arts program under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

TH. ARTS 397. SEMINAR (Maximum of three credits per student) One to three credits Presentations and discussions of selected topics.

TH. ARTS 398. TOPICS

One to three credits

 $\label{lem:asymptotic formula} \textbf{A} \ \text{study of topics of special interest not extensively treated in regularly offered courses.}$



Special Degree

and

Non-Degree Programs





Aerospace Studies

Professor Seizys, chairperson; Assistant Professors Jennings and Johnson.

Air Force Reserve Officer Training Corps Program

The Air Force ROTC program is divided into two phases: the General Military Course (GMC), the first two college years, and the Professional Officer Course (POC), the last two years.

A student may elect to enroll in the Four-Year AFROTC Program or the Two-Year AFROTC Program. Students electing the Four-Year Program will take the General Military Course during their freshman and sophomore years and the Professional Officer Course during their junior and senior years. They will attend four weeks of field training during the summer between the sophomore and junior years. As members of the program they are eligible to compete for AFROTC Scholarships. For acceptance into the POC, the Four-Year Program student must pass a physical examination and an Officer Qualifying Test, and possess an acceptable academic rating. To qualify for enrollment in the Two-Year Program, students must have two academic years remaining at either the graduate or undergraduate level or a combination of the two. They must also meet certain physical standards, pass an Officer Qualifying Test, and possess an acceptable academic rating. Further, they must successfully complete a six-week Field Training Course before they can be accepted into the Professional Officer Course. Transfer students may elect the Professional Officer Course by satisfying the above requirements.

Uniforms and all equipment and textbooks required for AFROTC work are supplied by the College and the United States Air Force. Students in the Professional Officer Course receive \$100 per month in subsistence allowance.

Students who successfully complete the Professional Officer Course are commissioned as second lieutenants in the United States Air Force Reserve. Consistent with AF needs, they serve on active duty in the Air Force in a specialty as close as possible to their academic training.

The AFROTC program is recognized as academic but of a highly specialized nature. It is not a major field of study; the course work is taken as a concentration in conjunction with the student's chosen academic major. Academic credit is given for all ROTC subjects taken and passed, and the grades will affect the student's academic rating. Unless otherwise specified in the course requirements section of the College Bulletin, students may use POC or GMC credit hours to satisfy elective requirements for graduation.

Leadership Laboratory

Leadership Laboratory is a required non-credit activity for all regularly enrolled cadets, and it is conducted one hour each week under the direction of the detachment officer staff. Experts in the fields of defense policy and other current affairs subjects also lecture in the AFROTC Enrichment Program.

Field Training

Each cadet must attend field training during the summer before entry into the Professional Officer Course. Transportation from the legal residence of the cadet to the field training base and return, food, lodging, and medical and dental care are provided by the Air Force. In addition, the cadet receives appoximately \$300 for the four-week field training and \$450 for the six-week field training. In special cases, fouryear program cadets and veterans may be granted approval to attend field training one year later than normal.

Periodically, the Department of Aerospace Studies conducts field trips to various Air Force installations. These trips include tours of the base and familiarization flights.

Flight Instruction

The Flight Instruction Program (FIP), designed for seniors in the Professional Officer Course who plan to enter Air Force pilot training upon graduation, determines whether applicants have the necessary qualifications to fly high-performance aircraft.

General Military Course

The General Military Course (GMC) is a two-year program for freshmen and sophomores designed to provide a general knowledge of the role, organization, missions, and historical development of U.S. air power. Students enrolled in the GMC who are not on Air Force scholarships incur no military obligations. Note: AS 101-102-201-202 may be substituted for P.E. 100 series.

AS 101. U.S. MILITARY FORCES IN

THE CONTEMPORARY WORLD I Background, missions, and functions of U.S. military forces, with emphasis on U.S. Air Force organization, doctrine, and strategic forces. One hour of class and one hour of leadership laboratory per week.

U.S. MILITARY FORCES IN THE CONTEMPORARY WORLD II

U.S. general purpose military forces; insurgency and counter-insurgency; aerospace support forces and organizations. One hour of class and one hour of leadership laboratory per week.

AS 201. THE DEVELOPMENT OF AIR POWER I

Fall - One credit

Spring — One credit

Air power development in historical perspective through the end of World War II; evolution of missions, concepts, doctrine, and employment, with emphasis on changes in conflict and factors which have prompted technological developments. One hour of class and one hour of leadership laboratory per week.

AS 202. THE DEVELOPMENT OF AIR POWER II

Spring — One Credit

Air power development from the end of World War II to the present; changing missions and employment of air power in support of national objectives. One hour of class and one hour of leadership laboratory per week.

AS 251. FLIGHT PROGRAM GROUND TRAINING

Spring — One credit

Prepares AFROTC cadets and others for FAA private pilot examination through study of general regulations, air traffic rules, accident reporting, air navigation, weather, safety, principles of flight, basic operations, flight computer. Limited spaces beyond AFROTC requirements are available to Wilkes juniors or seniors. Two hours of class/laboratory per week.

Professional Officer Course

The Professional Officer Course (POC) is a four-semester program, normally taken during the junior and senior years, mandatorily leading to commissioning as an Air Force officer. The POC concentrates on national defense policy, concepts and practices of management, and concepts and practices of leadership.

AS 301. CONCEPTS OF MANAGEMENT

General theory and practice of management with special reference to the Air Force; study of information systems, quantitative approach to decision making, and resource control techniques; development of communicative skills. Three hours of class and one hour of leadership laboratory per week.

Prerequisite: POC membership or permission of the instructor. Note: AFROTC cadets may substitute AS 301 for B.A. 251.

AS 302. CONCEPTS OF LEADERSHIP

Spring — Three credits

Air Force leadership at the junior officer level, including its theoretical, professional, and legal aspects; practical experience in influencing people, individually and in groups, to accomplish organizational missions effectively; development of communicative skills. Three hours of class and one hour of leadership laboratory per week.

Prerequisite: AS 301 or permission of the instructor.

AS 311. NATIONAL SECURITY FORCES IN

Fall — Three credits

AMERICAN SOCIETY I The role and functions of the professional military officer in a democratic society and civil-military interaction; basic framework of defense policy and formulation of defense strategy; development of individual communicative skills. Three hours of class and one hour of leadership laboratory per week.

Prerequisite: AS 302 or permission of the instructor.

AS 312. NATIONAL SECURITY FORCES IN AMERICAN SOCIETY II

Spring — Three credits

The problems of developing defense strategy in a rapidly changing technological environment; effective deterrent posture and management of conflict; dynamics and agencies of defense policy making, analyzed through case studies. Three hours of class and one hour of leadership laboratory per week.

Prerequisite: AS 301 or permission of instructor.

Leadership Laboratory

All AFROTC cadets are required to participate in leadership laboratory one hour per week during each semester. This program involves a progression of experiences designed to develop each student's potential. Areas examined: Air Force customs and courtesies; drill and ceremonies; career opportunities; life and work of an Air Force junior officer.

Field Training

All candidates for enrollment in the POC will attend field training during one summer. The training, conducted at selected Air Force bases, gives students an opportunity to observe Air Force units and people at work and at home, participate in marksmanship, survival, athletic, leadership training activities, take aircraft orientation flights, and work with contemporaries from other states. Students in the four-year program attend a four-week session, while candidates for the two-year program must complete a six-week session.

Cooperative Education Program

Cooperative Education is a process which formally integrates a student's academic studies with productive work experiences in employing organizations. The word "cooperative" is used to mean a cooperative relationship between the empoyer and the College. Through alternating semesters of full-time study and full-time professional work experience, students enhance their academic knowledge as well as advance their professional preparation. The student may earn twelve credit hours for a full-time professional semester.

In addition to the full-time alternating program of study and work, the College offers a "parallel program." This program combines work and study during the same academic term. The student registers for a reduced load and spends approximately one-half time in the classroom. In the parallel program, a student may earn six credit hours for a professional semester part-time.

The program is open to students majoring in any of the College's academic disciplines. Interested students should contact Mr. Robert Koester in the Career Planning Center (rear 34 S. River Street) or Dr. James Rodechko in Franklin Hall.

Special Degree Programs

Five-Year B.S.-M.S. Degree — Biology Major

During the first six semesters in the combined five-year program leading to bachelor and masters degrees there would be no change in the current bachelor of science requirements.

At the end of the sixth semester (junior year) individuals may elect the 5-year program. The summer between the junior and senior year would be devoted to the initiation of thesis research with a maximum of 3 thesis credits given, or the student may take undergraduate courses required for the B.S. degree (i.e., graduation requirements). The program is constructed so that if a student changes his mind during the fourth year, he may still graduate with the B.S. degree at the end of four years.

Five-Year B.S.-M.S. Degree—Mathematics Major

This program is designed for those who wish to attain a B.S. and an M.S. degree with a major in Mathematics at Wilkes and will enable them to complete all requirements for both degrees in at most five years. A mathematics major may apply for admission into this combined program during the sixth or the seventh term if he has a minimum average of 3.00 in all mathematics courses numbered above 300 and an overall average of 2.60 at the time of application. A form for this purpose is available from the department chairperson.

Degree requirements

All requirements for both degrees must be met. In addition, Math. 511 and 532 are required. No credit shall be counted in both degree programs. Scheduling will be done so that the student will be eligible to receive a B.S. degree at the end of four years.

Individualized Studies

This program is designed for those capable and motivated students who wish to undertake a course of study that cannot be provided for under any of the normal B.A., B.S. degree programs. The student will be responsible for generating a coherent proposal for a program of studies. This proposal must be selected by the student, approved by an adviser, and then by the Individualized Studies Committee. The program of studies may include courses offered by all departments at Wilkes College. In addition, credit may be assigned for appropriate off-campus study, work, and/or travel. Credits may be granted for knowledge or experience obtained prior to enrollment, with approval of the appropriate department and the Individualized Studies Committee.

Degree Requirements

The basic requirement for the degree in Individualized Studies is the accumulation of 120 credits. Although there are no specific course requirements, the spirit of the Wilkes College core curriculum is to be respected.

International Studies

This interdisciplinary program, organized around four of the social science departments at Wilkes College, provides a wider and more comprehensive background in world affairs than is available in any one of the individual departments. The B.A. program is designed to open up career opportunities in such diverse fields as the foreign service, other governmental or intergovernmental work, international business, international finance and law. The major requirements of this program follow:

MAJOR REQUIREMENTS	Hours	MAJOR ELECTIVES	Hours
Ec. 101, 102	6	Ec. 224, 225, 227, 228, 229	9
P.S. 101, 102	6	Hist. 327, 328, 341, 342, 347,	
Soc. 101 & Anth. 101	6	348, 356, 361, 362, 363,	
Seminar I & II	6	364, 367, 381, 382	9
Foreign Language	6	P.S. 222, 223, 224, 225,	
		226, 398 (if topic is relevant)	9
		Soc. 252, 275, 398 (if topic is	
		relevant), Anth. 270,	
		398 (if topic is relevant)	9
			-
	30		36

CORE: The CORE distribution requirement listed in the College Bulletin shall be fulfilled. The International Studies major requires, however, foreign language competency to the 204 level; no more than six hours of foreign language may be applied to the humanities distribution; History 101-102 also is recommended in the International Studies major.

Total minimum credits required for B.A. degree — 131.

Medical Technology

The American Society of Clinical Pathologists and the American Society of Medical Technologists recommend certain requirements for a program of training leading to a B.S. degree. The curriculum offered at Wilkes College follows these recommendations and is presented below. The final year in this program is taken in hospitals approved for such training by the American Society of Clinical Pathologists.

Wilkes College has established a formal affiliation with the Allentown Hospital in Allentown, Pa., the Robert Packer Hospital in Sayre, Pa., Somerset Hospital in Somerville, N.J., the Williamsport Hospital, the Hahnemann Medical College and Hospital, and the

^{*} Each student may take only one semester of Bio. 397.

General Hospital in Wilkes-Barre, Pa. Fulfillment of the fourth year requirement at non-affiliated hospitals requires special permission of the department chairperson and of the Academic Standing Committee.

FIRST SEMESTER		SECOND SEMESTER	
Bio. 201-202	5	Bio. 203-204	5
Chem. 201	4	Chem. 202	4
Eng. 101	3	Eng. 102	3
Math. 105	4	Math. 106	4
P.E. 100	0	P.E.100	0
		P.E. 105-106	2
	16		18
THIRD SEMESTER		FOURTH EMESTER	
Bio. 205-206	5	Bio. 207-208	5
Chem. 221	4	Chem. 230	4
Eng. 151	3	Eng. 152	3
Hist. 101	3	Hist. 102	3 3 3
Social Science Elective		Social Science Elective	3
P.E. 100	0	P.E. 100	0
	18		18
FIFTH SEMESTER		SIXTH SEMESTER	
Bio. 303	3	Bio. 302	3
Bio. 307	3	Bio. 313	3
C.S. 123	3	Phys. 106	4
Phys. 105	4	Phys. 320	3
Elective	3	Elective	3
	16		16
SEVENTH SEMESTER		EIGHTH SEMESTER	

Pre-Professional Degree Program

Four years of undergraduate study ordinarily are required to qualify for the Bachelor's degree. Wilkes College makes an exception to this requirement for medical and dental students.²

These students may, with the approval of the Academic Standing Committee, satisfy the requirements for the Bachelor's degree by completing three years of undergraduate study at Wilkes and by requesting credit toward the degree for their first two years of work in professional school.

Such students must petition the Academic Standing Committee for permission to graduate, submit official transcripts from the professional school, and pay the usual graduation fees. In all cases the final approval for the granting of the degree rests with the Academic Standing Committee of Wilkes College.

Wilkes-Hahnemann Cooperative Medical Education Program in Family Medicine

In an effort to increase the number of family physicians in northeastern Pennsylvania, Wilkes College and Hahnemann Medical College and Hospital initiated an innovative six-year program in family medicine in September of 1972. Successful completion of the program will enable a student to earn both the baccalaureate degree and the Doctor of Medicine degree concurrently (six years after entering the freshman year at Wilkes College)*:

In this program a class of approximately 100 students will spend the first two years at Wilkes in a pre-professional health sciences curriculum which will meet the minimum natural science, social science, and communicative skills requirement for potential entry into the medical component of the program. The curriculum is designed with a high degree of flexibility so that a highly motivated student may select a major from a variety of health-related disciplines such as biology, chemistry, physics, medical technology, psychology, and sociology-anthropology, as well as such non-related areas as English, history, mathematics, political science, and philosophy.

After completion of the two-year Wilkes sequence, a Joint Selection Committee will supervise the selection of approximately twenty to twenty-five qualified candidates for entrance into the medical component at Hahnemann. Students who are not selected or do not elect to enter Hahnemann may still pursue a variety of degree options offered by Wilkes.

The next two and one-half years at Hahnemann Medical College will be spent studying the basic and clinical sciences and advanced basic clinical sciences. The final year and a half will be spent in Wilkes-Barre at Wilkes College and the Wilkes-Barre area hospitals (Mercy Hospital, Wilkes-Barre; Nesbitt Memorial Hospital, Kingston; Veterans Administration Hospital, Wilkes-Barre; Wilkes-Barre General Hospital; Wyoming Valley Hospital, Wilkes-Barre), where students will enter the family medicine track of study and complete the baccalaureate degree requirements. Students interested in this accelerated program can make application by obtaining a Wilkes College admission form from the Dean of Admissions.

Admission to this program is limited to twenty counties in northeastern Pennsylvania. A list of these counties can be obtained by writing or calling the Wilkes Hahnemann Office.

Admission to the Wilkes-Hahnemann program does not imply automatic admission into the Hahnemann Medical School component.

¹ In lieu of the senior academic year on campus, one calendar year of study is required at an accredited school of medical technology.

²Students enrolled in the Wilkes-Hahnemann program receive the B.S. degree at the end of six years.

^{*}Under consideration at the present time is an optional six- or seven-year program. If this program is adopted, students may spend their first three years at Wilkes rather than only the first two.

Pre-Professional Programs in Health Sciences — Family Medicine¹

FIRST YEAR

Wilkes College			
FIRST SEMESTER		SECOND SEMESTER	
Bio. 201-202	5	Electives ⁴	5-6
Chem. 201	4	Chem. 202	4
Math. 105 or 111	4	Math. 106 or 112	4
Eng. 101 ²	3	Eng. 102	3
P.E. 100	0	P.E. 100	0
P.E. 105 ³	1	P.E. 106 ³	1
		Orientation — Medicine &	
		Health Professions	0
	16-17		17-18

SUMMER I

Psy. 101-102	6
Eng. 151, 152	6

SECOND YEAR

THIRD SEMESTER		FOURTH SEMESTER	
Bio. 205-206	5	Electives ⁴	5-7
Chem. 237	4	Chem. 238	4
Phys. 105 or 201	4	Phys. 106 or 202	4
Soc. 101 or Anth. 101	3	Anth. 101 or Soc. 101	3
		P.E. 100 Orientation — Medicine &	0
		Health Professions	0
	16		16-18

SUMMER II

Soc. 200

3

Medical Component¹

THIRD YEAR

Hahnemann Medical College, Philadelphia, Pa.

8-,		
Biochemistry	Physiology	Medical Problems
Developmental Biology (Gross Anatomy,	Microbiology	Human Behavior
Histology, Neuroanatomy, Genetics)	Pharmacology	Clinical Science
	Pathology	Summer Vacation

¹Subject to change without prior notice. Because of the rapid changes in the area of medical education, the changes in the program occur more often and are more extensive than in other Wilkes College programs.

²Students may obtain advanced placement in English Composition.

Students who are not selected to enter Hahnemann after two years or who elect not to participate in the program will be required to take P.E. 105-106 (Hygiene) before graduation from Wilkes.

⁴Electives should include Speech 101. Remaining electives should be selected from the Sciences, Social Sciences, and Humanities to meet personal needs and/or degree requirements at Wilkes College.

FOURTH YEAR

CLINICAL CLERKSHIP ROTATIONS

Medicine (12 weeks)	Obstetrics/Gynecology (6 weeks)
Surgery (12 weeks)	Psychiatry (6 weeks)
Family Medicine (6 weeks)	Vacation (6 weeks)
Pediatrics (6 weeks)	

FIFTH YEAR

Hahnemann Medical College, Philadelphia, Pa.

Advanced Basic Science and Clinical Electives

Wilkes College and Wilkes-Barre Area Hospitals

Vacation and/or Free Elective Periods Family Medicine Track Rotations

SIXTH YEAR

Wilkes College and Wilkes-Barre Area Hospitals

Family Medicine Track Rotations

Graduate Level Courses at Wilkes College

B.A. 398. TOPICS IN BUSINESS ADMINISTRATION Six credits This course consists of modules dealing with accounting, insurance, business administration, law, and economics. A specialist will teach each segment. It is designed to prepare a person to provide a more efficient delivery of his activity in that the internal organization of his operation can be dealt with in a more knowledgeable manner.

SOC. 398. TOPICS IN SOCIOLOGY Physician, Patient, and Society

Three credits

This course explores socio-cultural components of illness, quality of health services, social and psychological factors affecting disease processes, problems of socially structured stress, coping with terminal or chronic illness, referral processes and their organization, and strain and problems facing the hospitalized patient.

P.S. 398. TOPICS IN POLITICAL SCIENCE Health Care Delivery, Policy, Politics

Three credits

Examination of the processes of government at both the Federal and local levels, and of the particular processes involved in the development and implementation of health care policy; critical analysis of the pluralist and elitist interpretations of the political process; discussion of the strategies of the citizen, community organization, and political representatives in policy formation.

Wilkes College/Pennsylvania College of Optometry Program

The program requires completion of three years at Wilkes College and four years at Pennsylvania College of Optometry.

All students in the program shall satisfy the general core requirements. Note, however, that Psy. 101-102 and the mathematics, chemistry, physics, and biology courses are required and not optional.

The remaining credits in the first three years may be used for depth education in an academic discipline or for other electives.

A student completing three years at Wilkes College in the program and four years at Pennsylvania College of Optometry will be awarded a Bachelor of Science degree by Wilkes College. The components of that degree shall be: (1) completion of 96½-106½ credits at Wilkes College; (2) transfer of thirty credits in science electives selected from the courses given at Pennsylvania College of Optometry.

A student should declare a major at Wilkes College and, having been assigned an academic adviser, progress through the first three years in the major. If after three years the student is not chosen to go to Pennsylvania College of Optometry, then he or she may complete the last year at Wilkes College and receive a baccalaureate degree as every other student does who completes an academic program satisfactorily.

A Joint Selection Committee of Wilkes College faculty and Pennsylvania College of Optometry faculty will select students for entrance into the optometry component of the program.

into the optor	netry component of	of the program.	
FIRST	SEMESTER	SECOND SEMESTE	R
Bio. 201-202	5	Chem. 202	4
Chem. 201	4		3
Eng. 101	3		4
Math. 105 or 111	4	Electives	5-6
P.E. 105	id to go o to to to a go o to to a	P.E. 106	1
P.E.100	0	P.E. 100	0
		Health Profession Orientation	0
	17	medicine social comment	17-18
THIRD	SEMESTER	FOURTH SEMESTE	R
Bio. 205-206	5	Bio. 207	21/2
Chem. 237	4	Chem. 238	4
Psy. 101	3	Psy. 102	3
Electives	3-6		6-8
P.E. 100	0		0
		Health Profession Orientation	0
	15-18	tant analysis of the planetal that the state of the	151/2-171/2
FIFTH	SEMESTER	SIXTH SEMESTER	and a second
Phys. 201	4	Phys. 202	4
Electives	12-14		12-14
	Ргодини	Health Profession Orientation	0
	16-18		16-18
Core requirements Required beyon Credits availab	ents (not listed) nd above: Math. 150 le for other courses		29 credits 3 credits 6 credits

Wilkes College / Pennsylvania College of Podiatric Medicine Program

The program requires completion of three years at Wilkes College and four years at Pennsylvania College of Podiatric Medicine.

All students in the program shall satisfy the general core requirements. Note, however, that Psy. 101-102 and the mathematics, chemistry, physics, and biology courses are required and not optional.

The remaining credits in the first three years may be used for depth education in an academic discipline or for other electives.

A student completing three years at Wilkes College in the program and four years at Pennsylvania College of Podiatric Medicine will be awarded a Bachelor of Science degree by Wilkes College. The components of that degree shall be: (1) completion of 97-107 credits at Wilkes College; (2) transfer of thirty credits in science electives selected from the courses given at Pennsylvania College of Podiatric Medicine.

A student should declare a major at Wilkes College and, having been assigned an academic adviser, progress through the first three years in the major. If after three years the student is not chosen to go to Pennsylvania College of Podiatric Medicine, then he or she may complete the last year at Wilkes College and receive a baccalaureate degree as every other student does who completes an academic program satisfactorily. A Joint Selection Committee of Wilkes College faculty and Pennsylvania College of Podiatric Medicine faculty will select students for entrance into the podiatric medicine component of the program.

STER	SECOND SEME	STER	FIRST SEMES
4	Chem. 202	5	Bio. 201-202
3	Eng. 102	4	Chem. 201
4	Math. 106 or 112	3	Eng. 101
5-6	Electives	4	Math. 105 or 111
1	P.E. 106	1	P.E. 105
0	P.E. 100	0	P.E.100
17-18		17	
STER	FOURTH SEME	STER	THIRD SEMES
4	Chem. 238	5	Bio. 205-206
3	Psy. 102	4	Chem. 237
9-11	Electives	3	Psy. 101
0	P.E. 100	3-6	Electives
		0	P.E. 100
16-18		15-18	

SIXTH SEMESTER Phys. 106 or 202







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FRED J. CROOP (1973), Assistant Comptroller B.S. (Wilkes)

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GORDON EARLES, M.D. (1978), Director of College Health Service Family Practice Residency Center, Kingston, Pa.

MILDRED GITTINS (1944), Manager of the Bookstore

BARBARA GREENWOOD (1976), Director, Upward Bound B.S. (Pennsylvania State)

ALFRED S. GROH (1947), Director, Cultural Activities B.A. (Syracuse), M.A. (Columbia)

LINDA HOBROCK (1969), Associate Dean of Admissions B.S. (Bowling Green), M.Ed. (Lehigh)

ARTHUR J. HOOVER (1955), Associate Dean of Student Affairs B.S. (Wilkes), M.Ed. (Pennnsylvania State)

JOSEPH H. KANNER (1949), Director of Testing Service B.A. (Bucknell), M.A. (New School for Social Research)

ROBERT J. KOESTER, JR. (1977), Director, Cooperative Education B.S. (Husson), M.B.A. (Scranton)

BETTY KWAK, R.N. (1975), College Nurse

JANE KATHLEEN LAMPE (1969), Associate Dean of Student Affairs B.A. (Rosary), M.A. (Michigan), M.Ed. (Virginia)

EUGENE L. MANGANELLO (1973), Personnel and Systems Coordinator

JOSEPH J. MARCHETTI (1976), Director of Housing B.A. (Wilkes)

TERESA B. McDONALD (1972), Director of Federal Programs and Institutional Research-(IRA)
B.S. (Bloomsburg), M.P.A. (Pennsylvania State)

JOHN F. MEYERS (1967), Director of Continuing Education and Graduate Studies B.A. (Minnesota), M.A. (Clark)

GEORGE G. PAWLUSH (1969), Director of Public Relations B.S., M.S. (Wilkes)

GEORGE F. RALSTON (1946), Dean of Student Affairs B.A. (North Carolina), M.A. (Columbia)

RICHARD G. RASPEN (1967), Director of Financial Aid B.S. (Wilkes), M.Ed. (Bloomsburg), M.B.A. (Wilkes)

J. PHILIP RICHARDS (1962), Director, Sordoni Art Gallery B.F.A. (Syracuse)

IDA RIGLEY, R.N. (1975), College Nurse

RALPH B. ROZELLE (1962), Dean of Health Sciences; Project Director, Wilkes-Hahnemann Cooperative Medical Education Program In Family Medicine
B.S. (Wilkes), Ph.D. (Alfred)

ANTHONY J. TURCHETTI (1973), Clinical Coodinator and Associate Dean — Wilkes-Hahnemann Cooperative Medical Education Program in Family Medicine B.S., M.S. (Pennsylvania State), LL.B. (George Washington), M.D. (Hahnemann)

JOHN P. WHITBY (1947), Dean of Special Programs B.S. (Bloomsburg), M.S. (Columbia)

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MICHAEL A. AED (1976), Instructor in Physical Education and Hygiene B.S. (Lock Haven State), M.S. (SUNY, Albany)

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 B.S., M.Ed. (West Chester)
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 B.S. (Duke), M.S. (Dalhousie, Halifax)
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- FRANCK G. DARTE, II (1968), Professor of Education B.S. (Yale), M.S., Ed.D. (Pennsylvania)
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- JAMES G. DeCOSMO (1962), Assistant Professor of Mathematics and Computer Science
 B.S. (West Chester), M.A. (Adelphi)
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- ROBERT DeYOUNG (1960), Associate Professor of Economics B.S. (Rhode Island), M.A. (Columbia)
- FRANCIS J. DONAHOE (1964), Professor of Physics B.A. (LaSalle), Ph.D. (Pennsylvania)
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SHIRLEY EATON (1973), Instructor of English, Modern Foreign Languages and Literatures
B.S. (Boston), M.A. (Middlebury)

GEORGE F. ELLIOT (1950), Professor of Economics B.A. (Montclaire State), M.A. (Clark)

THEODORE J. ENGEL (1966), Associate Professor of Business Administration B.B.A., M.A. (Miami)

JOHN E. ERICKSON (1974), Assistant Professor of Biology B.S., M.S. (North Carolina State), Ph.D. (Washington)

MAHMOUD H. FAHMY (1968), Associate Professor of Education B.A. (Alexandria, Egypt), M.A. (Columbia), Ph.D. (Syracuse)

H. CUTLER FALL (1969), Assistant Professor of Music B.A. (Brown), M.A. (Yale), Ph.D. (California State, Santa Barbara)

WELTON FARRAR (1948), Professor of Economics B.S., M.S. (Pennsylvania)

OWEN D. FAUT (1967), Professor of Chemistry B.S. (Muhlenberg), Ph.D. (M.I.T.)

ANDREA B. FAVAREAU (1977), Assistant Professor of Nursing B.S. (Georgetown), M.S. (Pennsylvania State)

BENJAMIN F. FIESTER, JR. (1956), Professor of English, Modern Foreign Languages and Literatures B.A. (Wilkes), M.A. (Bucknell), Ph.D. (Pennsylvania State)

CHRISTOPHER B. FOX (1978), Assistant Professor of English, Modern Foreign Languages and Literatures
B.A. (Cleveland State), M.A., Ph.D. (SUNY, Binghamton)

ROBERT C. FREYSINGER (1976), Assistant Professor of Political Science B.A. (Hartford), M.A., Ph.D. (Massachusetts)

RICHARD A. FULLER (1969), Assistant Professor of Art B.S. (New York), M.A. (Columbia)

HERBERT GARBER (1965), Assistant Professor of Music B.A. (New York), M.A., Ed.D. (Columbia)

WILLIAM R. GASBARRO (1958), Professor of Music and Music Education B.S. (Juilliard), M.A. (Columbia)

DONALD W. GAUNTLETT (1974), Instructor of Chemistry B.S. (Kutztown), M.A.T. (Brown)

GEORGE GERA (1958), Associate Professor of Business Education B.S. (Bloomsburg), M.A. (Columbia)

LOUIS GETTINGER (1975), Assistant Professor of Accounting B.B.A. (City College of New York), M.B.A. (American University), C.P.A. (State of Pennsylvania)

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CHARLES S. GURDIN, JR. (1969), Assistant Professor of Business Administration B.A. (Michigan), J.D. (Toledo)

STANLEY S. GUTIN (1959), Associate Professor of English, Modern Foreign Languages and Literatures B.A., M.A. (Maryland), Ph.D. (Pennsylvania)

MICHAEL HABERKORN (1972), Assistant Professor of Music B.Mus., M.Mus. (Illinois), M.A. (Columbia)

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EUGENE L. HAMMER (1953), Professor of Education B.S. (Wheaton), M.A. (Northwestern), Ed.D. (Columbia)

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STANLEY J. HOLDEN (1963), Professor of Physics B.A. (Brooklyn), Ph.D. (Alfred)

KLAUS HOLM (1970), Assistant Professor of Theater Arts B.S. (New York), M.F.A. (Yale)

LEVERE C. HOSTLER (1967), Associate Professor of Physics/Engineering B.S. (M.I.T.), M.S., Ph.D. (Stanford)

CLYDE R. HOUSEKNECHT (1972), Associate Professor of Biology B.A. (Lycoming), M.S. (Pennsylvania State), Ph.D. (Minnesota)

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 B.S., M.A. (Temple), Ph.D. (Ukrainian Free University, Munich)
- J. DAVID KASCHAK (1978), Instructor of Physical Education and Hygiene B.S. (Wilkes)
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 B.A. (Wilkes), M.A., Ph.D. (Duquesne)
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- BRADFORD L. KINNEY (1973), Assistant Professor of English, Modern Foreign Languages and Literatures
 B.A. (Florida Southern), M.A. (Indiana), Ph.D. (Pittsburgh)
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- FREDERICK J. KROHLE (1965), Associate Professor of Library Science B.A. (Wilkes), M.S. (Drexel Institute of Technology)
- GAIL E. LATHAM (1978), Instructor of Library Science B.S. (Connecticut), M.S. (Villanova)
- DAVID M. LEACH (1969), Professor of History B.A. (Whitman), Ph.D. (Rochester)
- DONALD M. LESLIE, JR. (1978), Assistant Professor of English, Modern Foreign Languages and Literatures B.A. (Davidson), M.A., Ph.D. (Oregon)
- MARY CLAIRE MANGANIELLO (1978), Assistant Professor of Nursing B.S. (Wilkes), M.S. (Pennsylvania State)
- HILDA A. MARBAN (1969), Associate Professor of English, Modern Foreign Languages and Literatures
 B.A., B.S. (Vedado Institute), Ph.D. (Havana), M.A. (Trinity), Ph.D. (Virginia)
- ALLAN R. MAXWELL (1978), Assistant Professor of Art B.F.A. (Florida Atlantic), M.F.A. (Kent State)
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- CATHERINE A. McKENNA (1978), Associate Professor of Nursing B.S., M.S. (Catholic University of America)
- SAMUEL MERRILL, III (1973), Associate Professor of Mathematics and Computer Science B.A. (Tulane), M.A., Ph.D. (Yale)
- GAY F. MEYERS (1970), Assistant Professor of Physical Education and Hygiene B.S. (Lock Haven), M.S. (Wilkes)

- JOHN F. MEYERS (1967), Assistant Professor of History B.A. (Minnesota), M.A. (Clark)
- IRWIN MORRISON (1974), Assistant Professor of Accounting B.B.A. (CCNY), LL.B. (Brooklyn), LL.M. (New York), C.P.A. (State of New York)
- JOHN N. NATZKE (1973), Assistant Professor of Sociology and Anthropology B.A. (Wisconsin State), M.A., Ph.D. (Western Michigan)
- UMID R. NEJIB (1965), Professor of Engineering B.S. (Baghdad), M.S., Ph.D. (Carnegie-Mellon)
- LEOTA NEVIL (1968), Assistant Professor of Library Science B.S. (Bloomsburg), M.S. (Wilkes)
- ROBERT E. OGREN (1963), Associate Professor of Biology B.A. (Wheaton), M.S. (Northwestern), Ph.D. (Illinois)
- NANCY A. ONUSCHAK (1978), Assistant Professor of Nursing B.S., M.S. (Wilkes)
- JOHN L. OREHOTSKY (1971), Associate Professor of Engineering B.S. (M.I.T.), M.S. (Polytechnic Institute of Brooklyn), Ph.D. (Syracuse)
- JOSEPH A. PARKER, JR. (1976), Assistant Professor of Mathematics and Computer Science/Engineering
 B.S. (Stanford), Ph.D. (California Institute of Technology)
- ALEX PAWLENOK (1967), Associate Professor of Accounting B.S. (Wilkes)
- WALTER A. PLACEK, JR. (1969), Assistant Professor of Physics B.S. (Wilkes), M.Ed. (Pennsylvania State)
- LEONARD POWLICK (1976), Assistant Professor of English, Modern Foreign Languages and Literatures B.A., M.A., Ph.D. (Pittsburgh)
- MARY ELIZABETH RARIG (1975), Assistant Professor of Nursing B.S.N. (Western Ontario), M.Ed. (Columbia)
- THOMAS G. RASLEAR (1975), Assistant Professor of Psychology B.S. (CCNY), Sc.M., Ph.D. (Brown)
- JUDITH A. RASSON (1978), Assistant Professor of Sociology and Anthropology B.A., M.A., M.L.S. (California)BRIAN T. REDMOND (1976), Instructor of Earth and Environmental Sciences
- B.S., M.S. (Michigan State)

 RICHARD T. REES (1972), Assistant Professor of Education
- B.S. (Wilkes), M.Ed., Ed.D. (Rutgers)

 JOHN G. REESE (1955), Professor of Physical Education and Hygiene
 B.S., M.Ed. (Pennsylvania State)
- CHARLES B. REIF (1942), Professor of Biology B.A., M.A., Ph.D. (Minnesota)
- THOMAS R. RICHARDS (1943), Professor of Mathematics and Computer Science
 B.S. (Pennsylvania State), M.S. (Bucknell)

LOUIS RIGLEY (1974), Assistant Professor of Biology B.S. (Alderson-Broaddus), Ph.D. (West Virginia)

ROBERT C. RILEY (1949), Professor of Psychology B.A. (Bucknell), Ph.D. (Pennsylvania State)

PHILIP L. RIZZO (1957), Professor of English, Modern Foreign Languages and Literatures B.A., M.A., Ph.D. (Pennsylvania)

JAMES P. RODECHKO (1971), Professor of History B.A. (Hofstra), M.A., Ph.D. (Connecticut)

RALPH B. ROZELLE (1962), Professor of Chemistry B.S. (Wilkes), Ph.D. (Alfred)

FRANCIS J. SALLEY (1950), Professor of Chemistry B.S. (St. Joseph's), M.S. (Pennsylvania)

JOSEPH H. SALSBURG (1959), Assistant Professor of Mathematics and Computer Science B.A. (Bucknell), M.A. (Columbia)

ROSENDO E. SANTOS, JR. (1968), Assistant Professor of Music B.M. (Philippines), M.M. (Catholic University of America)

DORIS B. SARACINO (1960), Associate Professor of Physical Education and Hygiene
B.S., M.S. (East Stroudsburg)

MARGUERITE D. SCADUTO (1977), Associate Professor of Nursing B.S. (Hunter), M.A. (New York)

ROLAND C. SCHMIDT, JR. (1962), Associate Professor of Physical Education and Hygiene
B.S. (Bloomsburg), M.S. (Scranton)

JUDITH K. SCHREIBER (1974), Assistant Professor of Nursing B.S. (Wilkes), B.S. (Pennsylvania), M.S. (Scranton)

EVA E. SCHULER (1978), Associate Professor of Nursing B.S., M.S. (Washington)

ANTHONY W. SEIZYS (1977), Professor of Aerospace Studies B.S. (U.S. Air Force Academy), M.S. (Ohio State)

HSI-PING SHAO (1974), Assistant Professor of Library Science B.Ed. (National Taiwan), M.A. (Pennsylvania), M.S. (Drexel), Ph.D. (Pennsylvania)

KUO-KANG SHAO (1966), Associate Professor of History B.A. (Taiwan), M.S., Ph.D. (Pennsylvania)

J. GEORGE SILES (1963), Associate Professor of Education B.A. (Wilkes), M.S. (Scranton), Ed.D. (Lehigh)

HERBERT B. SIMON (1969), Assistant Professor of Art B.A., M.A. (New York)

ELAINE A. SLABINSKI (1976), Assistant Professor of Nursing B.S. (Wilkes), M.S. (Rochester)

RICHARD E. SOURS (1965), Associate Professor of Mathematics and Computer Science B.S. (Towson), M.S. (Michigan State), Ph.D. (Virginia) WILLIAM H. STERLING (1976), Associate Professor of Art B.A. (William & Mary), Ph.D. (Iowa)

ROBERT D. STETTEN (1968), Associate Professor of Psychology B.A., Ph.D. (Lehigh), M.S., M.A. (Iowa)

WILLIAM R. STINE (1965), Professor of Chemistry B.S. (Union), Ph.D. (Syracuse)

HOWARD A. SWAIN, JR. (1960), Professor of Chemistry B.S. (Grove City), Ph.D. (Pennsylvania)

MICHELE S. TAYLOR (1977), Assistant Professor of Nursing B.S. (Adelphi), M.A. (New York)

WAGIHA ABDEL-GAWAD TAYLOR (1969), Associate Professor of Economics B.A. (Alexandria), M.A. (Brown), Ph.D. (Clark)

SHARON G. TELBAN (1975), Instructor in Nursing B.S. (Wilkes)

LEE C. TERRY (1968), Associate Professor of English, Modern Foreign Languages and Literatures
B.A. (Southern Methodist), Ph.D. (Texas)

STEPHEN J. TILLMAN (1970), Associate Professor of Mathematics and Computer Science Sc.B., Ph.D. (Brown)

JAMES L. TRUCKENMILLER (1975), Assistant Professor of Psychology B.A. (Franklin & Marshall), M.A., Ph.D. (West Virginia)

PHILIP R. TUHY (1960), Assistant Professor of Political Science B.A. (Valparaiso), M.G.A. (Pennsylvania)

LESTER J. TUROCZI (1972), Associate Professor of Biology B.A., M.S., Ph.D. (Rutgers)

THEODORE M. VEREMEYCHIK (1971), Assistant Professor of Music B.S. (Indiana University of Pennsylvania), M.M.(Miami)

BRUCE W. WEAL (1978), Instructor of English, Modern Foreign Languages and Literatures B.A., M.A. (Maryland)

ROBERT E. WERNER (1955), Professor of Economics B.A. (Roosevelt), M.S., Ph.D. (Wisconsin)

HOWARD WILLIAMS (1973), Associate Professor of Economics B.S. (Wilkes), M.A., Ph.D. (Pennsylvania State)

ROY E. WILLIAMS (1967), Associate Professor of Philosophy B.A. (Eastern Nazarene), S.T.B. (Temple), Ph.D. (Drew)

BING K. WONG (1968), Professor of Mathematics and Computer Science B.A. (Kansas State at Pittsburgh), M.A., Ph.D. (Illinois)

Adjunct Faculty

MARY P. BABCOCK (1972), Nursing B.A. (Wilkes), M.S., Ph.D. (Harvard)

ABRAHAM D. BARRAS (1971), Philosophy B.A. (Columbia), B.Rel.Ed., M.H.L., D.H.L. (Jewish Theological Seminary)

JAMES L. BENDER (1974), Medical Technology School of Medical Technology, Robert Packer Hospital

LINDA BOCLAIR (1975), Medical Technology School of Medical Technology, Hahnemann Medical College & Hospital

MADELINE BONADIES (1978), Medical Technology School of Medical Technology, The Somerset Medical Center

JEANNINE CONNOLLY (1978), Nursing B.S. (Misericordia), M.S. (Scranton)

LILLIAN W. DUFFY (1976), Director, Nursing Learning Center B.S. (Misericordia)

BEATRICE A. HAWLEY (Spring 1979), Writer-in-Residence B.A. (Brandeis)

PATRICIA M. HEAMAN (1975), English, Modern Foreign Languages and Literatures
B.A. (Wilkes), M.A., Ph.D. (Pennsylvania)

ALAN HUSBAND (1970), Educational Development Center B.S. (Millersville), M.S. (Temple)

NAOMI D. JAMIESON (1978), Nursing B.S., M.S. (Temple)

WALTER KABY (1968), Engineering B.S., M.S. (Kharkov Institute of Technology)

JOSEPH H. KANNER (1949), Psychology B.A. (Bucknell), M.A. (New School for Social Research)

BRONIS KASLAS (1949), History LL.B. (Kaunas, Lithuania), M.A., Ph.D. (Strasbourg)

ANNE VANKO LIVA (1970), Music (Juilliard)

CHARLOTTE V. LORD (1962), English, Modern Foreign Languages and LiteraturesB.S. (New York), M.A. (Bucknell), M.A. (Middlebury), Ph.D. (Pennsylvania)

ROSS L. MANTIONE (1978), Mathematics and Computer Science B.A. (Wilkes)

TERESA B. McDONALD (1972), Political Science B.S. (Bloomsburg), M.P.A. (Pennsylvania State)

DIANA W. MORGAN (1975), Nursing B.S. (Wilkes)

VINCENT OSADCHY (1976), Engineering B.S. (Muhlenberg), M.S. (Wilkes)

GEORGE G. PAWLUSH (1969), English, Modern Foreign Languages and Literatures
B.S., M.S. (Wilkes)

MURRAY POPKY (1949), Theater Arts B.S. (Pennsylvania), Traphagan School of Design

ELLEN M. PROELLER (1976), Nursing B.S. (Pittsburgh)

RICHARD G. RASPEN (1967), Business Administration B.S. (Wilkes), M.Ed. (Bloomsburg)

J. PHILIP RICHARDS (1962), Art B.F.A. (Syracuse)

SANDRA RISHEL (1975), Medical Technology School of Medical Technology, The Williamsport Hospital

HELEN M. RUANE (1974), Wilkes-Hahnemann Program School of Medical Technology, Wilkes-Barre General Hospital

ANDREW SHAW, JR. (1972), Political Science B.S. (Wilkes), M.G.A. (Pennsylvania), D.P.A. (Nova)

JOSEPH A. SKOK (1969), Educational Development Center B.S. (Lock Haven), M.Ed. (Pennsylvania State)

CROMWELL E. THOMAS (1946), Engineering B.S. (Washington and Lee)

DELIA M. TORREGIANI (1977), Nursing B.S. (Misericordia)

ANTHONY J. TURCHETTI (1973), Wilkes-Hahnemann Program B.S., M.S. (Pennsylvania State), LL.B. (George Washington), M.D. (Hahnemann)

KAREN A. WISE (1977), Medical Technology School of Medical Technology, Allentown General Hospital











Emeriti

ALFRED W. BASTRESS
Professor of Chemistry, Emeritus. Ph.D., Yale

CATHERINE H. BONE
Assistant Professor of Chemistry, Emerita. M.S., Pennsylvania State

FRANK J. J. DAVIES
Professor of English, Emeritus. Ph.D., Yale

ELWOOD DISQUE
Associate Professor of German, Emeritus. B.A., Dickinson

RUTH W. JESSEE
Professor of Nursing Education, Emerita. Ed.D., Pennsylvania

BRONIS KASLAS
Professor of History, Emeritus. Ph.D., Strasbourg

GRACE C. KIMBALL
Associate Professor of Biology, Emerita. Ph.D., Cornell

ANNE VANKO LIVA
Associate Professor of Music, Emerita, Juilliard

CHARLOTTE V. LORD
Professor of English, Emerita. Ph.D., Pennsylvania

EDITH S. NAMISNIAK
Assistant Professor of Biology, Emerita. M.A., Michigan

Associate Professor of Fine Arts, Emeritus. B.F.A., Syracuse RUTH T. ROBERTS

Instructor of English, Emerita. B.A., Goucher CROMWELL E. THOMAS

J. PHILIP RICHARDS

Associate Professor of Engineering, Emeritus. B.S., Washington and Lee

STANLEY H. WASILESKI

Assistant Professor of Mathematics, Emeritus. M.S., Bucknell

PAUL R. WERNER
Associate Professor of Accounting, Emeritus. M.A., New York

ROBERT A. WEST
Associate Professor of Education, Emeritus. M.A., Columbia

Standing Committees of the Faculty

The following are the Faculty Committee assignments made for the academic year 1978-79. The President is ex-officio on all Committees except Committees on Academic Freedom.

Academic Freedom

Mediation

Eugene Hammer, Chairman (1979) Jean Driscoll (1980) Robert Riley (1981) James DeCosmo, Alt. (1979)

Faculty-Trustee

Benjamin Fiester (1979) Francis Salley (1980) George Elliot, Alt. (1979)

Academic Standing

Eugene Hammer, Chairman (1979) Owen Faut (1979) Richard Fuller (1979) Stanley Kay (1979) Welton Farrar (1980) Herbert Garber (1980) David Leach (1980) John Orehotsky (1980) Robert Doty (1981) Shirley Eaton (1981) Stanley Gutin (1981) Joseph Salsburg (1981) Doris Barker, Sec. Jane Lampe Ruth McHenry George Ralston Richard Soter

Admissions

Robert DeYoung, Chairman (1979)
John Koch (1979)
William Stine (1979)
Roy Williams (1979)
Edwin Johnson (1980)
Stanley Kay (1980)
Louis Rigley (1980)
William Gasbarro (1981)
Herbert Simon (1981)
John Whitby
Gerald Wuori

Athletic

James DeCosmo, Chairman (1980) Gay Meyers (1979) James Rodechko (1979) Roland Schmidt (1979) Marian Alexander (1979) Alex Pawlenok (1980) Sandra Bloomberg (1981) Welton Farrar (1981) Richard Rees (1981) Arthur Hoover John Reese

Curriculum

Howard Swain, Chairman, (1980)
Joel Berlatsky (1979)
Umid Nejib (1979)
Robert Riley (1979)
George Siles (1979)
Theodore Engel (1980)
Samuel Merrill (1980)
William Sterling (1980)
Jean Driscoll (1981)
Donald Henson (1981)
Walter Karpinich (1981)
Judith Schreiber (1981)
Lester Turoczi (1981)
Richard Soter

Faculty Policy

Joseph Bellucci, Chairman (1980) Donald Henson (1979) Francis Salley (1979) Benjamin Fiester (1980) Joel Berlatsky (1981) Jean Driscoll (1981)

Financial Aid

Walter Placek, Chairman (1981)
Michael Barone (1979)
Rodger Bearde (1979)
William Gasbarro (1979)
Carl Charnetski (1980)
Boyd Earl (1980)
Wilbur Hayes (1980)
John Orehotsky (1981)
Marguerite Scaduto (1981)
Philip Tuhy (1981)
Richard Raspen

Standing Committees of the Faculty

The President is ex-officio on all Committees except Committees on Academic Freedom.

Graduate Studies

Franck Darte, Chairman (1980)
Mahmoud Fahmy (1979)
Stanley Gutin (1979)
Brian Redmond (1979)
Robert Werner (1979)
Frank Donahoe (1980)
Clyde Housknecht (1980)
Kuo-Kang Shao (1980)
Christine Alichnie (1981)
James Bohning (1981)
Wagiha Taylor (1981)
Roy Williams (1981)
Bing Wong (1981)
John Meyers

Library

Wilbur Hayes, Chairman (1981)
H. Cutler Fall (1979)
Daniel Goldman (1979)
Samuel Merrill (1979)
Frederick Krohle (1980)
Robert Ogren (1980)
Wagiha Taylor (1980)
Benjamin Fiester (1981)
David Leach (1981)
Mary Rarig (1981)
Dale Buehler

Student Life

Robert Freysinger, Chairman (1981)
Lorna Darte (1979)
George Elliott (1979)
James Truckenmiller (1979)
H. Cutler Fall (1980)
Doris Saracino (1980)
Lester Turoczi (1980)
Linda Giordano (1981)
Michael Haberkorn (1981)
Sharon Telban (1981)
Arthur Hoover
Joseph Marchetti
George Ralston

Student Publications

Lee Terry, Chairman (1980) Angel Belic (1979) Alfred Groh (1979) Bradford Kinney (1979) Howard Williams (1979) Chester Colson (1980) Walter Karpinich (1980) Barbara Demory (1981) Adelaide Godek (1981) Leota Nevil (1981) George Pawlush

Teacher Recognition and Effectiveness

Bruce Berryman, Chairman (1979) George Gera (1979) Louis Rigley (1979) Berenice D'Vorzon (1980) Leonard Powlick (1980) Robert Riley (1980) John Erickson (1981) Joseph Parker (1981) Anthony Seizys (1981) Elaine Slabinski (1981) Theodore Veremeychik (1981)

Tenure and Promotion

Social Sciences

James Rodechko (1979) Robert DeYoung (Alt.)

Natural Sciences and Mathematics

Richard Sours (1980) James Bohning (Alt.)

Humanities

Donald Henson (1981) Stanley Gutin (Alt.)

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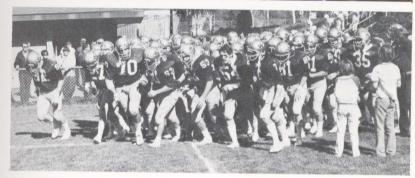
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College Calendar

FALL SEMESTER — 1978

Monday, August 28-8 a.m. Classes Commence Friday, September 1—5 p.m. Labor Day Break Tuesday, September 5—8 a.m. Classes Resume Tuesday, November 7 Free Day Tuesday, November 21—10 p.m. Thanksgiving Monday, November 27—8 a.m. Classes Resume Friday, December 8—5 p.m. Classes End Monday, December 11—8:30 a.m. Final Examinations Begin Final Examinations End Wednesday, December 20—4:30 p.m.

SPRING SEMESTER — 1979

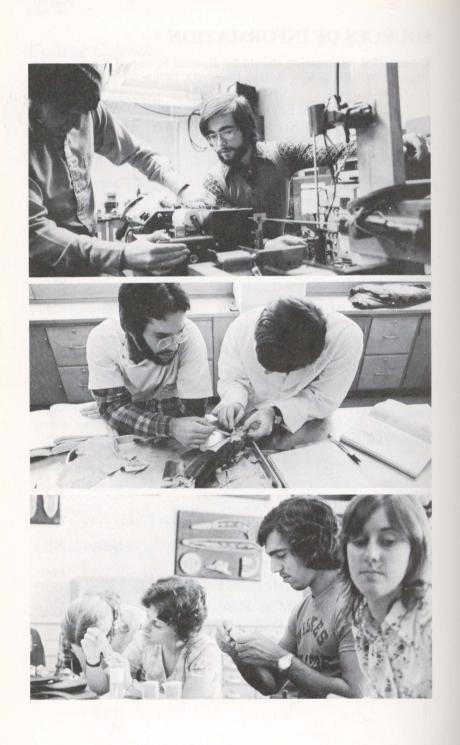
Monday, January 15-8 a.m. Classes Resume Friday, March 2-5 p.m. **Spring Vacation** Monday, March 12—8 a.m. Classes Resume Thursday, April 12—10 p.m. **Easter Vacation** Tuesday, April 17—8 a.m. Classes Resume Tuesday, May 1-5 p.m. Classes End (follow Friday schedule) Wednesday & Thursday, Reading Period May 2 and 3, and Sunday, May 6 Friday, May 4—8:30 a.m. **Final Examinations** Saturday, May 12-4:30 p.m. Final Examinations End Graduation Sunday, May 20

SOURCES OF INFORMATION

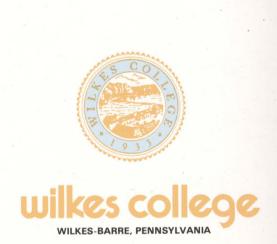
Requests for information should be directed to one of the following offices at Wilkes College, Wilkes-Barre, PA 18703:

TELEPHONE: (717) 824-4651 TWX: 510-658-3297

Office	Extensio
President	211
Admissions	221
Alumni Relations	207
Business Office	297
Career Counseling and Placement	244
Continuing Education	303
Dean of Student Affairs	234
Development	208
Financial Aid	225
Housing Office	352
Infirmary	435
Provost	213
Public Relations	205
Registrar	218
Security	494
Transcripts	215
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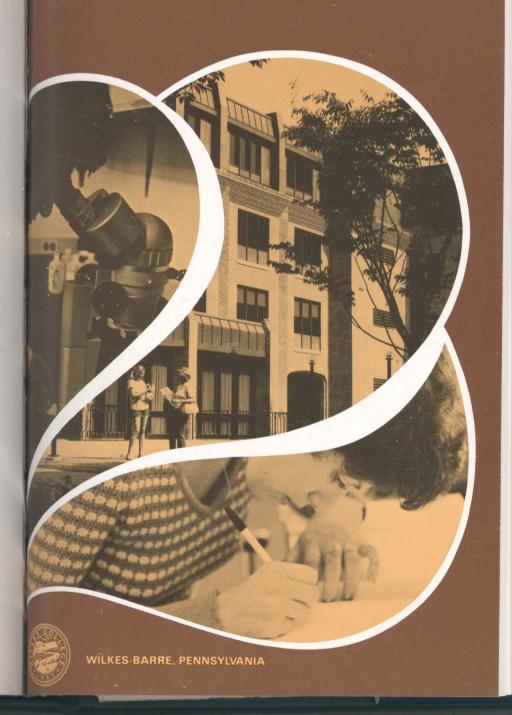






Wilkes College 1978-1979 BULLETIN

GRADUATE DIVISION



Academic Calendar

FALL SEMESTER — 1978

Registration —

Thursday, August 24 8:30 Friday, August 25 8:30

8:30 a.m. to 8:00 p.m. 8:30 a.m. to 8:00 p.m.

Classes begin —

Monday, August 28

8:00 a.m.

Labor Day Recess —

Friday, September 1 to Tuesday, September 5

5:00 p.m. 8:00 a.m.

Fall Recess —

Tuesday, November 7

8:00 a.m. to 10:00 p.m.

Thanksgiving Recess —

Tuesday, November 21 to Monday, November 27

10:00 p.m. 8:00 a.m.

Classes end —

Friday, December 8

5:00 p.m.

Examinations —

Monday, December 11 thru Wednesday, December 20

SPRING SEMESTER — 1979

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Keg	istration	
1108	istration	-

Thursday, January 11 8:30 a.m. to 8:00 p.m. Friday, January 12 8:30 a.m. to 8:00 p.m.

Classes begin —

Monday, January 15 8:00 a.m.

Spring Recess —

Friday, March 2 5:00 p.m. to Monday, March 12 8:00 a.m.

Easter Recess —

Thursday, April 12 10:00 p.m. to Tuesday, April 17 8:00 a.m.

Classes end —

*Tuesday, May 1 5:00 p.m.

Last day to file application for assistantships — Thursday, May 10

Examinations —

Friday, May 4 thru Saturday, May 12

Commencement —

Sunday, May 20

* Tuesday, May 1 will follow the Friday class schedule.

For further information, write or call:

John F. Meyers, Director Division of Continuing Education

and

Graduate Studies 16 South River Street Wilkes-Barre, Pa. 18703

Phone: (717) 824-4651 Ext. 303 (after 4:30 p.m. — 824-4656)

"An equal opportunity and affirmative action institution."

The Graduate Division

GENERAL INFORMATION

The Graduate Division of Wilkes College was established in 1959 when the Board of Trustees authorized graduate study in the Departments of Chemistry and Physics. The first Master of Science Degrees were conferred in 1965.

The graduate programs are designed to provide the opportunity for completion of a Master's Degree in one or two years of full-time study. Cycling of graduate courses allows a full-time student to plan for continuous progress in his program.

The programs also allow businessmen, engineers, scientists, and teachers employed in the region to continue their studies without interrupting their employment. To permit a combination of work and study, many classes are scheduled to meet during late afternoon and early evening hours.

GRADUATE DEGREE PROGRAMS

Graduate degree programs are currently offered as follows:

DEGREE CONCENTRATION

Master of Business Administration Business Administration

Master of Science Biology

Chemistry Mathematics Physics

Master of Science in Education Biology

Chemistry Education

Elementary Education

English
History
Mathematics
Physics
Special Education

The programs are approved by the Pennsylvania State De-

partment of Education.

Admission

APPLICATION PROCEDURE

A person interested in doing graduate work at Wilkes College should contact the Director of Graduate Studies to obtain the forms and information needed to proceed with his application. He must fill out the "Application for Graduate Admission" form and arrange for the submission of official transcripts of all previous college work. All departments also require letters of recommendation and some require Graduate Record Examination scores or the scores of other advanced tests used in their fields.

Students, other than international students, who are unable to complete the application process prior to the beginning of the semester in which entrance is desired will be allowed special admission to the program pending processing of their applications. This policy does not imply acceptance of the special student into the degree program. Students failing to complete the application process by the beginning of the second semester after their initial application will not be permitted to register for courses.

GENERAL REMARKS CONCERNING ADMISSION

As a general rule only men and women who have completed bachelor's degrees will be considered for admission to the graduate division. It is expected that candidates for admission shall have above-average performances during their undergraduate years and shall show evidence of intellectual and temperamental fitness for graduate study.

The Graduate Record Examination is required of all applicants for admission to the graduate Department of Chemistry. Applicants for the M.B.A. degree must take the Graduate Management Admission Test.

Specific departmental requirements established for each area of study are to be found herein. Each applicant should consult these requirements prior to filing an application.

A student whose background is judged to be deficient in any specific area of his field of study or whose undergraduate grades are below standard may be asked to remedy the deficiency by taking one or more courses at the undergraduate level, without graduate credit.

CATEGORIES OF ADMISSION

Regular admission is granted to students who have demonstrated an acceptable level of academic work in their undergraduate program and are prepared for work at the graduate level in their field of specialization.

Provisional admission is granted to students who satisfy general admission requirements but who have undergraduate deficiencies or a marginal undergraduate record. The Director of Graduate Studies and the chairman of the appropriate department will review provisional admissions annually in order to reevaluate their status in the graduate program. A student accepted as a provisional student because of marginal undergraduate grades will be permitted to take a maximum of 12 credits as a provisional student.

Special admission is granted to students who do not desire to pursue a regular course of study leading to a graduate degree but who wish to take graduate courses for specific purposes, such as teacher accreditation.

Students will be assigned academic advisors immediately upon their acceptance by the graduate division.

Seniors at Wilkes College may be permitted to enroll in certain graduate courses with the approval of the chairman of their undergraduate department and the Director of Graduate Studies. Credit for such courses will ordinarily be at the undergraduate level. Under certain conditions an undergraduate student may be permitted to register for graduate credit. In no case will a student be given both undergraduate and graduate credit for any course.

General Academic Information

DEGREE REQUIREMENTS

Students may be awarded the master's degree upon satisfaction of all general college requirements for graduation and the following specific requirements:

- 1. Admission to graduate study as a regular student;
- 2. Satisfactory completion of a total of thirty credit hours, said hours to be completed within six calendar years preceding the date of the granting of the degree;

- 3. Maintenance of a minimum average of 3 0 for all graduate work. (A student who completes more than nine credits with the grade of 2, or who receives the grade of 0 in any course will be ineligible to receive the master's degree);
 - 4. Completion of specific departmental requirements;
- 5. Completion of specific thesis requirements of the individual departments to include the following, where applicable:
 - Acceptance by an Advisor and an Advisory Committee, before completion of nine hours of graduate study;
 - Submission of an acceptable thesis in the required format and quantity of copies not later than May 15 preceding the commencement at which the degree is to be conferred;
 - c. Completion of arrangements for publication of the thesis, if so directed, satisfactory to the Advisory Committee.

Specific departmental requirements for graduate degrees will be found under the listings of the individual departments.

TRANSFER CREDITS

A maximum of six semester hours of graduate credit in a different but recognized institution may be transferred for credit towards the master's degree. Extension work is not normally accepted for transfer. Courses taken before admission to the Wilkes program will be evaluated at the time of admission. Students desiring to take courses for transfer to Wilkes from another institution must secure prior approval from the Director of Graduate Studies, the chairman of the appropriate department and the student's advisor. Application forms for transfer-credit requests are available at the Graduate Studies Office.

GRADE REGULATIONS

Numerical grades are given for graduate work:

- 4 Academic achievement of outstanding quality
- 3 Academic achievement of acceptable quality in meeting requirements for graduation

- 2 Academic achievement of quality below the average required for graduation
- 0 Academic achievement below the minimum required for course credit

A grade of "X" indicates assigned work yet to be completed in a given course. Except in thesis work, grades of "X" will be given only in exceptional circumstances. Grades of "X" must be removed through satisfactory completion of all course work no later than four weeks after the end of the final examination period. Failure to complete required work within this time period will result in the conversion of the grade to 0. Further extensions of the time allowed for completion of the work may be granted only by the Director of Graduate Studies.

REGULATIONS FOR WITHDRAWAL

A grade of "W" indicates an authorized withdrawal from a course. A graduate student wishing to withdraw from a course must secure a withdrawal form from the Graduate Studies Office and have it approved by the instructor, the faculty advisor and the Director of Graduate Studies. Failure to secure authorized withdrawal for a course not completed will result in a grade of 0.

REGULATIONS ON THESIS RESEARCH

Each graduate student shall select a major advisor under whose direction he wishes to pursue his thesis research, if a thesis is required. Following acceptance of the candidate, the advisor shall appoint two other members of the Graduate Faculty to serve with him as the student's Advisory Committee.

Part-time students employed in laboratories on a full-time basis may be permitted to conduct their thesis research in these laboratories if a mutually satisfactory agreement can be reached by the student, the laboratory staff, and the college. In such cases, a qualified member of the staff of the employer shall be named by the Director of Graduate Studies to serve as a member of the student's Advisory Committee. He shall also be appointed an adjunct professor of the college and shall supervise the day-to-day progress of the student's research.

The original and two copies of the thesis must be submitted to the Director of Graduate Studies after the thesis has been approved by the Advisory Committee. One copy will be filed in

the Library, one in the Graduate Office and one in the appropriate department. If the student desires a personal copy bound, an additional copy should be furnished. For thesis binding fees, see under fees and expenses.

TRANSCRIPTS

Transcripts are provided by the Office of Graduate Studies. They are issued only upon written request by the student, and should be requested at least three weeks prior to the date needed. A student requesting a transcript in person must present valid identification.

Transcripts given directly or mailed to students do not carry the university seal and are not official. The seal is attached only when the transcript is mailed directly from the university to another college or authorized agency.

A transcript of work completed at any college or high school other than Wilkes College must be obtained directly from that institution.

There is no charge for the first transcript requested. The student will pay one dollar for each additional transcript.

FEES AND EXPENSES

All payments for tuition, room and board, fees, etc., are due at the time registration forms are processed.

Payment of all charges for tuition, fees, room and board is to be made at the Finance Office, Parrish Hall. Several plans have been developed to assist students who do not have the cash in hand, and it is suggested these plans be considered when special assistance is needed. Students may consult with the Director of Financial Aid for information regarding scholarship and loan programs.

Subject to the regulations concerning refunds, the total tuition is considered fully earned by the college upon completion of registration by the student.

Tuition Cost per Semester: \$85 per credit hour.

Graduation Fee: \$40. (Charged to all graduating students in their last semester.)

Thesis Binding Fee: \$7 per copy.

Individual departments have the right to charge laboratory and breakage fees as appropriate.

FINANCIAL AID AND ASSISTANTSHIPS

The college has available a limited number of teaching and research assistantships for selected graduate students. Recipients of these assistantships will take two or three graduate courses per semester and will assist either in instructional or research work in their major departments. Applications for assistantships for the fall term must be made to the Director of Graduate Studies before the preceding May 10. Generally, research assistants will be able to write theses based on work done under their assistantships.

A number of counselorships in undergraduate college dormitories are available each year to graduate students. These counselorships provide free room and board for the academic year. Applications for these positions must be filed with the Director of Housing no later than March 1 to be considered for the academic year beginning in September.

REFUNDS

Students in good standing who withdraw from the college for adequate and satisfactory reasons during the time limits indicated below will receive upon request a refund of one-half of the tuition. Refund of dormitory charges will not be allowed except under conditions beyond the control of the student.

Regular session: During the first six weeks of the term.

5-week summer session: During the first week of the term.

8-week evening session: During the first two weeks of the term.

No student who is suspended or expelled shall be entitled to any refunds.

GRADUATION

All graduate students are expected to participate in the commencement exercises at the close of the academic year in which they complete their degree requirements. It is the respon-

sibility of the graduate student to inform the Graduate Studies Office of his impending graduation no later than February 15 of the year that he expects to receive the degree.

International Students

DATES OF APPLICATION

All credentials must be received by the dates listed below if an applicant is to be considered for admission:

Fall semester — By July 15
Spring semester — By November 30
Summer session — By April 30

LANGUAGE PROFICIENCY

All applicants who are not native speakers of English must submit scores on the Test of English as a Foreign Language (TOEFL) before they will be considered for admission. Normally, a combined score of 550 is evidence of sufficient facility in the English language.

IMMIGRATION REGULATIONS

The Immigration and Naturalization Service of the United States Department of Justice requires a certificate of eligibility (Form I-20A) to be initiated by the university and completed by the student prior to his application for a student visa to study in this country. Any extension of stay or employment while in the United States must have the prior approval of the regional office of the Immigration and Naturalization Service.

ECONOMIC CONSIDERATION

Total expenses for one academic year at Wilkes College are approximately \$3,000. All graduate programs take longer than one academic year of full-time study and sometimes as long as two academic years. The student should, therefore, be prepared to spend as much as \$6,000, in addition to transportation, on his graduate education at Wilkes College.

CONFIRMATION OF ACCEPTANCE

All entering international students must inform the Director of Graduate Studies of their intention to accept or decline admission to Wilkes College by the following deadlines:

Fall semester — By August 15 Spring semester — By December 31 Summer session — By May 31

ARRIVAL DATES

The required dates of arrival for the 1978-1979 and 1979-1980 academic years are given below. Immediately upon his arrival the student should contact both the Graduate Studies Director and the Foreign Students' Advisor.

Fall semester, 1978 — August 25, 1978 Spring semester, 1979 — January 10, 1979 Fall semester, 1979 — August 25, 1979 Spring semester, 1980 — January 10, 1980

ADDITIONAL COURSES

International students may be required to take certain courses for undergraduate credit not applicable to the master's degree. In some cases these courses will be specified in the admissions letter but a Graduate Program Director may make additional requirements if a student is found to be deficient in the English language or in background knowledge in his field.

FOREIGN STUDENTS' ADVISOR

The Dean of Student Affairs, 2nd floor, Weckesser Hall, serves as advisor on nonacademic matters to all international students. Services provided include counseling on housing, visa problems and other difficulties in adjusting to life in the United States. All international students should register with the Foreign Students' Advisor as soon as they arrive.

Accounting

See under Business Administration, page 17.

Biology

Master of Science Master of Science in Education

ADMISSION

An applicant for the M.S. degree in biology must present at least twenty-four undergraduate credits in biology, regardless of the major in which his baccalaureate degree was granted.

The candidate must have credit for at least one year of physics, one semester of statistics, and two years of chemistry. A working knowledge of calculus is also required. Applicants deficient in any of the above requirements must take the courses for no credit in the undergraduate school.

An applicant for the M.S. in Education must present at least forty undergraduate credits in biology and related sciences.

Students deficient in any of the above may at the discretion of the Biology Department and the Director of Graduate Studies be granted provisional admission.

DEGREE REQUIREMENTS

Three graduate programs are offered in biology, two leading to the Master of Science Degree, the other to the Master of Science Degree in Education with a major in biology. A candidate for the Master of Science in Education who majors in biology may elect any 300-level or 400-level biology course to fulfill the requirement of 18 credits. Requirements for the education component of the Master of Science in Education with a major in biology are listed under Education on page 26.

A candidate for the Master of Science Degree in Biology must have a minimum of fifteen 400-level credits for graduation. A candidate must have completed three credits in biochemistry or must take them at the college for credit. In addition, he must demonstrate a reading knowledge of a foreign language, either through examination or by successful completion of two years of language in undergraduate school.

The program leading to the Master of Science degree — Plan A (research) requires a minimum of 30 credits of course work

with not more than nine credits of 300-level courses. The total credit requirement includes six credits for thesis research leading to the presentation of an acceptable thesis. In addition, Plan A requires an oral examination that is to include defense of the thesis and course material that is related to the thesis.

The program leading to the Master of Science degree — Plan B (non-research) requires a minimum of 30 credits of course work with not more than fifteen credits of 300-level courses. In addition, the candidate is required to prepare two scholarly papers at a level significantly above that of term papers. An oral examination will cover the content of these papers and related course work.

Each student will be required to select a committee of three faculty members by the end of the first semester of graduate work. The balance of the student's program will be planned and undertaken in cooperation with his committee.

COURSES OF INSTRUCTION

BIOLOGY 302. ENDOCRINOLOGY

Three credits

A study of the endocrine system and the mechanism of action of hormones on the life processes and functions. Emphasis will be placed on the mammalian system with reference to comparative forms. Fee: \$20.

BIOLOGY 303. BACTERIOLOGY

Three credits

Biology 303 covers generally the morphology and identification of bacteria. Laboratory work includes microscopy, techniques of making media, methods of sterilization, and the culturing of bacteria. Fee: \$20.

BIOLOGY 305. INVERTEBRATE BIOLOGY

Three credits

A study of the major invertebrate phyla with respect to their taxonomy, evolution, morphology, physiology and ecology. Fee: \$20. Fall 1976 and alternate years.

BIOLOGY 306. NEUROBIOLOGY

Three credits

A study of the functional aspects of excitable cells and nervous systems of living animals. Laboratory includes techniques in the stimulation and recording of excitable cells and organs. Fee: \$20.

BIOLOGY 307. ANALYTICAL CYTOLOGY

Three credits

Experimental analysis of cell structure, organelles, chemistry and activities by means of microscopic techniques and instrumentation. Fee: \$20.

BIOLOGY 308. ADVANCED GENETICS

Three credits

A study of plant and animal genetic systems with respect to contemporary literature, techniques and modes of analysis. Fee: \$20.

BIOLOGY 309. EVOLUTION

Three credits

Evolution is a study of how new species of organisms are derived from previously existing species. Emphasis is placed upon the processes of organic evolution and the development of the evolutionary ideas. Fee: \$20.

BIOLOGY 310. ANIMAL BEHAVIOR

Three cred

A course emphasizing behavior as the response of an organism to physical and social environmental change, and covering the processes that determine when changes in behavior occur and what form they will take. Laboratories, using living local fauna, will demonstrate principles discussed in lecture.

BIOLOGY 311. POPULATION AND COMMUNITY ECOLOGY

Three credits

A study of populations and communities as living systems integrated with their environments. Field investigations of local plant and animal assemblages will constitute a major portion of the course. Fee: \$20.

BIOLOGY 312. COMPARATIVE PHYSIOLOGY Three credits

Comparative Physiology provides an extensive consideration of the physiology of organs and organ systems in comparative animal forms. Emphasis is placed on the similarities and differences in which related and/or divergent forms have solved various physiological problems. Lecture, two hours per week; laboratory, three hours per week. Fee: \$20.

BIOLOGY 313. PARASITOLOGY Three credits

Parasitology is the study of organisms that live on or within other organisms and the relationship of these organisms to their hosts. This course deals with the common parasites that infect man and other animals. Lecture, two hours per week; laboratory, three hours per week. Fee: \$20.

BIOLOGY 314. ICHTHYOLOGY Three credits

Ichthyology surveys the taxonomy, anatomy and physiology, evolution, ecology and behavior of the three classes of fishes. Both local and marine species are examined in the laboratory. Lecture, two hours per week; laboratory, three hours per week. Fee: \$20.

BIOLOGY 385. FLORISTIC BIOLOGY Three credits

Floristic Biology is presented as a field course primarily concerned with the vascular plants of Northeastern Pennsylvania. The associated vertebrates are also observed as opportunities present themselves in the field.

BIOLOGY 398. TOPICS Three credits

A study of topics of special interest not extensively treated in regularly offered courses.

BIOLOGY 402. CELL BIOLOGY

Three credits

The study of cells and their organelles as the fundamental units of structure, function and development in higher animals and plants.

BIOLOGY 411. ADVANCED TOPICS IN BACTERIOLOGY Three credits Advanced topics centered around the structure and function of bacterial

Prerequisite: One semester of bacteriology, biochemistry.

BIOLOGY 412. EPIDEMIOLOGY AND PUBLIC HEALTH Three credits Dynamics of disease; epidemiological methods of control of infectious and

non-infectious disease in human populations.

Prerequisite: Two semesters of microbiology/bacteriology.

BIOLOGY 421. CURRENT CONCEPTS IN GENETICS Three credits

Recent advances and developments in genetics are examined and analyzed by means of a review of the current literature. Emphasis will be placed upon molecular and biochemical aspects of gene structure and function.

Prerequisite: Undergraduate genetics.

BIOLOGY 422. TOPICS IN ECOLOGY

Three credits

A review of selected ecological topics such as population dynamics, predator-prey interactions, competition, the niche concept and human ecology.

Prerequisite: Undergraduate ecology.

BIOLOGY 430. REPRODUCTIVE PHYSIOLOGY A study of the hormonal interactions in repri

Three credits

A study of the hormonal interactions in reproduction. Discussions and analyses of the contemporary literature with regard to mammalian systems and reference to comparative non-mammalian forms.

Prerequisite: Biology 302 or its equivalent.

BIOLOGY 432. ADVANCED PHYSIOLOGY

Three credits

An analysis of life processes in invertebrate and vertebrate animals with readings, discussions and demonstrations. Topics will be drawn from current problems in general and comparative physiology.

Prerequisite: Undergraduate physiology.

BIOLOGY 441. IMMUNOLOGY AND IMMUNOCHEMISTRY Three credits

This course is concerned with the biologic mechanisms and chemistry of reactants and mediators associated with natural and acquired states of immunity, tissue and blood serum responses to infection and immunization, and related patho-physiologic alterations of hypersensitivity phenomena in vertebrate animals and man. A background in microbiology, physiology, and biochemistry is advisable. Students lacking formal prerequisite courses but who are otherwise qualified in biology or chemistry may register through special arrangement with the instructor.

BIOLOGY 452. ADVANCED ANIMAL BEHAVIOR

Three credits

A study of the more complex problems of animal behavior. The topics of mimicry, communication, agonistic behavior, predator-prey relationships will be included. Students will evaluate technical and popular controversial literature.

Prerequisite: Undergraduate animal behavior; Psychology or Sociology major; or permission of the instructor.

BIOLOGY 460. SELECTED TOPICS IN BIOLOGY

One to three credits each semester

Selected topics in biology which are of special interest to the staff and are designed to complement research.

BIOLOGY 590. THESIS

Six credits

Marketing

Business Administration

Master of Business Administration

The curriculum leading to the Master of Business Administration Degree provides an opportunity for specialization in a selected field but is concerned mainly with advanced study of broad business concepts and relationships. The purposes are:

- to develop professional managers with emphasis on the foundation, organization, operation, and control of business enterprises;
- 2. to develop individuals trained in research and constructive business leadership;
- 3. to enable individuals to create and evaluate alternative courses of action as a procedure for making decisions.

ADMISSION

A candidate for the M.B.A. degree who is a graduate of an approved college or university and who has had basic courses in accounting, business law, managerial finance, economics, marketing, money and banking, and statistics will probably have an adequate background to complete the requirements for a degree in two years.

Background Undergraduate Course Requirements for Candidates in Master of Business Administration Program:

Accounting	1 year
Business Law	1 semester
Economics	1 year Principles
	1 semester Micro Theory
Statistics	1 year of Math or 1 year of Statistics
Managerial Finance	1 semester
Money and Banking	1 semester

1 semester

The program is designed to provide business education at the master's level not only for those who have had undergraduate training in business and economics, but also for interested engineers, scientists, and others who have a minimum amount of background education in this area. For those who have background deficiencies, pre-seminar courses are listed. These courses are intended to provide the necessary background and also act as refresher courses for those who have been away from formal coursework for a number of years.

All candidates for this degree are required to take the Graduate Management Admission Test.

Each student upon admission to the program will be assigned an advisor to guide him in the program.

DEGREE REQUIREMENTS

All candidates for the Master of Business Administration Degree are required to complete satisfactorily Economics 501, Business Administration 502, Accounting 503 or Accounting 504, Economics 505, Economics 506, and Business Administration 507. A total of 30 credits of graduate work in 500-level courses is required.

A graduate student in Business Administration is required to pass a written comprehensive examination covering the broad field of business administration. This examination is given once during the fall semester and once during the spring semester.

Students who are registered for or plan to complete their final graduate course work for the Degree of Master of Business Ad-

ministration during the next semester may take this examination. A student who fails the comprehensive examination may retake it only once.

COURSES OF INSTRUCTION BUSINESS ADMINISTRATION

Approval of the instructor and faculty adviser is a prerequisite for all courses.

BUSINESS ADMINISTRATION 550. TOPICS

Special topics in business administration. This course will be offered from time to time as interest and demand justify it.

BUSINESS ADMINISTRATION 590. THESIS Three to six credits

BUSINESS ADMINISTRATION 595. INDEPENDENT RESEARCH

Three credits

Independent study and research for advanced students in the field of the major under the direction of a staff member.

Seminars which provide review and training to a minimal level, on the current state of knowledge in respective fields.

Core Courses (18 semester hours required)

Problems of the firm. Price and output determination with analysis of cost and demand functions in markets of various types and under various conditions of business. The course will deal with the application of economic theory to business practice.

Prerequisite: 18 credits in the MBA program.

BUSINESS ADMINISTRATION 502. MANAGEMENT SCIENCE

Three credits

This course familiarizes the student with the general field of management theory. It surveys the current literature and practice. It is designed to give a broad view of management as a science and art.

ACCOUNTING 503. MANAGERIAL ACCOUNTING Three credits

A thorough examination of financial statements and uses of accounting data for effective managerial planning and control. Topics include valuation factors; cost, expense and revenue concepts; cost control; capital expenditure planning; the price-level problem and other decision-making guides.

ACCOUNTING 504. ACCOUNTING THEORY AND THOUGHT

Three credits

Analysis of the development of modern accounting concepts; interpreting and effectively communicating data based upon the relationship of modern accounting concepts and related economic considerations.

ECONOMICS 505. MANAGERIAL STATISTICS

An introductory graduate course in techniques, limits, and areas of application of statistical techniques.

ECONOMICS 506. LABOR-MANAGEMENT ECONOMICS Three credits
A course dealing with issues and trends in collective bargaining and industrial relations today. The shifting roles and relationships of labor-management and government will be dealt with. Problems of maintaining the labor force and the social aspects of industry will be dealt with.

BUSINESS ADMINISTRATION 507. BUSINESS AND SOCIETY

Three credits

This course deals with the problems of the responsible business manager in a private enterprise society, particularly those problems dealing with policy-making and administration when both economic and non-economic factors are involved. Questions are raised as to the kinds of responsibility and the extent of responsibility business managers have to the goals of our society, to the communities in which they operate, to the people they employ, and to governmental policies, as well as to the stockholders of their own firms.

AREA I-MARKETING SPECIALIZATIONS

BUSINESS ADMINISTRATION 511.
MODERN INTERNATIONAL COMMERCE

Three credits

This course is designed to introduce the student to the practical principles and methods of international marketing. Subjects covered will include the development and management of exports and imports, channels of trade, the mechanics of international finance, foreign credits, technical procedures and documentation, and the legal aspects of trade.

BUSINESS ADMINISTRATION 512.
PRICE POLICY AND PROCEDURE

Three credits

This course describes the basic pricing process, relates it to pricing decisions, and attempts to provide a systematic pricing program for managers to follow. Topics covered will include internal and external factors in pricing decisions, legal and ethical aspects of pricing, normative pricing models, and the special problems of manufacturers and distributors.

BUSINESS ADMINISTRATION 513.
HUMAN BEHAVIOR AND THE MARKETING PROCESS Three credits

This course deals with the behavior of man in social groupings and as an individual entity. Processes such as learning, perception, motives, personality, and intelligence will be studied particularly as they relate to marketing problems and procedures.

BUSINESS ADMINISTRATION 514

MARKET RESEARCH AND EXPERIMENTATION (Seminar) Three credits

This course deals with the experimental techniques that can be applied to the planning, execution, and analysis of marketing problems. Modern concepts of statistical decision theory and survey techniques are included.

AREA II-MANAGERIAL SCIENCE

BUSINESS ADMINISTRATION 521. ORGANIZATIONAL THEORY

This course is concerned with the human relations aspects of organizations. It draws on the newer research in organization theory to analyze groups and individual behavior. It gives emphasis to the problems of managers at different levels of responsibility in regard to leadership, mobilization of resources, rationalization, planning motivation, and dynamic administration.

BUSINESS ADMINISTRATION 522. QUANTITATIVE ASPECTS OF MANAGEMENT

Three credits

This course examines the quantitative aspects of management. It analyzes the optimization of management decisions in the operation of the firm. It applies the new tools and techniques of game theory, linear and nonlinear programming, input-output analysis, and other mathematical and statistical approaches to operational problems faced by the firm.

BUSINESS ADMINISTRATION 523. MANAGEMENT SEMINAR I

Three credits

This seminar brings to bear current management techniques on a variety of problems. Students will be guided in theoretical readings and will apply their knowledge in seminar discussions.

BUSINESS ADMINISTRATION 524. MANAGEMENT SEMINAR II

Three credits

This seminar has a research orientation. Research, objectives, techniques, and methodology will be dealt with.

BUSINESS ADMINISTRATION 572. MANAGEMENT DEVELOPMENT SEMINAR

Three credits

This seminar area will deal with techniques of management training, problems, pitfalls, objectives, and the current state of the art.

AREA III-LABOR

ECONOMICS 531.

INDUSTRIAL RELATIONS AND THE LAW

Three credits An in-depth study of labor legislation, federal, state, and local. Emphasis will be placed on recent N.L.R.B. decisions and precedents.

ECONOMICS 532.

WAGE DETERMINATION AND ADMINISTRATION

Three credits

A study of economic and institutional forces determining wages. Wage theories are analyzed. Problems of wage administration will be dealt with.

ECONOMICS 533. THE LABOR MARKET

Three credits

Economic and non-economic forces influencing labor supply and demand will be studied. Determinants of the labor force, unemployment, labor mobility, and the functioning of the labor market will be investigated.

ECONOMICS 534. LABOR SEMINAR

Three credits

This seminar deals with current issues and theoritical concepts in industrial relations.

ECONOMICS 571. LABOR-MANAGEMENT SEMINAR Three credits

This seminar will deal with labor-management conflict and successful problem-solving techniques. The orientation and approach will be that of the concerned public.

AREA IV-ACCOUNTING

ACCOUNTING 541. ADVANCED PROBLEMS

Three credits

A comprehensive review of technical and professional accounting problems. Review of the structure and content of the Uniform C.P.A. examina-

ACCOUNTING 542. FINANCIAL AND TAX PLANNING Three credits

Analysis of federal tax regulations and interpretations. Stress will be placed upon the timing of business transactions and the tax implication in choosing financial alternatives.

ACCOUNTING 543.
ACCOUNTING POLICIES AND PRACTICES

Three credits

This course considers the ethical questions and legal implications in the performance of the accounting function; reporting data to management, governmental agencies, and other interested parties.

ACCOUNTING 544. CONTROLLERSHIP

Three credits

Review of the controllership function and the role of the controller in the planning and coordination of the large business organization. Attention will be directed to the effective use of accounting information and facilities.

ACCOUNTING 545. PROFESSIONAL SEMINAR

Three credits

Discussion of current accounting research, literature and theory, consideration of the role of the accountant in management advisory services.

AREA V-FINANCE

BUSINESS ADMINISTRATION 551. INVESTMENT AND PORTFOLIO MANAGEMENT

A study of the various types of corporation and government securities coupled with an examination of the machinery of investment. Particular emphasis will be given to the investment alternatives relating to portfolio management decisions.

BUSINESS ADMINISTRATION 552. FINANCIAL MANAGEMENT

Three credits

A study of financial management problems of business. Attention is given to the control of current funds, working capital operations, and estimating the need for funds; the problem of long-term capital funds and expansion, and the choice between risk and profitability in the capital structure are also considered.

BUSINESS ADMINISTRATION 554. MANAGERIAL FINANCE SEMINAR

Three credits

Problems in managerial finance. Special topics.

Chemistry

Master of Science in Education

ADMISSION

For admission to graduate study in chemistry, the applicant shall have a Baccalaureate Degree with a major in Chemistry from an accredited institution or the equivalent. Requirements include courses in physical chemistry and qualitative organic analysis, as well as one advanced chemistry course. A working knowledge of calculus and ordinary differential equations is also required. Students deficient in any phase of chemistry may, at the discretion of the Chemistry Faculty, be granted provisional admission.

All applicants must take the Graduate Record Examination and forward scores in support of their applications. Foreign students must also supply TOEFL scores.

DEGREE REQUIREMENTS

Two graduate programs are offered in chemistry leading to the degree of Master of Science or Master of Science in Education with a major in chemistry. Information on requirements for the Master of Science Degree is given below. General requirements for the Master of Science in Education with a major in chemistry are listed under Education on page 26. Specific chemistry requirements in this program will be outlined by the student's adviser in the chemistry department.

All candidates for the Master of Science Degree with a major in Chemistry are required to complete satisfactorily Chemistry 411, 431, and 440. A minimum of 18 credits in 400- and 500-level graduate chemistry courses is required, exclusive of dissertation credit. The remainder of the required credits may be obtained in 400- or 500-level graduate biology, physics, or mathematics courses, with 300-level courses in these departments acceptable only on specific petition to the chemistry department.

Chemistry courses listed below at the 300-level are only available to those candidates for the M.S. Degree in Secondary Education or other M.S. candidates with approval of their department.

Departmental requirements in chemistry allow two options with respect to the dissertation. It may be on an original research problem, or it may be a critical survey and evaluation of the literature on a specified subject. In the first instance, 24 hours of course work are required, and six hours credit is allowed for research. No graduate credit is allowed for the second option. Therefore, 30 credit hours of course work are necessary to fulfill the degree requirements. The research thesis is strongly recommended.

COURSES OF INSTRUCTION

CHEMISTRY 341. ELEMENTARY PHYSICAL CHEMISTRY

The first, second, and third laws of thermodynamics are emphasized. The topics of electrochemistry, chemical kinetics, the phase rule, and the states of matter are introduced. Class, three hours a week; laboratory three hours a week. Fee: \$20.

Prerequisite: Chem. 202, Math. 211, Phys. 203, or permission of instructor.

CHEMISTRY 342. INTERMEDIATE PHYSICAL CHEMISTRY Four credits
Electrochemistry, electrokinetic phenomena, kinetic molecular theory, statistical mechanics, chemical kinetics, and the states of matter are studied

in detail. Quantum mechanics and radiochemistry are introduced. Class, three hours a week; laboratory three hours a week. Fee: \$20.

Prerequisite: Chem. 341 or permission of instructor.

CHEMISTRY 376. ADVANCED ANALYTICAL CHEMISTRY Four credits

The theory and application of modern techniques and instrumental procedures, such as spectrophotometric, electroanalytical, and chromatographic. Theory and practice of analysis of more complex materials. Class, two hours a week; laboratory, six hours a week. Fee: \$30.

Prerequisite: Chemistry 342.

CHEMISTRY 401. APPLIED CHEMISTRY I Three credits

Consideration will be given to a variety of applications of chemistry. Major areas of emphasis will include nuclear chemistry, food, drugs, energy and home products. The course is intended primarily for students pursuing an advanced degree in education. Class, three hours a week.

Prerequisite: Four semesters of college-level chemistry or permission of the instructor.

CHEMISTRY 402. APPLIED CHEMISTRY II

Three credits

A continuation of Chemistry 401, Class, three hours a week,

Prerequisite: Chemistry 401, or permission of the instructor.

CHEMISTRY 411. ADVANCED INORGANIC CHEMISTRY Three credits

Introduction to ligand field theory; chemistry of the first transition series, organometallic, and π -acceptor compounds; mechanisms of inorganic reactions.

CHEMISTRY 431-432.

ADVANCED ORGANIC CHEMISTRY I AND II

Three credits each

A detailed study of modern theories of mechanism and structure. Topics include nucleophilic and electrophilic substitution, elimination reactions, molecular rearrangements, carbonyl reactions, stereochemistry, kinetics.

CHEMISTRY 434. STEREOCHEMISTRY Three credits

A detailed study of symmetry classifications, stereoisomerism, optical activity and conformational analysis, including related theory and experimental applications of ORD, CD, and NMR.

CHEMISTRY 440. QUANTUM CHEMISTRY

The experimental foundations and the mathematical formulation of the quantum theory, including the quantum mechanics of simple systems, the hydrogen atom, and approximate methods. The use of symmetry properties is applied to molecular orbital theory.

CHEMISTRY 451. BIOCHEMISTRY I

Three credits

A study of the physical and chemical properties of biological molecules with emphasis on enzyme kinetics, coenzymes and various metabolic

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Prerequisite: Chemistry 238 or equivalent.

CHEMISTRY 452. BIOCHEMISTRY II

Three credits

A study of metabolism with emphasis on metabolic regulation and regulated enzymes. Certain special topics such as photosynthesis may also be covered.

Prerequisite: Chemistry 451 or equivalent.

SELECTED TOPICS IN INORGANIC CHEMISTRY

Three credits

Selected topics in inorganic chemistry which are of special interest to the staff and are designed to complement research.

(Offered on sufficient demand.)

CHEMISTRY 536.

SELECTED TOPICS IN ORGANIC CHEMISTRY

Three credits

Selected topics in organic chemistry which are of special interest to the staff and are designed to complement research.

(Offered on sufficient demand.)

CHEMISTRY 541. CHEMICAL THERMODYNAMICS AND STATISTICAL THERMODYNAMICS

Three credits

The First, Second, and Third Laws of thermodynamics are studied in detail. Statistical thermodynamics is also thoroughly treated, using the Fermi-Dirac, Bose-Einstein, and Maxwell-Boltzmann statistics.

CHEMISTRY 542. SPECTROSCOPY

The theory of absorption and emission of radiation, including microwave, Raman, and infrared spectra of molecules and electronic spectra of atoms and molecules. Other topics may include magnetic resonance spectrosсору, Mossbauer spectroscopy, and fluorescence and phosphorescence spectroscopy.

CHEMISTRY 544. KINETICS

Three credits

A review of the analysis of kinetic results and the measurement of reaction rates. Emphasis is placed on the theoretical interpretation of elementary gas phase reactions, liquid solution kinetics, rapid reactions, and enzyme kinetics.

CHEMISTRY 546.

SELECTED TOPICS IN PHYSICAL CHEMISTRY

Three credits

Selected topics in physical chemistry which are of special interest to the staff and are designed to complement research. (Offered on sufficient demand.)

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CHEMISTRY 590. THESIS

Six credits

Computer Science

See under Mathematics page 39.

Education

Master of Science in Education

PURPOSE

Graduate study in education is offered primarily to enable teachers to enhance their preparation for classroom leadership. Study in various academic fields is required as well as in professional courses. Sufficient flexibility is provided, however, to permit others interested in education to arrange programs of study appropriate to their interests.

Programs are offered in Education; Elementary Education; Secondary Education, with a major in Biology, Chemistry, English, History, Mathematics, or Physics; and Special Education.

SPECIAL FEATURES OF THE PROGRAM

The program is arranged so that students may pursue the degree on a full- or part-time basis. Late afternoon and evening classes are offered to enable full-time teachers within a reasonable distance from Wilkes-Barre to take courses toward fulfillment of degree requirements during the academic year. Credits may also be earned during the summer sessions.

ADMISSION

For admission to graduate study in education, the applicant must have a baccalaureate degree from an accredited institution or the equivalent with an appropriate major.

Applicants who wish to pursue master's work in elementary, secondary, or special education, must hold an appropriate teacher's certificate.

Students deficient in any phase of requirements may, at the discretion of the academic department, the Education Department, and the Director of Graduate Studies, be granted provisional admission. Deficiencies must be made up satisfactorily before full admission to graduate study will be granted.

Students who do not wish to earn a degree are invited to request "special non-degree" admission status.

DEGREE REQUIREMENTS

All candidates for the Master of Science in Education degree must complete a program of thirty credits; at least twelve credits must be in education, six in Area I and three in Area II.

A candidate for the Master of Science in Education degree who majors in education must take Education 526, must earn nine credits in one Area in education beyond the twelve-credit basic requirement, and must complete a thesis for which three credits may be granted.

A candidate for the Master of Science in Education degree who majors in elementary education must take three courses in the Education 532 series and Education 534.

A candidate for the Master of Science in Education degree who majors in one of the secondary school teaching subjects must complete eighteen credits in the appropriate academic department; three of the twelve credits in education must be in Area IV.

A candidate for the Master of Science in Education degree who majors in Special Education must take Education 525, 560, 561, 562, 564, and Psychology 331.

Certification courses in Area O are not accepted for degree requirement credit. Transcripts will show credit for these courses for certification purposes only.

PROGRAM OF STUDY

Each student develops a program of study which will satisfy requirements for the degree. The program must be approved by his advisor and by the Education Department. To facilitate securing this approval, students in secondary education are assigned a co-advisor in the Education Department.

COURSES OF INSTRUCTION

EDUCATION AREA O—CERTIFICATION COURSES

EDUCATION 400.

GENERAL SECONDARY SCHOOL METHODS

Three credits

An introduction to principles, methods, and materials appropriate for secondary school instruction.

EDUCATION 401-02.

ELEMENTARY CLASSROOM METHODS Three credits each semester An introduction to principles, methods, and materials appropriate for elementary school instruction. Education 401 is prerequisite to 402.

EDUCATION 403-04. INTERN TEACHING Three credits each semester Beginning teachers are assigned to supervisors who work with them to facilitate their introduction to classroom teaching.

Section A Elementary

Section B Secondary

EDUCATION 405.

INTRODUCTION TO READING INSTRUCTION A foundation course in reading instruction.

Three credits

EDUCATION 409. SHORT COURSES

These courses treat a variety of topics, usually on a condensed schedule basis. They are designed to meet the immediate needs of teachers and may not be used to satisfy degree requirements. Credit is given at the rate of one-half semester hour for each eight hours of classwork

AREA I-FOUNDATIONS OF EDUCATION

EDUCATION 510.

PSYCHOLOGICAL FOUNDATIONS OF EDUCATION

Three credits

A study of human development and learning, application of psychological principles in the practice of education.

EDUCATION 511.

PHILOSOPHICAL FOUNDATIONS OF EDUCATION

Three credits

An examination of philosophical issues which bear upon American education. The problem of relating theory to practice is considered.

EDUCATION 512. SOCIAL FOUNDATIONS OF EDUCATION Three credits

An introduction to the history, scope, materials and methods of the sociological analysis of education. Instruction includes the concepts of culture, socialization, stratification, social control and change as they relate to formal education.

EDUCATION 513.

COMPARATIVE FOUNDATIONS OF EDUCATION

Three credits

An analytic study of educational patterns in contemporary societies, Educational policies and institutions are studied in their cultural context. Educational patterns of developed and developing nations are described, analyzed and compared; examples from each pattern are examined.

FDUCATION 514.

HISTORICAL FOUNDATIONS OF EDUCATION

Three credits

A survey of the great landmarks of Western education from antiquity to the recent past. The development of primary, secondary, and higher edu-

cation; objectives; curricula; methods; and systems of education are considered. Attention is given to some contemporary problems in their historical perspectives.

EDUCATION 515.

EDUCATIONAL PLANNING IN DEVELOPING NATIONS Three credits

An analytical study of educational patterns in developing nations. Educational systems are described, analyzed and compared with particular attention to planning and system analysis.

AREA II - PROFESSIONAL SKILLS IN EDUCATION

EDUCATION 520. TESTS AND MEASUREMENTS

Study of characteristics, construction, and use of various standardized and non-standardized measuring instruments; statistics through basic correlation.

EDUCATION 521. STATISTICS IN EDUCATION

Three credits

Correlation and regression through statistical inference. Prerequisite: Education 5'20 or equivalent.

EDUCATION 525. EDUCATIONAL RESEARCH I

Three credits

A study of procedures used to collect, analyze and present data; critical examination of representative educational research reports. This course may not be taken for credit subsequent to Education 526.

Prerequisite: Education 520 or equivalent.

EDUCATION 526. EDUCATIONAL RESEARCH II

Three credits

Advanced study of research methods; literature search leading to a thesis proposal.

Prerequisite: Education 521 or equivalent.

AREA III - ELEMENTARY EDUCATION

EDUCATION 430. DEVELOPMENTAL READING

Three credits

An advanced course in techniques and materials of reading instruction. Prerequisite: Education 405 or equivalent.

EDUCATION 436. CHILDREN'S LITERATURE

Three credits

A study of methods and materials appropriate for elementary school instruction in literature.

EDUCATION 530.

DIAGNOSIS AND CORRECTION OF READING DIFFICULTIES Three credits

A study of methods and materials for detection, analysis, and remediation of reading disabilities.

Prerequisite: Education 430 or equivalent.

EDUCATION 531.

PRACTICUM IN READING INSTRUCTION

Three credits

This course places students in a clinical setting for detection, analysis, and remedial instruction of children with reading disabilities.

Prerequisite: Education 530 and permission of the instructor.

EDUCATION 532-33.

PROBLEMS IN ELEMENTARY EDUCATION

Three credits

Advanced study of materials and methodology appropriate for elementary classroom instruction.

Section A Mathematics

D Social Studies

B Science

Special Subjects

C Language Arts

EDUCATION 534. ELEMENTARY SCHOOL CURRICULUM Three credits

A study of curricula offered in elementary schools, grade placement of content, articulation of subject matter areas, development of specialized programs.

Prerequisite: Fifteen graduate credits.

EDUCATION 535. NONGRADED INSTRUCTION

IN THE ELEMENTARY SCHOOL

Three credits

A study of the rationale for nongrading, the nongraded curriculum, and instructional staffing design.

Prerequisite: Permission of the instructor.

AREA IV - SECONDARY EDUCATION

EDUCATION 540. SPECIAL METHODS IN SECONDARY SCHOOL INSTRUCTION

Three credits each semester

Section A Biology

B Chemistry

C Environmental Science

D English

Mathematics

G **Physics**

Н Reading

Social Sciences

Educational Theater Science

EDUCATION 541, SECONDARY SCHOOL CURRICULUM A study of secondary school curricula, traditional programs, recent developments, provisions for innovation and individualization.

EDUCATION 542. EXTRA-CURRICULAR ACTIVITIES Three credits

A study of the development of extra-curricular activities, organization and administration, the role of the sponsor, recent trends.

AREA VI - SPECIAL EDUCATION

EDUCATION 560.

PSYCHOLOGY OF EXCEPTIONAL CHILDREN

Three credits Advanced study of children whose characteristics deviate significantly from normal children.

Section A — Mentally Retarded

B — Socially and Emotionally Maladjusted

C — Gifted and Talented

EDUCATION 561. INDIVIDUAL ASSESSMENT

Three credits

Advanced study of instruments utilized in the measurement of personality and intelligence.

Prerequisite: A course in testing.

EDUCATION 562.

REMEDIATION OF LEARNING DISABILITIES I

Three credits

A study of the major areas of learning disability: gross motor development, sensory-motor development, perceptual-motor skills.

EDUCATION 563.

REMEDIATION OF LEARNING DISABILITIES II

Three credits

A continuation of Education 562: language development, conceptual skills,

Prerequisite: Education 562.

EDUCATION 564.

CURRICULUM AND METHODS IN SPECIAL EDUCATION Three credits Advanced study of instructional materials and techniques employed in special education programs.

AREA VII - SUPERVISION

EDUCATION 570. SUPERVISION OF INSTRUCTION

Three credits

A study of the responsibilities supervisors have and proven techniques by which these duties are carried out.

EDUCATION 571. PRACTICUM IN SUPERVISION

Six credits

Affords students an opportunity to gain experience in supervisory activities n education under the guidance of experienced supervisors.

EDUCATION 573 CURRICULUM CONSTRUCTION

Three credits

Advanced study of curriculum development and evaluation.

EDUCATION 575. GROUP DYNAMICS Study of the nature and behavior of groups.

Three credits

EDUCATION 576.

INTRODUCTION TO EDUCATIONAL ADMINISTRATION Three credits Basic study of the administrative function in educational institutions.

EDUCATION 578. SCHOOL LAW

Three credits

An examination of school law at the federal, state and local levels; review, discussion and analysis of court decisions which affect schools.

EDUCATION 579. NEGOTIATIONS IN EDUCATION Three credits

A study of the processes and strategies used in collective negotiations in education, simulation of the bargaining confrontation, interaction analysis of the simulation.

AREA IX - ADVANCED GENERAL COURSES

EDUCATION 590. THESIS

Three credits

EDUCATION 594. WORKSHOP

Three credits each semester

Provides an opportunity for experienced teachers to develop study programs designed to meet their special needs. Students may receive credit more than once if there is no duplication in subject matter covered.

EDUCATION 595-596.

INDEPENDENT STUDY

Three credits each semester

Affords an opportunity for independent study of selected topics under faculty supervision.

Prerequisite: Permission of department chairman.

EDUCATION 597. SEMINAR

Three credits

An advanced course dealing with some significant issues selected by the instructor. The seminar technique provides a review of major problems based on the current level of knowledge in the area.

Prerequisite: Permission of the instructor.

EDUCATION 598. TOPICS

Three credits

Advanced study of topics of special interest not extensively treated in regular courses.

EDUCATION 599. SHORT COURSES

These courses treat a variety of topics, usually on a condensed schedule basis. Designed to investigate problems in the field, these courses provide an opportunity for practicing professionals to study current issues under qualified leadership. Departmental approval is required if credits are to be applied to meet degree requirements. A maximum of six credits may be used to meet degree requirements. Credit is given at the rate of one-half semester hour for each eight hours of classwork.

English

Master of Science in Education

SPECIAL DEGREE REQUIREMENTS

Candidates for the degree of Master of Science in Education with a major in English must complete eighteen hours of course work in English, twelve of which must be in courses numbered 400 or above.

Information on requirements of the Education Department for the Master of Science Degree will be found under Education on page 26.

COURSES OF INSTRUCTION

ENGLISH 301. LITERARY CRITICISM

Three credits

A study of literary theory and the techniques of analysis.

Three credits

ENGLISH 310. MEDIEVAL ENGLISH LITERATURE A study of English literature to 1500, exclusive of Chaucer and the drama.

Three credits Study of Chaucer's life and major works, including "The Canterbury Tales" and "Troilus and Criseyde."

Prerequisite: Eng. 152 or 254.

ENGLISH 320. TUDOR PROSE AND POETRY Study of English non-dramatic literature from 1485 to 1603.

Three credits

Three credits

ENGLISH 321. EARLY ENGLISH DRAMA Study of the drama from the tenth century to 1642; reading of plays by

ENGLISH 325. SHAKESPEARE

pre-Elizabethan and Elizabethan dramatists exclusive of Shakespeare.

Three credits A study of selected plays; written reports on others not studied in class. Prerequisite: Eng. 152 or 254.

ENGLISH 330.

SEVENTEENTH CENTURY PROSE AND POETRY

Three credits

A study of the non-dramatic literature of the period.

ENGLISH 335. MILTON

Three credits

A study of Milton's poetry and major prose.

ENGLISH 341.

RESTORATION AND EIGHTEENTH CENTURY DRAMA

Three credits

Study of the drama from 1660 to 1780.

ENGLISH 343.

EIGHTEENTH CENTURY PROSE AND POETRY

Three credits

The chief poets and essayists of the eighteenth century. Includes Swift, Pope, and Johnson.

ENGLISH 345. EARLY ENGLISH NOVEL

Three credits

English prose fiction of the sixteenth and seventeenth centuries; rise of the novel to the close of the eighteenth century.

ENGLISH 354. ROMANTIC PROSE AND POETRY Three credits Study of Blake, Wordsworth, Coleridge, Shelley, Keats, and Byron, with related prose writers of the Romantic Period.

ENGLISH 360. VICTORIAN PROSE AND POETRY Three credits Readings in Tennyson, Browning, Arnold, and other significant writers of the Victorian Age.

ENGLISH 366. LATER ENGLISH NOVEL

Three credits

The major novelists of the nineteenth and early twentieth centuries.

ENGLISH 370. MODERN BRITISH POETRY

Three credits

Study of the major English and American poetry of the twentieth century.

ENGLISH 372. MODERN NOVEL

Three credits Study of the major English and American novels of the twentieth century.

ENGLISH 374. MODERN DRAMA Three credits Study of important dramatists, European and American, from the time

of Ibsen.

Three credits

ENGLISH 381. AMERICAN LITERATURE I A study of American literature to the Civil War.

Prerequisite: Eng. 152 or 254.

ENGLISH 382. AMERICAN LITERATURE II Three credits A study of American literature from the Civil War to the present time. Prerequisite: Eng. 152 or 254.

ENGLISH 383. AMERICAN NOVEL

Three credits A study of the American novel from its beginning to the present.

ENGLISH 384. AMERICAN DRAMA

Three credits A study of the American drama from the colonial period to the present. Prerequisite: Eng. 152 or 254.

ENGLISH 386. MODERN AMERICAN POETRY

Three credits Study of major movements and representative figures in modern Amer-

Prerequisite: Eng. 152 or 254.

ENGLISH 395-396. INDEPENDENT RESEARCH One to three credits Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

Prerequisite: Approval of department chairman.

ENGLISH 400. INTRODUCTION TO RESEARCH An introductory course in research and bibliography designed to acquaint the graduate student with the resources and procedures used in literary research.

ENGLISH 405. STUDIES IN LINGUISTICS

Three credits A study of generative transformational grammar as developed by Chomsky, Lees, and others resulting from work done by Harris and other struc-

ENGLISH 410. STUDIES IN MEDIEVAL LITERATURE

A study of selected major figures of the English Renaissance.

Three credits The study of selected topics in Medieval English literature. ENGLISH 420. STUDIES IN RENAISSANCE LITERATURE Three credits

ENGLISH 440. STUDIES IN RESTORATION AND EIGHTEENTH CENTURY LITERATURE

Three credits

A study of selected topics in Engilsh literature from 1660 to 1800.

ENGLISH 450. STUDIES IN ROMANTIC AND VICTORIAN LITERATURE

Three credits A study of selected major English prose and poetry of the nineteenth century.

ENGLISH 470.

STUDIES IN MODERN BRITISH LITERATURE A study of selected major British authors of the twentieth century.

Three credits

ENGLISH 480. STUDIES IN AMERICAN LITERATURE Three credits A study of selected major movements and figures in American literature from the Puritans to contemporary authors.

ENGLISH 497. SEMINAR IN SPECIAL PROBLEMS One to three credits This course is designed for intensive research in any specific area of English or American literature.

Earth and Environmental Sciences

These courses may be taken by special students or may be applied towards graduate degrees offered by other departments. Students planning to apply these credits towards degree programs should secure the approval of their academic advisor prior to inclusion in their course of study.

COURSES OF INSTRUCTION

ENVIRONMENTAL SCIENCES 401-402.

TOPICS IN ENVIRONMENTAL SCIENCES I AND II

Three credits each

Selected topics covering a variety of geophysical, geochemical, and geoogical processes and their applications. These may include one or more of the following: geochronology, geochemistry of rocks and soils, trace substances and environmental health, environmental management, climatic changes, flood protection, etc. May be taken for graduate or undergraduate credit.

Prerequisite: Consent of instructor.

History

Master of Science in Education

SPECIAL DEGREE REQUIREMENTS

Candidates for the degree of Master of Science in Education, with a major in history, must take at least nine of their eighteen hours of history in courses numbered 391 or above. Sociology

397 may be taken for credit toward the history component of the degree with the prior approval of the Chairman of the History Department.

Information on requirements of the Education Department for the Master of Science in Education, major in history, will be found under Education on page 26.

COURSES OF INSTRUCTION

HISTORY 313-314. HISTORY OF SCIENCE Three credits each semester The development of science and technology from earliest times to 1800, and from 1800 to the present.

HISTORY 315. ANCIENT HISTORY: NEAR EAST

Three credits
The birth of civilization in Mesopotamia and Egypt. Babylonian, Persian
and Judaic backgrounds of western civilization. Attention will also be paid
to certain lesser civilizations, with emphasis on the role of archeology.

HISTORY 316. ANCIENT HISTORY: CLASSICAL WORLD Three credits
The direct Greco-Roman antecedents for western civilization will be developed, beginning with Mycenae, through Homer, the Golden age, Hellenistic world, and the rise and fall of Rome. Emphasis will be on the cultural contributions of each group and period to our present world.

HISTORY 321-322. AMERICAN SOCIAL AND
INTELLECTUAL HISTORY
Three credits each semester

A study of social and intellectual developments in the United States from the colonial period to the present. During the first semester, emphasis will be placed on the influence of the American environment during the colonial period and of expansion and sectional disputes in the federal period upon society and upon religious, economic, and political thought. During the second semester the influence of industrialization, the rise of nationalism and the emergence of the United States as a World Power will be emphasized.

HISTORY 323-324.

AMERICAN ECONOMIC HISTORY

Three credits each semester
The evolution of the American economy from colonial dependency to
modern industrial maturity. Emphasis will be placed upon the transformation of an agrarian-commercial economy to an urban-industrial economy
which exercises a dominant influence in world affairs.

HISTORY 325. AMERICAN ETHNIC HISTORY Three credits

A study of the institutions and problems that have characterized various immigrant, black, and Indian communities from colonial times to the present.

HISTORY 326. URBAN HISTORY Three credits

A survey of the origins and development of the modern city. Primary emphasis is given to the evolution of the city in America and its influence on American society and culture. Reference is made to the cities of modern Europe and Asia primarily for comparative purposes.

HISTORY 327-328. HISTORY OF THE FOREIGN POLICY
OF THE UNITED STATES
Three credits each semester

A study of the evolution of the several policies that give direction to the relations of the United States with other nations.

HISTORY 331. COLONIAL AMERICA

Discovery, exploration and settlement; development of social, political, religious and intellectual institutions; independence and political reorgan-

A study of the political and economic history of the United States from 1783 to 1865. Special attention will be given to the evolution of sectional differences and the culmination of these differences in intersectional

HISTORY 333. THE AGE OF BIG BUSINESS, 1865-1914 Three credits A study of the political and economic history of the United States from 1865 to 1914. Special attention will be paid to the period of congressional dominance and the restoration of presidential power at the turn of the century; the economic, social and political consequences of the industrial revolution; and the rise of urban America.

HISTORY 334. TWENTIETH CENTURY AMERICA

The emergence of the United States as an industrial, urban, world power and the corresponding development of its political, economic, social, religious and intellectual institutions.

HISTORY 341-342. HISTORY OF GREAT BRITAIN AND THE BRITISH EMPIRE AND COMMONWEALTH Three credits each semester A study of British history from the Neolithic period to present times. The first semester will cover social, economic, and political developments to 1783, including expansion overseas. The second semester will cover the consequences of the industrial revolution and the evolution of the Empire

HISTORY 347-348. HISTORY OF RUSSIA Three credits each semester A study of the political, social, and intellectual history of Russia.

HISTORY 351. MEDIEVAL EUROPE

Consideration will be given to political, economic, and cultural institutions and activities, and intellectual development in Medieval Europe to the early Renaissance.

HISTORY 352. THE RENAISSANCE AND REFORMATION Three credits Within the political and economic framework of the period, study will be made of the culture of the Renaissance, the religious reform and conflicts resulting from the crisis in the sixteenth century.

HISTORY 353-354.

into the Commonwealth.

EARLY MODERN EUROPE, 1648-1815 Three credits each semester Topics include the absolutism of Louis XIV, the growth of Brandenburg-Prussia, the French Revolution and French Empire, the economic forces of mercantilism and the early Industrial Revolution. The growth of science and the Enlightenment will receive careful attention.

HISTORY 355.

EUROPE IN THE NINETEENTH CENTURY

Three credits A study of the political, social, and cultural development of Europe from the Congress of Vienna to World War I.

HISTORY 356.

EUROPE IN THE TWENTIETH CENTURY

Three credits

Against a background of the internal and international developments of the leading powers, the class will study the origins and results of the two World Wars.

HISTORY 361-362.

HISTORY OF THE FAR EAST Three credits each semester

A study of the history of the civilizations developed in India, China, and Japan with emphasis on their inter-relations and distinctive characteristics and on their transformation in response to the penetration of western civilization from the sixteenth century onward. Some attention will be given to similar developments and changes among the countries of Southeast Asia. Fall semester: to c. 1760. Spring semester: 1760 to

HISTORY 363. HISTORY OF MODERN CHINA Three credits A study of Chinese history since 1840 with special emphasis on social, political, economic, and intellectual developments.

HISTORY 364.

DIPLOMATIC HISTORY OF THE FAR EAST Three credits A study of the relationship of the states of the Far East with one another

and the West in the nineteenth and twentieth centuries. HISTORY 367. MODERN SOUTH ASIA Three credits A study of the political, social and economic development of the Indian sub-continent since 1500.

HISTORY 381-382.

HISTORY OF LATIN AMERICA Three credits each semester First Semester, A Survey of Latin American History from ancient times to 1820. Second Semester, Latin America since 1820.

HISTORY 391. HISTORIOGRAPHY AND RESEARCH An introduction to historical research and writing. The writings and ideas of major historians of the past and present are examined. The student is exposed to research methods, particularly in the area of primary sources, and to the construction and criticism of the historical monograph.

HISTORY 395-396. INDEPENDENT RESEARCH Independent study and research for advanced students in the field of the major under the direction of a staff member. A research paper at a level significantly beyond a term paper is required.

HISTORY 398. TOPICS Three credits Special topics in history. This course will be offered from time to time when interest and demand justify it.

HISTORY 497. SEMINAR One to three credits Presentations and discussions of selected topics. (May be repeated for

Prerequisite: Approval of the instructor is required.

Mathematics

Master of Science Master of Science in Education

THE COURSES OF STUDY ARE INTENDED FOR:

- a. students who plan to continue their studies beyond the master level.
- b. teachers of secondary or junior college mathematics who seek to strengthen their subject-matter competence, and
- c. persons seeking a terminal master degree to further their career in industry or government.

ADMISSION

An applicant should have a baccalaureate degree from an accredited college or university. He is expected to have completed courses in advanced calculus or real variables and in modern and linear algebra. Students with a weak mathematical background may be required to make up certain deficiencies before being admitted to candidacy.

DEGREE REQUIREMENTS

- a. Master of Science with a major in Mathematics:
 - A minimum of thirty credits of approved courses in Mathematics or Computer Science is required. All candidates are required to complete Math. 311, 331, and 334, or the equivalent, if they have not done so as undergraduates. At least six credits, exclusive of those for the optional thesis, must be in courses numbered above 500. No more than twelve credits of the 300 level courses may be applied towards this degree.
- M.S. in Education with a major in Mathematics:

A minimum of thirty credits of approved courses, to be distributed as follows, is required.

- 1. Education courses: 12 credits six credits in Area I three credits in Area II three credits in Area IV
- Mathematics or Computer Science courses:

18 Credits

At least three credits must be in courses numbered above 400.

COURSES OF INSTRUCTION

Mathematics

MATHEMATICS 311. FUNCTIONS OF A REAL VARIABLE

Three credits

A rigorous study of the topology of the real line, limits, continuity, differentiation, integration, and series of functions.

MATHEMATICS 314. FUNCTIONS OF A COMPLEX VARIABLE

ABLE Three credits

Complex functions, limit, continuity, analytic functions, power series, contour integration, Laurent expansion, singularities and residues.

MATHEMATICS 331.

INTRODUCTION TO ABSTRACT ALGEBRA I

Three credits

A study of elementary number theory, groups, rings, and fields.

MATHEMATICS 334. LINEAR ALGEBRA Three credits

Vector spaces, linear transformations, matrices, determinants, inner products, bilinear and quadratic forms, matrix polynomials.

MATHEMATICS 342. INTRODUCTION TO TOPOLOGY Three credits

Metric spaces, topological spaces, countability and separation axioms,

compactness, connectedness, product spaces.

Prerequisite: Math. 311 or consent of instructor.

MATHEMATICS 343. INTRODUCTION TO GEOMETRY

A study of selected topics from Euclidean geometry, affine geometry, projective geometry, and convexity.

MATHEMATICS 351-352. PROBABILITY AND

MATHEMATICAL STATISTICS I AND II Three credits each

Random variables, probability distributions, expectation and limit theorems, estimation, testing statistical hypotheses, confidence intervals.

MATHEMATICS 361-362. Three credits

INTRODUCTION TO APPLIED MATHEMATICS I & II each semester Mathematics of physical science and engineering. Topics include: vector

Mathematics of physical science and engineering. Topics include: vector integral and differential calculus, power series, differential equations, Fourier analysis, and eigenvalue problems.

MATHEMATICS 364. NUMERICAL ANALYSIS Three credits

Numerical methods of differentiation, integration, solution to equations and of differential equations with emphasis on problems that lend themselves to solution on computers.

Prerequisite: A course in elementary differential equations and knowledge of Fortran.

MATHEMATICS 413, FUNCTIONS OF SEVERAL VARIABLES Three credits

A modern treatment of calculus of functions of several real variables. Topics include: Euclidean spaces, differentiation, integration on manifolds leading to the classical theorems of Green and Stokes.

Prerequisites: Mathematics 311 and 334.

MATHEMATICS 432.

INTRODUCTION TO ABSTRACT ALGEBRA II Three credits

A continuation of Mathematics 331. Polynomial rings, ideals, field extensions and Galois Theory.

Prerequisite: Mathematics 331.

MATHEMATICS 470.

READINGS IN MATHEMATICS

Three credits per semester

Individual study of an outstanding text under the supervision of a faculty member. Designed for students who have completed a substantial amount of course work in mathematics.

Prerequisite: Consent of department chairman.

MATHEMATICS 511. MEASURE AND INTEGRATION Three credits
Measures, measurable functions, integration, convergence theorems,
product measures, signed measures.

Prerequisite: Mathematics 342, or consent of instructor.

MATHEMATICS 513. FUNCTIONAL ANALYSIS

Three credits

Topics include: Banach spaces, Lp-spaces, Hilbert spaces, topological vector spaces, and Banach algebras.

Prerequisite: Mathematics 311 and 334.

MATHEMATICS 532. MODERN ALGEBRA Three credits

A study of group theory (including the Sylow Theorems and solvable groups); ring theory (including the Noetherian rings and UFDs); modules, tensor algebra, and semi-simple rings.

Prerequisite: Mathematics 331 and 334, or consent of instructor.

MATHEMATICS 542. ALGEBRAIC TOPOLOGY

OGY Three credits

Polyhedre, simplicial homology theory, cohomology rings, and homotopy groups.

Prerequisite: Mathematics 342.

MATHEMATICS 398, 498, 598. TOPICS IN MATHEMATICS Variable

A wide range of topics in pure and applied mathematics may be offered

upon demand. May be repeated for credit.

Prerequisite: Consent of instructor.

MATHEMATICS 590. THESIS Three or six credits

Prerequisite: Consent of department chairman.

Computer Science

For a description of the prerequisite undergraduate courses, consult the undergraduate bulletin.

COMP. SCI. 320. LOGIC AND SWITCHING CIRCUITS Three credits

Application of Boolean algebra to the design of combinational logic nets; minimization procedures. Analysis and synthesis of sequential switching circuits clocked and asynchronous operation. Effects of microelectronic technology on logic design optimization. Fault masking by redundancy techniques.

COMP. SCI. 321. SIMULATION AND DATA ANALYSIS

Methods of handling large data bases including statistical analysis and computer simulations. The emphasis will be upon discrete simulation models with a discussion of relevant computer languages, GPSS, GASP, SIMSCRIPT and others.

Prerequisite: Comp. Sci. 223 or Comp. Sci. 224.

COMP. SCI. 322. ASSEMBLY LANGUAGE

Three credits

Three credits

Assembly language programming including basic techniques and algorithms. This course discusses the purpose and structure of an operating system and related software as well as an introduction to basic computing concepts, structure and operation. Fee: \$20

Prerequisite: Comp. Sci. 223.

COMP. SCI. 323.

FORMAL LANGUAGES & AUTOMATA THEORY

Three credits

This course formalizes many topics encountered in previous computing courses. Topics include alphabets, languages, grammars, finite automata, regular expressions and type 3 grammars, context-free languages, pushdown automata.

Prerequisite: Math. 202.

COMP. SCI. 324. SYSTEMS ANALYSIS

Three credits

A study of the design and implementation of large computer projects. Special emphasis is placed on applications to business systems.

Prerequisite: Comp. Sci. 224 and 227.

COMP. SCI. 325. DATA BASE MANAGEMENT

Three credits

Practical experience in solving a large scale computer problem including determination of data requirements, appropriate data organization, data manipulation procedures, implementation, testing and documentation.

Prerequisite: Comp. Sci. 324.

COMP. SCI. 326. OPERATING SYSTEM PRINCIPLES

The study of the principles of computer operating systems including sequential and concurrent processes, processor and store management, scheduling algorithms, and resource protection.

Prerequisite: Comp. Sci. 227.

COMP. SCI. 327. COMPILER DESIGN

Three credits

A study of compiler design including language definition, syntactic analysis, lexical analysis, storage allocation, error detection and recovery, code generation and optimization problems.

Prerequisite: Comp. Sci. 227 and Comp. Sci. 323.

COMP. SCI. 328. ANALYSIS OF ALGORITHMS

Three credits

Theoretical analysis of various algorithms. Topics include sorting, searching, selection, matrix multiplication and multiplication of real numbers.

Prerequisite: Comp. Sci. 227.

COMP. SCI. 398/498. TOPICS IN COMPUTER SCIENCE Variable credit

The study of one or more topics in computer science. May be repeated for credit.

Prerequisite: Varies with the topics studied.

Physics

Master of Science Master of Science in Education ADMISSION

Applicants for admission to graduate study in physics must present at least 24 hours of undergraduate credit in physics. Proficiency in calculus and ordinary differential equations is assumed, and it is desirable that the student have some acquaintance with the use of complex variable theory.

DEGREE REQUIREMENTS

Two graduate programs are offered in physics leading to the Master of Science degree or Master of Science in Education degree with a major in Physics. Information on requirements for the Master of Science degree is given below. The education requirements for the Master of Science in Education with a major in Physics are listed under Education on page 26. The candidate may with the consent of his physics advisor elect any six of the courses listed below.

All candidates for the Master of Science Degree in physics are required to complete satisfactorily Physics 511, Analytical Mechanics; Physics 530, Electricity and Magnetism; Physics 401-402, Topics in Mathematical Physics; and Physics 550-551, Quantum Mechanics. A minimum of 18 credits in graduate physics courses is required, exclusive of dissertation credits.

COURSES OF INSTRUCTION

PHYSICS 311-312 MECHANICS

Three credits each

Intermediate level courses designed to develop a thorough understanding of the principles of mechanics and the application of mathematical methods to the solution of their problems. Topics include harmonic oscillator, central force problems, rotations of rigid bodies, moving coordinate systems, continuous media, inertia and stress tensors, Lagrange's equations of motion, theory of small vibrations.

PHYSICS 320* ELECTRONIC INSTRUMENTATION FOR THE LIFE AND BEHAVIORAL SCIENCES

Three credits

(See course description under Physics 321)

PHYSICS 321* ELECTRONIC INSTRUMENTATION FOR THE PHYSICAL SCIENCES

Three credits

Construction, calibration and use of electronic instruments. Operational amplifers and integrated circuits as device components. Students will be encouraged to follow their own interests in designing simple devices for special applications. Two hours class and one three-hour laboratory per week. Fee: \$25.

PHYSICS 330. OPTICS AND LIGHT

Three credits

The principles of geometrical and physical optics are considered. Image formation, refraction, diffraction, origin of spectra, polarized light, optical activity, etc. Laboratory one period per week. Fee: \$25.

PHYSICS 331-332. ELECTRICITY AND MAGNETISM Three credits each

Static and dynamic electricity, magnetism, electromagnetism, etc., are covered. The emphasis in this course is on fundamental analysis rather than applications. Laboratory, one period per week. Fee: \$25 ea. semester.

PHYSICS 340. THERMODYNAMICS

Three credits

The fundamental concepts of thermodynamics. The laws of thermodynamics, Carnot cycle, entropy, and an introduction to kinetic theory and statistical mechanics.

PHYSICS 351. OUANTUM MECHANICS

Three credits

An introduction to quantum mechanics; Schrodinger's equation and its application to the harmonic oscillator, the potential-well, and the hydrogen atom; perturbation theory; angular momentum; identical particles and Pauli's exclusion principle; introduction to the relativistic wave equation and the origin of electron spin.

PHYSICS 361. ATOMIC PHYSICS

Black body radiation, wave-particle duality, hydrogenic atoms, multielectron atoms, molecules, solids. Laboratory, one period per week. Fee: \$25.

PHYSICS 370.

INTRODUCTION TO SOLID STATE PHYSICS

Three credits

Topics include bonding and structure, translational symmetry, direct and reciprocal lattices, lattice dynamics, electronic structure of simple metals. insulators and semiconductors.

PHYSICS 380. NUCLEAR PHYSICS

Special relativity, natural and induced radioactivity, nuclear structure, nuclear reactions, reactors, etc. Laboratory, one period per week. Fee: \$25.

PHYSICS 401-402.

TOPICS IN MATHEMATICAL PHYSICS

Three credits each

Development of the solutions of various differential equations of physics and chemistry arising from thermodynamics and statistical mechanics, kinetic theory, hydrodynamics, etc.

PHYSICS 405-406.

THEORETICAL PHYSICS I AND II

Three credits each

The great unifying principles of physics will be examined and applied in the special branches of physics. Aspects of mechanics, optics, electromagnetism, relativity, atomic and nuclear physics will be treated from many points of view. Familiarity with subject matter will be assumed. The object of this course will be to develop deeper insight into physical laws and greater flexibility of approach to physical problems.

PHYSICS 423. X-RAY DIFFRACTION

Modern developments in x-ray diffraction. Generation, detection, and measurement of x-rays. Elastic and inelastic scattering. The geometry of crystals and diffraction by polycrystalline and amorphous materials. The inematical theory and pair distribution functions. The dynamical theory or perfect and imperfect crystals as derived from Maxwell's equations. otal cross-sections, line-shape functions, one-electron factors, and determination of crystal structure. Experimental x-ray methods and applications. Laboratory, one period per week. Fee: \$25.

Prerequisite: Physics 370.

PHYSICS 427-428. SOLID STATE DEVICES

Three credits each

Application of energy band theory. Fermi-Dirac statistics. Conduction heory. Intrinsic and impurity conduction. Semi-conductor properties and characteristics of p/n junctions. Transistors and transistor theory. Characteristics of transistors. High-current characteristics. Feedback effects.

PHYSICS 471. SOLID STATE PHYSICS

Application of group theory to the crystallographic point groups, symmetry principles and band structure of metals, insulators and semiconductors; transport properties, magnetic properties, optical properties.

ANISOTROPIC PROPERTIES OF CRYSTALS

Three credits

Application of matrices and tensors to represent anisotropic physical properties of crystalline solids. The stress-strain and elastic properties. Paranagnetic and diamagnetic susceptibility, and electric polarization. Thermal expansion and thermodynamics of equilibrium properties of crystals. Thermal and electrical conductivity, and thermoelectricity. Double refraction, optical activity, and crystal optics.

Prerequisite: Physics 370.

PHYSICS 511. ANALYTICAL MECHANICS

Three credits

The dynamics of particles and rigid bodies. Topics include central forces, orthogonal transformations, variational principles. Lagrange's equations, Hamiltonian method, etc.

Prerequisites: Differential equations, undergraduate mechanics.

PHYSICS 530-531. ELECTRICITY AND MAGNETISM Three credits each A detailed analytical study of the laws of electrostatics, magneto-statics and electromagnetism. Topics include Laplace's equation, Poynting's

PHYSICS 540. STATISTICAL MECHANICS Three credits The statistical theory of particles, both classical and quantum. Application to solid state and nuclear physics.

Corequisite: Physics 551.

PHYSICS 550-551. QUANTUM MECHANICS Three credits each The fundamental principles of quantum mechanics, according to both Schrodinger and Heisenberg formulations. Topics include variational methods, perturbation methods, angular momentum, the formulation of spin, radiation theory, collision theory, and operator methods.

Prerequisites: Physics 401, Physics 511. Corequisite: Physics 402.

PHYSICS 571. SOLID STATE THEORY

Methods of energy band calculations, relativistic effects including spin, electron phonon interactions, superconductivity, cooperative phenomena, order-disorder, ferromagnetism.

PHYSICS 580-581. NUCLEAR PHYSICS

Three credits each An introduction to the theory and practice of nuclear physics. Nuclear reactions, scattering theory, fission, fusion, etc.

Corequisite: Physics 551.

Six credits

PHYSICS 590. THESIS * Either one but not both may be taken for credit.

Administration of the Graduate Program

Graduate programs at Wilkes College are the administrative responsibility of the Division of Continuing Education and Graduate Studies. A Faculty Committee on Graduate Studies acts in an advisory capacity to the Director, John F. Meyers, and is listed below.

Faculty Committee on Graduate Studies

FRANCK G. DARTE II **Chairman of the Committee Professor of Education** Ed.D. (Pennsylvania)

MARY CHRISTINE ALICHNIE **Assistant Professor of Nursing** M.S. (Pennsylvania)

JAMES J. BOHNING **Professor of Chemistry** Ph.D. (Northeastern)

FRANCIS J. DONAHOE **Professor of Physics** Ph.D. (Pennsylvania)

Professor of Political Science JEAN M. DRISCOLL Ph.D. (Northwestern)

MAHMOUD H. FAHMY **Associate Professor of Education** Ph.D. (Syracuse)

STANLEY S. GUTIN **Associate Professor of English**

Associate Professor of Biology

Ph.D. (Pennsylvania)

Ph.D. (Minnesota)

BRIAN T. REDMOND Instructor of Earth and **Environmental Sciences** M.S. (Michigan State)

CLYDE R. HOUSEKNECHT

KUO-KANG SHAO **Associate Professor of History** Ph.D. (Pennsylvania)

Associate Professor of Economics WAGIHA ABDEL-GAWAD TAYLOR

Ph.D. (Clark)

ROBERT E. WERNER **Professor of Economics**

Ph.D. (Wisconsin)

Associate Professor of Philosophy ROY E. WILLIAMS Ph.D. (Drew)

Professor of Mathematics BING K. WONG

Ph.D. (Illinois) **Dean of Academic Affairs**

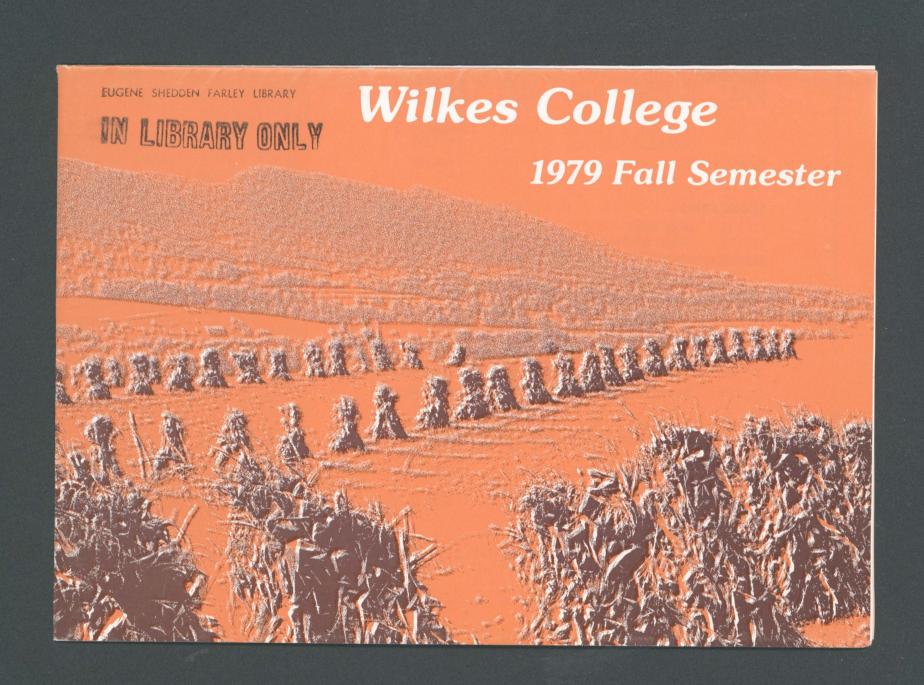
RICHARD P. SOTER Ph.D. (Harvard) - NOTES -

Information on the graduate school may be obtained by writing to:

John F. Meyers

Director of Graduate Studies Wilkes College

Wilkes-Barre, Pennsylvania 18703



WILKES COLLEGE FALL SEMESTER 1979

- GENERAL INFORMATION -

Calendar for **Spring Semester** 1979

Registration for Evening College, Part-Time, and Graduate

8.30 a m to 8 n m

marsday, Aug. 30	0.50 a.m. to 6 p.m.
Friday, Aug. 31	8:30 a.m. to 8 p.m.
Tuesday, Sept. 4	Classes begin at 8 a.m.
Tuesday, Nov. 20 Thanks	sgiving recess begins at 10 p.m.
Monday, Nov. 26	Classes resume at 8 a.m
Saturday, Dec. 15 through Saturday, Dec. 22	Final Examinations

Expenses

All charges must be paid at the time registration forms are processed.

Undergraduate:

Thursday Aug 30

Undergraduate students who register for fewer than 12 credits pay \$75 per credit.

Undergraduate students who register for 12 to 18 credits pay a flat tuition fee of \$1625 per semester. (Students who take more than 18 credits pay \$110 for each credit above 18.)

Graduate:

All graduate students pay \$95 per credit.

Financial Aid

Various financial aid programs are available to part-time and full-time students. Inquiries about financial aid should be made to Richard Raspen, Director of Financial Aid. Information on Veterans' benefits is available through the Veterans' Affairs Office on campus.

Withdrawal

An evening college, part-time, or graduate student may withdraw, without prejudice, from any course at any time during the first 10 weeks of the semester, providing that he or she gives verbal or written notice to this effect to the instructor and to the Director of Continuing Education and Graduate Studies within this 10-week period.

Students in good standing who withdraw from courses or from the college will receive a refund of tuition under the following conditions: During the first six weeks of the semester, one-half of the tuition will be refunded upon request to the Director of Continuing Education and Graduate Studies, if the withdrawal is made for adequate and satisfactory reasons. After the first six weeks, no refunds are allowed and the student is obligated for the full costs of the term. No student who is suspended or expelled shall be entitled to any refunds.

Change Of Schedule

Occasionally a change in the course schedule becomes necessary. Such a change may mean the cancellation of one Application for admission to Wilkes College as an evening college, part-time, or graduate student should be made to the Division of Continuing Education and Graduate Studies, 16 South River Street, Wilkes-Barre, Pennsylvania 18766.

Bachelor of Arts degrees are offered in the following subject areas:

Anthropology Individualized Studies Art International Relations

Biology Mathematics Chemistry Music Computer Science Philosophy Earth and **Physics**

Political Science **Environmental Sciences** Economics Psychology

Social Science/Urban Affairs Elementary Education Sociology

Sociology-Anthropology

English

Foreign Language

History

Degree **Programs**

Admissions

Bachelor of Science degrees are offered in the following subject areas:

Biology Engineering

Business Education Environmental Sciences Chemistry Mathematics

Commerce & Finance Medical Technology (a) Accounting Music Education

(b) Business Administration Nursing Computer Science **Physics**

Wilkes also offers a "Certificate of Achievement" to undergraduate students in the field of Business Administration who earn 42 hours of credit in Evening College and Summer School programs with at least 24 hours in Business Administration and 18 hours in general education.

Wilkes offers the Master of Business Administration Degree; Master of Science Degrees in Biology, Chemistry, Mathematics, and Physics, and a Master of Science Degree in Education with concentrations in Biology, Chemistry, Education, Elementary Education, English, History, Mathematics or Physics.

its pay a flat tuition fee of \$1625 per semester. (Students who take more than 18 credits pay \$110 for each credit above 18.)

Graduate:

All graduate students pay \$95 per credit.

Financial Aid

Various financial aid programs are available to part-time and full-time students. Inquiries about financial aid should be made to Richard Raspen, Director of Financial Aid. Information on Veterans' benefits is available through the Veterans' Affairs Office on campus.

Withdrawal

An evening college, part-time, or graduate student may withdraw, without prejudice, from any course at any time during the first 10 weeks of the semester, providing that he or she gives verbal or written notice to this effect to the instructor and to the Director of Continuing Education and Graduate Studies within this 10-week period.

Students in good standing who withdraw from courses or from the college will receive a refund of tuition under the following conditions: During the first six weeks of the semester, one-half of the tuition will be refunded upon request to the Director of Continuing Education and Graduate Studies, if the withdrawal is made for adequate and satisfactory reasons. After the first six weeks, no refunds are allowed and the student is obligated for the full costs of the term. No student who is suspended or expelled shall be entitled to any refunds.

Change Of Schedule

Occasionally a change in the course schedule becomes necessary. Such a change may mean the cancellation of one course or the addition of another. The College reserves the right to cancel or reschedule any course due to insufficient enrollment or any other reason. When possible, any change in the course schedule will be posted during registration. Students who have registered for courses that are subsequently cancelled or rescheduled will be notified as promptly as possible.

The Library

The Eugene Shedden Farley Library is open to all Wilkes students. Students may borrow books from the Library by presenting their College identification cards. Hours are posted at the beginning of each academic session.

The Bookstore

Books, stationery and supplies may be purchased at the College Bookstore, located in the lower level of Pickering Hall. They must be paid for at the time of purchase. The Bookstore is open from 8:30 a.m. to 4:30 p.m. Monday through Friday.

Bachelor of Science degrees are offered in the following subject areas:

Biology

Engineering

Business Education

Environmental Sciences

Chemistry

Mathematics

Commerce & Finance

Medical Technology

(a) Accounting

Music Education

(b) Business Administration

Nursing

Computer Science

Physics

Wilkes also offers a "Certificate of Achievement" to undergraduate students in the field of Business Administration who earn 42 hours of credit in Evening College and Summer School programs with at least 24 hours in Business Administration and 18 hours in general education.

Wilkes offers the Master of Business Administration Degree; Master of Science Degrees in Biology, Chemistry, Mathematics, and Physics, and a Master of Science Degree in Education with concentrations in Biology, Chemistry, Education, Elementary Education, English, History, Mathematics or Physics.

Wilkes is accredited by the Department of Public Instruction of the State of Pennsylvania and the Middle States Association of Colleges and Secondary Schools. The Chemistry curriculum has been certified by the American Chemical Society.

The Graduate programs are approved by the Pennsylvania State Department of Education.

For further information write or call:

John F. Meyers, Director
Division of Continuing Education and Graduate Studies
Wilkes College
16 South River Street
Wilkes-Barre, Pennsylvania 18766
Phone: 824-4651 Ext. 303 (After 4:30 p.m., 824-4656)

Accreditation

Information

Affirmative Action/Equal Opportunity Institution

WILKES COLLEGE Fall Semester 1979

Registration: Thursday and Friday, Aug. 30 and 31...8:30 a.m. to 8:00 p.m. Classes begin...September 4

Continuing Education Office, Parrish Hall, 2nd Floor

Undergraduate Division

Course	Description	Room	Day & Hour	Credits
(TIM	IES LISTED IN LIGHT FACE REPRES	SENT A.M.; BOI	LD FACE P.M.)	
AEROSPAC	E STUDIES:			
A.S. 101E	U.S. Military Forces in 137 the Contemporary World I	S. Franklin	Th 5:0	00 1
A.S. 201E	The Development of 137 Air Power I	S. Franklin	Th 6:0	0 1
ACCOUNTI	NG:			
Acct. 101E	Elementary Accounting I	Par. 35	M 6:30-9:3	0 3
Acct. 102E	Elementary Accounting II	Par. 35	T 6:30-9:3	
Acct. 111E	Intermediate Accounting I	Par. 45	Th 6:30-9:3	
Acct. 201E	Cost Accounting	Par. 45	W 6:30-9:3	
Acct. 221E	Taxes I	Par. 45	T 6:30-9:3	
	(Pre: Acct. 112 or approval of			
Acct. 231E	Auditing I	Par. 35	W 6:30-9:3	
Acct. 241E	Advanced Accounting ((Pre: Acct. 112)	Par. 35	Th 6:30-9:3	0 3
ANTHROPO	DLOGY:			
Anth. 101E	Introduction to Anthropology	SLC 380	M 6:30-9:3	0 3
ART:				
Art 101E	Experiencing Art I	SLC 105	W 6:00-9:0	0 3
Art 102E	Experiencing Art II (Pre: Art 101)	SLC 1	⊺ 6:30-9:3	0 3
Art 245E	Batik	SLC 206	M 6:00-9:0	0 3
Art 380E	Topics in Studio Art: Sculpture	SLC 3	T 6:00-9:0	0 3
BIOLOGY:				
Bio. 101E	Biological Science I	SLC 316	Th 6:30-9:3	0 3
Bio. 315E	Molecular Biology (Pre: Bio. 201-208; Chem. 237	SLC 380 -238 or permis	T 6:30-9:3	
BUSINESS	ADMINISTRATION:			
B.A. 101E	Introduction to the Private Sector of Business	Par. 53	W 6:30-9:3	0 3
B.A. 209E	Bus. Correspondence & Reports	Par. 43	M 6:30-9:3	0 3
B.A. 225E	Managerial Finance	Par. 43	Th 6:30-9:30	0 3
B.A. 231E	Bus. Law—Introd., Contracts, and Sales	Par. 33	T 6:30-9:30	0 3
B.A. 241E	Life Insurance	Par. 45	M 6:30-9:3	0 3
B.A. 251E	Principles of Management	SLC 127	Th 6:30-9:30	0 3
B.A. 261E	Principles of Retailing	Par. 53	W 6:30-9:30	0 3
BUSINESS	EDUCATION:			
B. Ed. 105E	Elementary Shorthand	Butler 10	T Th 4:45-6:30	2
B. Ed. 107E	Elementary Typewriting	Butler 10	T Th 7:00-8:45	5 2

Course	Description	Room	Day & Hour Cr	edits
(TIM	ES LISTED IN LIGHT FACE REPRI	ESENT A.M.; BOL	D FACE P.M.)	
HISTORY:				
Hist. 101E	World Civilization I	SLC 380	Th 5:30-8:30	3
Hist. 102E	World Civilization II	SLC 270	M 6:30-9:30	3
Hist. 321E	American Social & Intellectua History I		W 6:30-9:30	3
Hist. 361E	History of the Far East I	SLC 147	T 6:30-9:30	3
Hist. 382E	History of Latin America II	SLC 204	Th 6:30-9:30	3
Hist. 398E	Topics: Revolutionary Theory and Practice (Pre: Permission of Instructor)		M 6:30-9:30	3
MUSIC:				
Applied Music	Private Lessons	TBA	TBA	
	Note: It is important that all for Applied Music through th consult with the Chairman of before completing their regi	e Evening Colleg f the Music Depa	egister e	
Mus. 101E	Introduction to the Materials & Literature of Music I	& DDD 101	T 6:30-9:30	3
Mus. 111A	Piano Class I (Majors only)	DDD 219	M Th 6:00-7:00	2
Mus. 111B	Piano Class I (Non-majors only	y) DDD 219	M 7:00-9:00	2
Mus. 113A	Piano Class III (Majors only)	DDD 219	M Th 6:00-7:00	2
PHILOSOPI	HY:			
Phil. 101E	Introduction to Philosophy	SLC 207	T 6:30-9:30	3
Phil. 152E	Introduction to Logic	SLC 207	W 6:30-9:30	3
Phil. 240E	Problems in Metaphysics (Pre: Phil. 101 or 201)	SLC 207	Th 6:30-9:30	3
PHYSICS:				
Phys. 101E	Physical Science I	SLC 166	Th 6:30-9:30	3
Phys. 320E	(Pre: Background in science Electronic Instrumentation fo		s not necessary) T 5:00-7:00 &	2
Filys. 320E	the Life & Behavioral Science: Fee: \$20 (Pre: Phys. 106 or 202)		Th 5:00-8:00	3
Phys. 321E	Electronic Instrumentation for the Physical Sciences Fee: \$20	SLC 161	T 5:00-7:00 & Th 5:00-8:00	3
	(Pre: Phys. 106 or 202)			
POLITICAL	SCIENCE:			
P.S. 102E	Political Science II	SLC 318	M 6:30-9:30	3
P.S. 398E	Topics: Latin America (Pre: Permission of instructor)	SLC 204	Th 6:30-9:30	3
PSYCHOLO	GY:			
Psy. 101E	General Psychology I	SLC 334	W 6:30-9:30	3
Psy. 398E	Topics: Exceptional Child	SLC 342	M 6:30-9:30	3
SECRETAR	IAL STUDIES:			
B. Ed. 105E	Elementary Shorthand	Butler 10	T Th 4:45-6:30	2
B. Ed. 107E	Elementary Typewriting Fee: \$15	Butler 10	T Th 7:00-8:45	2
B. Ed. 207A	Advanced Shorthand (Pre: B. Ed. 106)	Butler 10	T Th 4:45-6:30	2

Course	Description	Room	Day & Hour	Instructo
(TII	MES LISTED IN LIGHT FACE REPR	ESENT A.M	:; BOLD FACE P.M.)
CHEMISTR	RY:			
Chem. 341A	Physical Chemistry I	SLC 147	T-Th 1:00	Swair
	Laboratory Fee: \$25	SLC 256	F 2:00-5:00	
	(Pre: Chem. 202, Math 211, permission of instructor)	Phys. 203	or	
Chem. 411A	Advanced Inorganic Chemistry	y TBA	TBA	Fau
Chem. 431A	Advanced Organic Chemistry I	TBA	TBA	Jahnger
Chem. 451A	Biochemistry I	TBA	TBA	Stine
COMPUTE	R SCIENCE:			
C.S. 320A	Logic & Switching Circuits	SLC 424	M-W-F 9:00	Kocl
C.S. 324A	Systems Analysis (Pre: C.S. 224 and 227)	SLC 424	T-Th 9:30-11:00	Tillmar
C.S. 326A	Operating System Principles (Pre: C.S. 227)	SLC 424	M-W-F 12:00	Parke
C.S. 408E/	Management Inform. Systems	SLC 403	M 6:30-9:30	Parke
(B.A. 508)	(Pre: Background course red MBA, Econ. 473-4, or permis Department of Mathematics Science)	sion of the		
EDUCATIO				
Ed. 513	Comparative Foundations of Education	SLC 160	M 6:00-9:00	Fahm
Ed. 514	Historical Foundations of Education	SLC 133	W 6:00-9:00	Barone
Ed. 520	Tests & Measurements	SLC 160	T 6:00-9:00	Belluco
Ed. 521	Statistics in Education (Pre: Ed. 520 or equivalent)	SLC 127	Th 6:00-9:00	Belluco
Ed. 532D	PEE: Social Studies	SLC 160	W 6:00-9:00	Fahm
Ed. 599A*	Ungraded-Continuous Prog. Education			Darte
Ed. 599B*	(1 credit — September 4 thr Individualization of Instr. (1 credit — October 9 thru N	SLC 204	T 6:45-10:00	Darte
Ed. 599C*	Team Teaching	SLC 204	T 6:45-10:00	Darte
	(1 credit — November 13 th * Students may register for in the Education 599 series.			rt course(s
ENGLISH:				
Eng. 301A	Literary Criticism	Kby 107	M-W-F 9:00	Kaska
Eng. 312A	Chaucer (Pre: Eng. 152 or 254)	Kby 107		Fieste
Eng. 341A	Restoration & Eighteenth Century Drama	Kby 107	T-Th 1:00-2:30	Fox
Eng. 345A	Early English Novel	SLC 209	M-W-F 12:00	Terry
Eng. 360A	Victorian Prose & Poetry	SLC 409	T-Th-F 10:00	R. Heamar
Eng. 381A	American Literature I (Pre: Eng. 152 or 254)	Kby 107		Gutir
Eng. 397A	Seminar: Comedy	Kby 107	M-W-F 2:00	Powlick
Eng. 470E	Studies in Modern British Literature: The Novel	Kby 107	T 6:30-9:30	Rizzo
HISTORY:				

WILKES COLLEGE Fall Semester 1979

Registration: Thursday and Friday, Aug. 30 and 31...8:30 a.m. to 8:00 p.m. Cla

Continuing Education Office, Parrish Hall, 2nd

Undergraduate Division

Course	Description	Room	Day & Hour	Credits
(TIM	ES LISTED IN LIGHT FACE REPRES	ENT A.M.; BO	LD FACE P.M.)	
AEROSPAC	E STUDIES:			
A.S. 101E	U.S. Military Forces in 137 S the Contemporary World I	S. Franklin	Th 5:0	0 1
A.S. 201E	The Development of 137 S Air Power I	S. Franklin	Th 6:0 0	0 1
ACCOUNTI	NG:			
Acct. 101E	Elementary Accounting 1	Par. 35	M 6:30-9:3	0 3
Acct. 102E	Elementary Accounting II	Par. 35	Ţ 6:30-9:30	3
Acct. 111E	Intermediate Accounting I	Par. 45	Th 6:30-9:30	0 3
Acct. 201E	Cost Accounting	Par. 45	W 6:30-9:3	0 3
Acct. 221E	Taxes I	Par. 45	T 6:30-9:30	0 3
	(Pre: Acct. 112 or approval of i			
Acct. 231E	Auditing I	Par. 35	W 6:30-9:30	
Acct. 241E	Advanced Accounting I (Pre: Acct. 112)	Par. 35	Th 6:30-9:30	0 3
ANTHROPO	DLOGY:			
Anth. 101E	Introduction to Anthropology	SLC 380	M 6:30-9:3	0 3
ART:				
Art 101E	Experiencing Art I	SLC 105	W 6:00-9:0	
Art 102E	Experiencing Art II	SLC 1	T 6:30-9:3	0 3
Art 245E	(Pre: Art 101) Batik	SLC 206	M 6:00-9:0	0 3
Art 380E	Topics in Studio Art: Sculpture	SLC 3	T 6:00-9:0	
BIOLOGY:	Topico in otadio Aire. ocalptare	0200	1 0.00 0.0	
Bio. 101E	Biological Science I	SLC 316	Th 6:30-9:3	0 3
Bio. 315E	Molecular Biology	SLC 310	T 6:30-9:3	
DIO. 313E	(Pre: Bio. 201-208; Chem. 237			
BUSINESS	ADMINISTRATION:			
B.A. 101E	Introduction to the Private Sector of Business	Par. 53	W 6:30-9:3	0 3
B.A. 209E	Bus. Correspondence & Reports	Par. 43	M 6:30-9:3	0 3
B.A. 225E	Managerial Finance	Par. 43	Th 6:30-9:3	0 3
B.A. 231E	Bus. Law—Introd., Contracts, and Sales	Par. 33	⊺ 6:30-9:3	0 3
B.A. 241E	Life Insurance	Par. 45	M 6:30-9:3	0 3
B.A. 251E	Principles of Management	SLC 127	Th 6:30-9:3	0 3
B.A. 261E	Principles of Retailing	Par. 53	W 6:30-9:3	
BUSINESS	EDUCATION:			
B. Ed. 105E	Elementary Shorthand	Butler 10	T Th 4:45-6:3	0 2
B. Ed. 107E	Elementary Typewriting	Butler 10	T Th 7:00-8:4	5 2

Course	Description	Room	Day & Hour	Credits
	ES LISTED IN LIGHT FACE REP			Greuns
	LO EISTED IN LIGHT TAGE REI	RESERT A.M., DOE	DIAGET III.,	
HISTORY:	W- 11 0: 1: - 1	01.0.000	TL F.20 0.2	0 2
Hist. 101E	World Civilization I	SLC 380	Th 5:30-8:3 M 6:30-9:3	
Hist. 102E Hist. 321E	World Civilization II	SLC 270	W 6:30-9:3	
HIST. 321E	American Social & Intellectu History I	ual SLC 316	W 0:30-3:3	0 3
Hist. 361E	History of the Far East I	SLC 147	T 6:30-9:3	0 3
Hist. 382E	History of Latin America II	SLC 204	Th 6:30-9:3	0 3
Hist. 398E	Topics: Revolutionary Theo and Practice (Pre: Permission of Instru		M 6:30-9:3	0 3
MUSIC:				
Applied Music	Private Lessons	TBA	TB	A
	Note: It is important that for Applied Music through consult with the Chairman before completing their re	the Evening College of the Music Depart	e	
Mus. 101E	Introduction to the Material Literature of Music I	s & DDD 101	T 6:30-9:3	3 3
Mus. 111A	Piano Class I (Majors only) DDD 219	M Th 6:00-7:0	00 2
Mus. 111B	Piano Class I (Non-majors o		M 7:00-9:0	00 2
Mus. 113A	Piano Class III (Majors only	y) DDD 219	M Th 6:00-7:0	00 2
PHILOSOPI	uv.			
Phil. 101E	Introduction to Philosophy	SLC 207	T 6:30-9:3	30 3
Phil. 152E	Introduction to Logic	SLC 207	W 6:30-9:3	
Phil. 240E	Problems in Metaphysics	SLC 207	Th 6:30-9:3	30 3
	(Pre: Phil. 101 or 201)			
PHYSICS:				
Phys. 101E	Physical Science I	SLC 166	Th 6:30-9:3	30 3
	(Pre: Background in scien			
Phys. 320E	Electronic Instrumentation the Life & Behavioral Scien Fee: \$20 (Pre: Phys. 106 or 202)		T 5:00-7:00 Th 5:00-8:	
Phys. 321E	Electronic Instrumentation	for SLC 161	T 5:00-7:00	& 3
	the Physical Sciences		Th 5:00-8:	00
	Fee: \$20 (Pre: Phys. 106 or 202)			
	SCIENCE:			
P.S. 102E	Political Science II	SLC 318	M 6:30-9:	
P.S. 398E	Topics: Latin America (Pre: Permission of instru	SLC 204	Th 6:30-9 :	30 3
PSYCHOLO	GY:			
Psy. 101E	General Psychology I	SLC 334	W 6:30-9:	
Psy. 398E	Topics: Exceptional Child	SLC 342	M 6:30-9:	30 3
SECRETAR	IAL STUDIES:			
B. Ed. 105E	Elementary Shorthand	Butler 10	T Th 4:45-6:	30 2
B. Ed. 107E	Elementary Typewriting	Butler 10	T Th 7:00-8:	
B. Ed. 207A	Fee: \$15 Advanced Shorthand I	Butler 10	T Th 4:45-6:	30 2
D. Lu. 201A	(Pre: B Ed 106)	Butlet 10	1117.40-0.	20 2

	Elementary enerthand	Dutiel 10	1 111 4.43-0.30	4
B. Ed. 107E	Elementary Typewriting	Butler 10	T Th 7:00-8:45	2
	Fee: \$15			
B. Ed. 207A	Advanced Shorthand I	Butler 10	T Th 4:45-6:30	3
	(Pre: Bus. Ed. 106)			
COMMUNIC	CATION STUDIES:			
Comm. 211E		Duller 10	M C-20 0-20	2
COMMIN. ZIIE	Journalism: Basic News Writing (Pre: Eng. 102)	Dutier 10	M 6:30-9:30	3
Comm. 298A	Topics: Public Relations	Butler 10	W 6:30-9:30	3
Comm. 298B	Topics: Broadcasting Mgmnt.	DDD 218	T 6:30-9:30	3
	representational information	555210		
COMPUTER	SCIENCE:			
C.S. 124E	Cobol Programming	SLC 424	T Th 6:30-8:00	3
	Fee: \$25			
	ENVIRONMENTAL SCIEN			
E. & E.S. 102E		SLC 270	T 6:00-8:00	3
	Laboratory	SLC 435	T 8:00-10:00	
	Fee: \$20			
E. & E.S. 211E	, 0,	SLC 403	Th 6:30-10:00	3
	Fee: \$20			
ECONOMIC	ç.			
Econ. 101E	Principles of Economics I	SLC 127	W 6:30-9:30	3
				3
Econ. 102E	Principles of Economics II	SLC 127	M 6:30-9:30	100
Econ. 201E	Money and Banking	SLC 127	T 6:30-9:30	3
Econ. 223E	Collective Bargaining	Par. 43	W 6:30-9:30	3
Econ. 225E	International Trade	Par. 43	T 6:30-9:30	3
Econ. 227E	Economic Geography of	Par. 33	W 6:30-9:30	3
	North America, Europe, and the			
F 001F	Soviet Union	D 22	H C 20 0 20	2
Econ. 231E	Applied General Statistics Fee: \$15	Par. 33	M 6:30-9:30	3
	ree. \$15			
EDUCATIO	N:			
Ed. 2031	Special Methods of Teaching:	(King's)	T Th 6:00-7:30	3
	Sciences (Grades 7-12)			
Ed. 203J	Special Methods of Teaching:	SLC 209	T Th 6:00-7:30	3
	Social Studies (Grades 7-12)			
Ed. 351A	Educational Measurements	SLC 160	T 6:00-9:00	3
	(Pre: Ed. 202)			
ENGINEER	ING:			
E.E. 211A	Circuit Theory I	SLC 127	T Th 4:30-6:00	3
	(Pre: Math. 112)			
E.E. 381A	Advanced Microelectronics Lab.	SLC 16	T 5:00	4
	Lab A	SLC 22	T 6:00-11:00	
	Lab B	SLC 22	Th 6:00-11:00	
	Fee: \$25			
	(Pre: Senior Standing)			
ENGLISH:				
Eng. 101E	Composition I	Kby. 102	Th 6:30-9:30	3
Eng. 151E	Western World Literature I	SLC 318	T 6:30-9:30	3
S. 101L	(Pre: Eng. 102 or equivalent in			
Eng. 203A	Creative Writing	TBA	TBA	3
	(Pre: Eng. 102 or equivalent in			
Eng. 305A	The Teaching of English	Kby. 107	W 5:00-8:00	3
Eng. 398E	Topics: Contemporary Poetry	Kby. 107	Th 6:30-9:30	3
Eng 470E	(Pre: Eng. 152 or 254) Studies in Modern British	Khy 107	T 6:30-9:30	3
Eng. 470E	Literature: The Novel	Kby. 107	1 0.30-3.30	3
	Entorature. The Hover			

B. Ed. 207A	Advanced Shorthand I	Butler 10	T Th 4:45-6:30	2	
	(Pre: B. Ed. 106)				
SOCIOLOGY	/ :				
Soc. 101E	Introduction to Sociolog	y SLC 380	W 6:30-9:30	3	
Soc. 251E	Fields of Social Work	SLC 133	Th 6:30-9:30	3	
	(Pre: Soc. 101 or Anth.	101 or Psy. 101-102)			
Soc. 265E	Sociology of Industry	SLC 133	T 6:30-9:30	3	
	(Pre: Soc. 101 or Anth.	101 or approval of inst	ructor)		
Soc. 398E	Topics: Family Violence	Kby. 107	M 6:30-9:30	3	
SPANISH:					
Span. 101E	Elementary Spanish I	TBA	TBA	3	
SPEECH:					
Spch. 101E	Fundamentals of Speech	Church Hall	M 6:30-9:30	3	

Graduate Division

Course	Description	Room	Day & Hour	Instructo
(TIM	ES LISTED IN LIGHT FACE REPR	RESENT A.M	.; BOLD FACE P	.M.)
BIOLOGY:				
Bio. 301A	General Botany	SLC 380	T-Th 9:00	Ogrei
	Laboratory Fee: \$30	SLC 349	T 2:00-5:00	
Bio. 303A	Bacteriology	SLC 380	T-Th 10:00	Doty
	Laboratory Fee: \$30	SLC 305	W 2:00-5:00	
Bio. 304A	Life of the Vertebrates	SLC 380	W-F 9:00	Rigle
	Laboratory Fee: \$30	SLC 349	W 2:00-5:00	
Bio. 305A	Invertebrate Biology	TBA	M-W 11:00	Ogrei
	Laboratory Fee: \$30	TBA	F 8:00-11:00	
Bio. 307A	Analytical Cytology	SLC 316	M-W 10:00	Ogrei
	Laboratory Fee: \$30	SLC 377	M 2:00-5:00	
Bio. 315E	Molecular Biology	SLC 316	T 6:30-9:30	Turocz
Bio. 340A	Limnology	SLC 380	T-Th 1:00	Houseknech
	Laboratory Fee: \$30	SLC 377	Th 2:00-5:00	
BUSINESS	ADMINISTRATION:			
Acct. 503	Managerial Accounting	Par. 53	T 6:30-9:30	Morai
Acct. 542	Financial & Tax Planning	Par. 45	Th 6:30-9:30	Morrison
B.A. 502	Management Science	Par. 56	T 6:30-9:30	Enge
B.A. 511	Modern International Comm.	Par. 53	M 6:30-9:30	Taylo
B.A. 514	Market Research & Experimentation (Seminar)	Par. 56	W 6:30-9:30	William
B.A. 522	Quantitative Aspects of Management	Par. 33	Th 6:30-9:30	William
B.A. 550	Topics: Small Bus. Admin.	TBA	TBA	Gettinge
C.S. 408/ (B.A. 508)	Management Inform. System	s SLC 403	M 6:30-9:30	Parke
	(Pre: Background course re MBA, Econ. 473-4, or permi of Mathematics and Compu	ssion of the	Department	
Econ. 506	Labor-Mgmnt. Economics	Par. 56	M 6:30-9:30	Werne

m. Classes begin...September 4

HISTORY:

2nd Floor

Course	Description	Room	Day & Hour	Instructor
(TIM	MES LISTED IN LIGHT FACE REPR	ESENT A.M	.; BOLD FACE P.M.)
CHEMISTR	Y:			
Chem. 341A	Physical Chemistry I	SLC 147	T-Th 1:00	Swain
	Laboratory	SLC 256	F 2:00-5:00	
	Fee: \$25			
	(Pre: Chem. 202, Math 211, permission of instructor)	Phys. 203	or	
Chem. 411A	Advanced Inorganic Chemistr	у ТВА	TBA	Faut
Chem. 431A	Advanced Organic Chemistry I	TBA	TBA	Jahngen
Chem. 451A	Biochemistry I	TBA	TBA	Stine
COMPUTE	R SCIENCE:			
C.S. 320A	Logic & Switching Circuits	SLC 424	M-W-F 9:00	Koch
C.S. 324A	Systems Analysis	SLC 424	T-Th 9:30-11:00	Tillman
	(Pre: C.S. 224 and 227)			
C.S. 326A	Operating System Principles (Pre: C.S. 227)	SLC 424	M-W-F 12:00	Parker
C.S. 408E/	Management Inform. Systems	SLC 403	M 6:30-9:30	Parker
(B.A. 508)	(Pre: Background course red			
	MBA, Econ. 473-4, or permis Department of Mathematics			
	Science)			
EDUCATIO	N:			
Ed. 513	Comparative Foundations of	SLC 160	M 6:00-9:00	Fahmy
	Education			
Ed. 514	Historical Foundations of	SLC 133	W 6:00-9:00	Barone
E1 E00	Education	01.0.100	T C 00 0 00	D. II
Ed. 520	Tests & Measurements	SLC 160	T 6:00-9:00	Bellucc
Ed. 521	Statistics in Education (Pre: Ed. 520 or equivalent)	SLC 127	Th 6:00-9:00	Bellucc
Ed. 532D	PEE: Social Studies	SLC 160	W 6:00-9:00	Fahmy
Ed. 599A*	Ungraded-Continuous Prog.	SLC 204	T 6:45-10:00	Darte
	Education			
Ed. 599B*	(1 credit — September 4 the Individualization of Instr.			Dorto
Lu. J33D	(1 credit — October 9 thru l			Darte
Ed. 599C*	Team Teaching		T 6:45-10:00	Darte
	(1 credit — November 13 th			
	* Students may register for in the Education 599 series.		credits for the sho	ort course(s)
ENGLISH:				
Eng. 301A	Literary Criticism	Kby 107	M-W-F 9:00	Kaska
Eng. 312A	Chaucer (Prov. For. 153 or 354)	Kby 107	M-W-F 1:00	Fieste
Eng. 341A	(Pre: Eng. 152 or 254) Restoration & Eighteenth	Kby 107	T-Th 1:00-2:30	Fox
-118.01111	Century Drama	1109 107	1-111 1:00-2:30	107
Eng. 345A	Early English Novel	SLC 209	M-W-F 12:00	Terry
Eng. 360A	Victorian Prose & Poetry	SLC 409		R. Heamar
Eng. 381A	American Literature I	Kby 107		Gutir
	(Pre: Eng. 152 or 254)			
Eng. 397A	Seminar: Comedy	Kby 107		Powlick
Eng. 470E	Studies in Modern British	Kby 107	T 6:30-9:30	Rizzo
	Literature: The Novel			

HISTORY:				
Hist. 321E	American Social & Intellectual History 1	SLC 316	W 6:30-9:30	Rodechko
Hist. 351A	Medieval Europe	SLC 215	M-W-F 2:00	Berg
Hist. 355A	Europe in the Nineteenth Century	SLC 147	M-W-F 12:00	Shao
Hist. 361E	Hist. of the Far East I	SLC 215	T 6:30-9:30	Shao
Hist. 382E	Hist. of Latin America II	SLC 204	Th 6:30-9:30	Freysinger
Hist. 398E	Topics: Revolution-Theory & Practice	SLC 215	M 6:30-9:30	Cox
MATHEMAT	rics:			
Math. 311A	Functions of a Real Variable	SLC 411	M-W-F 2:00	Earl
Math. 334A	Linear Algebra	SLC 411	M-W-F 10:00	DeCosmo
Math. 351A	Probability & Mathematical Statistics 1	SLC 403	T-Th 1:00-2:30	Richards
Math. 361A	Introd. to Applied Math. I	SLC 405	M-W-F 11:00	Sours
Math. 398/ 498A	Topics in Mathematics	TBA	TBA	Staff
PHYSICS:				
Phys. 311A	Mechanics I	SLC 147	M-W-F 10:00	Donahoe
Phys. 320E	Electronic Instrumentation	SLC 161	⊺ 5:00-7:00	Holden
	for the Life & Behaviorial Scie Fee: \$20	nces	Th 5:00-8:00	
Phys. 321E	Electronic Instrumentation for the Physical Sciences Fee: \$20	SLC 161	T 5:00-7:00 Th 5:00-8:00	Holden
Phys. 331A	Electricity & Magnetism I	SLC 160	M-W-F 1:00	Hostler
	Laboratory A	SLC 125	8:00-11:00	
	Laboratory B Fee: \$20	SLC 125	2:00-5:00	
Phys. 351A	Quantum Mechanics	TBA	TBA	Bellas
Phys. 361A	Atomic Physics Fee: \$20	SLC 42	TBA	Bailey

Weekend College

(Fall, 1979)

Wilkes' Weekend College classes meet every third weekend on the campus of Keystone Junior College, La Plume, Pennsylvania. Classes start the weekend of September 7 and end the weekend of December 14.

For information on the Weekend College, contact:

JOHN F. MEYERS, Director

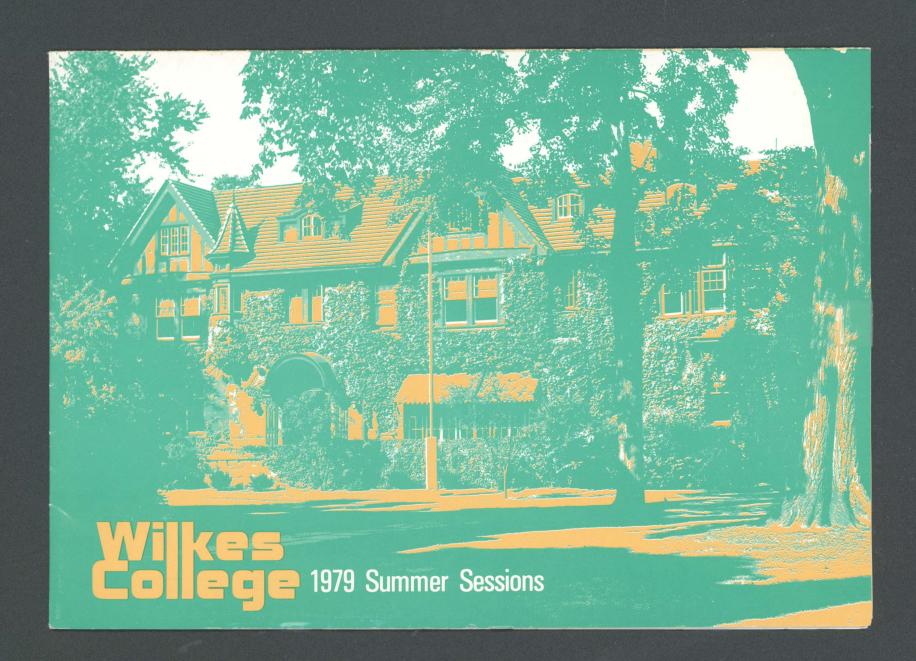
Division of Continuing Education & Graduate Studies

Wilkes College

Wilkes-Barre, Pa. 18766

Phone: (717) 824-4651 Ext. 303

Affirmative Action/Equal Opportunity Institution



WILKES COLLEGE Summer Sessions — 1979

FIRST SESSION-JUNE 11-JULY 13

SECOND SESSION-JULY 16-AUGUST 17

EIGHT WEEK EVENING SESSION — JUNE 11-AUGUST 3

- GENERAL INFORMATION -

Students who register for courses in more than one session MUST COMPLETE a registration form for each session.

First Session

June 11 to July 13 (including Final Examinations)

Registration Thursday, June 7 and Friday, June 8 Parrish Hall — 8:30 a.m. to 8:00 p.m.

Second Session

July 16 to August 17 (including Final Examinations)

Registration Thursday, July 12 and Friday, July 13 Parrish Hall — 8:30 a.m. to 6:00 p.m.

Eight Week **Evening Session**

June 11 to August 3 (including Final Examinations)

Registration Thursday, June 7 and Friday, June 8 Parrish Hall — 8:30 a.m. to 8:00 p.m.

Generally, courses offered during the First or Second Session will meet five days per week for two hours, according to the following schedule:

> first period 8:00 a.m. - 9:50 a.m. second period10:10 a.m. - 12:00 noon third period 6:00 p.m. - 7:50 p.m. fourth period 8:10 p.m. - 10:00 p.m.

Most courses offered during the eight-week evening session will be scheduled on Monday, Tuesday and Thursday evenings from 6:00 p.m. to 7:45 p.m. or 8:00 p.m. to 9:45 p.m.

Because some courses do not follow these time-tables exactly, students are urged to consult the list of courses to be sure that the course(s) in which they are interested is not offered at times or for periods other than those posted in the calendar.

Restriction Of Course Loads

Course load is limited to six semester hours of credit for each session, except in the nursing program. Students are cautioned to exercise judgment and care in scheduling both day and evening courses.

Dormitory And Dining Facilities

Dormitory facilities will be available for both male and female students during all summer sessions.

The Commons or a snack bar will be open to all students for breakfasts and light lunches on a "pay as you go basis" from 7:00 a.m. to 1:00 p.m., Monday through Friday, from June 11 to August 17.

Inquiries concerning dormitory and dining facilities should be made through:

> The Housing Office Wilkes College Wilkes-Barre, Pennsylvania 18766

Expenses

Tuition for the summer sessions is \$70 per credit hour for undergraduate and \$85 per credit hour for graduate students. All charges must be paid at the time of registration. Tuition and fees for the second session must be paid no later than July 16. Books and supplies may be purchased at the Bookstore and must be paid for at the time of purchase.

Financial Aid For Undergraduates

Students enrolled at least half-time (6 credits over the entire summer) are eligible to receive loans through the State Guaranteed Loan Program; applications and further information can be obThe College reserves the right to cancel or reschedule any course due to insufficient enrollment or any other reason. When possible, any change in the course schedule will be posted during registration. Students who have registered for courses that are subsequently cancelled or rescheduled will be notified as promptly as possible.

The Eugene Shedden Farley Library is open to all Wilkes students. Students may borrow books from the Library by presenting their college identification cards. Hours are posted at the beginning of each academic session.

Books, stationery and supplies may be purchased at the College Bookstore, located in the lower level of Pickering Hall. They must be paid for at the time of purchase. The Bookstore is open from 8:30 a.m. to 4:30 p.m. Monday through Friday.

Wilkes is accredited by the Department of Public Instruction of the State of Pennsylvania and the Middle States Association of Colleges and Secondary Schools. The Chemistry curriculum has been certified by the American Chemical Society.

The Graduate programs are approved by the Pennsylvania State Department of Education.

Application for admission to Wilkes College as an evening college, part-time, or graduate student should be made to the Division of Continuing Education and Graduate Studies, 16 South River Street, Wilkes-Barre, Pennsylvania 18703. Application for admission to Wilkes College as a full-time undergraduate student should be made to the Dean of Admissions.

Bachelor of Arts degrees are offered in the following subject areas:

Biology Chemistry Computer Science Earth & Environmental Sciences

Economics Elementary Education English

English/Communication

Studies English/Theater Arts Foreign Language

History

Individualized Studies International Relations

Mathematics Music Philosophy **Physics**

Political Science Psychology

Social Science/Urban Affairs Sociology-Anthropology

Bachelor of Science degrees are offered in the following subject areas:

Biology **Business Education** Chemistry

Commerce & Finance

(a) Accounting (b) Business

Administration Computer Science

Earth & Environmental Sciences

Engineering Mathematics Medical Technology Music Education

Nursing **Physics**

Change Of Schedule

The Library

The Bookstore

Accreditation

Admissions

Degree **Programs**

Most courses offered during the eight-week evening session will be scheduled on Monday, Tuesday and Thursday evenings from 6:00 p.m. to 7:45 p.m. or 8:00 p.m. to 9:45 p.m.

Because some courses do not follow these time-tables exactly, students are urged to consult the list of courses to be sure that the course(s) in which they are interested is not offered at times or for periods other than those posted in the calendar.

Restriction Of Course Loads

Course load is limited to six semester hours of credit for each session, except in the nursing program. Students are cautioned to exercise judgment and care in scheduling both day and evening courses.

Dormitory And Dining Facilities

Dormitory facilities will be available for both male and female students during all summer sessions.

The Commons or a snack bar will be open to all students for breakfasts and light lunches on a "pay as you go basis" from 7:00 a.m. to 1:00 p.m., Monday through Friday, from June 11 to August 17.

Inquiries concerning dormitory and dining facilities should be made through:

The Housing Office
Wilkes College
Wilkes-Barre, Pennsylvania 18766

Expenses

Tuition for the summer sessions is \$70 per credit hour for undergraduate and \$85 per credit hour for graduate students. All charges must be paid at the time of registration. Tuition and fees for the second session must be paid no later than July 16. Books and supplies may be purchased at the Bookstore and must be paid for at the time of purchase.

Financial Aid For Undergraduates

Students enrolled at least half-time (6 credits over the entire summer) are eligible to receive loans through the State Guaranteed Loan Program; applications and further information can be obtained from a hometown bank or savings and loan association. Full-time summer school students (those carrying at least 12 credits over the summer) may also be eligible for accelerated payments through the Pennsylvania State Grant Program. All students enrolled at least half-time may also be eligible to receive funds through the Basic Educational Opportunity Grant Program; applications may be obtained from any high school guidance office or from the College Financial Aid Office. Part- and full-time employment is also available for any student eligible under the College Work-Study Program.

Inquiries about financial aid for summer study should be made to the Director of Financial Aid prior to June 1.

Withdrawal

Withdrawal from classes after the first week is inadvisable except in extenuating circumstances.

A student who withdraws from the summer session or drops courses after the first week **must** receive permission from the instructor and the Director of Continuing Education in order that his records may not unjustly show failure in courses.

Students in good standing who withdraw from the college will receive a refund of tuition under the following conditions: during the first week of the first and second sessions and during the first two weeks of the eight-week evening session, one-half of the tuition will be refunded upon written request to the Director of Continuing Education, if the withdrawal is made for adequate and satisfactory reasons. After these designated periods no refunds are allowed and the student is obligated for the full costs of the term. No student who is suspended or expelled shall be entitled to any refunds.

the State of Pennsylvania and the Middle States Association of Colleges and Secondary Schools. The Chemistry curriculum has been certified by the American Chemical Society.

The Graduate programs are approved by the Pennsylvania State Department of Education.

Application for admission to Wilkes College as an evening college, part-time, or graduate student should be made to the Division of Continuing Education and Graduate Studies, 16 South River Street, Wilkes-Barre, Pennsylvania 18703. Application for admission to Wilkes College as a full-time undergraduate student should be made to the Dean of Admissions.

Admissions

Degree Programs

Bachelor of Arts degrees are offered in the following subject areas:

Art Foreign Language Biology History

Chemistry Individualized Studies
Computer Science International Relations

Earth & Environmental Mathematics
Sciences Music
Economics Philosophy
Elementary Education Physics

English Political Science English/Communication Psychology

Studies Social Science/Urban Affairs English/Theater Arts Sociology-Anthropology

Bachelor of Science degrees are offered in the following subject areas:

Biology

Business Education

Chemistry

Commerce & Finance

(a) Accounting
(b) Business

Administration

Earth & Environmental

Sciences

Engineering

Mathematics

Medical Technology

Music Education

Nursing

Master of Science degrees are offered in the following subject areas:

Biology Chemistry Physics
Business Administration Mathematics

Physics

Master of Science in Education degrees are offered in the following subject areas:

Biology Elementary Education Mathematics
Chemistry English Physics
Education History Special Education

(Wilkes also offers a "Certificate of Achievement" to undergraduate students in the field of Business Administration who earn 42 hours of credit in Evening College and Summer School programs with at least 24 hours in Business Administration and 18 hours in general education.)

For further information, write or call:

Computer Science

John F. Meyers, Director
Division of Continuing Education & Graduate Studies
Wilkes College
16 South River Street
Wilkes-Barre, Pennsylvania 18766
Phone: (717) 824-4651 Ext. 303-304

Information

UNDERGRADUATE — FIRST SESSION

First Session Undergraduate Schedule

### Art 270S	Course	Description	Room	Day & Hour	Credits
ART: Art 243S	(TIMES	LISTED IN LIGHT FACE REPRE	ESENT A.M.;	BOLD FACE P.M.)	
ARCT: ART 243S Ceramics Conn. Annex	ACCOUNTI	NG:			
### Art 243S Ceramics Conn. Annex 1:00-3:00 6 ### Art 270S Photography SLC 105 10:10-12:00 3 ### Table Topics in Studio Art: SLC 206 10:00-1:00 3 ### Table Statik Workshop Statik Workshop Statik Workshop ### BIOLOGY: ### Biological Science SLC 365 10:10-12:00 3 ### 10:00-1:00 WF 10:00-1:00 WF 10:00-1:00 WF 10:00-1:00 WF 10:00-1:00 WF 10:00-1:00 Statik Workshop St			Par. 35	10:10-12:0	0 3
### Art 270S	ART:				
### Art 380S Topics in Studio Art: Batik Workshop ### BIOLOGY: ### Biol 101S Biological Science SLC 365 10:10-12:00 3 ### Biol 101S Biological Science SLC 365 10:10-12:00 4 ### Biol 113S Microbiology (June 4 - July 13) SLC 311 M 10:00-1:00 4 ### WF 10:00-12:00 Fee: \$20 SLC 305 Th 10:00-12:00 5 ### Biol 303S Bacteriology SLC 380 MWF 10:00-12:00 5 ### Laboratory SLC 305 MWF 10:00-12:00 5 ### Laboratory SLC 305 MWF 2:00-5:00 Fee: \$20 Fee: Biol 201-208 or permission of instructor) Topics: Field Zoology TBA TB					
Batik Workshop					
Bio. 101S Biological Science SLC 365 10:10-12:00 3	Art 380S		SLC 206	10:00-1:0	0 3
Bio. 113S	BIOLOGY:				
Laboratory SLC 305	Bio. 101S	Biological Science I	SLC 365	10:10-12:0	0 3
Laboratory Fee: \$20	Bio. 113S	Microbiology (June 4 - July 13)	SLC 311	M 10:00-1:0	0 4
Fee: \$20				WF 10:00-12:0	0
Bio. 303S Bacteriology			SLC 305	TTh 10:00-1:0	0
Laboratory Fee: \$20 (Pre: Bio. 201-208 or permission of instructor) Bio. 398A Topics: Field Zoology (June 18 - July 6) (Pre: Permission of instructor) BUSINESS ADMINISTRATION: B.A. 115S Mathematics of Business and Par. 35 8:00-9:50 3 Finance B.A. 251S Principles of Management Par. 34 8:00-9:50 3 B.A. 252S Operations and Systems Par. 45 10:10-12:00 3 Management B.A. 261S Principles of Retailing Par. 34 10:10-12:00 3 CHEMISTRY: (All Chemistry courses in this session meet from June 4 to July 13) Chem. 105S Introduction to Chemical SLC 342 10:00-11:30 4 Reactions & Principles Laboratory: SLC 259 MWTh 12:00-3:00 Fee: \$20 (June 4 - July 13) Chem. 201S Elements and Compounds SLC 334 8:30-10:00 4 Laboratory: SLC 263 MWTh 12:00-3:00 Fee: \$20 (June 4 - July 13) Chem. 237S Organic Chemistry I SLC 334 10:00-11:30 4 Laboratory: SLC 264 TTh 1:00-5:00 Fee: \$20 (Fre: Chem. 202 or permission of instructor) (See Post-Session for Additional Chemistry Courses) COMMUNICATION STUDIES: Comm. 101S Principles of Communication DDD 220 8:00-9:50 3 COMPUTER SCIENCE: C.S. 122S Basic Programming SLC 424 MWF 12:00-1:00 1 Fee: \$10 EARTH & ENVIRONMENTAL SCIENCES: E. & E. S. 103S Meteorology SLC 435 10:10-12:00 3 Fee: \$20 E. & E. S. 104S Oceanography SLC 435 1:00-3:00 3 E. & E. S. 212S Historical Geology SLC 434 10:10-12:00 3	Bio. 303S		SLC 380	MWF 10:00-12:0	0 3
Fee: \$20					
Bio. 398A Topics: Field Zoology (June 18 - July 6) (Pre: Permission of instructor)		Fee: \$20			
(June 18 - July 6)	Rio 309A				Λ 2
B.A. 115S	BIU. 350A	(June 18 - July 6)	IDA	- ID	н э
Finance	BUSINESS	ADMINISTRATION:			
B.A. 252S	B.A. 115S		d Par. 35	8:00-9:5	0 3
Management B.A. 261S Principles of Retailing Par. 34 10:10-12:00 3 CHEMISTRY: (All Chemistry courses in this session meet from June 4 to July 13) (June 4 - July 13) Chem. 105S Introduction to Chemical SLC 342 10:00-11:30 4 Reactions & Principles Laboratory: SLC 259 MWTh 12:00-3:00 Fee: \$20 (June 4 - July 13) Chem. 201S Elements and Compounds SLC 334 8:30-10:00 4 Laboratory: SLC 263 MWTh 12:00-3:00 Fee: \$20 (June 4 - July 13) Chem. 237S Organic Chemistry I SLC 334 10:00-11:30 4 Laboratory: SLC 264 TTh 1:00-5:00 Fee: \$20 (Pre: Chem. 202 or permission of instructor) (See Post-Session for Additional Chemistry Courses) COMMUNICATION STUDIES: Comm. 101S Principles of Communication DDD 220 8:00-9:50 3 COMMUNICATION STUDIES: Comm. 201S Mass Media DDD 220 10:10-12:00 3 COMPUTER SCIENCE: C.S. 122S Basic Programming SLC 424 MWF 12:00-1:00 1 Fee: \$10 EARTH & ENVIRONMENTAL SCIENCES: E. & E. S. 103S Meteorology SLC 435 10:10-12:00 3 EARTH & ENVIRONMENTAL SCIENCES: E. & E. S. 104S Oceanography SLC 435 1:00-3:00 3 E. & E. S. 104S Oceanography SLC 435 1:00-3:00 3 E. & E. S. 212S Historical Geology SLC 434 10:10-12:00 3	B.A. 251S	Principles of Management	Par. 34	8:00-9:5	0 3
### CHEMISTRY: (All Chemistry courses in this session meet from June 4 to July 13) (June 4 - July 13) Chem. 105S Introduction to Chemical SLC 342 10:00-11:30 A Reactions & Principles	B.A. 252S		Par. 45	10:10-12:0	0 3
CHEMISTRY: (All Chemistry courses in this session meet from June 4 to July 13) (June 4 - July 13) Chem. 105S Introduction to Chemical Reactions & Principles Laboratory: Fee: \$20 (June 4 - July 13) Chem. 201S Elements and Compounds SLC 334 8:30-10:00 4 Laboratory: Fee: \$20 (June 4 - July 13) Chem. 237S Organic Chemistry I SLC 334 10:00-11:30 4 Laboratory: Fee: \$20 (June 4 - July 13) Chem. 237S Organic Chemistry I SLC 334 10:00-11:30 4 Laboratory: Fee: \$20 (Pre: Chem. 202 or permission of instructor) (See Post-Session for Additional Chemistry Courses) COMMUNICATION STUDIES: Comm. 101S Principles of Communication DDD 220 8:00-9:50 3 Comm. 201S Mass Media DDD 220 10:10-12:00 3 COMPUTER SCIENCE: C.S. 122S Basic Programming SLC 424 MWF 12:00-1:00 15 Fee: \$10 EARTH & ENVIRONMENTAL SCIENCES: E. & E. S. 103S Meteorology SLC 435 10:10-12:00 3 Fee: \$20 E. & E. S. 104S Oceanography SLC 435 1:00-3:00 3 E. & E. S. 212S Historical Geology SLC 434 10:10-12:00 3	B.A. 261S		Par. 34	10:10-12:0	0 3
Chem. 105S	CHEMISTR				
Chem. 105S		(All Chemistry courses in this se	ssion meet fro	m June 4 to July 13)	
Laboratory: Fee: \$20	Chem. 105S	Introduction to Chemical	SLC 342	10:00-11:3	0 4
Chem. 201S Elements and Compounds SLC 334 8:30-10:00 4 Laboratory: Fee: \$20		Laboratory:	SLC 259	MWTh 12:00-3:0	0
Laboratory: Fee: \$20 (June 4 - July 13) Chem. 237S					
Fee: \$20	Chem. 201S	Elements and Compounds	SLC 334	8:30-10:0	0 4
Communication DDD 220 8:00-9:50 3			SLC 263	MWTh 12:00-3:0	0
Laboratory: SLC 264 TTh 1:00-5:00 Fee: \$20 (Pre: Chem. 202 or permission of instructor) (See Post-Session for Additional Chemistry Courses) COMMUNICATION STUDIES: Comm. 101S Principles of Communication DDD 220 8:00-9:50 3 Comm. 201S Mass Media DDD 220 10:10-12:00 3 COMPUTER SCIENCE: C.S. 122S Basic Programming SLC 424 MWF 12:00-1:00 1 Fee: \$10 EARTH & ENVIRONMENTAL SCIENCES: E. & E. S. 103S Meteorology SLC 435 10:10-12:00 3 Fee: \$20 E. & E. S. 104S Oceanography SLC 435 1:00-3:00 3 E. & E. S. 212S Historical Geology SLC 434 10:10-12:00 3					
Fee: \$20 (Pre: Chem. 202 or permission of instructor) (See Post-Session for Additional Chemistry Courses) COMMUNICATION STUDIES: Comm. 101S Principles of Communication DDD 220 8:00-9:50 3 Comm. 201S Mass Media DDD 220 10:10-12:00 3 COMPUTER SCIENCE: C.S. 122S Basic Programming SLC 424 MWF 12:00-1:00 17 Fee: \$10 EARTH & ENVIRONMENTAL SCIENCES: E. & E. S. 103S Meteorology SLC 435 10:10-12:00 3 Fee: \$20 E. & E. S. 104S Oceanography SLC 435 1:00-3:00 3 E. & E. S. 212S Historical Geology SLC 434 10:10-12:00 3	Chem. 237S				
(Pre: Chem. 202 or permission of instructor) (See Post-Session for Additional Chemistry Courses) COMMUNICATION STUDIES: Comm. 101S			SLC 264	17h 1:00-5:0	U
(See Post-Session for Additional Chemistry Courses) COMMUNICATION STUDIES: Comm. 101S			f instructor)		
Comm. 101S Principles of Communication DDD 220 8:00-9:50 3 Comm. 201S Mass Media DDD 220 10:10-12:00 3 COMPUTER SCIENCE: C.S. 122S Basic Programming Fee: \$10 SLC 424 MWF 12:00-1:00 1 EARTH & ENVIRONMENTAL SCIENCES: E. & E. S. 103S Meteorology Meteorology Fee: \$20 SLC 435 10:10-12:00 3 E. & E. S. 104S Oceanography SLC 435 1:00-3:00 3 E. & E. S. 212S Historical Geology SLC 434 10:10-12:00 3				Courses)	
COMPUTER SCIENCE: C.S. 122S Basic Programming SLC 424 MWF 12:00-1:00 1 Fee: \$10 EARTH & ENVIRONMENTAL SCIENCES: E. & E. S. 103S Meteorology SLC 435 10:10-12:00 3 Fee: \$20 E. & E. S. 104S Oceanography SLC 435 1:00-3:00 3 E. & E. S. 212S Historical Geology SLC 434 10:10-12:00 3	COMMUNIC	CATION STUDIES:			
COMPUTER SCIENCE: C.S. 122S Basic Programming SLC 424 MWF 12:00-1:00 15 Fee: \$10 EARTH & ENVIRONMENTAL SCIENCES: E. & E. S. 103S Meteorology SLC 435 10:10-12:00 35 Fee: \$20 E. & E. S. 104S Oceanography SLC 435 1:00-3:00 35 E. & E. S. 212S Historical Geology SLC 434 10:10-12:00 35	Comm. 101S	Principles of Communication	DDD 220	8:00-9:5	0 3
C.S. 122S Basic Programming SLC 424 MWF 12:00-1:00 Fee: \$10 EARTH & ENVIRONMENTAL SCIENCES: E. & E. S. 103S Meteorology SLC 435 10:10-12:00 3 Fee: \$20 E. & E. S. 104S Oceanography SLC 435 1:00-3:00 3 E. & E. S. 212S Historical Geology SLC 434 10:10-12:00 3	Comm. 201S	Mass Media	DDD 220	10:10-12:0	0 3
Fee: \$10 EARTH & ENVIRONMENTAL SCIENCES: E. & E. S. 103S Meteorology SLC 435 10:10-12:00 3 Fee: \$20 E. & E. S. 104S Oceanography SLC 435 1:00-3:00 3 E. & E. S. 212S Historical Geology SLC 434 10:10-12:00 3	COMPUTER	R SCIENCE:			
EARTH & ENVIRONMENTAL SCIENCES: E. & E. S. 103S Meteorology SLC 435 10:10-12:00 3 Fee: \$20 E. & E. S. 104S Oceanography SLC 435 1:00-3:00 3 E. & E. S. 212S Historical Geology SLC 434 10:10-12:00 3	C.S. 122S		SLC 424	MWF 12:00-1:0	0 1
E. & E. S. 103S Meteorology Fee: \$20 E. & E. S. 104S Oceanography SLC 435 1:00-3:00 3 E. & E. S. 212S Historical Geology SLC 434 10:10-12:00 3		Fee: \$10			
E. & E. S. 103S Meteorology Fee: \$20 E. & E. S. 104S Oceanography SLC 435 1:00-3:00 3 E. & E. S. 212S Historical Geology SLC 434 10:10-12:00 3	EARTH &	ENVIRONMENTAL SCI	ENCES:		
E. & E. S. 104S Oceanography SLC 435 1:00-3:00 3 E. & E. S. 212S Historical Geology SLC 434 10:10-12:00 3		Meteorology		10:10-12:0	0 3
E. & E. S. 212S Historical Geology SLC 434 10:10-12:00 3	F & F S 104S		SICARE	1,00 2,0	N 2
(Pre: Approval of instructor)		Fee: \$20	200 101	10.10 12.0	

Course	Description	Room	Day & Hour	Credits
(TIME	S LISTED IN LIGHT FACE REPRES	ENT A.M.; B	OLD FACE P.M.)	
Math. 198S/ 298S/398S/ 498S	Topics in Mathematics	ТВА	TBA Va	ariable
MUSIC:				
Mus. 101S	Introduction to the Materials & Literature of Music I	DDD 323 DDD 323 DDD 323	8:00-9:50 6:00-7:50 8:00-9:50	3
Mus. 102S	Introduction to the Materials & Literature of Music II (Pre: Mus. 101)	DDD 323 DDD 323 DDD 323	8:00-9:50 6:00-7:50 8:00-9:50	3
Applied Music	Private Lessons Note: It is important that all stude register for Applied Music through College consult with Mr. Gasbarro, Department Chairman, before com registrations.	the Summer Music	TBA	
SUMMER	BAND WORKSHOP I —	June 25	- July 7	
	Open to high school, pre-college, a instrumentalists. (For more inform Mr. William Gasbarro, Chairman, M Department.)	ation, contact	9:00- 4:00	0
SUMMER	BAND WORKSHOP II -	- July 9 -	July 20	
	Open to high school, pre-college, a instrumentalists. (For more inform Mr. William Gasbarro, Chairman, M Department.)	ation, contact	9:00- 4:00	0
PHILOSOPI	HY:			
Phil. 101S	Introduction to Philosophy	SLC 318	8:00-9:50	3
Phil. 220S	Philosophy of Religion (Pre: Phil. 101 or 201)	SLC 318	10:10-12:00	3
PHYSICS: Phys. 101S	Physical Science I	SLC 160	8:00-9:50	3
POLITICAL	SCIENCE:			
P.S. 101S	Political Science I	SLC 166	10:10-12:00	
P.S. 398S	Topics in Political Science: Planning	TBA	TBA	3
PSYCHOLO	OGY:			
Psy. 101S	General Psychology I	SLC 101	10:10-12:00	3
Psy. 221S	Child Psychology (Pre: Psych. 101-102)	SLC 101	8:00-9:50	3
RUSSIAN:				
Rus. 101S	Elementary Russian	TBA	TBA	3
Rus. 203S	Intermediate Russian (Pre: Rus, 102 or the equivalent)	TBA	TBA	3
SOCIOLOG	Y:			
Soc. 101S	Introduction to Sociology	SLC 316	10:10-12:00	3
Soc. 200S	The Family (May 21-June 15) (Pre: Soc. 101 or Anth, 101 or app.	SLC 127	8:00-9:50 etor)	3
Soc. 200S-2	The Family (May 21-June 15) (Pre: Soc. 101 or Anth. 101 or app	SLC 127	10:10-12:00	3
Soc. 230S	Social Problems (Pre: Soc. 101 or Anth. 101 or app	SLC 316 roval of instruc	8:00-9:50 etor)	3
SPANISH:				
Span. 101S	Elementary Spanish I	SLC 204	8:00-9:50	3
Span. 203S	Intermediate Spanish I (Pre: Span. 102 or the equivalent)	SLC 204	10:10-12:00	3
SPEECH:				
Spch. 101S	Fundamentals of Speech	SLC 1	10:10-12:00	3

	(Pro: Approval of instructor)				Spch. 101S	Fundamentals of Speech	SLC 1	10:10-12:00) 3
E. & E. S. 394S	(Pre: Approval of instructor) Field Study in Meteorology	TBA	TBA	1	орон. 1010	, and amentals of opecon	0201	10.10 12.00	
	(Pre: Approval of instructor)				UND	ERGRADUATE - S	SECON	D SESSION	1
ECONOMIC	S:				Se	cond Session Underg	raduate	e Schedule	
Econ. 101S	Principles of Economics I	Par. 43	8:00-9:50	3		July 16 to August 17, 1979 —			
Econ. 201S	Money & Banking	Par. 43	10:10-12:00	3		(unless otherwise in			
Econ. 231S	Applied General Statistics	Par. 33	10:10-12:00	3	Course	Description	D	D 011 0	
	Fee: \$15				Contrac	Description	Room	Day & Hour (Crec
EDUCATION	N:				(TIME	S LISTED IN LIGHT FACE REPRES	ENT A.M.;	BOLD FACE P.M.)	
Ed. 201S	Introduction to Education	SLC 209	10:10-12:00	3	ACCOUNT	NG:			
Ed. 202S	(Pre: Sophomore Standing) Educational Psychology	SLC 207	8:00-9:50	2	Acct. 102S	Elementary Accounting II	Par. 35	10:10-12:00) 3
Lu. 2020	(Pre: Psy. 102)	310 207	0.00-3.30	3				10.10 12.00	
Ed. 290S	Research Analysis	SLC 133	8:00-9:50		ANTHROP				
Ed. 351S	Educational Measurements (Pre: Ed. 202)	SLC 133	10:10-12:00	3	Anth. 101S Anth. 398S	Introduction to Anthropology Topics: Science Fiction &	SLC 127		
	(110. Ed. 202)				Alltii. 3303	Men of Tomorrow	SLC 127	6:00-7:50	
NGINEERI	ING:								
.E. 211S	Circuit Theory I (Pre: Math. 112)	SLC 223	8:00-9:50	3	ART:	Tanian in Caudia Aut.	010 117		
E.E. 211S-2	Circuit Theory I	SLC 223	8:00-9:50	3	Art 380S	Topics in Studio Art: Painting Workshop	SLC 117	6:00-7:50	1 3
	(Pre: Math. 112)					(Pre: Previous study in painting)			
E.E. 251S	Electronics I	SLC 240	10:10-12:00	4	BIOLOGY:				
	Laboratory Fee: \$20	SLC 125	TBA		Bio. 102S	Biological Science II	SLC 365	10:10-12:00	3
.E. 251S-2	Electronics I	SLC 240	6:00-7:50	4	Bio. 385S	Floristic Biology (July 16-Aug. 3			
	Laboratory	SLC 125	TBA		Bio. 398B	Topics: Marine Biology	TBA	TBA	3
. 0410	Fee: \$20	01.0.404	1000100			(July 26-August 13) (Pre: Permission of instructor)			
ingi. 241S	Basic Programming Fee: \$10	SLC 424	MWF 12:00- 1:00	1					
Ma.E. 211S	Materials Science I	SLC 223	10:10-12:00	3		ADMINISTRATION:			
A F 0110 0	(Pre: Chem. 201)	01 0 000	0.007.50	•	B.A. 101S	Introduction to the Private Sector of Business	Par. 43	10:10-12:00	3
a.E. 211S-2	Materials Science I (Pre: Chem. 201)	SLC 223	6:00-7:50	3	B.A. 225S	Managerial Finance	Par. 34	8:00-9:50	3
					B.A. 226S	Investments	Par. 34		
NGLISH:					CUEMICED	v.			
ng. 100S	Writing Workshop	Kby. 102	8:00-9:50	3	CHEMISTR	T: (All Chemistry courses in this sessi	on meet fro	m July 16 to August 2	24)
ng. 100S-2	Writing Workshop	SLC 257	10:10-12:00		Chem. 202S	The Chemical Reaction	SLC 334		
ng. 101S ng. 151S	Composition I	SLC 270	10:10-12:00			(July 16 - Aug. 24)			
ilg. 1313	Western World Literature I (Pre: Eng. 102 or equivalent in Con	SLC 347	8:00-9:50	3		Laboratory Fee: \$20	SLC 263	MWTh 12:00-3:00	
ng. 151S-2	Western World Literature I	SLC 380	8:00-9:50	3	Chem. 230S		01.0.224	0.00.10.00	
ng. 151S-3	(Pre: Eng. 102 or equivalent in Con Western World Literature I	SLC 347	10:10-12:00	3	Chem. 2303	Organic & Biological Chemistry (July 16 - Aug. 24)	SLC 334	8:30-10:00	4
	(Pre: Eng. 102 or equivalent in Con	nposition)	10.10 12.00			Laboratory	SLC 259	MWTh 12:00-3:00	
ng. 480S	Studies in American Literature: Jewish-American Fiction	Kby. 102	10:10-12:00	3		Fee: \$20			
	Jewish-American Fiction				Chem. 238S	Organic Chemistry II	SLC 342	10:00-11:30	4
RENCH:						(July 16-Aug. 24) Laboratory	SLC 264	TTh 1:00-5:00	
Fr. 101S	Elementary French I	SLC 403	8:00-9:50			Fee: \$20	310 204	1111 1.00-3.00	
Fr. 203S	Intermediate French I (Pre: Fr. 102 or equivalent)	SLC 403	10:10-12:00	3		(Pre: Chem. 237)			
						(See Post-Session for Additional Ch	emistry Co	urses)	
GERMAN: ler. 101S	Elementery Cormon I	CLC 147	0.00 0.50	2	ECONOMIC	S:			
Ger. 203S	Elementary German I Intermediate German I	SLC 147 SLC 147	8:00-9:50 10:10-12:00		Econ. 102S	Principles of Economics II	Par. 43	8:00-9:50	3
201. 2000	(Pre: Ger. 102 or the equivalent)	320 147	10.10-12.00	3	Econ. 223S	Collective Bargaining	Par. 45		
HISTORY:					Econ. 232S	Economic Statistics Fee: \$15	Par. 33	10:10-12:00	3
	World Civilization I	SLC 215	8:00-9:50	3		ree. φ13			
dist 101S	World Civilization II	SLC 160	10:10-12:00		EDUCATIO				
		SLC 215	10:10-12:00		Ed. 352S	Guidance (Pre: Ed. 202)	SLC 209	8:00-9:50	3
list. 102S	History of Great Britain & the				Ed. 398A		SLC 207	10:10-12:00	3
list. 102S					Lu. 00011	Topics in Education, Education			
Hist. 102S Hist. 341S	History of Great Britain & the British Empire & Commonwealth					of Disadvantaged Youth			
list. 102S list. 341S	History of Great Britain & the British Empire & Commonwealth FICS: Pre-Calculus Mathematics		10:10-12:15	4	Ed. 398B	of Disadvantaged Youth Topics in Education:	SLC 311	8:00-9:50	3
ist. 102S list. 341S	History of Great Britain & the British Empire & Commonwealth FICS: Pre-Calculus Mathematics (June 11-July 20)	SLC 424		4		of Disadvantaged Youth	SLC 311	8:00-9:50	3
ist. 1028 list. 3418 MATHEMAT Math. 1008	History of Great Britain & the British Empire & Commonwealth FICS: Pre-Calculus Mathematics	SLC 424 of Math, in Alg			Ed. 398B	of Disadvantaged Youth Topics in Education: Mainstreaming (Pre: Seniors only)	SLC 311	8:00-9:50	3
ist. 102S ist. 341S IATHEMAT ath. 100S	History of Great Britain & the British Empire & Commonwealth FICS: Pre-Calculus Mathematics (June 11-July 20) (Pre: Two years of secondary schorundamentals of Mathematics I (Not open to students with credi	SLC 424 DI Math. in Alg SLC 424	gebra & Geometry)		Ed. 398B	of Disadvantaged Youth Topics in Education: Mainstreaming (Pre: Seniors only)			
dist. 1028 dist. 3418 MATHEMAT Math. 1008 Math. 1018	History of Great Britain & the British Empire & Commonwealth FICS: Pre-Calculus Mathematics (June 11-July 20) (Pre: Two years of secondary schorundamentals of Mathematics I (Not open to students with credi in Math. 103 or 104)	SLC 424 of Math. in Alg SLC 424 ts	gebra & Geometry) 8:00-9:50	3	Ed. 398B ENGINEER E.E. 212S	of Disadvantaged Youth Topics in Education: Mainstreaming (Pre: Seniors only)	SLC 311	8:00-9:50 10:10-12:00	
ist. 102S ist. 341S MATHEMAT lath. 100S	History of Great Britain & the British Empire & Commonwealth FICS: Pre-Calculus Mathematics (June 11-July 20) (Pre: Two years of secondary schorundamentals of Mathematics I (Not open to students with credi	SLC 424 DI Math. in Alg SLC 424	gebra & Geometry)	3	Ed. 398B	of Disadvantaged Youth Topics in Education: Mainstreaming (Pre: Seniors only) NG: Circuit Theory II (Pre: Math. 112) Circuit Theory II			3
ist. 102S ist. 341S MATHEMAT ath. 100S ath. 101S	History of Great Britain & the British Empire & Commonwealth FICS: Pre-Calculus Mathematics (June 11-July 20) (Pre: Two years of secondary scho-Fundamentals of Mathematics I (Not open to students with credi in Math. 103 or 104) Math. for Elementary School Teachers I (Not open to students with credi (Not open to students with credi to the control of	SLC 424 b) Math, in Alg SLC 424 ts	gebra & Geometry) 8:00-9:50	3	Ed. 398B ENGINEER E.E. 212S	of Disadvantaged Youth Topics in Education: Mainstreaming (Pre: Seniors only) NG: Circuit Theory II (Pre: Math. 112)	SLC 223	10:10-12:00	3
MATHEMAT MATHEMAT Math. 100S Math. 101S Math. 103S	History of Great Britain & the British Empire & Commonwealth FICS: Pre-Calculus Mathematics (June 11-July 20) (Pre: Two years of secondary schor Fundamentals of Mathematics I (Not open to students with credi in Math. 103 or 104) Math. for Elementary School Teachers I (Not open to students with credi Math. 101 or 102)	SLC 424 b) Math. in Alg SLC 424 ts SLC 411	gebra & Geometry) 8:00-9:50 10:10-12:00	3	Ed. 398B ENGINEER E.E. 212S	of Disadvantaged Youth Topics in Education: Mainstreaming (Pre: Seniors only) NG: Circuit Theory II (Pre: Math. 112) Circuit Theory II	SLC 223 SLC 223	10:10-12:00 6:00-7:50	3
MATHEMAT MATHEMAT Math. 100S Math. 101S Math. 103S	History of Great Britain & the British Empire & Commonwealth FICS: Pre-Calculus Mathematics (June 11-July 20) (Pre: Two years of secondary scho-Fundamentals of Mathematics I (Not open to students with credi in Math. 103 or 104) Math. for Elementary School Teachers I (Not open to students with credi Math. 101 or 102) Introductory Calculus I	SLC 424 b) Math, in Alg SLC 424 ts	gebra & Geometry) 8:00-9:50	3	Ed. 398B ENGINEER E.E. 212S E.E. 212S-2	of Disadvantaged Youth Topics in Education: Mainstreaming (Pre: Seniors only) NG: Circuit Theory II (Pre: Math. 112) Circuit Theory II (Pre: Math. 112)	SLC 223	10:10-12:00 6:00-7:50	3
dist. 1028 dist. 3418 MATHEMAT Math. 1008 Math. 1018 Math. 1038	History of Great Britain & the British Empire & Commonwealth FICS: Pre-Calculus Mathematics (June 11-July 20) (Pre: Two years of secondary schor Fundamentals of Mathematics I (Not open to students with credi in Math. 103 or 104) Math. for Elementary School Teachers I (Not open to students with credi Math. 101 or 102)	SLC 424 DI Math. in Alg SLC 424 ts SLC 411 ts in SLC 334	gebra & Geometry) 8:00-9:50 10:10-12:00 8:00-10:10	3	ENGINEER E.E. 212S E.E. 212S-2 ENGLISH: Eng. 102S	of Disadvantaged Youth Topics in Education: Mainstreaming (Pre: Seniors only) NG: Circuit Theory II (Pre: Math. 112) Circuit Theory II (Pre: Math. 112) Composition II (Pre: Eng. 101 or Eng. 100)	SLC 223 SLC 223	10:10-12:00 6:00-7:50 10:10-12:00	3 3 3
Hist. 1018 Hist. 1028 Hist. 3418 MATHEMAT Math. 1008 Math. 1018 Math. 1038 Math. 1058 Math. 2328	History of Great Britain & the British Empire & Commonwealth FICS: Pre-Calculus Mathematics (June 11-July 20) (Pre: Two years of secondary scholar Fundamentals of Mathematics I (Not open to students with credi in Math. 103 or 104) Math. for Elementary School Teachers I (Not open to students with credit Math. 101 or 102) Introductory Calculus I (June 4 - July 13)	SLC 424 DI Math. in Alg SLC 424 tts SLC 411 tts in SLC 334 knowledge of	gebra & Geometry) 8:00-9:50 10:10-12:00 8:00-10:10	3 3 4	ENGINEER E.E. 212S E.E. 212S-2 ENGLISH:	of Disadvantaged Youth Topics in Education: Mainstreaming (Pre: Seniors only) NG: Circuit Theory II (Pre: Math. 112) Circuit Theory II (Pre: Math. 112)	SLC 223 SLC 223 SLC 270	10:10-12:00 6:00-7:50 10:10-12:00 8:00-9:50	3 3 3

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FIRST SESSION — JUNE 11-JULY 13 SECOND SESSION — JULY 16-AUGUST 17 EIGHT-WEEK EVENING SESSION — JUNE 11-AUGUST 3

Course	Description	Room	Day & Hour , Cr	edit
(TIME	S LISTED IN LIGHT FACE REPRES	ENT A.M.; BC	OLD FACE P.M.)	
Eng. 152S-3	Western World Literature II (Pre: Eng. 151)	SLC 347	10:10-12:00	3
Eng. 497S	Seminar in Special Problems: the Development theme in Modern Fiction	Kby. 102	10:10-12:00	3
FRENCH:				
Fr. 102S	Elementary French II (Pre: Fr. 101 or the equivalent)	SLC 133	8:00-9:50	3
Fr. 204S	Intermediate French II (Pre: Fr. 203 or the equivalent)	SLC 133	10:10-12:00	3
GERMAN:				
Ger. 102S	Elementary German II (Pre: Ger. 101 or the equivalent)	SLC 270	8:00-9:50	3
Ger. 204S	Intermediate German II (Pre: Ger. 203 or the equivalent)	SLC 409	10:10-12:00	3
HISTORY:				
Hist. 101S	World Civilization I	SLC 215	10:10-12:00	3
Hist. 102S	World Civilization II	SLC 215	8:00-9:50	3
Hist. 398S	Topics: American Intellectual History Since 1865	SLC 405	10:10-12:00	3
MATHEMA	TICS:			
Math. 102S	Fundamentals of Math. II (Pre: Math. 101)	SLC 403	8:00-9:50	3
Math. 104S	Math. for Elementary School Teachers II (Pre: Math. 103)	SLC 403	10:10-12:00	3
Math. 106S	Introductory Calculus II (July 16-Aug. 24) (Pre: Math. 105)	SLC 334	8:00-10:10	4
Math. 243S	Geometry for Elementary School Teachers	SLC 409	8:00-9:50	3
Math. 198S/ 298S/398S/ 498S	(Pre: Math. 104 or consent of instr Topics in Mathematics	TBA	TBA vari	iabl
MUSIC:				
Mus. 101S	Introduction to the Materials & Literature of Music I	TBA	TBA	3
Mus. 102S	Introduction to the Materials & Literature of Music II (Pre: Mus. 101)	TBA	TBA	3
PHILOSOPI	HY:			
Phil. 152S	Introduction to Logic	SLC 318	8:00-9:50	
Phil. 228S	Contemporary Religious Thought (Pre: Phil, 101 or 201)	SLC 318	10:10-12:00	3
PHYSICS:				
Phys. 102S	Physical Science II	SLC 160	8:00-9:50	3
POLITICAL				
P.S. 102S	Political Science II	SLC 166	10:10-12:00	3
P.S. 398S	Topics in Political Science: Political Theory	TBA	TBA	3
PSYCHOLO	GY:			
Psy. 102S	General Psychology II (Pre: Psy. 101)	SLC 101	10:10-12:00	3
RUSSIAN:				
Rus. 102S	Elementary Russian II (Pre: Rus, 101 or equivalent)	TBA	TBA	3
Rus. 204S	Intermediate Russian II (Pre: Rus. 203 or the equivalent)	TBA	TBA	3

Course	Description	Room	Day & H	our C	redits
(TIMES	LISTED IN LIGHT FACE REPRES	ENT A.M.; BC	LD FACE I	P.M.)	
MUSIC:					
Mus. 101E	Introduction to the Materials &	DDD 323	6:	00-7:45	3
	Literature of Music I	DDD 323		00-9:45	-
Mus. 102E	Introduction to the Materials & Literature of Music II	DDD 323	8:	00-9:45	3
Applied Music	Private Lessons Note: It is important that all stude for Applied Music through the Sum consult with Mr. William Gasbarro, Department Chairman, before com registrations.	mer College Music	ter		
PHILOSOPH	HY:				
Phil. 101E	Introduction to Philosophy	SLC 318	6:0	00-7:45	3
Phil. 152E	Introduction to Logic	SLC 215	6:1	00-7:45	3
Phil. 210E	Ethics (Pre: Phil. 101 or 201)	SLC 215	8:	00-9:45	3
Phil. 230E	Social & Political Philosophy (Pre: Phil. 101 or 201)	SLC 318	8:	00-9:45	3
PHYSICAL	EDUCATION & HYGIEN	E:			
P.E. 105E	Hygiene	W.A.	W 6:	00-9:00	1
P.E. 106E	Hygiene	W.A.	W 6:	00-9:00	1
P.E. 105-106E	Hygiene	W.A.	W 6:	00-9:00	2
PSYCHOLO	GY:				
Psych. 245E	Clinical Psychology (Pre: Psych. 242 & Psych. 331)	SLC 342	6:	00-7:45	3
Psych. 331E	Abnormal Psychology (Pre: Psych. 232)	SLC 342	8:	00-9:45	3
SOCIOLOG	Y:				
Soc. 101E	Introduction to Sociology	SLC 127	6:	00-7:45	3
Soc. 398E	Topics: Sex Roles	SLC 160	6:	00-7:45	3
SPEECH:					
Spch. 101E	Fundamentals of Speech	DDD 101	6:	00-7:45	3

POST SESSION - AUGUST 27-31

CHEMISTRY:

Chem. 100A	Basic Math. for Introductory Chemistry Fee: \$50 (For students preregistered for Che the Fall Semester, 1979)	M thru F 9:00-12:00	0
Chem. 100B	Basic Math. for Introd. Chem. Fee: \$50 (For students preregistered for Che		0

Summer, 1979

Students who register for graduate courses in more than one session MUST complete registration forms for each session.

Course	Description	Room	Day & Hour	Instructor

(TIMES LISTED IN LIGHT-FACE REPRESENT A.M.; BOLD FACE P.M.)

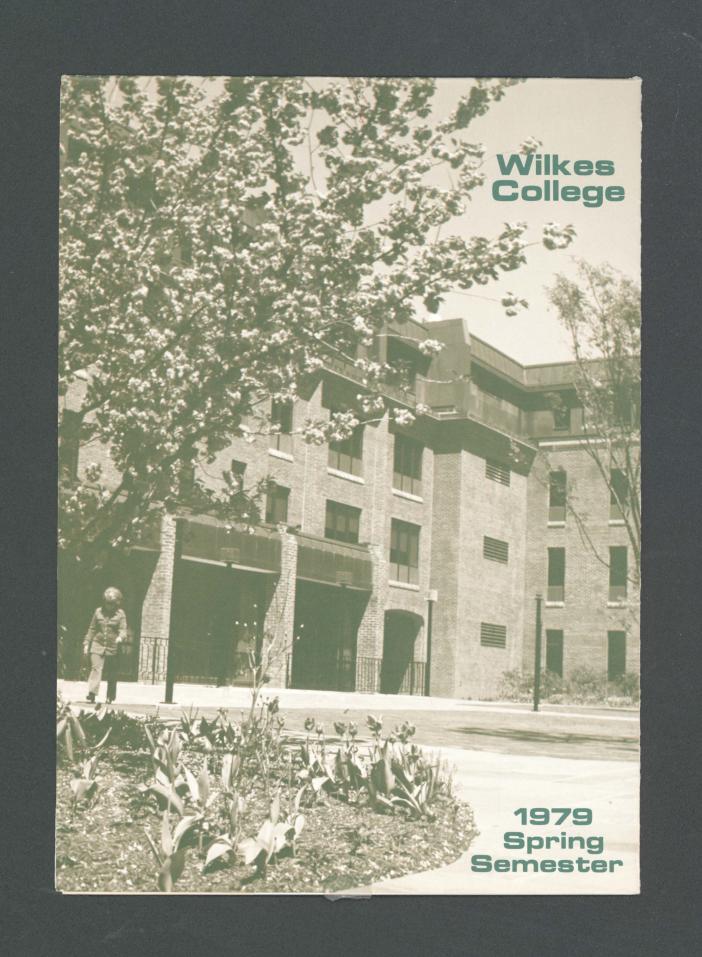
BIOLOGY:

FIRST SESSION — June 11 to July 13

(Except where otherwise noted)

Bio 398A Tonics: Field Zoology TBA 8:00-5:00 Houseknecht

	Intermediate Russian II (Pre: Rus. 203 or the equivalent)	TBA	TBA	3		FIRST SESSION — (Except where ot	herwise note	ed)	
SOCIOLOGY						Topics: Field Zoology (June 18-July 6) (Pre: Permission of Instructor)			Houseknecht
	The Family (Pre: Soc. 101 or Anth. 101 or app	SLC 127	10:10-12:00	3		SECOND SESSION —	July 16	to August 17	
	Topics: Family Violence	SLC 405	8:00-9:50	3		(Except where of			
SPANISH:	(Pre: Soc. 200 or permission of ins	structor)				Floristic Biology (July 16 - August 3) (Pre: Permission of Instructor)	TBA	8:00-12:00	Reit
	Elementary Spanish II	SLC 411	8:00-9:50	3	Bio. 398B	Topics: Marine Biology	TBA	TBA	Rigley
Span. 204S	(Pre: Span. 101 or the equivalent) Intermediate Spanish II	SLC 411	10:10-12:00	3		(July 26-August 14) (Pre: Permission of Instructor)			
	(Pre: Span. 203 or the equivalent)				BUSINESS	ADMINISTRATION:			
SPEECH:						WEEK EVENING SESSI	ON —	June 11 to Au	igust 3
	Business & Professional Speaking (Pre: Spch. 101)	SLC 1	10:10-12:00	3	B.A. 551E	Investment & Portfolio Management		TTh 6:00-9:00	Enge
						Independent Research	TBA	TBA	Staf
EI	UNDERGRAD GHT-WEEK EVENI Eight-Week E	NG SE	SSION		Econ. 505E	Managerial Statistics	Par. 33	MW 6:00-9:00	Williams
	Undergraduate	_	le		2500/1110	PRE-SESSION —	May 21	to June 8	
June 1	1 - August 3, 1979 — Monday,					PEE: The Arts in Elementary	SLC 206	5:00-8:00	Fulle
	(unless otherwise in					Education			
Course	Description	Room	Day & Hour Cr	edits	51.510	FIRST SESSION —			
	LISTED IN LIGHT FACE REPRES					Psychological Foundations of Education Historical Foundations of	SLC 207	8:00-9:50	Hammer
RUSINESS	ADMINISTRATION:				20.011	Education	020200	0.00 0.00	34.00
	Business Correspondence &	Par. 34	6:00-7:45	3	Ed. 520	Tests & Measurements	SLC 133		Bellucc
	Reports				Ed. 532A	PEE: Mathematics	SLC 311		Ear Johnson
	Marketing	Par. 43	6:00-7:45		Ed. 542 Ed. 578	Extra-curricular Activities School Law	SLC 405 SLC 405	8:00-9:50 10:10-12:00	Johnson
	Property Insurance	Par. 35	8:00-9:45			Cultural Foundations of the		TBA	Fahm
	Life Insurance Principles of Management	Par. 35 Par. 34	6:00-7:45 8:00-9:45			Middle East: Education in Eg (Students must register for 6 cr expenses are extra.)	ypt		
	ATION STUDIES:					SECOND SESSION —	July 16	to August 17	
Comm. 101E	Principles of Communication	DDD 220	6:00-7:45	3	Ed. 512	Social Foundations of Ed.		10:10-12:00	Baron
COMPUTER	SCIENCE:				Ed. 532B	PEE: Science	SLC 160		Place
	Fortran Programming	SLC 424	8:00-9:45	3	Ed. 534	Elementary Sch. Curriculum	SLC 311	10:10-12:00	Dart
C.S. 124E	Fee: \$25 Cobol Programming	SLC 424	6:00-7:45	3	Ed. 541 Ed. 564	Secondary Sch. Curriculum Curriculum & Methods in		10:10-12:00 10:10-12:00	Dart Dart
C.S. 224E	Fee: \$25 Advanced Cobol & File	SLC 411	6:00-7:45	3	Ed. 576	Special Education Introd. to Educational	SLC 207	8:00-9:50	Johnso
	Management Fee: \$25 (Pre: C.S. 124)				Ed. 598A	Administration Topics: Education of Disadvantaged Youth	SLC 207	10:10-12:00	Johnso
ENCLICH.					Ed. 598B	Topics: Mainstreaming	SLC 311	8:00-9:50	Dart
ENGLISH: Eng. 102E	Composition II	SLC 257	6:00-7:45	3	Ed. 598C	Topics: Values Clarification	SLC 316		Fahm
	(Pre: Eng. 101 or Eng. 100)	310 237	0.007.43		Ed. 598D	Topics: Luzerne County as	SLC 316	10:10-12:00	Fahm
0	Western World Literature II (Pre: Eng. 151)	SLC 257	8:00-9:45	3	ENGLISH:	an Educational Laboratory			
ENGINEERIN	NG:					FIRST SESSION —	June 11	to July 13	
0	Fortran IV Fee: \$25	SLC 424	8:00-9:45	3	Eng. 480S	Studies in American Lit. Jewish-American Fiction	Kby. 102	10:10-12:00	Guti
HISTORY						SECOND SESSION —	July 16	to August 17	
HISTORY: Hist. 102E	World Civilization II	Par. 53	6:00-7:45	3		Seminar in Special Prob:	Kby. 102	10:10-12:00	Fieste
MATHEMAT		1 ul. 33	3.00-7.43		1	the Development theme in M Fiction	odern		
	Pre-Calculus Math. (Pre: Two years of secondary school Algebra & Geometry)		MTWTh 6:00-7:45	4	HISTORY:	FIRST SESSION —	June 11	l to July 13	
Math. 111E	Calculus I (Pre: Math. 100 or at least three y secondary school math. including Algebra II, & topics in Trigonomet	ears of Geometry,	MTWTh 6:00-7:45	4	Hist. 341S	History of Great Britain & the British Empire & Commonwealth	SLC 215	10:10-12:00	Berlatsk
	Calculus II		MTWTh 8:00-9:45	4		SECOND SESSION —	July 16	to August 17	
Math. 211E	Introduction to Linear Algebra & Differential Equations (Pre: Math. 112)		TBA		Hist. 398S	Topics: American Intellectua History Since 1865			Leac
Math. 314E	(Pre: Math. 112) Functions of a Complex Variable (Pre: Math. 211 or consent of inst		6:00-7:45	3	MATHEMA		ION	June 11 to A	ngnet 2
Math. 334E	Linear Algebra (Pre: Math. 211 or consent of inst	SLC 409	8:00-9:45	3		-WEEK EVENING SESS Functions of a Complex		6:00-7:45	ugust 3 Sta
Math. 413E	Functions of Several Variables (Pre: Math. 311 and 334)		TBA	3		Variable Linear Algebra	SLC 409	8:00-9:45	Sta
Math. 198E/ 298E/398E/	Topics in Mathematics	TBA	TBA Va	riable		Functions of Several Variables	TBA		Sta
498E					Math 398F/	(Pre: Math 311 and 334) Topics in Mathematics	TDA	TBA	Sta



WILKES COLLEGE SPRING SEMESTER 1979

- GENERAL INFORMATION -

Calendar for Spring Semester 1979

Registration for Evening College, Part-Time, and Graduate Students:

8:30 - m to 8:00 n m

Friday, Jan. 12 8:30 a.m. t	
Monday, January 15 Classes begin a	at 8:00 a.m.
Friday, March 2 Spring recess begins	at 5:00 p.m.
Monday, March 12 Classes resume a	at 8:00 a.m.
Thursday, April 12 Easter recess begins at	10:00 p.m.
Tuesday, April 17 Classes resume a	at 8:00 a.m.
*Tuesday, May 1	Classes end
Friday, May 4 thru Saturday, May 12 Final ex	kaminations

Expenses

All charges must be paid at the time registration forms are processed.

*Tuesday, May 1 follows the Friday schedule.

Undergraduate:

Undergraduate students who register for fewer than 12 credits pay \$70 per credit.

Undergraduate students who register for 12 to 18 credits pay a flat tuition fee of \$1475 per semester. (Students who take more than 18 credits pay \$100 for each credit above 18.)

Graduate:

All graduate students pay \$85 per credit.

Financial Aid

Various financial aid programs are available to part-time and full-time students. Inquiries about financial aid should be made to Richard Raspen, Director of Financial Aid, Chase Hall, 184 South River Street, Wilkes-Barre, Pennsylvania 18703.

Withdrawal

An evening college, part-time, or graduate student may withdraw, without prejudice, from any course at any time during the first 10 weeks of the semester, providing that he or she gives verbal or written notice to this effect to the instructor and to the Director of Continuing Education and Graduate Studies within this 10-week period.

Students in good standing who withdraw from courses or from the college will receive a refund of tuition under the following conditions: During the first six weeks of the semester, one-half of the tuition will be refunded upon request to the Director of Continuing Education and Graduate Studies, if the withdrawal is made for adequate and satisfactory reasons. After the first six weeks, no refunds are allowed and the student is obligated for the full costs of the term. No student who is suspended or expelled shall be entitled to any refunds.

Application for admission to Wilkes College as an evening college, part-time, or graduate student should be made to the Division of Continuing Education and Graduate Studies, 16 South River Street, Wilkes-Barre, Pennsylvania 18703.

Bachelor of Arts degrees are offered in the following subject areas:

Anthropology
Art
Biology
Chemistry

History
Individualized Studies
International Relations
Mathematics

Chemistry

Computer Science

Economics

Elementary Education

Analysis Mathematics

Music

Philosophy

Physics

Physics

English Political Science English/Theater Arts Psychology

Earth and Social Science/Urban Affairs
Environmental Sciences Sociology

Foreign Language Sociology-Anthropology

Bachelor of Science degrees are offered in the following subject areas:

Biology Earth and

Business Education Environmental Sciences
Chemistry Mathematics

Commerce and Finance Medical Technology

(a) Accounting Music Education

(b) Business Administration Nursing

Computer Science Physics Engineering

Master of Science degrees are offered in the following subject areas:

Biology Mathematics
Business Administration Physics
Chemistry

Master of Science in Education degrees are offered in the following subject areas:

Biology English
Chemistry History
Education Mathematics
Elementary Education Physics

(Wilkes also offers a "Certificate of Achievement" to undergraduate students in the field of Business Administration who earn 42 hours of credit in Evening College and Summer School programs with at least 24 hours in Business Administration and 18 hours in general education.)

Admissions

Degree Programs *Tuesday, May 1 Classes end Friday, May 4 thru Saturday, May 12 Final examinations *Tuesday, May 1 follows the Friday schedule.

Expenses

All charges must be paid at the time registration forms are processed.

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Students in good standing who withdraw from courses or from the college will receive a refund of tuition under the following conditions: During the first six weeks of the semester, one-half of the tuition will be refunded upon request to the Director of Continuing Education and Graduate Studies, if the withdrawal is made for adequate and satisfactory reasons. After the first six weeks, no refunds are allowed and the student is obligated for the full costs of the term. No student who is suspended or expelled shall be entitled to any refunds.

Change Of Schedule

Occasionally a change in the course schedule becomes necessary. Such a change may mean the cancellation of one course or the addition of another. The College reserves the right to cancel or reschedule any course due to insufficient enrollment or any other reason. When possible, any change in the course schedule will be posted during registration. Students who have registered for courses that are subsequently cancelled or rescheduled will be notified as promptly as possible.

The Library

The Eugene Shedden Farley Library is open to all Wilkes students. Students may borrow books from the Library by presenting their College identification cards. Hours are posted at the beginning of each academic session.

The Bookstore

Books, stationery and supplies may be purchased at the College Bookstore, located in the lower level of Pickering Hall. They must be paid for at the time of purchase. The Bookstore is open from 8:30 a.m. to 4:30 p.m. Monday through Friday.

International Relations Biology

Chemistry Mathematics Computer Science Music Philosophy Economics Elementary Education Physics English

Political Science English/Theater Arts Psychology

Earth and Social Science/Urban Affairs

Sociology **Environmental Sciences**

Sociology-Anthropology Foreign Language

Bachelor of Science degrees are offered in the following subject areas:

Biology Earth and

Business Education Environmental Sciences

Mathematics Chemistry

Commerce and Finance Medical Technology Music Education (a) Accounting

(b) Business Administration Nursing Computer Science

Engineering

Physics

Master of Science degrees are offered in the following subject areas:

Biology

Mathematics

Business Administration

Chemistry

Physics

Master of Science in Education degrees are offered in the following subject areas:

Biology Chemistry Education **Elementary Education**

English History Mathematics **Physics**

(Wilkes also offers a "Certificate of Achievement" to undergraduate students in the field of Business Administration who earn 42 hours of credit in Evening College and Summer School programs with at least 24 hours in Business Administration and 18 hours in general education.)

Wilkes is accredited by the Department of Public Instruction of the State of Pennsylvania and the Middle States Association of Colleges and Secondary Schools. The Chemistry curriculum has been certified by the American Chemical Society.

The Graduate programs are approved by the Pennsylvania State Department of Education.

For further information write or call:

John F. Meyers, Director Division of Continuing Education and Graduate Studies Wilkes College 16 South River Street Wilkes-Barre, Pennsylvania 18703 Phone: 824-4651 Ext. 303 (After 4:30 p.m., 824-4656)

Accreditation

Information

Continuing Education Office, Parrish Hall, 2nd Floor

Undergraduate Division

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Course	Description	Room	Day & Ho	our	Instr	ucto
ACCOUNT	ING:					
Acct. 101E	Elementary Accounting I	Par. 3	35	Th 6:30-	9-30	3
Acct. 101E-2	Elementary Accounting I	Par. 3		M 6:30		3
		Par. 3		W 6:30		3
Acct. 102E	Elementary Accounting II					3
Acct. 112E	Intermediate Accounting II	Par.		T 6:30		
Acct. 204E Acct. 222E	Managerial Accounting Taxes II	Par. 4		T 6:30		3
	(Pre: Accounting 221)					
Acct. 242E	Advanced Accounting II (Pre: Accounting 241)	Par.	15	W 6:30	-9:30	3
AEROSPAC	CE STUDIES:					
A.S. 102E	U.S. Military Forces in the Contemporary World II	Kocyan Ha	all	Th 5:00 -5	5:50	1
A.S. 202E	The Development of Air Power II	Kocyan Ha	all	Th 6:00-	-6:50	1
ANTHROP	OLOGY:					
Anth. 101E	Introduction to Anthropology	SLC 12	27	M 6:30	9:30	3
Anth. 272E	Linguistic Anthropology	SLC 14	17	T 6:30-	9:30	3
ART:						
Art. 101E	Experiencing Art I	SLC 10	05	W 6:00-	9:00	3
Art. 243E	Ceramics I	CG 10)2	W 6:00-	9:00	3
BIOLOGY:						
Bio. 102E	Biological Science II	SLC 38	30	Th 6:30-	9:30	3
BUSINESS	ADMINISTRATION:					
B.A. 114E	Salesmanship	Par. 3	34	M 6:30-	9:30	3
B.A. 115E	Mathematics of Business & Financ	e SLC 12	27	T 6:30	9:30	3
B.A. 216E	Advertising	Par. 3	34	T 6:30-	9:30	3
B.A. 220E	Real Estate	SLC 34	17	W 6:30-	9:30	3
B.A. 222E	Marketing	SLC 20)4	W 6:30-	9:30	3
B.A. 226E	Investments	Par. 3	33	W 6:30-	9:30	3
B.A. 232E	Business Law — Agency, Partnerships, Corporations, and Real Property	Par. 3	33	T 6:30-	9:30	3
B.A. 240E	Property Insurance	SLC 20)9	M 6:30-	9:30	3
B.A. 254E	Organizational Design & Behavior	Par. 4	13	M 6:30-	9:30	3
B.A. 264E	Retail Buying	SLC 33	34	T 6:30-	9:30	3
BUSINESS	EDUCATION:					
Bus. Ed. 106E	Intermediate Shorthand (Pre: Bus. Ed. 105 or approval of in	Butler 1 nstructor)	10 T	-Th 4:45 -	-6:30	2
Bus. Ed. 108E	Intermediate Typewriting (Pre: Bus. Ed. 107 or approval of in Fee: \$15	Butler 1 nstructor)	10 T	-Th 7:00 -	-8:45	2
COMMUNI	CATIONS:					
Comm. 212E	Journalism: Basic News Writing (Pre: Eng. 102)	Butler :	10	M 6:30	-9:30	3
Comm. 240E	Introduction to Broadcasting	DDD 20	02	T 6:30	-9:30	3

/TIMEC I	ICTED	INLICHT	EACE	REPRESENT	A BA .	POLDER	CE DM
(IIMF2 F	ISIEDI	IN LIGHT	FALL	REPRESENT	A.M.:	ROLD LA	(CE P.M.)

Course	Description	Room	Day & Hour Cr	od:
Jourse	Description	KUUIII	Day & Hour Gr	eun
СОМРИТЕ	R SCIENCES:			
C.S. 124E	Cobol Programming Fee: \$25	SLC 424	M-Th 6:00-7:30	3
C.S. 224E	Advanced Cobol & File Mgmnt. Fee: \$25 (Pre: C.S. 124)	SLC 424	M-Th 8:00-9:30	3
ECONOMI	CS:			
Econ. 101E	Principles of Economics I	Par. 43	Th 6:30-9:30	3
Econ. 102E	Principles of Economics II	SLC 380	M 6:30-9:30	3
Econ. 228E	Economic Geography of Asia, Africa, and Latin America	Par. 34	W 6:30-9:30	3
Econ. 230E	Business Cycles	Par. 34	Th 6:30-9:30	3
Econ. 232E	Economics Statistics Fee: \$15	Par. 33	M 6:30-9:30	3
Econ. 236E	Public Finance	Par. 33	Th 6:30-9:30	3
EDUCATIO	N:			
Ed. 398E	Topics: Futurism: Study of the Future	SLC 209	Th 6:00-9:00	3
Ed. 436E	Children's Literature	SLC 204	Th 6:00-9:00	3
ENGINEER	RING:			
E.E. 212A	Circuit Theory II (Pre: Math. 112)	SLC 127	M-W 5:00-6:30	3
ENGLISH:				
Eng. 102E	Composition II (Pre: Eng. 100 or Eng. 101)	SLC 133	T 6:30-9:30	3
Eng. 152E	Western World Literature II (Pre: Eng. 151)	Kby. 102	T 6:30-9:30	3
Eng. 398B	Topics: Creative Writing — Poetry (Pre: Eng. 152 or Eng. 254)	TBA	TBA	3
Eng. 398E	Topics: Classical Greek Literature in Translation (Pre: Eng. 152 or Eng. 254)	Kby. 107	Th 6:30-9:30	3
Eng. 450E	Studies in Romantic and Victorian Literature: 19th Century	Kby. 107	T 6:30-9:30	3
EARTH A	ND ENVIRONMENTAL SCIEN	NCFS:		
	E Astronomy	SLC 380	T 6:00-8:00	3
	Laboratory E Fee: \$20	SLC 435	T 8:00-10:00	
HISTORY:				
Hist. 102E	World Civilization II	SLC 160	M 6:30-9:30	3
Hist. 334E	Twentieth Century America	SLC 207	T 6:30-9:30	3
Hist. 348E	History of Russia II	SLC 215	M 6:30-9:30	3
Hist. 364E	Diplomatic History of the Far East	SLC 215	W 6:30-9:30	3
Hist. 398E	Topics: Irish History Since 1500	SLC 215	Th 6:30-9:30	3

(TIMES LISTED IN LIGHT FACE REPRESENT A.M.; BOLD FACE P.M.)

Course	Description	Room	Day & Hour C	redit
MATHEMA		010411	M-Th 8:00-9:30	3
Math. 102E	Fundamentals of Math. II (Pre: Math. 101)	SLC 411	W-111 0.00-3.30	3
Math. 111E	Calculus I (Pre: Math. 100 or three years of Sec Mathematics including Geometry, Algo topics in Trigonometry)		M-Th 6:00-8:00	4
Math. 352A	Probability & Mathematical Statistics II (Pre: Math. 106 or 112 or consent of	SLC 403	M-W 4:00-5:30	3
MUSIC:				
Mus. 101E	Introduction to the Literature & Materials of Music I	DDD 101	T 6:30-9:30	3
Mus. 112A	Piano Class 2 (Music Majors)	DDD 219	M-Th 6:00-7:00	
Mus. 112B	Piano Class 2 (Non-majors)	DDD 219	M 7:00-9:00	
Mus. 114A	Piano Class 4 (Music Majors) (Pre: Music 112)	DDD 219	M-Th 6:00-7:00	2
NURSING:				
Nsg. 398E	Topics: Food & Drug Interactions (Pre: Registered nurses or Junior & S who have completed Chem. 230 or Ns	enior students	M 6:00-9:00	3
PHILOSOP	HY:			
Phil. 101E	Introduction to Philosophy	SLC 316	W 6:30-9:30	3
Phil. 152E	Introduction to Logic	SLC 342	M 6:30-9:30	
Phil. 320E	Advanced Philosophy of Religion (Pre: Phil 101 or 201)	SLC 316	Th 6:30-9:30	
Phil. 352E	Symbolic Logic (Pre: Phil, 152 or Math. 202 or permis	SLC 316 ssion of instr.)	T 6:30-9:30	3
PHYSICS:				
Phys. 102E	Physical Science II	SLC 318	Th 6:30-9:30	3
POLITICAL	SCIENCE:			
P.S. 102E	Political Science II	SLC 316	M 6:30-9:30	3
P.S. 398E	Topics in Political Science: Planning	SLC 403	T 6:30-9:30	3
PSYCHOLO	OGY:			
Psy. 102E	General Psychology II	SLC 334	M 6:30-9:30	3
Psy. 398E	Topics in Psychology: Infant at Risk	SLC 347	M 6:30-9:30	3
SOCIOLOG	Y:			
Soc. 200E	The Family (Pre: Soc. 101 or Anth. 101 or approv	SLC 133	M 6:30-9:30	3
Soc. 275E	Sociology of Minorities (Pre: Soc. 101 or Anth. 101 or Psy. 10	SLC 133	W 6:30-9:30	3
Soc. 398E	approval of instructor) Topics: Intervention Strategies in Psycho-Social Problems	SLC 133	Th 6:30-9:30	3
CDANICIL				
SPANISH: Span. 398E	Topics: Modern Spanish Civilization	SLC 347	T 6:30-9:30	3
SPEECH:				
Spch. 101E	Fundamentals of Speech	DDD 101	M 6:30-9:30	3
THEATER				
T.A. 397A	Seminar: Scene Painting	CPA	T 4:00-7:00	3

BUSINESS	EDUCATION:				
Bus. Ed. 106E	Intermediate Shorthand (Pre: Bus. Ed. 105 or approval of in	Butler 10 nstructor)	T-Th 4:45-6:30	2	
Bus. Ed. 108E	Intermediate Typewriting (Pre: Bus. Ed. 107 or approval of in Fee: \$15	Butler 10 estructor)	T-Th 7:00-8:45	2	
COMMUNIC	CATIONS:				
Comm. 212E	Journalism: Basic News Writing	Butler 10	M 6:30-9:30	3	

T 6:30-9:30 3

HISTORY:				
Hist. 102E	World Civilization II	SLC 160	M 6:30-9:30	3
Hist. 334E	Twentieth Century America	SLC 207	T 6:30-9:30	3
Hist. 348E	History of Russia II	SLC 215	M 6:30-9:30	3
Hist. 364E	Diplomatic History of the Far East	SLC 215	W 6:30-9:30	3
Hist. 398E	Topics: Irish History Since 1500	SLC 215	Th 6:30-9:30	3
/TIM	ALC LICTED IN LIGHT PAGE DEDDEOF	NT A M DOLE	FROT DALL	

Soc. 398E	Topics: Intervention Strategies in Psycho-Social Problems	SLC 133	Th 6:30-9:30	3
SPANISH: Span. 398E	Topics: Modern Spanish Civilization	SLC 347	T 6:30-9:30	3
SPEECH: Spch. 101E	Fundamentals of Speech	DDD 101	M 6:30-9:30	3
THEATER T.A. 397A	ARTS: Seminar: Scene Painting	CPA	T 4:00-7:00	3

Graduate Division

(Pre: Eng. 102)

Comm. 240E Introduction to Broadcasting DDD 202

(TIMES LISTED IN LIGHT FACE REPRESENT A.M.: BOLD FACE P.M.)

Course	Description	Room	Day & Hour	Instructo
BIOLOGY	':			
Bio. 302A	Endocrinology	SLC 380	M-W 10·00-10:50	Erickson
	Laboratory Fee: \$20	SLC 377	M 2:00-5:00	
3io. 306A	Neurobiology	SLC 380	T-Th 10:00-10:50	Hayes
	Laboratory Fee: \$20	SLC 349	F 2:00-5:00	
lio. 308A	Advanced Genetics	SLC 380	T-Th 9:00-9:50	Turocz
	Laboratory Fee: \$20	SLC 349	Th 2:00-5:00	
lio. 309A	Evolution	TBA	M-W 1:00-1:50 H	ouseknech
	Laboratory Fee: \$20	SLC 349	T 2:00-5:00	
Bio. 310A	Animal Behavior	SLC 380	W-F 9:00-9:50	Rigle
	Laboratory Fee: \$20	SLC 349	W 2:00-5:00	
Bio. 312A	Comparative Physiology	SLC 380	M-W 1:00-1:50	Erickson
	Laboratory Fee: \$20	SLC 377	T 2:00-5:00	
Bio. 313A	Parasitology	SLC 380	T-Th 10:00-10:50	Rigle
	Laboratory Fee: \$20	SLC 377	F 2:00-5:00	
Bio. 316A	Plant Physiology	SLC 380	W-F 12:00-12:50	Erickson
	Laboratory Fee: \$20	SLC 359	W 2:00-5:00	Ogre
Bio. 360A	Ocean Science	SLC 380	M-W-F 11:00-11:5 Berryma	0 Rigley n/Bohnin
Bio. 441	Immunology & Immunochemistry	/ TBA	TBA	Dot
	SS ADMINISTRATION:			
icct. 544	Controllership	Par. 56	W 6:30-9:30	Hal
3.A. 507	Business & Society	Par. 53		Staf
3.A. 512	Price Policy & Procedure	Par. 43	T 6:30-9:30	Taylo
3.A. 550	Topics: Marketing	Par. 53	Th 6:30-9:30	Bator
B.A. 554	Managerial Finance Seminar: Financing Mergers & Acquisitions		Th 6:30-9:30	Enge
3.A. 595	Independent Research	TBA	TBA	Staf
con. 501	Managerial Economics (Pre: 18 credits in the MBA prog	Par. 56 (ram)	M 6:30-9:30	Werne
con. 505	Managerial Statistics	Par. 53	W 6:30-9:30	William
con. 531	Industrial Relations & the Law	Par. 43	W 6:30-9:30	Werne

(TIMES LISTED IN LIGHT FACE REPRESENT A.M.; BOLD FACE P.M.)

Course	Description	Room	Day & Hour	Instructor
CHEMIST	RY:			
Chem. 342A	Intermediate Physical Chem.	SLC 215	M-T-Th 9:00-9:50	Swair
	Laboratory	SLC 256	W 8:00-11:00	
	Fee: \$20 (Pre: Chem. 341 or permission	of instructor	1	
Chem. 376A	Advanced Analytical Chemistry	SLC 215	M-W 1:00-1:50	Salley
	Laboratory	SLC 203	M-W 2:00-5:00	oanoj
	Fee: \$30 (Pre: Chem. 342)			
Chem. 432A	Advanced Organic Chem. II	TBA	TBA	Staf
Chem. 440A	Quantum Chemistry	TBA	TBA	Swair
Chem. 452A	Biochemistry II (Pre: Chem. 451 or equivalent)	TBA	TBA	Stine
COMPUT	ER SCIENCE:			
C.S. 322A	Assembly Language	SLC 424	M-W-F 9:00-9:50	Koch
	Fee: \$20 (Pre: C.S. 223)			
C.S. 327A	Compiler Design (Pre: C.S. 227 and C.S. 323)	SLC 424	M-W-F 2:00-2:50	Parke
C.S. 329A	Microcomputer	SLC 215	M-W 10:00-10:50	Parkei
	Laboratory	SLC 222	Th 9:00-11:00	
C.S. 364A	Numerical Analysis	SLC 424	T-Th 3:00-4:30	Merril
C.S. 398A	Topics in Computer Science: Super Computers	SLC 424	M-W-F 8:00-8:50	Koch
EDUCATION	ON:			
Ed. 436E	Children's Literature	SLC 204	Th 6:00-9:00	Farris
Ed. 511	Philosophical Foundations of Education	SLC 270	W 6:00-9:00	Fahmy
Ed. 512	Social Foundations of Education	SLC 204	M 6:00-9:00	Barone
ENGLISH:				
Eng. 310A	Medieval English Literature	Kby 107	T-Th 1:00-2:30	Fiester
Eng. 321A	Early English Drama	Kby 107	T-Th 2:30-4:00	Powlick
Eng. 325A	Shakespeare (Pre: Eng. 152 or 254)	Kby 107	M-W-F 9:00-9:50	Kaska
Eng. 383A	American Novel	Kby 107	M-W-F 10:00-10:5	0 Terry
Eng. 386A	Modern American Poetry	Kby 107	M-W-F 1:00-1:50	Gutir
Eng. 398A	Topics: Women in Literature	Kby 107	T-Th 9:30-11:00	P. Heaman
Eng. 398E	Topics: Classical Greek Lit. in Translation	Kby 107	Th 6:30-9:30	Rizzo
Eng. 450E	Studies in Romantic and Victorian Literature	Kby 107	T 6:30-9:30	R. Heamar

WILKES WEEKEND PROGRAM

For persons interested in taking courses on weekends, Wilkes offers a Weekend College Program in La Plume, Pennsylvania. Classes in the Weekend College begin on January 19, 1979.

(TIMES LISTED IN LIGHT FACE REPRESENT A.M.; BOLD FACE P.M.)

Course	Description	Room	Day & Hour Instructor
HISTORY			
Hist. 316A	Ancient History: Classical World	SLC 215	M-W-F 2:00-2:50 Berg
Hist. 328A	History of the Foreign Policy of the United States II	SLC 215	T-Th-F 10:00-10:50 Leach
Hist. 334E	Twentieth Century America	SLC 207	T 6:30-9:30 Rodechko
Hist. 348E	History of Russia II	SLC 215	M 6:30-9:30 Cox
Hist. 356A	Europe in the Twentieth Century	SLC 215	M-W-F 12:00-12:50 Shao
Hist. 364E	Diplomatic History of the Far East	SLC 215	W 6:30-9:30 Shao
Hist. 398E	Topics: Irish History	SLC 215	Th 6:30-9:30 Berlatsky
MATHEM	ATICS:		
Math. 314A	Functions of a Complex Variable	SLC 405	M-W 11:00-11:50 DeCosmo F 11:00-11:50
Math. 331A	Introduction to Abstract Algebra I	SLC 424	M-T 10:00-10:50 Tillman W-F 10:00-10:50
Math. 342A	Introduction to Topology	TBA	TBA Earl
Math. 352A	Probability and Mathematical Statistics II	SLC 403	M-W 4:00-5:30 Richards
Math. 362A	Introduction to Applied Mathematics II	SLC 409	M-W-F 1:00-1:50 Sours
PHYSICS:			
Phys. 312A	Mechanics II	SLC 147	M-W-F 10:00-10:50 Staff
Phys. 320A	Electronic Instrumentation for the Life and Behavioral Sciences Fee: \$25 (Not open to students with credit for Physics 321)	SLC 161	T 3:00-5:00 Holden Th 2:00-5:00
Phys. 321A	Electronic Instrumentation for the Physical Sciences Fee: \$25 (Not open to students with credit for Physics 320)	SLC 161	T 3:00-5:00 Holden Th 2:00-5:00
Phys. 330A	Optics and Light	SLC 158	M-W-F 1:00-1:50 Donahoe
	Laboratory Fee: \$25	SLC 158	T 2:00-5:00
Phys. 332A	Electricity and Magnetism	SLC 207	M-W-F 11:00-11:50 Nejib
	Laboratory Fee: \$25	SLC 125	W 2:00-5:00 Afrashteh
Phys. 340A	Thermodynamics ·	SLC 147	M-W-F 9:00-9:50 Bellas
Phys. 380A	Nuclear Physics Fee: \$25	TBA	TBA Bailey

For further information write or call:

John F. Meyers, Director

Division of Continuing Education and Graduate Studies

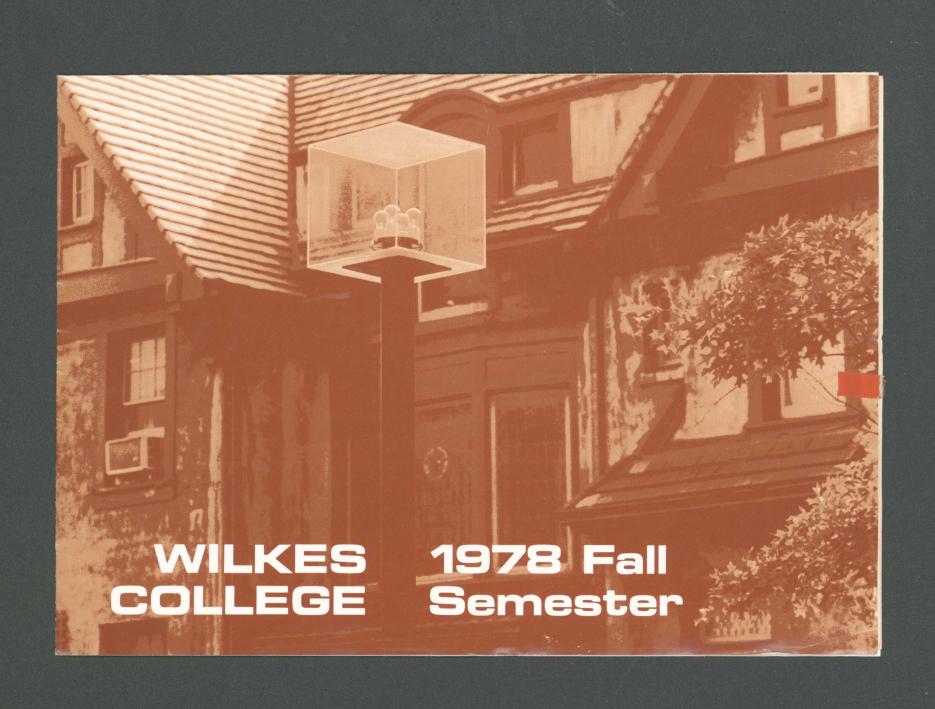
Wilkes College

16 South River Street

Wilkes-Barre, Pennsylvania 18703

Phone: 824-4651 Ext. 303 (After 4:30 p.m., 824-4656)

WILKES COLLEGE, WILKES-BARRE, PA. 1870:



WILKES COLLEGE FALL SEMESTER 1978

- GENERAL INFORMATION -

Calendar for Fall Semester 1978

Registration for Evening College, Part-Time, and Graduate Students:

Thursday, Aug. 24	8:30 a.m. to 8 p.m.
Friday, Aug. 25	8:30 a.m. to 8 p.m.
Monday, Aug. 28	Classes begin at 8 a.m.
Friday, Sept. 1	Labor Day recess begins at 5 p.m.
Tuesday, Sept. 5	Classes resume at 8 a.m.
Tuesday, Nov. 7	Free Day
Tuesday, Nov. 21Th	anksgiving recess begins at 10 p.m.
Monday, Nov. 27	Classes resume at 8 a.m.
Monday, Dec. 11 through	1
Wednesday, Dec. 20	Final Examinations

Expenses

All charges must be paid at the time registration forms are processed.

Undergraduate:

Undergraduate students who register for fewer than 12 credits pay \$70 per credit.

Undergraduate students who register for 12 to 18 credits pay a flat tuition fee of \$1475 per semester. (Students who take more than 18 credits pay \$100 for each credit above 18.)

Graduate:

All graduate students pay \$85 per credit.

Financial Aid

Various financial aid programs are available to part-time and full-time students. Inquiries about financial aid should be made to Richard Raspen, Director of Financial Aid, Chase Hall, 184 South River Street, Wilkes-Barre, Pennsylvania 18703.

Withdrawal

An evening college, part-time, or graduate student may withdraw, without prejudice, from any course at any time during the first 10 weeks of the semester, providing that he or she gives verbal or written notice to this effect to the instructor and to the Director of Continuing Education and Graduate Studies within this 10-week period.

Students in good standing who withdraw from courses or from the college will receive a refund of tuition under the following conditions: During the first six weeks of the semester, one-half of the tuition will be refunded upon request to the Director of Continuing Education and Graduate Studies, if the withdrawal is made for adequate and satisfactory reasons. After the first six weeks, no refunds are allowed and the student is obligated for the full costs of the term. No student who is suspended or expelled shall be entitled to any refunds.

Application for admission to Wilkes College as an evening college, part-time, or graduate student should be made to the Division of Continuing Education and Graduate Studies, 16 South River Street, Wilkes-Barre, Pennsylvania 18703.

Bachelor of Arts degrees are offered in the following subject areas:

Anthropology Individualized Studies
Art International Relations
Biology Mathematics

Chamistry

Music

Chemistry Music
Computer Science Philosophy
Economics Physics
Elementary Education Political Science

English Psychology
English/Theater Arts Social Science/Urban Affairs

Environmental Sciences Sociology
Foreign Language Sociology-Anthropology

History

Computer Science

Degree Programs

Admissions

Bachelor of Science degrees are offered in the following subject areas:

Biology
Chemistry
Commerce and Finance
(a) Accounting
(b) Business Administration
(c) Business Education

Engineering
Environmental Sciences
Mathematics
Medical Technology
Music Education
Nursing

Master of Science degrees are offered in the following subject areas:

Physics

Biology Mathematics
Business Administration Physics
Chemistry

Master of Science in Education degrees are offered in the following subject areas:

Biology English
Chemistry History
Education Mathematics
Elementary Education Physics

(Wilkes also offers a "Certificate of Achievement" to undergraduate students in the field of Business Administration who earn 42 hours of credit in Evening College and Summer School programs with at least 24 hours in Business Administration and 18 hours in general education.)

Monday, Nov. 27Classes resume at 8 a.m. Monday, Dec. 11 through Wednesday, Dec. 20Final Examinations

Expenses

All charges must be paid at the time registration forms are processed.

Undergraduate:

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Students in good standing who withdraw from courses or from the college will receive a refund of tuition under the following conditions: During the first six weeks of the semester, one-half of the tuition will be refunded upon request to the Director of Continuing Education and Graduate Studies, if the withdrawal is made for adequate and satisfactory reasons. After the first six weeks, no refunds are allowed and the student is obligated for the full costs of the term. No student who is suspended or expelled shall be entitled to any refunds.

Change Of Schedule

Occasionally a change in the course schedule becomes necessary. Such a change may mean the cancellation of one course or the addition of another. The College reserves the right to cancel or reschedule any course due to insufficient enrollment or any other reason. When possible, any change in the course schedule will be posted during registration. Students who have registered for courses that are subsequently cancelled or rescheduled will be notified as promptly as possible.

The Library

The Eugene Shedden Farley Library is open to all Wilkes students. Students may borrow books from the Library by presenting their College identification cards. Hours are posted at the beginning of each academic session.

The Bookstore

Books, stationery and supplies may be purchased at the College Bookstore, located in the lower level of Pickering Hall. They must be paid for at the time of purchase. The Bookstore is open from 8:30 a.m. to 4:30 p.m. Monday through Friday.

MIL IIII CI II a CIOI I A CIACIONIS Biology Mathematics Chemistry Music Computer Science Philosophy Economics Physics Elementary Education

Political Science Psychology

English English/Theater Arts Social Science/Urban Affairs

Environmental Sciences Sociology

Foreign Language Sociology-Anthropology

History

Bachelor of Science degrees are offered in the following subject areas:

Biology Engineering **Environmental Sciences** Chemistry Commerce and Finance Mathematics Medical Technology (a) Accounting

(b) Business Administration Music Education (c) Business Education Nursing Computer Science Physics

Master of Science degrees are offered in the following subject areas:

Mathematics Biology **Business Administration** Physics Chemistry

Master of Science in Education degrees are offered in the following subject areas:

Biology English Chemistry History Mathematics Education Elementary Education **Physics**

(Wilkes also offers a "Certificate of Achievement" to undergraduate students in the field of Business Administration who earn 42 hours of credit in Evening College and Summer School programs with at least 24 hours in Business Administration and 18 hours in general education.)

Wilkes is accredited by the Department of Public Instruction of the State of Pennsylvania and the Middle States Association of Colleges and Secondary Schools. The Chemistry curriculum has been certified by the American Chemical Society.

The Graduate programs are approved by the Pennsylvania State Department of Education.

For further information write or call:

John F. Meyers, Director Division of Continuing Education and Graduate Studies Wilkes College 16 South River Street Wilkes-Barre, Pennsylvania 18703 Phone: 824-4651 Ext. 303 (After 4:30 p.m., 824-4656) Accreditation

Information

WILKES COLLEGE Fall Semester 1978

Registration: Thursday and Friday, Aug. 24 and 25...8:30 a.m. to 8:00 p.m.

Continuing Education Office, Parrish Hall, 2nd Floor

Undergraduate Division

(TIMES LISTED IN LIGHT FACE REPRESENT A.M.; BOLD FACE P.M.)

(TIMES LISTED IN LIGHT FACE REPRESENT A.M.; BOLD FACE P.M.)

Course	Description	Room	Day & Hour	Credit	S -	Course	Description	Room	Day & Hour C	redits
ACCOUNTI	NG:					EARTH &	ENVIRONMENTAL SCIEN	ICES:		
Acct. 101E	Elementary Accounting I	Par. 35	W 6:30-9:30	0 3		E. & E.S. 102E	Geology	SLC 334	T 6:00-8:00	3
Acct. 102E	Elementary Accounting II	Par. 35	M 6:30-9:30	0 3			Laboratory E	SLC 434	T 8:00-10:00	
Acct. 111E	Intermediate Accounting I	Par. 35	Th 6:30-9:30	0 3			Fee: \$15			
Acct. 221E	Taxes I	Par. 45	W 6:30-9:30	0 3		E. & E.S. 401E	Topics in Environmental	SLC 435	T 6:30-9:30	3
Acct. 231E	Auditing	Par. 35	T 6:30-9:30	0 3			Sciences: Historical Geology			
Acct. 241E	Advanced Accounting I	Par. 45	M 6:30-9:30	0 3						
	(Pre: Acct. 112)					FOREIGN I Span. 298E	LANGUAGES & LITERATI Seminar: Spanish Folklore	URES: Kby. 102	M 6:00-9:00	3
NTHROP	OLOGV.					Spail. 230L	Seminar. Spanish Forkiore	NDY. 102	141 0.00-5.00	J
Anth. 101E	Introduction to Anthropology	SLC 316	W 6:30-9:30	0 3		HISTORY:				
Anth. 300E	Medical and Psychiatric	SLC 316	T 6:30-9:30			Hist. 101E	World Civilization I	SLC 209	M 6:30-9:30	3
	Anthropology					Hist. 102E	World Civilization II	SLC 318	T 6:30-9:30	3
	(Pre: Anth. 101 or Soc. 101 or	permission				Hist. 325E	American Ethnic History	SLC 207	T 6:30-9:30	3
	of instructor.)					Hist. 363E	History of Modern China	SLC 207	W 6:30-9:30	3
DT.						Hist. 398E	Topics: Civil War and	SLC 207	M 6:30-9:30	3
RT:	Functional and Aut 1	CLC 10E	W 6:00-9:00	0 2			Reconstruction			
rt. 101E	Experiencing Art I Batik	SLC 105 SLC 206	M 6:00-9:00							
rt. 245E		SLC 206	T-Th 6:30-8:00			MATHEMA'	TICS:			
Art. 310E	Topics in Art: Modern Architecture and Design	2001	1-111 0.30-0.00	0 3		Math. 101E	Fundamentals of Mathematics I		T-Th 8:00-9:30	3
	Thomteotate and books					Math. 351A	Probability & Mathematical Statistics 1	SLC 403	M-W 4:00-5:30	3
BIOLOGY:										
3io. 101E	Biological Science I	SLC 207	Th 6:30-9:30			MUSIC:				
3io. 402E	Cell Biology	TBA	TB/	A 3		Mus. 101E	Introduction to the Literature and Materials of Music I	DDD 101	T 6:30-9:30	3
BUSINESS	ADMINISTRATION:					Mus. 111A	Piano Class I (Music Majors)	DDD 219	M-Th 6:00-7:00	2
B.A. 101E	Introduction to the Private Sector of Business	Par. 53	T 6:30-9:30	0 3		Mus. 111B	Piano Class I (Non-Music Majors)	DDD 219	M 7:00-9:00	2
3.A. 209E	Business Correspondence and	Par. 34	T 6:30-9:30	0 3		Mus. 113A	Piano Class III (Music Majors)	DDD 219	M-Th 6:00-7:00	2
A 0055	Reports	D. 40	TL 0.00 0.00	0 0		Applied Music:	(Private Lessons)			
3.A. 225E	Managerial Finance	Par. 43	Th 6:30-9:30				Note: It is important that all stu-			
3.A. 231E	Business Law-Introduction, Contracts and Sales	Par. 43	₹ 6:30-9:30				who register for Applied Music to the Evening College consult with William Gasbarro, Music Departr	Mr.		
3.A. 241E	Life Insurance	Par. 43	M 6:30-9:30				man, before completing their reg			
3.A. 251E	Principles of Management	Par. 56	Th 6:30-9:30							
3.A. 261E	Principles of Retailing	Par. 45	Th 6:30-9:30	0 3		NURSING:				
						Nsg. 298E	Topics:	SLC 311	Th 6:30-9:30	3
	EDUCATION:					Nsg. 398E	Topics:	SLC 311	T 6:30-9:30	3
B.E. 105E	Elementary Shorthand	Butler Hall	T-Th 4:45-6:30							
R F 107F	Flementary Typewriting	Rutler Hall	T-Th 7:00-8:4	5 2		DIIII GGGDI				

D.M. LLU		1 01, 70	111 0.00 3.00	Q		Note: It is important that all stu-	dents		
B.A. 231		Par. 43	⊤ 6:30-9:30	3		who register for Applied Music the Evening College consult with			
D 4 041	Contracts and Sales	D 40	W C 20 0 20	2		William Gasbarro, Music Departr			
B.A. 241		Par. 43	M 6:30-9:30			man, before completing their reg	gistration.		
B.A. 251		Par. 56	Th 6:30-9:30						
B.A. 261	E Principles of Retailing	Par. 45	Th 6:30-9:30	3	NURSING:				
					Nsg. 298E	Topics:	SLC 311	Th 6:30-9:30	3
	ESS EDUCATION:				Nsg. 398E	Topics:	SLC 311	T 6:30-9:30	3
B.E. 105		Butler Hall	T-Th 4:45-6:30						
B.E. 107	, ,,	Butler Hall	T-Th 7:00-8:45	2	PHILOSOP	HY:			
	Fee: \$15.				Phil. 101E	Introduction to Philosophy	SLC 380	W 6:30-9:30	3
					Phil. 152E	Introduction to Logic	SLC 380	Th 6:30-9:30	3
COMM	UNICATION STUDIES:				Phil. 203E	Nineteenth Century Philosophy	SLC 270	M 6:30-9:30	3
Comm. 2	9	Butler Hall	M 6:30-9:30	3					
	Advanced News Writing				PHYSICS:				
	(Pre: Comm. 211)				Phys. 101E	Physical Science I	SLC 318	Th 6:30-9:30	3
COMP	HTED COLENOTS.				Phys. 311E	Mechanics I	TBA	TBA	
	UTER SCIENCES:	010404	T Th C.20 9.00	2		(Pre: Phys. 202 and Math. 212)			
C.S. 124	E Cobol Programming Fee: \$20.	SLC 424	T-Th 6:30-8:00	3	Phys. 320E	Electronic Instrumentation	SLC 161	T 5:00-7:00	3
	166. ψ20.					for the Life and Behavioral		Th 5:00-8:00	
ECONO	OMICS:					Sciences Fee: \$20.			
Econ. 10		Dor E2	M 6:30-9:30	2		(Pre: Phys. 106 or 202)			
Econ. 10		Par. 53 Par. 53	Th 6:30-9:30		Phys. 321E	Electronic Instrumentation	SLC 161	T 5:00-7:00	3
Econ. 20		Par. 45	T 6:30-9:30			for the Physical Sciences		Th 5:00-8:00	
Econ. 22	,	Par. 34	W 6:30-9:30			Fee: \$20.			
Econ. 22		Par. 34	Th 6:30-9:30		Phys. 351E	(Pre: Phys. 106 or 202) Quantum Mechanics	TBA	TBA	2
Econ. 22		Par. 43	W 6:30-9:30		1 11ys. 331L	(Pre: Phys. 312, Math. 362)	IDA	IBA	3
LUIII. ZZ	North America, Europe, and	1 al. 40	11 0.30-3.30	3					
	the Soviet Union				POLITICAL	SCIENCE:			
Econ. 23	1E Applied General Statistics	Par. 33	M 6:30-9:30	3	P.S. 101E	Political Science I	SLC 318	M 6:30-9:30	3
	Fee: \$15.				P.S. 398E	Topics in Political Science:	SLC 209	Th 6:30-9:30	
						Budgetary Process			
EDUC	ATION:								
Ed. 351E		SLC 204	W 6:00-9:00	3	PSYCHOLO	OGY:			
	(Pre: Ed. 202)				Psy. 101E	General Psychology I	SLC 334	Th 6:30-9:30	3
					Psy. 398E	Topics in Psychology:	SLC 347	M 6:30-9:30	3
	EERING:					Infant at Risk			
E.E. 211		SLC 127	M-W 5:00-6:30	3					
	(Pre: Math. 112)				SOCIOLOG	Y:			
ENGLI	CII.				Soc. 101E	Introduction to Sociology	SLC 334	M 6:30-9:30	3
		SLC 270	T 6:30-9:30	2	Soc. 251E	Fields of Social Work	SLC 204	Th 6:30-9:30	3
Eng. 101 Eng. 102		SLC 270	W 6:30-9:30			(Pre: Soc. 101 or Anth. 101 or Po 102 or approval of instructor)	sy. 101-		
Liig. 102	(Pre: Eng. 101 or Eng. 100)	310270	11 0.30-3.30	3	Soc. 255E	Introduction to Social	SLC 204	M 6:30-9:30	3
Eng. 151		SLC 380	M 6:30-9:30	3	000.202	Psychology	010101	111 0.30-3.30	0
	(Pre: Eng. 102 or equivalent i	n				(Pre: Soc. 101 or Anth. 101 or Ps	sy. 101-		
F== 202	composition)	01.0.257	T Th C.20 9.00	2	Con 2000	102 or approval of instructor)	01.0.200	W C 20 0 20	0
Eng. 202	E Technical Writing (Pre: Eng. 102)	SLC 257	T-Th 6:30-8:00	J	Soc. 265E	Sociology of Industry (Pre: Soc. 101 or Anth. 101 or P	SLC 209	W 6:30-9:30	3
Eng. 312		Kby. 102	M-W 4:00-5:30	3		102 or approval of instructor)			
Eng. 372		DDD 101	T-Th 4:00-5:30						
Eng. 330		Kby. 102	W 6:30-9:30		SPEECH:				
	and Poetry: Donne and His Sc				Spch. 101E	Fundamentals of Speech	DDD 101	M 6:30-9:30	3

Graduate Division

(TIMES LISTED IN LIGHT FACE REPRESENT A.M.; BOLD FACE P.M.)

Course	Description	Room	Day & Hour	Instructo
BIOLOGY:				
Bio. 402E	Cell Biology	TBA	TBA	Ogre
BUŚINESS	ADMINISTRATION:			
Acct. 503	Managerial Accounting	Par. 56	W 6:30-9:30	Hal
B.A. 502	Management Science	Par. 56	T 6:30-9:30	Enge
B.A. 511	Modern Intl. Commerce	Par. 34	M 6:30-9:30	Taylo
B.A. 514	Market Research and	Par. 33	T 6:30-9:30	William
	Experimentation (Seminar)			
B.A. 522	Quantitative Aspects of Management	Par. 33	Th 6:30-9:30	William
B.A. 550	Topics: Marketing	Par. 33	W 6:30-9:30	Coone
B.A. 595	Independent Research	TBA	TBA	Staf
Econ. 506	Labor-Management Econ.	Par. 56	M 6:30-9:30	Werne
CHEMISTR	Y:			
Chem. 341	Elementary Physical Chem.	SLC 215	M-T-Th 9:00	Swaii
	Laboratory:	SLC 256	Th 8:00-11:00	
	Fee: \$20. (Pre: Chem. 202, Math. 211, 203 or permission of instruc			
Chem. 411	Advanced Inorganic Chem.	TBA	TBA	Fau
Chem. 431	Advanced Organic Chem. I	TBA	TBA	Staf
Chem. 451	Biochemistry I (Pre: Chem. 238 or equivale	TBA	TBA	Staf
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	R SCIENCE:	01.0.000		0. (
C.S. 320A	Logic & Switching Circuits	SLC 223	M-W-F 9:00	Staf
C.S. 321A	Simulation & Data Analysis (Pre: C.S. 223 or C.S. 224)	SLC 424	M-W-F 12;00	Parke
C.S. 323A	Formal Languages and Automata Theory (Pre: Math. 202)	SLC 424	T-Th 1:00-2:30	Koch
C.S. 328A	Analysis of Algorithms (Pre: C.S. 227)	SLC 424	M-W-F 10:00	Parke
C.S. 398/498	Topics in Computer Science (Pre: Varies with the topics s		TBA	Staf
EDUCATIO				
Ed. 513	Comparative Foundations of Education	SLC 270	Th 6:00-9:00	Fahm
Ed. 514	Historical Foundations of Education	SLC 204	T 6:00-9:00	Barone
Ed. 520	Tests & Measurements	SLC 204	W 6:00-9:00	Belluco
Ed. 526	Educational Research II	SLC 209	T 6:00-9:00	Ree

EDUCATIO	N:			
Ed. 513	Comparative Foundations of Education	SLC 270	Th 6:00-9:00	Fahmy
Ed. 514	Historical Foundations of Education	SLC 204	T 6:00-9:00	Barone
Ed. 520	Tests & Measurements	SLC 204	W 6:00-9:00	Bellucci
Ed. 526	Educational Research II (Pre: Ed. 531 or equivalent)	SLC 209	T 6:00-9:00	Rees
Ed. 532D	PEE: Social Studies	SLC 215	M 6:00-9:00	Fahmy
Ed. 534	Elementary School Curric.	SLC 215	Th 6:00-9:00	Darte
ENGLISH:				
Eng. 312A	Chaucer	Kby. 102	M-W 4:00-5:30	Feister
Eng. 372A	Modern Novel	Darte 101	T-Th 4:00-5:30	Rizzo
Eng. 420	Donne & His School	Kby. 102	W 6:30-9:30	Kaska
EARTH &				
E.S. 401	Topics in Environmental Sciences: Historical Geology		T 6:30-9:30	Redmond
HISTORY:				
Hist. 315A	Ancient History: Near East	SLC 147	M-W-F 2:00	Berg
Hist. 325E	American Ethnic History	SLC 207	T 6:30-9:30	Rodechko
Hist. 327A	History of the Foreign	SLC 215	T-Th 10:00	Leach
	Policy of the United States I		F 10:00	0.1
Hist. 355A	Europe in the Nineteenth Century	SLC 147	M-W-F 12:00	Shao
Hist. 363E	History of Modern China	SLC 207	W 6:30-9:30	Shao
Hist. 367A	Modern South Asia	SLC 215	M-W-F 11:00	Berlatsky
Hist. 398E	Topics: Civil War & Reconst.	SLC 207	M 6:30-9:30	Cox
MATHEMAT				
Math. 334A	Linear Algebra	SLC 411	M-W-F 11:00	Wong
Math. 343A	Introduction to Geometry	SLC 405	M-W-F 9:00	Earl
Math. 351A	Probability & Mathematical Statistics I	SLC 403	M-W 4:00-5:30	Richards
Math. 361A	Introduction to Applied Mathematics I	SLC 405	M-W-F 1:00	Sours
Math. 398/498	Topics in Mathematics (Pre: Consent of instructor)	TBA	TBA	Staff
PHYSICS:				
Phys. 311E	Mechanics I	TBA	TBA	Donahoe
Phys. 320E	Electronic Instrumentation for the Life & Behavioral Sciences Fee: \$25.	SLC 161	T 5:00-7:00 Th 5:00-8:00	Holden
Phys. 321E	Electronic Instrumentation for the Physical Sciences	SLC 161	T 5:00-7:00 Th 5:00-8:00	Holden
Phys. 351E	Fee: \$25. Quantum Mechanics	TBA	TBA	Bellas
1113. 001L	Quantum medianics	TUN	TUN	Dellas

C.S. 398/498 Topics in Computer Science TBA TBA

(Pre: Varies with the topics studied)

Staff