

**Wilkes
College**

BULLETIN 1975-1976



WILKES-BARRE, PENNSYLVANIA

ARCHIVES

LD6051

WR266

1975-76

'... unity
amidst
diversity ...'

THE COVER

The Stark Learning Center, the newest addition to the 23-acre campus of Wilkes-College, is a tribute to the late Admiral Harold R. Stark, a long-time friend of the College and dedicated member of the institution's Board of Trustees.

The \$6.7 million, four-floor structure is located in the heart of the Wilkes community on South River Street, facing the River Common.

The construction of the Learning Center was in two phases. During 1972, Phase I went into effect with the selecting of an appropriate site, razing of five dormitories and constructing the building's girdered frame.

At this time the necessity for the completion of the Stark Learning Center took on added significance because of the heavy damage to many campus buildings by the June, 1972 flood.

Phase II included the completion of the building's interior, with finishing touches added to the third and fourth levels and the erection of the William B. Schaeffer Lecture Hall.

The Stark Learning Center marked the extension of the Wilkes College electrical engineering program from two to four years and the addition of an undergraduate program in materials engineering. Also included and expanded were the Nursing Department, Biology and Chemistry Departments, a graduate program in mathematics, facilities for the Art, Psychology and Physics Departments, and the development of a team-teaching faculty.

In 1974, the Stark Learning Center was awarded "First Honors" in state-wide competition by the Pennsylvania Society of the American Institute of Architects for the unique design created by architects, Lacy, Atherton & Davis.

Special features of the facility include: the Sordoni Art Gallery, a tiered Lecture Hall seating 375, nursing education unit with an intensive care training unit, several rear-projection lecture halls and a self-contained computer center.



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

WILKES COLLEGE *Bulletin*

UNDERGRADUATE STUDIES

1975-1976

EUGENE SHEDDEN FARLEY LIBRARY

1933

WILKES COLLEGE WILKES-BARRE, PA.

FALL AND SPRING SEMESTERS

VOL. XXIV

Wilkes-Barre, Pennsylvania 18703

Telephone: (717) 824-4651

An Equal Opportunity/Affirmative Action Institution

College Calendar

LD6051
W2266
1975-76

FALL SEMESTER — 1975

Classes Begin	Wednesday, September 3
Progress Reports Due	Wednesday, October 29
Registration for Spring Term	Seniors — November 6 and 7 Juniors — November 10 and 11 Sophomores — November 13 & 14 Freshmen — November 18 and 19
Thanksgiving Recess	Tuesday, November 25 — 10 p.m.
Classes Resume	Monday, December 1 — 8 a.m.
Classes End	Friday, December 12
Final Exams	Monday, December 15 through Saturday, December 20
Fall Term Ends	Saturday, December 20, 1975

INTERSESSION — 1976 Monday, January 5 through
Friday, January 30

College Calendar

SPRING SEMESTER — 1976

Orientation and Registration	Friday, January 30
Advance Placement Exams	Friday, January 30
Classes Begin	Monday, February 2
Incomplete Grades for Fall Term Due	Saturday, January 24
Incomplete Grades for Interession Due	Saturday, February 28
Progress Reports Due	Saturday, March 20
Spring Vacation	Friday, March 19 — 5 p.m.
Classes Resume	Monday, March 29 — 8 a.m.
Registration for Fall	Seniors — April 22 and 23 Juniors — April 26 and 27 Sophomores — April 29 and 30
Easter Break	Friday, April 16 — 5 p.m.
Classes Resume	Tuesday, April 20 — 8 a.m.
Classes End	Friday, May 14
Final Exams	Monday, May 17 through Saturday, May 22
Commencement	Sunday, May 30, 1976

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Chase Hall on South River Street houses Admissions office.

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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 2,000 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.

AN INDEPENDENT COLLEGE

It was inevitable that the new college should be non-sectarian, 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 non-denominational 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.

UNITY AMIDST DIVERSITY

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.

While academic work is the basis of the College program, the

faculty recognizes that academic training will be of little importance unless students emerge as men and women of strong faith and fine character. In the words of John Stuart Mill, "Before you can make men doctors and lawyers, you must first make them men."

Wilkes College is committed to education as a way of life.

DECADES OF GROWTH

Because of their interest and faith, friends have multiplied their support during the past decades and the campus has expanded steadily so that it now includes most of the properties facing the River Common.

A COOPERATIVE EFFORT

The original concept of community services has been strengthened with the passing of the years and with growing experience. It has been clearly demonstrated that the students, the College, and the community all benefit from cooperative effort.

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 Accounting curriculum has been accredited by the Certified Public Accounting Examiners of the State of New York. The Chemistry curriculum is approved by the American Chemical Society.



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 faculty as a guide to learning.*

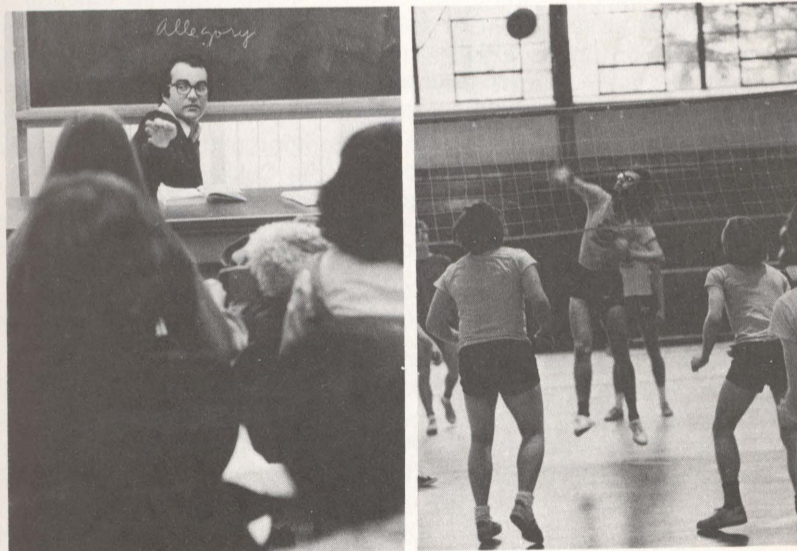
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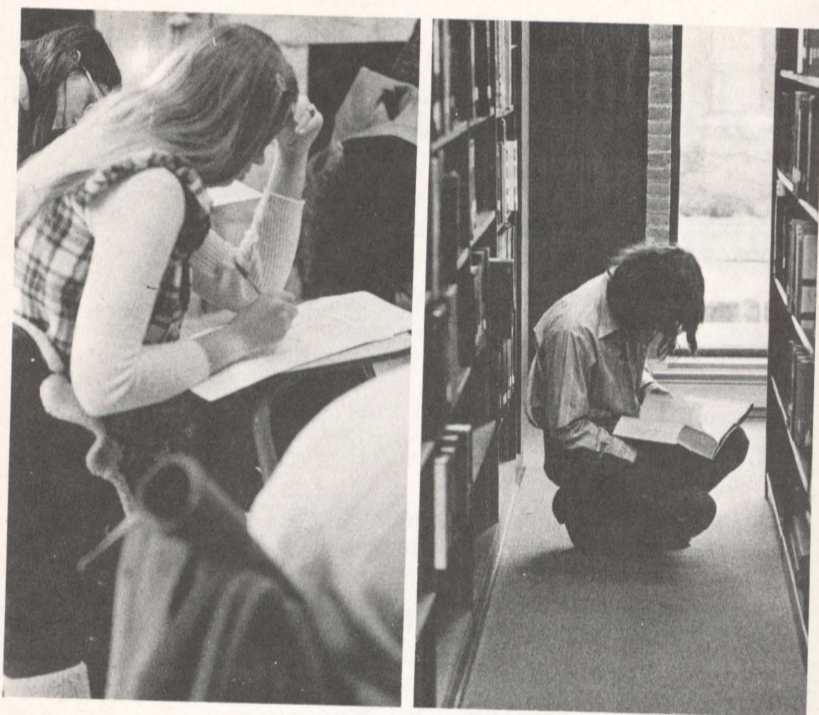
Admissions

Registration

Tuition, Fees, and Expenses

Financial Assistance





Education at Wilkes

The spirit of the College derives from the ideals of the faculty and the quality of its instruction; from its library, its laboratories and equipment.

The spirit of the College is the integrity of its mission, the intellectual climate that enriches the student as a person.

The College believes that no attention can be too great which intensifies a student's thinking or deepens his interest or develops his techniques and skills.

It believes that a good student commits himself to the disciplines of his work. To learn, to master, and to understand he must accept the responsibilities that he shares with others.

Admissions

Candidates applying for admission to Wilkes should offer at least fifteen units of work representing the equivalent of the usual four-year secondary school preparatory school course. For entrance into certain departments, specific courses in secondary school are necessary. Students interested in studying biology, chemistry, engineering, mathematics, medical technology, physics, and science education should be prepared to enter Math. 105 or 111 (Calculus) in the first semester.

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 Boards.

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 Admissions 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; local students are required to forward a \$50 tuition deposit by May 1 in order to guarantee their entry into the College.

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

PERSONAL INTERVIEWS

A personal interview with each student is not required. Students and their families are invited 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 request the college or university he is attending to forward to Wilkes a transcript and an official statement of his honorable withdrawal. 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.

College policy prohibits the Admissions Committee from considering for admission 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 subject 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 mathematics 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 chairman of the Department of Mathematics for further details.

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 that a student continue to work for a degree, or be placed on probation, or withdraw from the Evening Division.

Students who do not desire a degree 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 special courses of instruction in which he wishes to register.

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 available on request from the Division of Continuing Education and Graduate Studies.

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 deans.

Inquiries concerning summer graduate courses should be directed to the Director of Continuing Education and Graduate Studies.

Graduate Division

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. A student presenting himself for registration after the time designated for registration will pay a late registration fee of \$10.

Incoming freshmen will be registered during the summer in the program of courses they will be enrolled in for the first semester. Any questions or changes relating to this program should be directed to the Dean of Admissions immediately.

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 his or her evaluative or opinion 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 Dean's Offices. These records will be open to inspection in the presence of the appropriate College Official. Procedurally, appointments must be made by students one day in advance to review their files.

Expenses

TUITION

The flat tuition fee of \$1,150 per semester (1975-1976) will be charged to all students taking a course load of fourteen to eighteen hours. A student who takes twelve to fourteen hours will be charged at the rate of \$75 per credit hour. A student who elects a heavier schedule than eighteen hours will be charged \$75 for each additional credit hour.

Students enrolled on a part-time basis, eleven or less hours, as well as students enrolled in Summer or Evening Divisions will be charged \$65 per credit hour.

RESIDENT STUDENTS

Students occupying residence halls on the campus will be charged \$650 for room and board per semester. This includes related fees such as linen rental and health service fees.

FEES

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

Medical technology students will be charged in both the seventh and eighth semesters a College and Hospital tuition fee.

The cost of individual instruction in applied music is \$65 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 \$75 per semester.

A student activities fee of \$25 provides for a number of special programs, including plays, concerts, recitals, and lectures, offered at the Center for the Performing Arts, and for home athletic events.

A graduation fee of \$40 is charged to all graduating seniors.

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.

TRANSCRIPTS

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

HEALTH SERVICE

A Health Care Fee of \$20 is required of each student. Part of this fee provides the student with a \$1,000 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.

LIABILITY INSURANCE

Students in nursing or medical affiliation 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 due prior to the first day of classes.

Payment of all charges for tuition, fees, room and board is to be made at the Finance Office, Parrish Hall, before classes begin. 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.

When the student is unable to make payments prior to the due date, he may apply to the Comptroller for an extension of sixty days. Any student not meeting his obligations within this grace period of sixty days beyond the due date will be denied the privilege of class attendance and, if a residence hall student, he shall be excluded from the residence hall and dining hall.

REFUNDS

Students in good standing who withdraw from the College will receive a refund of tuition under the following conditions:

During the first six weeks of a term one-half of the tuition will be refunded upon request 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 for the term.

Refund of dormitory charges will not be allowed except under conditions beyond the control of the student.

No student who is suspended or expelled shall be entitled to any refunds.

Residence Halls

On-campus living is available to full-time single men and women students. Women are housed in converted mansions and homes situated throughout the campus. Men live in converted houses and in one large hall which is divided into nine living units. 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, pillow and study lamps. Each residence hall has one or more lounges, television sets, and all are in close proximity to classroom buildings, administrative offices, and recreation centers. Laundry facilities are available in each hall. Prospective students and their families are invited to visit the residence halls at any time.

All full time undergraduate students of first and second semester academic standing who are under 21 years of age are required to reside in Wilkes College residence halls 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 unless the student ceases enrollment at the College. The cost of room and board is \$650 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.

Each resident student is 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 the student graduates or terminates matriculation at the College, he 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.

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 the student accepts an obligation — which is also the obligation of every other conscientious student — 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 his own choice.

In planning to meet any difference between his own resources and the cost of education the students should consider a combination of work, loans, and grants.

Scholarships

A number of scholarships are awarded without regard to financial need to students of outstanding achievement, in appreciation of their contribution to the intellectual life of the group. High school seniors who desire to be considered for an honor award should apply in writing to the Dean of Admissions at the time of their application for admission. Also, scholarships are available through the Air Force ROTC program. Contact the Professor of Aerospace Studies or the Director of Financial Aid for information.

Financial Aid REQUIREMENTS

1. Students must be admitted to the College before their applications for financial aid will be considered.

2. 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 costs of his education as possible. When such home 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.

3. Every applicant for financial aid shall submit confidential information pertaining to his financial needs and his record of achievement.

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

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

6. No financial aid is awarded for more than one year; however, aid will be renewed upon request, provided this request is supported by a good academic record, by evidence of continued need, and by constructive participation in at least one all-college activity of his choice.

7. The amount of the grant is confidential, and any breach of this confidence shall terminate the award.

INSTRUCTIONS TO THE APPLICANT

1. To establish eligibility for financial aid, the student must first apply for admission to the College, and must be accepted.

2. Students requesting consideration for assistance shall indicate this in the appropriate space on the application for admission to the College.

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 Parents' Confidential Statement (PCS) form to the College Scholarship Service, designating Wilkes College as one of the recipients, by February 1. The Parents' Confidential Statement form may be obtained from a secondary school guidance office or the College Scholarship Service, P. O. Box 176, Princeton, New Jersey 08540.

3. After the student has been accepted for admission to the College, and after a copy of the Parents' Confidential Statement is received, the Committee on Financial Aid acts on all completed applications. Notification of action by the Committee is sent immediately.

Grants-In-Aid

WILKES SCHOLARSHIPS

To assist able and ambitious students, friends and alumni support a substantial scholarship fund that enables the College with its limited resources to more adequately serve those for whom it was created. Because these funds are given by generous men and women who are desirous of helping young people in their effort toward self-improvement and self-development, it is essential that worthy and able students be carefully selected. Wilkes College is dedicated to the belief that no student who has met the competition for admission to the College should be denied the chance to begin his college education, nor forced to withdraw after he has matriculated, for purely financial reasons.

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. The amount of each grant shall be based on the financial need of the student. 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 for this assistance. Available for the first time in 1973-74, the amount of individual grants are related directly to the student's family contribution 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. Interested students should apply in writing to the Director of Financial Aid.

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 employed as a full-time registered nurse in any public or private non-profit agency, institution, or organization, or agrees 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. Eligible Nursing students should contact the Financial Aid Office for further information.

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 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

College makes strict demands on a student's time. The student who finds it necessary to seek full-time employment during the school year is advised to work a year and then apply for admission.

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 also participates in the College Work-Study Program, funded jointly by the Federal Government and the College. Part-time employment not to exceed 15 hours per week during class periods, is available in the dining rooms, offices, laboratories, reception desk, library, or maintenance staff. Since this program is designed to provide financial aid to students, prospective employees must meet financial need requirements set forth by the Federal Government. The holders of these jobs shall meet all obligations of their assignments or forfeit this help from the College. Interested students should contact the Financial Aid Office for information.

DEFERRED PAYMENT PLANS

The College has authorized the operation of two plans through which costs of tuition and other educational expenses may be met from current family income. Basically, these are loan agreements which 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 either:

The Tuition Plan, Inc.
575 Madison Avenue
New York, N.Y. 10022

EFI Fund Management Program
36 South Wabash — Room 1000
Chicago, Illinois 60603

Founders of Scholarships

Some 1000 friends contribute to the scholarship fund of the College on an annual basis. Other friends have created scholarships which bear the names of the donors or of persons whom they have memorialized by means of a scholarship.

Trust Funds and Endowed Scholarships

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 Board and former President of their Company.

It is appropriate that this scholarship should bear his name for no person has done more to bring new opportunities to the young people of Wyoming Valley. As President of Bucknell University, he 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. Because of his vision and faith in the young people of this region, he has supported and guided every forward-looking and constructive effort of the College.

The Arnaud C. Marts Scholarship will be awarded each year to that 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 our 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 extra-curricular activities.

WALTER S. CARPENTER SCHOLARSHIPS IN ENGINEERING. Two full tuition scholarships are awarded annually to Freshmen planning a career in Materials Science or Electrical Engineering. The recipients of these awards are selected by the faculty of the Engineering Department on the basis of the applicant's high school record 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 Chairman, Department of Engineering, Wilkes College.

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, and the annual interest of the principal is used for scholarship purposes.

JEWISH WAR VETERANS, WILKES-BARRE POST 212 SCHOLARSHIP is established in honor of B. J. Levin, one of the Post's foun-

ders. 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.

CONYNGHAM POST NO. 97, GRAND ARMY OF THE REPUBLIC, DEPARTMENT OF PENNSYLVANIA, SCHOLARSHIP. 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.

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 SCHOLARSHIP TRUST has been established to provide scholarships for students of outstanding ability and character majoring in one of the sciences and attending Wilkes College.

WILLIAM B. SCHAEFFER MEMORIAL SCHOLARSHIPS. In 1951 a substantial bequest was left to the College by Mr. Schaeffer with the thought that it would be used 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 individual must be a Palestinian Arab, or the descendant of a Palestinian Arab. In addition, the student must demonstrate his 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 proved ability.

JESSIE STURDEVANT MEMORIAL SCHOLARSHIP awarded to a student of unusual promise and ability has been made available from the interest of 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 ability during each academic year.

MYVANWY WILLIAMS THEATER SCHOLARSHIP is presented each year to a senior 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, Hebrew, and Protestant faiths, who are residents of Wyoming Valley. Selection is made by a special committee of the student Deans of Wilkes College.

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, a service organization long active in efforts to raise educational standards in the schools. The scholarship will be awarded to a senior who has demonstrated ability in the classroom and in student activities.

ALPHA RHO CHAPTER OF DELTA KAPPA GAMMA annually awards a partial scholarship to a deserving woman student in need of financial assistance.

THE WYOMING VALLEY CHAPTER OF THE AMERICAN BUSINESS WOMEN'S ASSOCIATION offers to an outstanding woman student of the College a scholarship each year. The education committee of the club in cooperation with the administration chooses a young woman who shows promise of making an outstanding contribution in business or professional life following graduation.

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

GREATER WILKES-BARRE JUNIOR CHAMBER OF COMMERCE awards a partial scholarship to a deserving student who without financial assistance could not attend college.

LETTERWOMEN'S CLUB annually awards a partial scholarship to a woman athlete selected by the organization.

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 one of the most beloved athletes of Wilkes, Neil Dadurka, 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 this athlete who was fatally injured in a Wilkes College football game in 1972. 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 as 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.

WEST SIDE EVENING WOMAN'S CLUB SCHOLARSHIP shall be awarded annually to a Wyoming Valley girl who matriculates at Wilkes College with the intention of working toward a degree.

WILKES COLLEGE FACULTY WOMEN'S CLUB SCHOLARSHIP 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.

BALESTER OPTICAL COMPANY, INC. annually makes scholarship funds available to assist students of proved academic ability in need of financial assistance in order to complete their education.

CONSOLIDATED CIGAR CORPORATION. This scholarship is awarded annually to students demonstrating scholarship excellence 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.

HEAVENLY SHOES, INC. An annual scholarship is granted by Irving Schor, company president, who manifests concerned dedication to aiding worthy students of Wyoming Valley.

THE GIBBONS SCHOLARSHIP is awarded each year to a deserving male student as selected by the Scholarship Committee.

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 OF CRAFT ASSOCIATES, INC. have created a half-tuition scholarship which will be awarded to a high school graduate who has demonstrated leadership in his scholastic and extracurricular activities and who, without scholarship aid, would be unable to attend college.

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

PENNSYLVANIA MILLER'S MUTUAL INSURANCE COMPANY 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.

STEGMAIER SCHOLARSHIPS. Two one-half tuition scholarships are awarded to senior male students who have made outstanding contributions to the College community.

Employee's Family Scholarships

THE LESLIE FAY SCHOLARSHIP is granted each year to the son or daughter of an employee of the Company whose record in secondary 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 scholar-

ship will be retained by the student for the four years in College, provided his achievement and influence at the 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 College Board Examinations, and must demonstrate financial need.

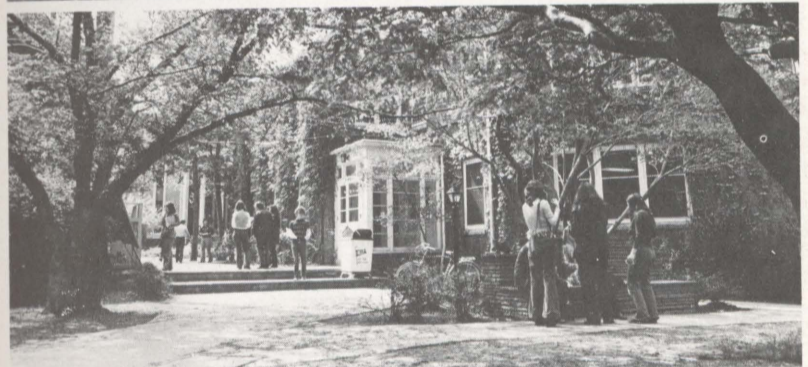
The scholarship will be granted through the College to the applicant making the best record in secondary school and on the College Board Examinations. To retain this scholarship, a student must make a strong academic record and must exert a constructive influence in the College.

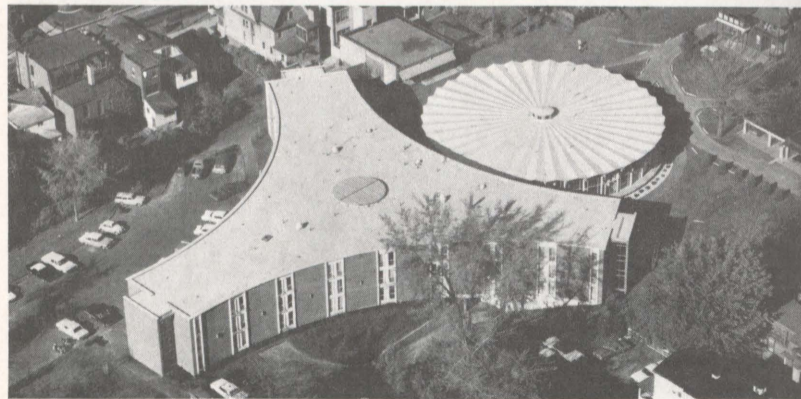
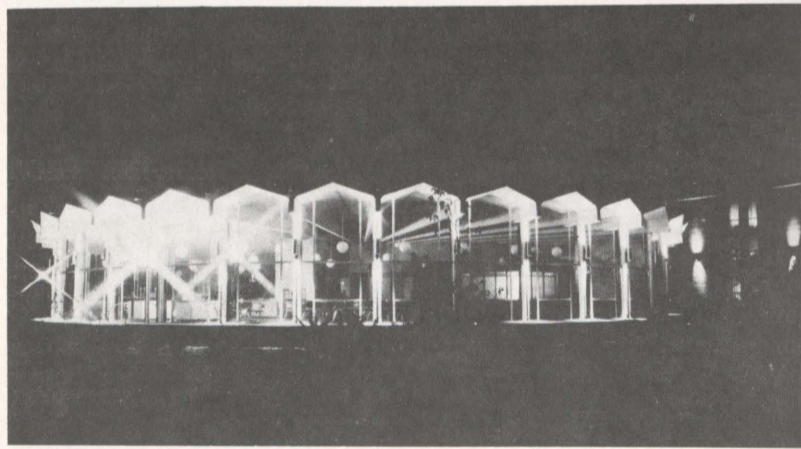
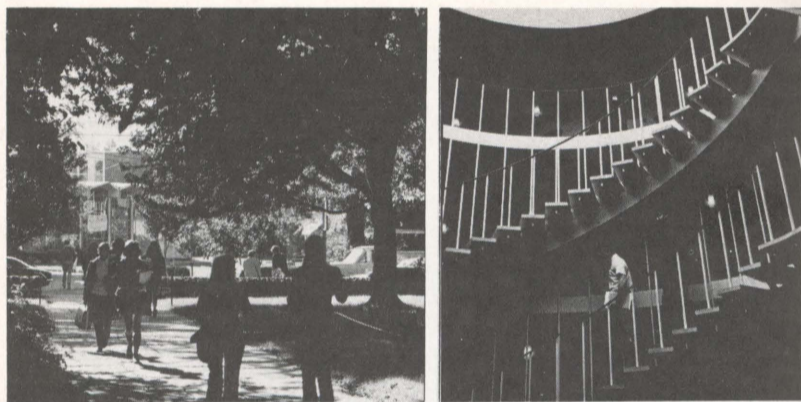
Special Endowments

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 department.

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 scholarships, and creative writing in the field of literature.

GILBERT S. McCLINTOCK was the chairman of the Junior College Committee of Bucknell University when, in answer to a local need, 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.

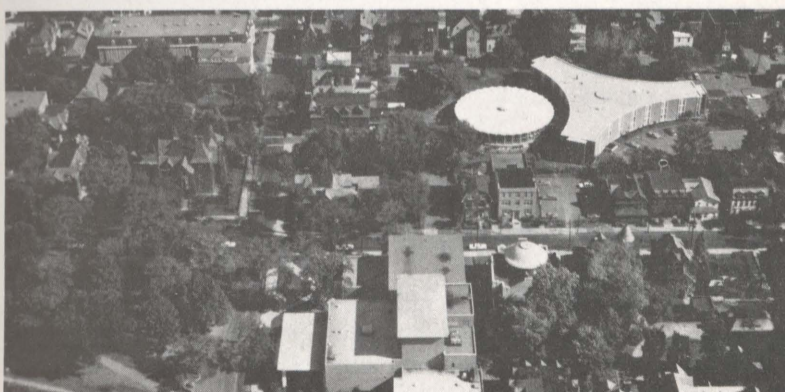




Dining Complex and Pickering Hall

The Facilities of the College

Buildings and Plant





Experience at Wilkes

Education is the process of connecting and relating, of testing and retesting, of discovery and rediscovery.

The faculty can teach the student facts, but his contribution to a free society depends upon the continual expansion of his knowledge and upon its relevance to human experience.

The student can strive for technical and professional competence, but the inner resources of the mind and spirit must nourish and enrich his achievement.

The Facilities of the College

Buildings and Plant

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 presently being used by the Modern Foreign Language Department and contains the language laboratory, initiated by a gift of the graduating class of 1962.

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 historical documents presented by Admiral Harold Stark, and there is a room dedicated in memory of Eleanor Coates Farley, First Lady of Wilkes College.

Library space has been provided for 300,000 volumes and study area for 600 students. Books may be borrowed for periods of three weeks. Reserve books for particular courses circulate for the time period specified by the instructor. Students may borrow books from twelve nearby libraries (public and college) through the inter-library loan system.

The schedule of library hours is announced at the beginning of each academic session.

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, Stark Hall houses the Science Research Center, where faculty, graduate students, and selected undergraduate students conduct various research programs, many with industrial or governmental financial support.

Research in the sciences has included such varied work as research in allergy, immunochemistry, developmental plant morphology, protozoology, limnology, theoretical acoustics, atmospheric physics, experimental solid state physics, thermochemistry, surface chemistry, fuel cell research, organic synthesis, trace elements and environmental health, magnetic susceptibility of sedimentary rocks, and regional geology and climate.

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 \$6,700,000 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, environmental sciences, fine arts, mathematics-computer science, nursing and psychology. It also houses the Sordoni Art Gallery, a fine arts lecture hall and a large number of seminar rooms.

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 which hopefully will enrich the lives of both the Wilkes College Community and the people of Northeastern Pennsylvania.

CENTER FOR THE PERFORMING ARTS

A fully equipped, 500-seat theater is a 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.

Cue and Curtain, the student drama group, has given one-act plays by O'Neill, Sartre, Albee, Anouilh, Tennessee Williams, and others. One-act plays are student directed. Over the years the College has presented Elizabethan plays of Shakespeare, Webster, Dekker, Middleton, as well as plays of Moliere, Shaw, Ibsen, Pirandello, Wilder, Osborne, Noel Coward and Philip Barry.

The College, in cooperation with the Wilkes-Barre Kiwanis Club, has presented the following musical comedies, the proceeds from which have assisted in the establishment of the Wilkes-Barre Kiwanis Charitable Foundation: **Bloomer Girl, Paint Your Wagon, Annie Get Your Gun, The Music Man, The Sound of Music, Camelot, How To Succeed in Business Without Really Trying, Guys and Dolls, and Fiddler on the Roof.**

DOROTHY DICKSON DARTE MUSIC CENTER

Faculty offices, studios, practice and rehearsal rooms are located in a new 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 in memory of the Wilkes player who died of injuries received during the 1972 season.

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.

PLACEMENT OFFICE

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

Complete information about job opportunities and graduate schools is available. Each year the Office is visited by over one hundred representatives of industries and one hundred school systems from all parts of the United States to interview students for business and teaching positions.

Comfortable quarters are provided for representatives from industry, from 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 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 Placement Office upon the request of either the student or the Placement Office.

The Placement Office is located in the Guidance Center, on South River Street, next to McClintock Hall.

ALUMNI OFFICE

The Alumni Office keeps records of all graduates and alumni of the College. It publishes, through the Public Relations Office, the quarterly "Wilkes College Report," acts as liaison for the College with alumni, and interprets to the alumni chapters the changes and needs of the institution.

Prospective students interested in finding out more about the College may write for information to the Alumni Office. They are always welcome at Alumni Chapter meetings.

Current active Chapters are located in twelve geographical sectors throughout the United States.

THE BOOKSTORE

Books, stationery, and supplies may be purchased at the College Bookstore in the new men's residence 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 \$100 per semester.)

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.

CLASSROOMS AND INSTRUCTION

The Institute of Regional Affairs occupies offices in Franklin Hall. Classes and faculty offices in Commerce and Finance, Political Science, Psychology, and Sociology are in Parrish Hall.

Conyngham Hall, located on South River Street, was one of the earliest properties acquired by the College. The Conyngham home was a gift in 1937 of Mrs. Bertha Robinson Conyngham, in memory of her husband, John N. Conyngham. The building was destroyed by fire on December 28, 1968.

OFFICES OF ADMISSION — 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 and the Dean of Academic Affairs have their offices in Weckesser Hall. Also in Weckesser Hall are the Deans of Men, the Deans of Women, the Director of Athletics, the Registrar, the Director of the Division of Continuing Education and Graduate Studies, 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. Presently, the Finance Office and Business Office occupy the first floor. The new men's residence hall, constructed in 1965, is the location of the Housing Office.

RESIDENCE HALLS

Over 20 residence halls are named after prominent local families and for patriots of the American Revolutionary War, whose history forms part of the rich heritage of the Wyoming Valley region.

Student Life

Counseling

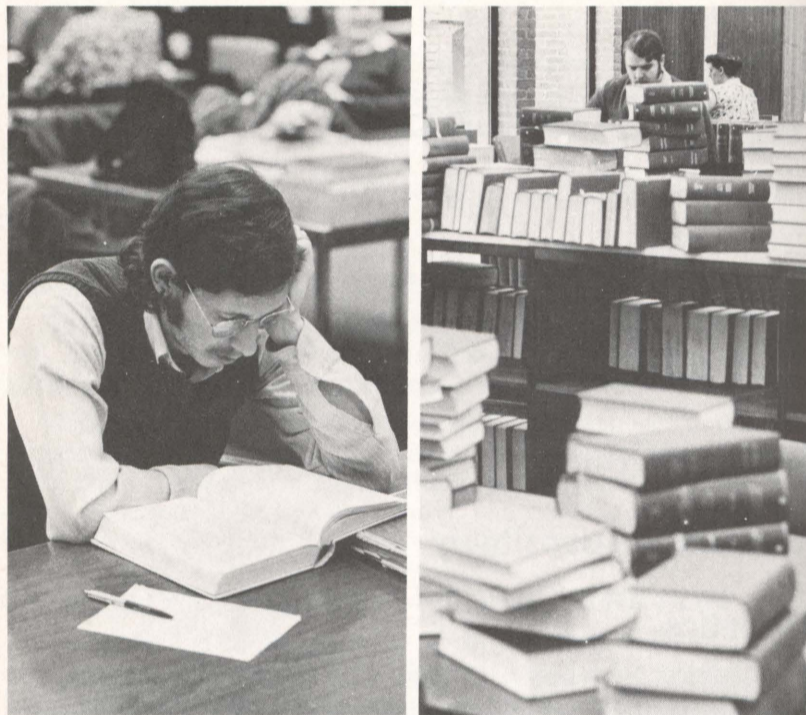
Student Activities

Social Activities

Student Responsibility

Athletics





Studying at Wilkes

In college the teacher works with the student, challenging him to extend the limits of his mind. He encourages him to think courageously and truthfully and to create with all his resources so that he may act with independent judgment.

In a college community freedom of inquiry is essential.

In the world community the right of the individual to differ safeguards the freedom of all men.

As student and teacher engage in the experience of creative thinking, the heritage of learning becomes the responsibility of everyone.

Counseling

The guiding principle of all Wilkes counseling is to encourage the student to discover his own abilities and potential and to assist him in making sound, independent decisions. Most of all, he must learn to assume responsibility for all he does.

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 program.

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 advisor, the deans, or the department chairmen concerning his scholastic progress.

Student Activities

The College encourages a program of extracurricular activities that contribute to the educational development of the student who chooses to participate.

Student activities are designed to appeal to a wide variety of tastes and talents; as such they enjoy the support of the College community. The student activities include Intercollegiate and Intramural Athletics, Theater, the College Band, College Choruses, numerous brass, woodwind and percussion ensembles, Madrigal Singers, the College newspaper, the yearbook, the radio station, the literary magazine, and participation in national intercollegiate forums and debate.

There are four class organizations. In addition, special departmental clubs stimulate and satisfy individual interest in academic, professional, and artistic fields. These clubs are developed for students in cooperation with the faculty. All women students may become members of Theta Delta Rho, headed by its own executive committee, which plans and arranges social activities.

POLICY

The College requires 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 advisors and the deans.

STUDENT GOVERNMENT

Government of student affairs rests in a Council composed of annually elected members representing the classes and other student groups. The Council serves as a coordinating agency. It formulates the student activities budget; it submits this budget to the Administrative Council for approval and is responsible for the supervision of expenditures within the budget. It plans and supervises the social calendar of the College; it is responsible for the Homecoming programs; it recommends to the Council of Deans social regulations pertaining to student life. It consults with and advises the deans and the Administrative Council. It recommends to the Administration student nominees for appointment to selected faculty committees.

INTER-DORMITORY COUNCIL

The Inter-Dormitory Council, made up of elected representatives from the men's and women's residence halls, plans and coordinates residence hall educational and social programs. The Director of Housing advises and works closely with this organization and develops and administers residence hall policy in conjunction with the Council of Deans.

COMMUTER COUNCIL

The Commuter Council, made up of elected representatives from among men and women day students, plans and coordinates educational and social activities. This council works closely with the Council of Deans.

PUBLICATIONS — RADIO

The students publish the **Beacon**, a weekly newspaper; the **Manuscript**, a literary magazine, issued in the Spring; and the **Amnicola**, the College annual. There are opportunities for students on the editorial, art, and business staffs. A subscription to the **Beacon** is paid for out of college student funds and distributed to the students.

Graduated amounts, in the form of tuition stipends, are available to students in the upper classes who hold editorial and managerial positions on the **Beacon**, the **Manuscript**, and the **Amnicola**. Students eligible for these grants should make written application to the faculty adviser of the publication before April 1 for review by the publications committee and the Administrative Council.

The college also maintains an FM radio station, WCLH, which broadcasts daily at 90.7 Mz. Interested students are invited to participate.

CONCERT AND LECTURE SERIES

A carefully selected Concert and Lecture Series is presented throughout the regular college year. All programs are subject to change. They are open to the college family and the public without charge as a Wilkes College service to the community.

Social Activities

The College believes in helping students to help themselves. Groups are encouraged to initiate programs that will serve their interests and benefit others. It has been found that students gain most from those activities, social and cultural, which release the best talents of the individual.

Special projects include the following: TDR's Golden Agers Christmas party, at which residents of Convalescent Homes are entertained; and Student Government's party for children of St. Stanislaus Orphanage.

In addition there are various social affairs to raise money for the United Way, to collect toys for the Salvation Army, and to donate books for students in foreign countries.

A full and varied program of social and recreational activities supplements the extracurricular program.

PARENTS' DAY

After they have adjusted themselves to the academic life of the College, students invite their families to a weekend of social, cultural, and athletic events. Preparations for the annual Parents' Day program are entirely the responsibility of a Student Planning Committee. The agenda includes intercollegiate soccer and football games, luncheon with the faculty, and a concert.

HOMECOMING

To welcome returning alumni, students construct displays on campus and decorate dormitory and classroom buildings. For the outstanding displays an alumni committee presents awards during halftime ceremonies at the football game. A Homecoming Queen and her escorts are feted at a dinner-dance.

THETA DELTA RHO

Theta Delta Rho sponsors receptions to entertain those high school seniors who plan to enter the College the following year.

IDC-CC CHRISTMAS PARTY

The Inter-Dormitory Council and the Commuter Council sponsor an annual Christmas party preceding the winter vacation.

WILKES OPEN WRESTLING TOURNAMENT

Between Christmas and New Year's the College sponsors the Wilkes Open Wrestling Championships. Known as the "Rose Bowl of Wrestling," this annual tournament attracts athletes from over sixty colleges, athletic clubs, and YMCA's throughout the United States. Wilkes wrestlers join them in competing for individual and team awards. Tournaments and clinics are held over a three-day period in the Wilkes gymnasium. The tournament, the largest in the country, has the record for the greatest number of entries.

WINTER CARNIVAL

Student Government sponsors a Winter Carnival, held at one of the nearby resorts in the Poconos. A day of skiing, tobogganing, and ice skating climaxes the close of the mid-year examination period.

SPRING WEEKEND

Student Government also plans Spring Weekend. Clubs and organizations set up gala outdoor booths, and the campus takes on a Mardi Gras atmosphere.

THE MANUSCRIPT FILMS

During each semester the "Manuscript" Society brings to the campus distinguished motion pictures produced by American and foreign film companies.

CLUB ACTIVITIES

In addition to the regular social calendar, campus organizations plan their own special activities.

Athletics

Athletics are an integral part of the activity program and as such are subject to policies set by the faculty and administration and approved by the Board of Trustees.

VARSITY SPORTS

The College maintains intercollegiate schedules in eleven varsity sports: football, baseball, basketball, soccer, golf, tennis, swimming, wrestling, cross-country, field hockey, and lacrosse. Students who take part in intercollegiate sports satisfy the requirements for physical education for the duration of that sport.

INTRAMURAL SPORTS

A program of intramural sports and physical education stresses physical standards and cooperative team spirit and recreation.

ATHLETIC POLICY

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. Wilkes enters into intercollegiate competition with other colleges of the Middle Atlantic Conference adhering to similar policies of admission and maintaining comparable scholastic standards.

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 Intercollegiate Athletic Association for College Women, and the Susquehanna Field Hockey Association.

Student Responsibility

The students in a great measure determine the influences of the College. The faculty counts upon their cooperation in establishing the highest possible standards of intellect and morals. The College may request students to withdraw when their influence and behavior are deemed detrimental to the best interests of the student body and the College.

THE COLLEGE AND YOU

The college motto of "Unity Amidst Diversity" represents the attitude of the institution as a whole. It is recognized that education is the only way the divisive forces of ethnic origin, religion and social classes, could be minimized — the only way a unity of respect for the individual could be achieved.

Society's problems come from achievement and they are the problems that are the challenges of education and our entire society today. The college encourages the students to pick up the challenge of solving the problems of today.

The challenge to all of us at Wilkes is great. We must never forget that an academic community is a unique community. We have a responsibility to each other in all that we do. Any actions which discredit the institution or disrupt the ability of the institution to perform its function effectively cannot be tolerated. The freedom for us

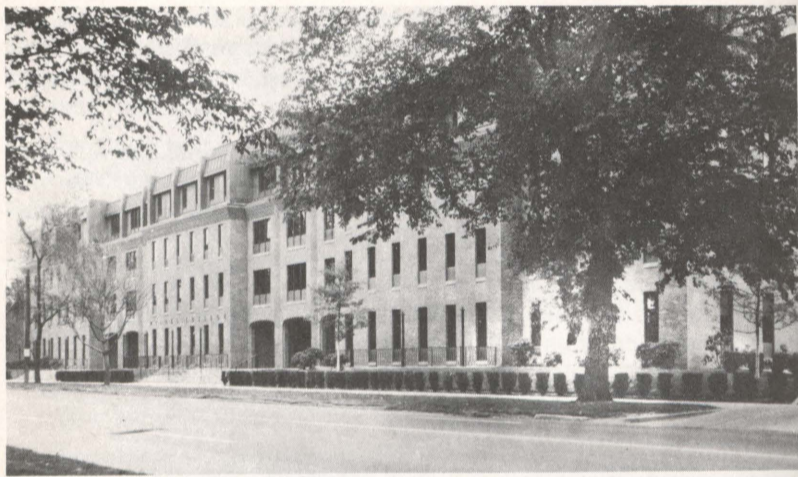
to perform our creative function is a precious thing that few societies enjoy. We must maintain the mutual respect that can bring unity to our efforts while sustaining the diversity that has made us great.

Students are encouraged immediately to assume the spirit of Wilkes as it exists at the college and share with other members of the "campus family" the responsibilities for maintaining high academic and social levels.

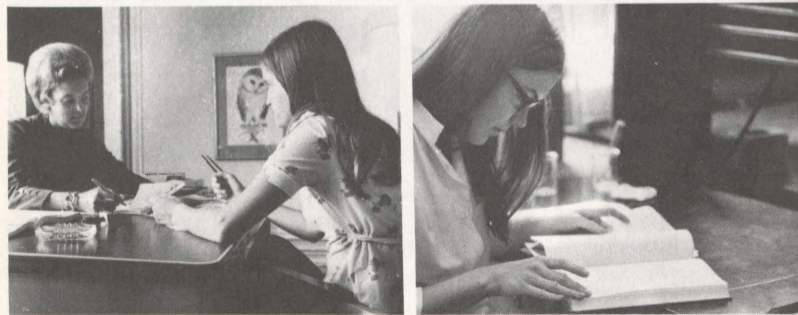
A college career is only as productive and enjoyable as the individual chooses to make it. Students are, therefore, encouraged to participate in campus and local activities, planning and utilizing their time effectively.



Franklin Hall — Institute of Regional Affairs



Catlin Hall — Women's Residence



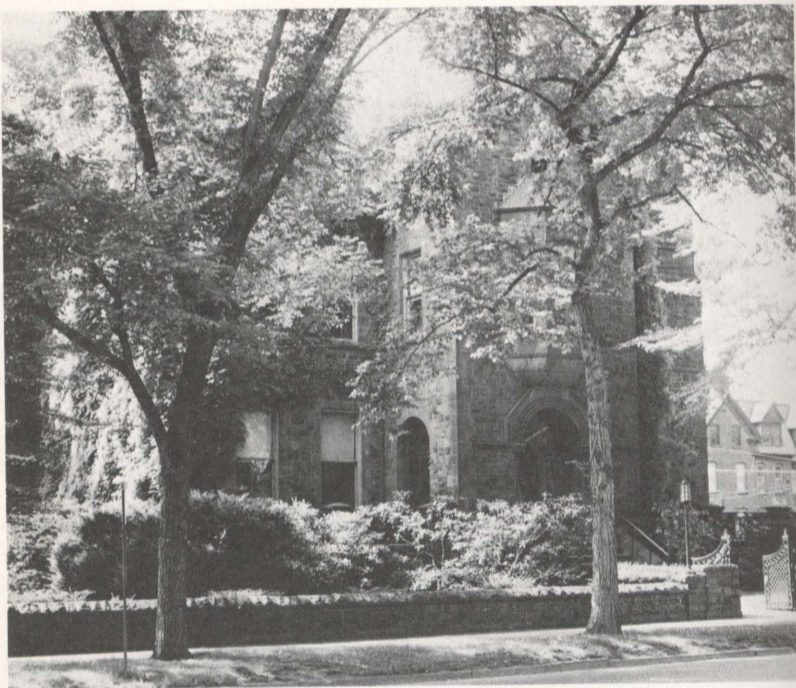
The Academic Program

Curricula

Academic Requirements

Graduation Requirements





Kirby Hall is one of three original campus buildings.

Learning at Wilkes

Education leads men to seek answers to problems of significance and to inquire into ideas and beliefs of eternal relevance. There is no better expression of man's purpose than his sense of belonging to a universe ruled by truth.

Creative thinkers set the standards and the high aims of education. One may not reach these standards in his lifetime; that they are recognized and sought after is the measure of one's intellectual concerns.

The faculty encourages the student to cultivate learning that he may grow in wisdom. In this way the mind in its journeyings finds constant surprise and delight at re-discovering itself.

Curricula

Graduate Programs

WILKES COLLEGE DEGREE PROGRAMS

To fulfill its objective of service to the community and the nation, Wilkes in 1961 introduced two new curricula leading to the degrees of Master of Science in Chemistry and in Physics. These curricula are designed to make practicable either full-time graduate study toward the degrees or part-time study by engineers and scientists with appropriate undergraduate training employed in the Wilkes-Barre area. A program leading to a Master of Science degree in Biology was introduced in September, 1967. In September, 1969 two programs were introduced: one leading to a Master's Degree in Business Administration, and a second leading to a Master of Science degree in Education providing for concentration in the academic disciplines of English, history, mathematics, biology, physics, chemistry, and elementary education. The degree of Master of Science in Mathematics was introduced in September, 1971.

Full details of these programs are published in the bulletin of the Graduate Division.

COOPERATIVE GRADUATE PROGRAMS

Wilkes College is a member of the Lehigh Regional Consortium, which provides opportunities for graduate study at its member institutions — Lehigh, Beaver, Moravian, Wilkes and Allentown College.

Undergraduate Programs

Wilkes is an independent, liberal arts college that offers the degree of Bachelor of Arts in the humanities, the social sciences, and the natural sciences.

All course work in education required for careers in teaching is available in combination with the degree programs mentioned.

The College confers the degree of Bachelor of Science in biology, chemistry, engineering, environmental sciences, mathematics, physics, medical technology, commerce and finance, and certain areas of education. The College also offers in selected engineering

fields a two-year program leading to transfer. In addition, special degree programs in medical education, international studies, and general studies are available.

A detailed description of these programs is provided in the section of the bulletin titled "Degree Programs."

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.

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 graduate 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.

Air Force Reserve Officer Training Corps Program



The program is designed to qualify for commissions those men and women who desire to serve in the United States Air Force, and to provide an education that will develop skills and attitudes vital to professional Air Force officers.

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. Additionally, scholarships are available to a limited number of cadets in the program on a competitive basis, especially in certain technical areas.

Students who successfully complete the Professional Officer Course are commissioned as second lieutenants in the United States Air Force Reserve. They serve on active duty in the Air Force in a specialty as close as possible to their academic training, consistent with AF needs.

The AFROTC program is recognized as academic but of a highly specialized nature. It is not a requirement for graduation but students may use twelve credit hours of the Professional Officer Course (junior and senior year subjects) and four credit hours of the General Military Course (freshman and sophomore year subjects) in substitution for other subjects taken for graduation. 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 section on each curriculum, the twelve credit hours of advanced ROTC may be elected instead of general electives.

LEADERSHIP LABORATORY

Leadership Laboratory is conducted one hour each week. It is an assembly of the entire cadet corps under the direction of the detachment officer staff. The General Military Course cadets learn the rudiments of marching and drill and Air Force customs and courtesies, and the Professional Officer Course cadets develop their capability to plan, organize and supervise cadet activities. During periods of inclement weather, Leadership Laboratory is conducted indoors and consists of programs to familiarize cadets with the life and work of Air Force officers and the base environment in which they function. Experts in the fields of Defense Policy and other current affairs subjects also lecture in the AFROTC Enrichment Program to broaden the student's appreciation in these areas.

FIELD TRAINING

Each cadet must attend field training during the summer before entry into the Professional Officer Course. Field Training is held at several Air Force operational bases each summer, where cadets have the opportunity to observe, fly, and live with career personnel. 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 approximately \$300 for the four-week Field Training and \$450 for the six-week Field Training.

FIELD TRIPS

Periodically, the Department of Aerospace Studies conducts field trips to various Air Force installations. These trips include tours of the base and familiarization flights. Efforts are made also to assist those cadets who are interested in flying to gain as much information as possible about this phase of the Air Force.

FLIGHT INSTRUCTION

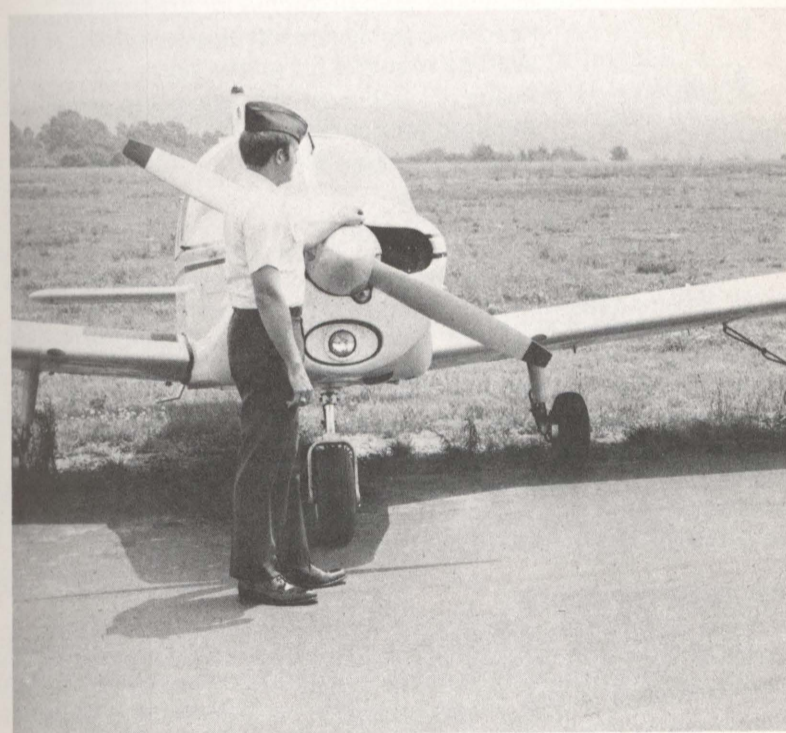
The Flight Instruction Program (FIP), designed for seniors in the Professional Officer Course who plan to enter Air Force pilot training upon graduation, determines whether applicants have the necessary qualifications to fly high-performance aircraft. The pro-

gram consists of two phases. The ground phase, given by officers of the detachment, serves to familiarize each student with procedures in navigation, radio and weather. The flying phase consists of dual and solo flight instruction by a FAA certified civilian flying school at government expense.

CADET DECORATIONS AND AWARDS

A number of medals and awards provided by civil organizations are presented to selected cadets at special ceremonies held each semester. In addition, the Department of Aerospace Studies confers several medals and awards for outstanding performance in various fields.

Distinguished AFROTC Graduate Awards, based on academic and military achievements, are given to outstanding graduates. These awards constitute an advantage in competing for a Regular Air Force commission.



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 purposes of recommendation. Grade reports are sent to students and parents at the end of each term. Mid-term reports are sent if the work is unsatisfactory.

Five numerical grades are given for academic work.

Grade	Interpretation
4	Academic achievement of outstanding quality.
3	Academic achievement of high quality.
2	Academic achievement of acceptable quality in meeting requirements for graduation.
1	Academic achievement of quality below the average required for graduation.
0	Academic achievement below the minimum required for course credit.
P	Passing, no credit.
W	Withdrawal.
N	Audit (No credit).

"X," "Inc.," means that the student received an incomplete grade. Incompletes will be granted to students who, because of illness or reasons beyond their control, have been unable to satisfy all course requirements including the final examination. When such a grade is given, the incomplete work must be made up by or before the end of the fourth week following the last day of the examination period. If the incomplete is not removed within this time, or an extension of time granted by the instructor who gave the grade or by some other authorized person, and the Registrar's Office so notified, the grade will be changed to a zero on the student's record.

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.

POINT AVERAGES

The student is given a number grade for every course in which he is enrolled. To calculate the number of points earned in a course, multiply the grade in each course by the number of credit hours for the course. To compute the point average, total these points for all courses and divide by the total number of credit hours.

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

Course	Credit Hrs.		Points	Credit Hrs. Passed
	Carried	Grade		
Bio. 101	3	4	12	3
Eng. 101	3	0	0	0
Fr. 101	3	2	6	3
Hist. 101	3	1	3	3
Mus. 101	3	3	9	3
Total credit hrs. carried				15
Total credit hrs. passed				12
Total points earned			30	
Average				$30 \div 15 = 2.0$

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 his senior year at least a 1.85 average for all his courses and a 2.0 average in his major field.

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

	General Average	Major Average
Freshman Year	1.40	1.60
Sophomore Year	1.70	1.90
Junior Year	1.85	2.0

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 his 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 ability to continue in college.

ATTENDANCE

Attendance at all classes is expected. Repeated absence is deemed a sufficient cause for failure.

After five consecutive absences from a class, a student may be readmitted to the class only by action of the appropriate dean and the department chairman concerned.

STUDENT LOAD

No students shall be allowed to carry an overload without approval of the advisor and the appropriate dean. An overload will be permitted only for students with an average grade record of 3 or special need.

WITHDRAWALS

A student may drop any course after the first week through the tenth week of the semester. A mark of "W" will be recorded if the student has properly notified the instructor, his faculty advisor, and

the appropriate dean. A student who withdraws from a course after the tenth week of classes but who continues other courses will receive a zero unless the appropriate dean, faculty advisor, and instructor agree that the student be permitted to drop the course without prejudice, in which case a "W" will be recorded. Seven-week modular course may be dropped through the sixth week of classes by following the same procedure.

No student who has been advised to withdraw from the College's day school program for academic reasons will be permitted to register in the Evening Division without the approval of the Academic Standing Committee and then will be allowed to register only as a non-matriculated student.

Students who withdraw from the College or drop courses should give prompt written or verbal notice to the appropriate dean or the Director of the Evening Division and to the instructor concerned, in order that their records may not unjustly show failure in courses.

CHANGE OF MAJOR

Students who wish to transfer from one department to another shall obtain the approval of the advisor and the department chairmen. The student shall satisfy the curriculum requirements of the Bulletin in force at the time of transfer. Change of major forms are available in the Registrar's Office.

TRANSFER OF SUMMER CREDITS

Students desiring to study at another college during the summer must petition the Academic Standing Committee for approval. The student must earn a grade of 2 or higher in order for the work to be credited toward graduation. In some cases it may be necessary for a student to take examinations before credit is granted.

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

DEAN'S LIST

The faculty gives recognition for high quality work. Candidates for the Dean's List, published at the end of each term, must obtain a point average of 3.25 or higher for all courses taken. Students taking less than the full credit load for their curriculum will not be eligible for the Dean's List.

HONORS

The granting of honors at Commencement is based upon the entire academic record achieved by students in their work at Wilkes College, such work to total at least 60 credits earned. The record of transfer students previous to their entrance at Wilkes must have been of **cum laude** quality to be eligible for consideration. Transfer students with fewer than 60 credits will be evaluated by the Honors Committee only when, for exceptional reasons, the chairman of the department of the student's major recommends that this be done.

Requirements for Honors are:

Summa Cum Laude	3.80
Magna Cum Laude	3.50
Cum Laude	3.25

(For the Class of 1976, Commencement Honors will be based on the previous system, as well as the above system, whichever system is to the advantage of the candidate.)

Graduation Requirements

All candidates for degrees and certificates are expected to be present at Commencement. If circumstances prevent their attendance, students must apply to the appropriate dean for permission to take the degree or certificate **in absentia**.

The faculty has approved the following requirements which the student must satisfy in order to be eligible for graduation:

1. He must complete all subjects required for the degree as stated in the Bulletin in force at the time of his admission to the program. All students must complete the last 30 credits in residence at the College.
2. He must earn a grade of 1.0 or better in each required subject.
3. He must obtain a minimum cumulative average of 1.85 for all courses.
4. He must obtain a minimum cumulative average of 2.0 for all subjects within his major.
5. He must satisfy all requirements pertaining to the physical education program.
6. He must demonstrate competence in written and spoken English.

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

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 AWARDS are 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 ATHLETES OF THE YEAR AWARDS are presented annually to the athletes considered by the Beacon staff as being the most outstanding in athletics during the year.

THE BIOLOGY DEPARTMENT BEAKER AWARD is presented annually to that student who has made the strongest contribution to the Biology Department.

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.

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

THE BRANDWENE AWARD in Philosophy and Religious Studies 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 and Religious Studies. The student is selected by the faculty of the aforementioned department, and the award is presented at the annual Awards Day Luncheon.

THE CHEMISTRY AWARD is presented annually to the graduate who has maintained the highest scholastic average throughout the four years of the chemistry program.

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

THE COPERNICUS AWARD is presented annually to the student considered most outstanding in astronomy or a closely related field. This award is presented by the Polish Union in observance of the 500th anniversary of the Polish astronomer, Nicholas Copernicus.

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 grad-

uate who has demonstrated exceptional ability and maintained the highest scholastic average in the field of electrical engineering.

THE ENGINEERING AWARD is presented annually to the graduate of the Engineering Department who has maintained the highest scholastic average throughout his or her college career.

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

THE FACULTY WOMEN'S ELEANOR COATES FARLEY SCHOLARSHIP AWARD is presented annually to the sophomore woman who has ranked first in her class during her freshman year.

THE INTER-DORMITORY COUNCIL'S OUTSTANDING DORMITORY STUDENT AWARDS are 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 graduate who has demonstrated exceptional ability and maintained the highest 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.

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 the 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.

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

THE WILKES COLLEGE CLUB OF THE SOCIETY OF SIGMA XI annually recognizes those seniors who have demonstrated research excellence. Notation of this award is made in the Commencement Program.



Center for the Performing Arts and Dorothy Darte Music Center.

The College and The Community

Institute of Regional Affairs

Economic Development Council

Northeastern Pennsylvania Philharmonic

Fine Arts Fiesta

Cherry Blossom Festival

Center for the Performing Arts

Educational Development Center





Service at Wilkes

It is his own deficiency, and no degree of fate, that makes a man sink into the depths. To think there is no escape from preordained misery is to make the misery perpetual. To seek new paths in a constant renewal of strength — that has always been the secret of progress. When a man waits helplessly for the turning in the wheel of fortune, he has to be regarded as shorn of manhood.

If we could free even one village from the shackles of helplessness and ignorance, an ideal for the whole of India would be established. Let a few villages be rebuilt in this way, and I shall say they are my India. That is the way to discover the true India.

RABINDRANATH TAGORE
Towards Universal Man

The College and The Community

The College was founded to serve the community and has received a large measure of its ever-growing support from outstanding leaders in the community. It has recognized for many years that its growth was related to the economic and social redevelopment of the community and, therefore, it has sought to participate in every effort for community betterment. In consequence, a pattern of cooperation has developed in which the College and the Community work with one another for their mutual benefit.

Institute of Regional Affairs

The Institute of Regional Affairs is a multi-purpose college organization which views regional problems as belonging to no simple academic discipline, but rather as contemporary phenomena spilling into many disciplines. It is really the natural integration of prior activities in which members of the Wilkes College faculty have engaged for at least twenty years. The Institute of Regional Affairs was created to assure the coordination of these varied efforts and better understand and resolve complex and contemporary problems.

Its resources include not only the College faculty in the social sciences — economics, education, psychology, government, sociology — but also those experts in the region who can lend their talents to teaching, research, and consultation. Its four-fold purpose is: education and training, community information, research, and consultation.

1. Labor-Management Courses

To establish a climate for industrial progress, the College has pioneered a management training program under which special classes are organized for personnel in industry, commerce, and banking to meet the needs of business firms in this region. Such programs are arranged in consultation with officials, foremen, and other employees to meet the specific problems of a particular company.

A program designed for members of labor unions is also tailored to the needs of a particular group. All classes are conducted on the campus where the intellectual climate stimulates free intellectual inquiry.

Union and management personnel sometimes meet in an effort to develop that mutual understanding that is essential to constructive action.

2. Municipal Government Program

The fundamental general purpose in assisting local governments has been to help make American democracy stronger by guaranteeing the semi-autonomous structure of American local government, so long as it can retain the capacity to solve its own problems. The program of training, information and consultation service, publications, and research in this field have been aimed at improving the world of local government officials, both elected and appointed. In the fall of 1964, the Glen Alden Coal Company made available an area in Hanover Township known as Concrete City — a 40 acre site — for training the police, firemen, and civil defense workers. The In-Service training program for local government officials has been offered in full cooperation with the Public Service Institute of the Department of Education, Commonwealth of Pennsylvania.

3. Other Activities

From time to time, the Psychology Department, the Sociology Department, the Education Department, the Department of Environmental Sciences, and the Guidance Center initiate and participate in seminars, conferences, and workshops, in the fields of social welfare, mental health, environmental sciences, and education.

Economic Development Council

As a result of the support and the success of the College's Area Research Center, an independent Economic Development Council has been established to serve Northeastern Pennsylvania. The College has supported a number of programs in their infancy and helped them become independent, community activities.

Northeastern Pennsylvania Philharmonic

The Wilkes-Barre Philharmonic, organized under the aegis of the College in 1951, and the Scranton Philharmonic have been combined to form the Northeastern Pennsylvania Philharmonic. The orchestra presents a series of four concerts annually in both Wilkes-

Barre and Scranton. Among its members are students and faculty from the Department of Music of the College.

Fine Arts Fiesta

In 1954 several members of the Board of Trustees and the faculty assisted in the formation of the Wilkes-Barre Fine Arts Fiesta, as part of the City's Sesquicentennial celebration. The College participates with area-wide cultural groups in this four-day festival of music, drama, and the arts presented each spring.

Center for the Performing Arts

The Center for the Performing Arts provides a varied program of cultural and educational events for the Community as well as the College.

Completed in October, 1965, the gift of Mrs. Dorothy Dickson Darte, the Center has facilities for theater, dance, music, and films. Dramatic productions, recitals, lectures, choral and band concerts, ensemble programs, and other cultural events are offered throughout the year.

The Center is operated by the students under faculty direction and supervision.

Cherry Blossom Festival

The College participates with area colleges and cultural groups in a weekend of art sales and demonstrations, music and drama presentations each spring. The Festival is sponsored in conjunction with the Greater Wilkes-Barre Chamber of Commerce. Strong student organizational participation provides a major part of this event.

Educational Development Center

The Educational Development Center is an arm of the Commonwealth of Pennsylvania Department of Education. It is housed on the Wilkes College campus by mutual agreement between the college and the Pennsylvania Department of Education. There are six such centers which have been established on college campuses across the state of Pennsylvania.

Each center has both a statewide and local mission. The center at Wilkes College has as its statewide mission the development of curriculum models in various disciplines for elementary and secondary education. The center's work has included surveying and developing curriculum models for elementary science education, career education, and the education of neglected and delinquent students. At the local level the center has helped to plan the functions of the local intermediate unit and continues to work closely with the unit to provide service to school districts in the area. The center has sponsored a number of seminar programs which have brought to the area prominent speakers from various fields of education.



Wilkes College Gymnasium

Undergraduate Programs

Divisions of Study (3 areas)

Bachelor of Arts Degree (Selection of Major)

Bachelor of Science Degree (Selection of Major)

Degree Requirements

B.A. and B.S. Degree Programs

General Requirements for B.A. and B.S. Degrees

Course Requirements in the Majors

Special Degree Programs

Five-Year B.S.-M.S. Degree in Biology and Mathematics

General Studies

International Studies

Wilkes-Hahnemann Cooperative Medical Education Program in Family Medicine



Weckesser Hall is the center for administrative offices.

Leadership at Wilkes

Those of us who are concerned with the education of young people and with the vitality of our society can never accept uncertainty and confusion as the inevitable condition of society.

We, therefore, are confronted with two choices. We can grasp and support a rigid ideology that offers final answers by ignoring uncongenial facts and truths, or we can make every effort to comprehend the significance of new facts, new truths, and new conditions.

We must endeavor to extend the vision of our students, enlarge their understanding, and prepare them to participate in strengthening and developing our social institutions.

— DR. EUGENE S. FARLEY
First President of Wilkes College

Undergraduate Programs

The program at Wilkes has 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 chairmen.

In its degree programs Wilkes College provides for a broad liberal education and for the concentration in special areas for which students are qualified and have interest. In the Bachelor of Arts and Bachelor of Science degree programs the faculty encourages students to achieve intellectual, social, and spiritual development.

Areas of Study

Mankind's knowledge has tended to be identified in three major areas or divisions of study. These areas and the departments identified with them are listed below. Students will be required to take a general program of courses distributed in these three areas to provide a sound liberal orientation to the fields of man's knowledge. Academic degrees will sometimes require a specific set of these courses to meet degree requirements. Individual departments will identify these requirements when students register.

AREAS

Humanities

English
Fine Arts
Foreign Languages
Music
Philosophy -
Religious Studies
Theatre Arts

Social Sciences

Commerce & Finance
Economics
Education (Elementary
and Secondary)
History
Political Science
Psychology
Social Science
Sociology

Sciences & Mathematics

Biology
Chemistry
Environmental
Sciences
Engineering
Mathematics
& Computer
Science
Nursing
Physics

DOUBLE MAJOR

Students who, in the process of completing their program, also complete the requirements of a second major, may elect to graduate with a double major. The student must declare intent to graduate with a double major by filling out the appropriate form obtainable at the Registrar's Office. It is the student's responsibility to seek the approval of the chairman of the second major department to ensure that all requirements of the second major are fulfilled.

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 men who have created it and lived in it. Studies center around men 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 his explorations in the humanities, social sciences, and sciences.

SELECTION OF A MAJOR

To provide depth of knowledge, some concentration is required. It is desirable that a major be elected as early as possible, especially in the areas of biology, mathematics, and music. 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:

- | | | |
|----------------------|----------------------------------|------------------------------|
| Biology | History | Physics |
| Chemistry | Individualized Studies | Political Science |
| Economics | International Relations | Psychology |
| Elementary Education | Mathematics and Computer Science | Social Science/Urban Affairs |
| English | Music | Sociology- |
| Theater Arts | Philosophy - | Anthropology |
| Fine Arts | Religious Studies | |
| Foreign Language | | |

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:

- | | |
|-----------------------------|--|
| Biology | Environmental Sciences |
| Chemistry | Mathematics (including Computer Science) |
| Commerce and Finance | Medical Technology |
| (a) Accounting | Music Education |
| (b) Business Administration | Nursing |
| (c) Business Education | Physics |
| Engineering | |

Degree Requirements

B.A. AND B.S. DEGREE PROGRAMS

The following pages describe the specific course requirements for each B.A. degree major and for each B.S. degree major. The student is responsible for meeting the requirements of his major program. Complete course descriptions will be found in the back of the Bulletin.

A candidate for graduation during his senior year should report prior to February 15 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.

GENERAL REQUIREMENTS

The following courses listed below are required of all candidates for the Bachelor of Arts degree. They will usually be taken in the semesters indicated. In a curriculum that requires a student to begin with courses at a more advanced level, the advanced course will be accepted as fulfilling the general requirements in that subject.

The general requirements for the Bachelor of Science degree are basically the same as those required for the Bachelor of Arts degree. Certain Bachelor of Science programs do not require all of the following courses. Reference should be made to the individual programs on the following pages for specific deviation. The student with his faculty advisor will plan the proper sequence of his course requirements.

Required Courses	Credit Hours	Normally Taken in Semesters
Eng. 101, 102	6	1-2
Eng. 151, 152	6	3-4
Hist. 101, 102	6	1-2
Phil. 101; 102 ¹	6	3-4 or 5-6
For. Lang. ² 101, 102; For. Lang. ² 203, 204	6-12	1-2-3-4
Humanities Electives		
F.A. 101; or Mus. 101; or Th. Arts 101	3	1 or 2
Mathematics, Science Electives		
Any two courses in Mathematics ³ or Phys. 101-102; or Bio. 101-102; or Env. Sci. 101 and Env. Sci. 102; ⁴ or Chem. 101-102	12	1-2-3-4
Social Science Electives		
Ec. 101, 102; or P.S. 101, 102; or Psy. 101, 102; or Soc. 101, 102	12	3-4-5-6
Physical Education		
Phys. Ed. 100 — 4 Semesters ⁵	0	1-2-3-4
Phys. Ed. 105, 106	2	1-2
	<hr/> 65	

¹ Philosophy majors or students interested in earlier scheduling of philosophy may take Phil. 101 and 102 in the third and fourth semester by later scheduling of the social science requirement. Other Philosophy or Religious Studies courses may be substituted for Phil. 102 in any major. No substitutions are permitted for Phil. 101.

² In all curricula requiring foreign language the level of the course will depend upon the achievement of the student. Except for foreign language majors, the language requirement is through the 204 course, or an equivalent course prescribed by the advisor.

³ The mathematics requirement will vary with individual programs. Students planning to major in Accounting, Biology, Business Administration, Chemistry, Economics, Engineering, Elementary Education, Environmental Sciences, Mathematics, Medical Technology, and Physics should check individual program requirements listed in the Bulletin. For those whose program does not require Math. 105-106 or 111-112, Math. 100 will be counted in this requirement only when followed by Math. 105 or 111.

⁴ Env. Sci. 211, 232, 251 and 282 are also open to non-majors with permission of instructor.

⁵ Students enrolled in AFROTC may substitute AS 101-102-201-202 for P.E. 100 series.

Course Requirements in the Majors

BIOLOGY

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 can be used by those students in secondary education who are preparing to teach and must include the professional semester in the seventh or eighth semester.

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.

Students intending to major in biology 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 (Calculus) in the first term of the freshman year. Experience has shown that the student who does not have such a background will usually require additional pre-college mathematics courses. He may take, preferably in the summer preceding entrance, Math. 100 (algebra and trigonometry) offered at Wilkes, or with the approval of the mathematics department, take an equivalent course at another college or university. Credits in such remedial courses will not exempt the student from any required elective in his program.

FIRST SEMESTER		SECOND SEMESTER	
	B.A. & B.S.		B.A. & B.S.
Bio. 201M	2½	Bio. 203M	2½
Bio. 202M	2½	Bio. 204M	2½
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	1	P.E. 106	1
	<hr/> 17		<hr/> 17

THIRD SEMESTER		
	B.A.	B.S.
Bio. 205M	2½	2½
Bio. 206M	2½	2½
Chem. 237	—	4
Eng. 151	3	3
Hist. 101	3	3
For. Lang. 101*	3	3
F.A.	3	—
P.E. 100	0	0
	<u>17</u>	<u>18</u>

FOURTH SEMESTER		
	B.A.	B.S.
Bio. 207M	2½	2½
Bio. 208M	2½	2½
Chem. 230	4	—
Chem. 238	—	4
Eng. 152	3	3
For. Lang. 102*	3	3
Hist. 102	3	3
P.E. 100	0	0
	<u>18</u>	<u>18</u>

FIFTH SEMESTER		
	B.A.	B.S.
Bio. Electives	3	6
For. Lang. 203*	3	3
Phys. 105	4	4
Ec., P.S., Psy., Soc. 101	3	—
Chem. 221	—	4
Electives	3-5	—
	<u>16-18</u>	<u>17</u>

SIXTH SEMESTER		
	B.A.	B.S.
Bio. Electives	3	6
For. Lang. 204*	3	3
Phys. 106	4	4
Ec., P.S., Psy., Soc. 102	3	—
F.A.	—	3
Electives	3-5	—
	<u>16-18</u>	<u>16</u>

SEVENTH SEMESTER		
	B.A.	B.S.
Bio. 397 ^a	1	1
Phil. 101	3	3
Ec., P.S., Psy., Soc. 101	3	6
Math. 150	—	3
Bio. Elective or Research	—	0-3
Electives	9-12	3
	<u>16-19</u>	<u>16-19</u>

EIGHTH SEMESTER		
	B.A.	B.S.
Bio. 397 ^a	1	1
Phil. 102	3	3
Ec., P.S., Psy., Soc. 102	3	6
Bio. Elective or Research	—	3
Electives	9-12	3-6
	<u>16-19</u>	<u>16-19</u>

Total minimum credits required for B.A. degree in Biology — 132.

Total minimum credits required for B.S. degree in Biology — 134.

CHEMISTRY

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 in chemistry 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

* Majors in biology may elect four semesters of a foreign language or two semesters of computer programming and two semesters of non-science elective.

^a Each student may take only one semester of Bio. 397.

for a career in teaching, medicine, dentistry, technical sales, technical librarianship, technical translator, etc. The student will choose electives after consultation with his advisor.

Students intending to major in Chemistry 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. 111 (Calculus) in the first term of the freshman year. Experience has shown that the student who does not have such a background will usually require additional pre-college mathematics courses. He may take, preferably in the summer preceding entrance, Math. 100 (algebra and trigonometry) offered at Wilkes, or with the approval of the mathematics department, take an equivalent course at another college or university. Credits in such remedial courses will not exempt the student from any required elective in his program.

Wilkes is approved by the American Chemical Society for the professional training of chemists. Students who wish to be certified for membership in the American Chemical Society in the minimum period of two years following graduation must elect Chemistry 411 in the senior year of the B.S. course of study.

FIRST SEMESTER			SECOND SEMESTER		
	B.A.	B.S.		B.A.	B.S.
Chem. 201	4	4	Chem. 202	4	4
Eng. 101	3	3	Eng. 102	3	3
Hist. 101	3	3	Hist. 102	3	3
Math. 111	4	4	Math. 112	4	4
P.E. 100	0	0	P.E. 100	0	0
P.E. 105	1	1	P.S. 106	1	1
	<u>15</u>	<u>15</u>		<u>15</u>	<u>15</u>

THIRD SEMESTER			FOURTH SEMESTER		
	B.A.	B.S.		B.A.	B.S.
Chem. 237	4	4	Chem. 238	4	4
For. Lang. 101	—	3	For. Lang. 102	—	3
Math. 211	4	4	Math. 212	—	4
Phys. 201	4	4	Phys. 202	4	4
P.E. 100	0	0	P.E. 100	0	0
Electives	6	3	Electives	9	0
	<u>18</u>	<u>18</u>	Chem. 212	—	4
				<u>17</u>	<u>19</u>

FIFTH SEMESTER

	B.A.	B.S.
Chem. 221	4	4
Chem. 341	—	4
Eng. 151	—	3
For. Lang. 203	—	3
Phys. 203	3	3
Electives	9	—
	<u>16</u>	<u>17</u>

SIXTH SEMESTER

	B.A.	B.S.
Chem. 336	—	4
Chem. 342	—	4
Eng. 152	—	3
For. Lang. 204	—	3
Electives	15	—
Chem. 262	2	2
	<u>17</u>	<u>16</u>

SEVENTH SEMESTER

	B.A.	B.S.
Chem. 397	1	1
Chem. 261	1	1
Electives ¹	14-17	15-17
	<u>16-19</u>	<u>17-19</u>

EIGHTH SEMESTER

	B.A.	B.S.
Chem. 397	1	1
Chem. 376	—	4
Electives ¹	15-18	12
	<u>16-19</u>	<u>17</u>

Total minimum credits required for B.A. degree in Chemistry—130.

Total minimum credits required for B.S. degree in Chemistry—135.



¹ Electives must include two philosophy courses, Mus. 101 or F.A. 101 or Th. Arts 101, at least one advanced chemistry course in Semester 7 and/or Semester 8, and one of the following: P.S. 101-102, Psy. 101-102, or Soc. 101-102.

COMMERCE AND FINANCE

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

MAJOR IN ACCOUNTING

FIRST SEMESTER

Acct. 101	3
Eng. 101	3
Hist. 101	3
B.A. 101	3
Math. 100 or Math. 105	3-4
P.E. 100	0
P.E. 105	1
	<u>16-17</u>

SECOND SEMESTER

Acct. 102	3
Eng. 102	3
Hist. 102	3
Math. 124	3
Math. 102 or Math. 106	3-4
P.E. 100	0
P.E. 106	1
	<u>16-17</u>

THIRD SEMESTER

Acct. 111	3
B.A. 231	3
Ec. 101	3
Eng. 151	3
Bio. 101 or Phys. 101 or Env. Sci. 101	3
Eng. 131	2
P.E. 100	0
	<u>17</u>

FOURTH SEMESTER

Acct. 112	3
B.A. 232	3
Ec. 102	3
Eng. 152	3
Bio. 102 or Phys. 102 or Env. Sci. 282	3
P.E. 100	0
	<u>15</u>

FIFTH SEMESTER

Acct. 201	3
Ec. 201	3
Ec. 231	3
Soc. 101 or P.S. 101 or Psych. 101	3
Phil. 101	3
Acct. 241	3
	<u>18</u>

SIXTH SEMESTER

Acct. 204	3
Acct. 242	3
F.A. 101 or Mus. 101 or Th. Arts 101	3
Ec. 232	3
Soc. 102 or Psych. 102 or P.S. 102	3
Elective	3
	<u>18</u>

SEVENTH SEMESTER

Acct. 221	3
Acct. 231	3
B.A. 209	3
B.A. 225	3
B.A. 251	3
Elective ¹	3
	<u>18</u>

EIGHTH SEMESTER

Acct. 252	3
B.A. 226	3
Ec. 228	3
Elective ¹	3
	<u>12</u>

Accounting courses should be taken in sequence.

¹ 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.

MAJOR IN BUSINESS ADMINISTRATION

FIRST SEMESTER

Acct. 101	3
B.A. 101	3
Eng. 101	3
Hist. 101	3
Bio. 101 or Phys. 101 or Env. Sci. 101	3
P.E. 100	0
P.E. 105	1
<hr/>	
	16

THIRD SEMESTER

B.A. 231	3
Ec. 101	3
Eng. 151*	3
Math. 100 or Math 101 or Math. 105	3-4
P.S. 101 or Soc. 101 or Psych. 101	3
P.E. 100	0
<hr/>	
	15-16

FIFTH SEMESTER

B.A. 251	3
Ec. 201	3
Ec. 231	3
Phil. 101	3
Electives	6
<hr/>	
	18

SEVENTH SEMESTER

B.A. 209	3
B.A. & Ec. electives	12
Elective	3
<hr/>	
	18

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

Total minimum credits required for B.S. in Business Administration—133.

* Bus. Ad. Majors: Substitute Science elective for Math. Substitute Eng. 131 for B.A. 115 in second semester. Total credits 16 and 18.

SECOND SEMESTER

Acct. 102	3
F.A. 101 or Mus. 101 or Th. Arts 101	3
Eng. 102	3
Eng. 131	2
Hist. 102	3
Bio. 102 or Phys. 102 or Env. Sci. 282	3
P.E. 100	0
P.E. 106	1
<hr/>	
	18

FOURTH SEMESTER

B.A. 232	3
Ec. 102	3
Eng. 152	3
B.A. 115 or Math. 102 or Math. 106	3-4
P.S. 102 or Soc. 102 or Psych. 102	3
P.E. 100	0
<hr/>	
	15-16

SIXTH SEMESTER

B.A. 252	3
Ec. 202 or Ec. 228 or C and F elective	3
Ec. 232	3
Phil. 102	3
B.A. 222	3
Elective	3
<hr/>	
	18

EIGHTH SEMESTER

B.A. & Ec. electives	12
Elective	3
<hr/>	
	15

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

- B.A. 220 — Real Estate
- B.A. 225 — Corporation Finance
- B.A. 226 — Investments
- B.A. 240 — Property Insurance
- B.A. 241 — Life Insurance
- Ec. 202 — Theory of Money
- Ec. 225 — International Trade
- Ec. 236 — Public Finance

- Ec. 241 — Economic Analysis
- Ec. 252 — Introduction to Mathematical Economics
- Math. 105 — Introductory Calculus I & Math. 106 — Introductory Calculus II
- Math. 124 — Cobol Programming
- Math. 227 — Data Structures

ECONOMICS

- Ec. 212 — Government & Business
- Ec. 217 — Economics of Transportation
- Ec. 222 — American Labor Movement
- Ec. 223 — Collective Bargaining
- Ec. 224 — Economic Development
- Ec. 225 — International Trade
- Ec. 227 — Economic Geography of North America, Europe and the Soviet Union
- 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
- Math. 124 — Cobol Programming
- Math. 223 — Advanced Programming

MANAGEMENT AND INDUSTRIAL RELATIONS

- Ec. 222 — American Labor Movement
- Ec. 223 — Collective Bargaining
- B.A. 240 — Property Insurance
- B.A. 241 — Life Insurance
- Psy. 242 — Psychological Tests or Psy. 243 — Industrial Psychology
- Math. 105 — Introductory Calculus I & Math. 106 — Introductory Calculus II

- Math. 124 — Cobol Programming
- Math. 227 — Data Structures
- Soc. 265 — Sociology of Industry
- P.S. 208 — Labor Legislation
- Acct. 201 — Cost Accounting
- Acct. 204 — Managerial Accounting

¹ Soc. 101, Pol. Sci. 101, or Psy. 101 may be taken.

² Soc. 102, Pol. Sci. 102, or Psy. 102 may be taken in continuing sequence.

MARKETING

B.A. 114 — Salesmanship
B.A. 216 — Advertising
B.A. 240 — Property Insurance
B.A. 241 — Life Insurance
Ec. 217 — Economics of Transportation
Ec. 224 — Economic Development
Ec. 225 — International Trade
Ec. 245 — Consumer Economics

Math. 105 — Introductory Calculus I & Math. 106 — Introductory Calculus II
Math 124 — Cobol Programming
Math. 227 — Data Structures
Ret. 101 — Principles of Retailing
Ret. 214 — Retail Buying
Soc. 265 — Sociology of Industry
Psy. 243 — Industrial Psychology

MAJOR IN BUSINESS EDUCATION

The degree of Bachelor of Science in business education is designed to provide a background in general education while it prepares the student for teaching business subjects in secondary schools or for a career in business.

A student planning to enter as a freshman may find it advantageous, at first, to consider a two-year program leading to a certificate in general office or secretarial proficiency. This two-year program provides a foundation for general secretarial preparation, or prepares for later specialization in the four-year major in business education.

FIRST SEMESTER

Bus. Ed. 105 ¹ or Acct. 101	2-3
Bus. Ed. 107	2
Eng. 131	2
Bio. 101 or Phys. 101 or Env. Sci. 101	3
Eng. 101	3
Hist. 101	3
P.E. 100	0
P.E. 105	1
	<u>16-17</u>

THIRD SEMESTER

Bus. Ed. 207 or Acct. 111	3
Bus. Ed. 201 ²	1
Acct. 101 or Ret. 101	3
B.A. 231	3
Psy. 101	3
Ec. 101 ³	3-4
P.E. 100	0
	<u>15-17</u>

SECOND SEMESTER

Bus. Ed. 106 ¹ or Acct. 102	2-3
Bus. Ed. 108	2
Eng. 102	3
B.A. 115	3
Bio. 102 or Phys. 102 or Env. Sci. 282	3
Hist. 102	3
P.E. 100	0
P.E. 106	1
	<u>17-18</u>

FOURTH SEMESTER

Bus. Ed. 208 or Acct. 112	3
Bus. Ed. 202 ²	1
Acct. 102 or Ret. Elective	3
B.A. 232	3
Psy. 102	3
Ec. 102 ³	3
P.E. 100	0
	<u>15-16</u>

¹ It is required that any Business Education major, regardless of sequence, shall have at least two semesters in Accounting.

² Students following accounting sequence need not take third and fourth semesters of typewriting.

³ Two-year program students take Bus. Ed. 205 in semester 3 and Ec. 101 in Semester 4.

FIFTH SEMESTER

Acct. 111 or Ret. 101 ¹	3
Soc. 101 or P.S. 101	3
Eng. 151	3
Ed. 201	3
B.A. 251	3
	<u>15</u>

SEVENTH SEMESTER

Bus. Ed. 243 ²	3
Bus. Ed. 205	4
Phil. 101	3
Mus. 101 or F.A. 101 or Th. Arts. 101	3
B.A. 209	3
	<u>16</u>

SIXTH SEMESTER

Acct. 112 or Ret. Elective ¹	3
Soc. 102 or P.S. 102	3
Eng. 152	3
Ed. 202	3
B.A. 252	3
	<u>15</u>

EIGHTH SEMESTER

Ed. 330	12
Elective	3
	<u>15</u>

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

ECONOMICS

Students who major in Economics are required to complete twenty-four 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 advisor. The twenty-four hours in economics which the major must carry include Ec. 201, 202, 231, 232, and 241. Students who elect a program in Economics should take Math. 105, 106 and, if necessary, Math. 100.

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

EDUCATION

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 Biology, Chemistry, Economics, Eng-

¹ It is required that any Business Education major, regardless of sequence, shall have at least two semesters in Accounting.

² Students following accounting sequence need not take third and fourth semesters of typewriting.

³ Two-year program students take Bus. Ed. 205 in semester 3 and Ec. 101 in semester 4.

lish, 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 on the next page.

- b. must elect Psy. 101-102.
- c. must elect Ed. 201, 202, and 330. (Note that Psy. 102 is prerequisite to Ed. 202.)

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.

B.A. DEGREE IN ELEMENTARY EDUCATION

FIRST SEMESTER		SECOND SEMESTER	
Eng. 101	3	Eng. 102	3
For. Lang. 101	3	For. Lang. 102	3
Hist. 101	3	Hist. 102	3
Psy. 101	3	Psy. 102	3
Math. 103	3	Math. 104	3
P.E. 105	1	P.E. 106	1
P.E. 100	0	P.E. 100	0
	<hr/> 16		<hr/> 16
THIRD SEMESTER		FOURTH SEMESTER	
Eng. 151	3	Eng. 152	3
For. Lang. 203	3	For. Lang. 204	3
Math. 232	3	Math. 243	3
Ed. 201	3	Science	3-4
Science	3-4	Ed. 202	3
P.E. 100	0	P.E. 100	0
	<hr/> 15-16		<hr/> 15-16
FIFTH SEMESTER		SIXTH SEMESTER	
Phil. 101	3	Phil. 102	3
Ed. 291	2	Ed. 292	2
Psy. 221	3	Option	12-13
Option	9-10		
	<hr/> 17-18		<hr/> 17-18
SEVENTH SEMESTER		EIGHTH SEMESTER	
Ed. 300	15	Ed. 300	15
or Ed. 391	2	or Ed. 391	2
and Option	15	and Option	15
	<hr/> 15-17		<hr/> 15-17

STUDENTS MUST SELECT AND FOLLOW ONE OPTION

- OPTION I (36*) — 18 Sciences/Mathematics (min. 12 of 18 one Dept.); 6-12 Humanities**; 6-12 Social Science.
- OPTION II (36*) — 6 Sciences/Mathematics; 18 Humanities** (min. 12 of 18 one Dept.); 12 Social Science.
- OPTION III (36*) — 6 Sciences/Mathematics; 6 Humanities**; 24 Social Science (min. 12 of 24 one Dept.).
- OPTION IV (36*) — This option is designed to accommodate any regular major at the College. The student must include F.A. 240 and one science course in the option. Students electing this option must complete a double major.

Total minimum credits required for a B.A. degree in Elementary Education—128.

SOCIAL STUDIES CERTIFICATION PROGRAM

General Core Courses	Cr. Hrs.
English 101-102	6
English 151-152	6
Phil. 101, 102 (or alternative)	6
Lang. 101, 102, 203, 204	12
History 101, 102	6
Humanities Elective	3
Mathematics, Science electives	12
PE 100 — 4 semesters required	0
PE 105-106	2
Social Science electives	12
(Psych. 101, 102 must currently be taken as prerequisites for Education 202)	
TOTAL	<hr/> 65
Major In A Social Science	
Economics, History, Political Science, Psychology, or Sociology-Anthropology	
TOTAL	<hr/> 24
Professional Education Courses	
Education 201	3
Education 202	3
Education 330	12
TOTAL	<hr/> 18

* Total hours in option.
** Must include F.A. 240 — 3 credits.

Social Science Electives

Fifteen hours of electives in at least two social sciences other than the selected major are required

TOTAL	15
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Summary

General Core Requirements	65
Social Science Major	24
Professional Education	18
Social Science Electives	15
TOTAL	122

ENGLISH

The Department of English offers a variety of programs for students interested in language and the language arts: they may concentrate in literature, in writing, in journalism, 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 English 101 and 102 in their freshman year; and English 151, 153, and 154 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; English 201, 203, and 395 and 396; and the submission of a portfolio of the student's work.

Journalism. The concentration in journalism requires 12 credit hours in advanced literature courses; English 201; Journalism 251 and 252; and one of the following: Journalism 298; 395 or 396; or 397.

Certification. Students who seek certification as public school teachers must include Speech 101 or Theater Arts 131, and English 201, 204, 305, and either 381, 382, or 383 in their program.

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, and 374. Students who seek certification, however, are required to take only 15 credit hours in advanced English courses, including 204; 221; any two of 321, 341, or 374; and any one of 381, 382, or 383.

Total minimum credits required for a B.A. degree in English—121.

ENGINEERING

Wilkes College offers four-year programs in electrical engineering and in materials engineering leading to the Bachelor of Science degree. In addition the first two years of programs in civil engineering, chemical engineering, and mechanical engineering are offered, and upon completion of the second year, students in any of these programs may transfer to the junior year at other engineering schools.

The first year of all curricula in engineering is the same. The second year will vary depending upon the student's choice of major engineering interest.

The student chapters of the Institute of Electronic and Electrical Engineers (I.E.E.E.) and the American Society 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 also mandatory for completion of degree requirements.

Students intending to major in engineering 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. III (calculus) in the first term of the freshman year. Experience has shown that the student who does not have such a background will usually require additional pre-college mathematics courses. He may take, preferably in the summer preceding entrance, Math. 100 (algebra and trigonometry) offered at Wilkes, or with the approval of the mathematics department, take an equiv-

alent course at another college or university. Credits in such remedial courses will not exempt the student from any required elective in this program.

FRESHMAN AND SOPHOMORE YEARS
COMMON TO ALL ENGINEERING PROGRAMS

FIRST SEMESTER		SECOND SEMESTER	
Math. 111	4	Math. 112	4
Chem. 201	4	Chem. 202	4
Eng. 101	3	Phys. 201	4
Engi. 111	3	Eng. 102	3
P.E. 105	1	P.E. 106	1
P.E. 100	0	P.E. 100	0
	<u>15</u>		<u>16</u>
THIRD SEMESTER		FOURTH SEMESTER	
Math. 211	4	Math. 212	4
Phys. 202	4	Phys. 203	3
E.E. 211	3	E.E. 212*	3
Ma.E. 211	3	Ma.E. 212*	3
Non-Technical Elective	3	Non-Technical Elective	3
	<u>17</u>		<u>16</u>

ELECTRICAL ENGINEERING

Third and fourth year requirements leading to a B.S. degree in Electrical Engineering.

FIFTH SEMESTER		SIXTH SEMESTER	
E.E. 251	4	E.E. 252	4
E.E. 331	4	E.E. 272	3
Non-Technical Elective	3	E.E. 332	4
E.E. Elective	6	E.E. Elective	3
	<u>17</u>	Non-Technical Elective	3
			<u>17</u>
SEVENTH SEMESTER		EIGHTH SEMESTER	
E.E. 335	3	E.E. 320	4
E.E. 381	4	E.E. 382	4
E.E. 397	1	E.E. 397	1
E.E. Elective	6	E.E. Elective ¹	3
Non-Technical Elective	3	Non-Technical Elective	5
	<u>17</u>		<u>17</u>

*Students wishing to transfer after two years to pursue studies in Chemical, Civil, Mechanical, etc. engineering should select these courses to fit their programs.
E.E. Electives may be chosen from any mathematics, science or engineering course numbered 200 or above. Total minimum credits required for B.S. degree in Electrical Engineering — 132.

MATERIALS ENGINEERING

Third and fourth year requirements leading to a B.S. degree in Materials Engineering.

FIFTH SEMESTER		SIXTH SEMESTER	
Ma.E. Electives ¹	6	Ma.E. Electives ¹	6
E.E. 251	4	E.E. 272	3
Eng. 131	2	Chem. 212	4
Non-Technical Electives	3	Non-Technical Electives	3
	<u>15</u>		<u>16</u>
SEVENTH SEMESTER		EIGHTH SEMESTER	
Ma.E. Electives ¹	6	Ma.E. Electives ¹	6
Ma.E. Electives ²	3-4	Ma.E. 397	1
Ma.E. 381	2	Non-Technical Electives	9
Ma.E. 397	1		
Chem. 221	4		
	<u>16-17</u>		<u>16</u>

ENVIRONMENTAL SCIENCES

The B.S. program in Environmental Sciences is designed to provide a thorough grounding in the fundamentals of this broad interdisciplinary body of knowledge. Understanding of the relation between man and his environment is achieved through study and analysis of naturally occurring processes, their effects on human activity and the effect of human activity on natural processes.

Students entering the program will have the option of selecting an area of concentration related to the career they envision. This includes emphasis on the scientific and/or sociological aspects of the environment. Upon completion of the requirements for the degree, the graduate can be well prepared to enter graduate or professional schools, secondary education, business, industry or government.

Since the career options available to the graduate are numerous and diverse, technical electives in many disciplines are an integral part of the curriculum and are expected to serve a critical role in the student's preparation.

Experience has shown that students who have not had four years of mathematics study in secondary school will usually require some pre-college courses. In the summer session preceding entrance the student may take Math. 100, Pre-Calculus Mathematics

¹ Ma.E. electives to be taken from a sequence scheduled by the department for alternate years.

² Students desiring an electronic materials option should select E.E. 381, others may elect from any mathematics, science or engineering courses numbered 200 or above.

³ Total minimum credits required for B.S. degree in Materials Engineering—127.

(algebra and trigonometry), offered at Wilkes, or with the approval of the Mathematics Department take an equivalent course at another college or university. Credit in this remedial course does not exempt the student from any required elective in his program.

FIRST SEMESTER		SECOND SEMESTER	
E.S. 101	3	E.S. 102	3
Math. 105 or Math. 111	4	Math. 106 or Math. 112	4
Bio. 201	2½	Bio. 208	2½
Eng. 101	3	Eng. 102	3
For. Lang. 101	3	For. Lang. 102	3
P.E. 100	0	P.E. 100	0
P.E. 105	1	P.E. 106	1
	<hr/>		<hr/>
	16½		16½
THIRD SEMESTER		FOURTH SEMESTER	
E.S. 211	3	E.S. 251	3
Chem. 201	4	Chem. 202	4
Eng. 151	3	Eng. 152	3
For. Lang. 203 ¹	3	For. Lang. 204 ¹	3
Ec., Psy., P.S., Soc. 101	3	Ec., Psy., P.S., Soc. 102	3
P.E. 100	0	P.E. 100	0
	<hr/>		<hr/>
	16		16
FIFTH SEMESTER		SIXTH SEMESTER	
E.S. 232	3	E.S. 330	3
E.S. 282	3	Ec., Psy., P.S., Soc. 102	3
Ec., Psy., P.S., Soc. 101	3	Hist. 102	3
Hist. 101	3	Bio. Elective	3
E.S. Electives ²	3	E.S. Electives ²	3
	<hr/>		<hr/>
	15		15
SEVENTH SEMESTER		EIGHTH SEMESTER	
E.S. 381	3	E.S. 382	3
E.S. 397	3	E.S. Electives ¹	6
E.S. Electives ¹	6	Other Electives ²	6
Other Electives ²	3		
	<hr/>		<hr/>
	15		15

Total minimum credits required for B.S. degree in Environmental Sciences—125.

¹ Math. 123 and Math. 223 may be substituted for Intermed. For. Lang.

²(a) For students electing the Natural Sciences option may include: E.S. 395-6 (Ind. Research), E.S. 401-2 (Topics in Env. Sci. I-II), Phys. 201-2-3 (General Physics I-II-III), Phys. 330 (Optics & Lights), Phys. 320-1 (Electronic Networks, Measurements & Instrumentation), Chem. 212 (Systematic Inorganic), Chem. 221 (Inorganic Quant. Analysis), Chem. 230 (Organic Chem.), Bio. 301 (Botany), Bio. 305 (Invert Bio.), Bio. 310 (Animal Behavior), Bio. 332 (Evolutionary Mechanisms), Math. 211-12 (Linear Algebra, Diff. Eq. & Multivariable Calc.), Ma.E. 202 (Materials Science), Ma.E. 211 (Crystallography), Ma.E. 212 (X-Ray Diffraction), Math. 150 (Elem. Statistics) or Ec. 231 (App. Gen. Stat).

(b) For students electing the Social Sciences option may include: Ec. 227-8 (Economic Geography), Soc. 215 (Soc. of Urban Life), Soc. 230 (Social Problems), P.S. 214 (Planning & Urban Development), P.S. 207 (Public Administration), P.S. 394 (Practicum), P.S. 398 (Topics in Pol. Sci.), Math. 150 (Elem. Statistics) or Ec. 231 (App. Gen. Stat.).

FINE ARTS

Students who major in Fine Arts are required to complete the following program of studies in addition to the general requirements for the B.A. degree. Students who desire certification for teaching Art in the public elementary and secondary schools elect the professional semester in Fine Arts Education during the seventh or eighth semesters.

FIRST SEMESTER		SECOND SEMESTER	
Eng. 101	3	Eng. 102	3
Hist. 101	3	Hist. 102	3
For. Lang. 101	3	For. Lang. 102	3
F.A. 201	3	F.A. 202	3
P.E. 100	0	P.E. 100	0
P.E. 105*	1-2	Math., Sci. Elective	3
Math., Sci. Elective ^{1a}	3	F.A. 208	3
	<hr/>		<hr/>
	16-17		18
THIRD SEMESTER		FOURTH SEMESTER	
Eng. 151	3	Eng. 152	3
For. Lang. 203	3	For. Lang. 204	3
F.A. 203	3	F.A. 204	3
F.A. 223	3	F.A. 224	3
P.E. 100	0	P.E. 100	0
Math., Sci. Elective ^{1(b) (2)}	3	Math., Sci. Elective ¹	3
	<hr/>	P.E. 106*	0-1
	15		15-16

¹(a) For students electing the Natural Sciences option may include: E.S. 395-6 (Ind. Research), E.S. 401-2 (Topics in Env. Sci. I-II), Phys. 201-2-3 (General Physics I-II-III), Phys. 330 (Optics & Lights), Phys. 320-1 (Electronic Networks, Measurements & Instrumentation), Chem. 212 (Systematic Inorganic), Chem. 221 (Inorganic Quant. Analysis), Chem. 230 (Organic Chem.), Bio. 301 (Botany), Bio. 305 (Invert Bio.), Bio. 310 (Animal Behavior), Bio. 332 (Evolutionary Mechanisms), Math. 211-12 (Linear Algebra, Diff. Eq. & Multivariable Calc.), Ma.E. 202 (Materials Science), Ma.E. 211 (Crystallography), Ma.E. 212 (X-Ray Diffraction), Math. 150 (Elem. Statistics) or Ec. 231 (App. Gen. Stat).

(b) For students electing the Social Sciences option may include: Ec. 227-8 (Economic Geography), Soc. 215 (Soc. of Urban Life), Soc. 230 (Social Problems), P.S. 214 (Planning & Urban Development), P.S. 207 (Public Administration), P.S. 394 (Practicum), P.S. 398 (Topics in Pol. Sci.), Math. 150 (Elem. Statistics) or Ec. 231 (App. Gen. Stat.).

² Students working for certification in art education should elect Psy. 101-102 for semesters three and four and take science requirements in semester five and six.

*Women and men should take Hygiene 105 for 2 and 1 credits respectively during the first semester and the men should complete the requirement 106 for 1 credit in the fourth semester.

NOTE: All art courses are offered only in the semesters listed unless otherwise noted. Art students pursuing certification in art education are encouraged to elect F.A. 240 (Art in Elementary Classroom).

FIFTH SEMESTER	
F.A. 206 ⁴	3
F.A. 210 ⁴	3
Phil. 101	3
Soc. Sci. Elect. ^{1b}	3
Math., Sci. Elective ^{1a}	3
Elective ^{3 5}	3
	<hr/>
	18

SEVENTH SEMESTER	
F.A. 231	2
F.A. 311 ⁶	2
F.A. 213 ⁴	3
Elective ⁵	8-11
	<hr/>
	15-18

Total minimum credits required for a B.A. degree in Fine Arts—128.

FOREIGN LANGUAGES (Modern)

A major in any of the modern foreign languages consists of twenty-four additional credit hours in advanced language courses beyond the 102 course.

Total minimum credits required for a B.A. degree in Foreign Languages—121.

- ^{1(a)}For students electing the Natural Sciences option may include: E.S. 395-6 (Ind. Research), E.S. 401-2 (Topics in Env. Sci. I-II), Phys. 201-2-3 (General Physics I-II-III), Phys. 330 (Optics & Lights), Phys. 320-1 (Electronic Networks, Measurements & Instrumentation), Chem. 212 (Systematic Inorganic), Chem. 221 (Inorganic Quant. Analysis), Chem. 230 (Organic Chem.), Bio. 301 (Botany), Bio. 305 (Invert Bio.), Bio. 310 (Animal Behavior), Bio. 332 (Evolutionary Mechanisms), Math. 211-12 (Linear Algebra, Diff. Eq. & Multivariable Calc.), Ma.E. 202 (Materials Science), Ma.E. 211 (Crystallography), Ma.E. 212 (X-Ray Diffraction), Math. 150 (Elem. Statistics) or Ec. 231 (App. Gen. Stat).
- ^(b)For students electing the Social Sciences option may include: Ec. 227-8 (Economic Geography), Soc. 215 (Soc. of Urban Life), Soc. 230 (Social Problems), P.S. 214 (Planning & Urban Development), P.S. 207 (Public Administration), P.S. 394 (Practicum), P.S. 398 (Topics in Pol. Sci.), Math. 150 (Elem. Statistics) or Ec. 231 (App. Gen. Stat.).
- ²Students working for certification in art education should elect Psy. 101-102 for semesters three and four and take science requirements in semester five and six.
- ³Students wishing to receive certification in art education must elect Ed. 201, 202 in semesters five and six and 330 in semester seven or eight. (Note: Psy. 101 and 102 are prerequisites.) Students interested in electing a double major should refer to the other department's qualifications in bulletin.
- ⁴F.A. 210 (Modeling & 3D Design), F.A. 206 (Printmaking), F.A. 213 (Metalwork and Jewelry) and F.A. 212 (Ceramics) are offered Fall and Spring semesters.
- ⁵F.A. 214 (Photography), F.A. 395-396 (Independent Research) and F.A. 240 (Art in Elementary Classroom) are offered in the Fall and Spring semesters. F.A. 205 (Advanced Painting), F.A. 211 (Sculpture) are offered in the Fall semester only. F.A. 207 (Advanced Printmaking) is offered in the Spring semester only. F.A. 280 (special topic art courses) will be offered periodically in the Fall and Spring semesters.
- ⁶Senior Exhibit will be scheduled in both the seventh and eighth semesters.

HISTORY

Students who major in history are required to take History 101 and 102 in the freshman year, History 207 and 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. Individuals planning graduate study in history are urged to take History 371.

Total minimum credits required for a B.A. degree in History—121.

MATHEMATICS

The Department of Mathematics offers courses of study leading to the B.A., B.S., M.S. in Mathematics, and, in cooperation with the Education Department, the M.S. in Education with a major in Mathematics degrees. A combined five-year B.S.-M.S. degree program in mathematics is also available. It is described in the Special Degree Program Section, which begins on page 114. Descriptions of graduate programs are contained in a separate graduate bulletin.

The baccalaureate programs are designed to provide a firm background for graduate studies in pure and applied mathematics, for careers in industry, the computer field, governmental service, and secondary or elementary school teaching.

In recent years, the mathematical sciences have played an ever-expanding role not only in the physical sciences, but also in the social and natural sciences as well. The study of mathematics is often not an end in itself. The mathematics degree requirements at Wilkes are sufficiently flexible to allow a student to have at least 30 credits of electives in any area of his choice. This is often enough to enable him to take all courses required of another major. By combining the study of mathematics with properly chosen courses in other fields, a student in either the B.A. or the B.S. program will be able to obtain more than adequate preparation for graduate or professional study leading to careers in actuarial science, economics, business and management, law, medicine, physical and engineering sciences, and many interdisciplinary fields. Many professional schools particularly welcome applicants with a strong undergraduate mathematics background.

Students intending to major in Mathematics 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. 111 (Calculus) in the first term of his freshman year. Experience has shown that the student who does not have

such a background will usually require additional pre-college mathematics courses. He may take, preferably in the summer preceding entrance, Math. 100 (algebra and trigonometry), offered at Wilkes, or with the approval of the mathematics department, take an equivalent course at another college or university. Credits in such remedial courses will not exempt the student from any required elective in his program.

It is highly recommended that prospective mathematics majors elect French, German, or Russian in secondary school. As a rule, three years of one of these languages is more desirable than two years or less of each of two different languages.

The B.A. degree is intended for those who wish to elect more liberal arts and social science courses while the B.S. degree allows for greater concentration of physical and natural science electives. Students may satisfy the certification requirements for secondary or elementary school teaching in either program.

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

The required courses for the baccalaureate degrees in mathematics are listed below. They are arranged in a sample schedule by semester for the convenience of the student. The sequence in which they are taken may be altered if necessary so long as the prerequisites involved are met.

FIRST SEMESTER			SECOND SEMESTER		
	B.A.	B.S.		B.A.	B.S.
Eng. 101	3	3	Eng. 102	3	3
F.A., Mus., or Th. Arts 101	3	3	For. Lang. 102	3	3
For. Lang. 101	3	3	Math. 112	4	4
Math. 111	4	4	P.E. 100	0	0
P.E. 100	0	0	P.E. 106	1	1
P.E. 105	1	1	Phys. 201	—	4
Soc. Sci. Elective ¹	3	3	Science Elective ³	3-4	—
			Soc. Sci. Elective ¹	3	3
	<hr/>	<hr/>		<hr/>	<hr/>
	17	17		17-18	18

¹To be chosen among the sequences: Econ. 101-102, Pol. Sc. 101-102, Psych. 101-102 and Soc. 101-102.

²Only Biology, Chemistry, Electrical Engineering, Materials Engineering, or Physics courses numbered above 200, Phil. 320 and 360 are acceptable science electives for B.S. students.

³For B.A. and B.S. students, at least two of the three required science electives must be offered by the same department.

⁴The only acceptable mathematics electives for all mathematics majors are 123, 124, 223, 227 and courses numbered above 250.

THIRD SEMESTER			FOURTH SEMESTER		
	B.A.	B.S.		B.A.	B.S.
Eng. 151	3	3	Eng. 152	3	3
For. Lang. 203	3	3	For. Lang. 204	3	3
Math. 211	4	4	Math. 212	4	4
P.E. 100	0	0	Math. 202	3	3
Phil. 101	3	3	P.E. 100	0	0
Science Elective ^{2 3}	3-4	3-4	Science Elective ^{2 3}	3-4	3-4
	<hr/>	<hr/>		<hr/>	<hr/>
	16-17	16-17		16-17	16-17

FIFTH SEMESTER			SIXTH SEMESTER		
	B.A.	B.S.		B.A.	B.S.
Electives	3-7	3-7	Electives	6-9	6-9
Hist. 101	3	3	Hist. 102	3	3
Math. 311	4	4	Math. 314, 342, or 413	3	3
Math. 331	4	4	Math. 334	3	3
	<hr/>	<hr/>		<hr/>	<hr/>
	14-18	14-18		15-18	15-18

SEVENTH SEMESTER			EIGHTH SEMESTER		
	B.A.	B.S.		B.A.	B.S.
Electives	9-12	6-9	Electives	9-12	6-9
Mathematics Elective ⁴	3	6	Mathematics Elective ⁴	3	6
Math. ⁴ or Sci. Elective ²	—	3-4	Math. ⁴ or Sci. Elective ²	—	3-4
Soc. Sci. Elective ¹	3	—	Soc. Sci. Elective ¹	3	—
	<hr/>	<hr/>		<hr/>	<hr/>
	15-18	15-19		15-18	15-19

Minimum total credits required:

for B.A. — 125.

for B.S. — 126.



(See footnotes on preceding page).

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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 in medical technology. 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., Hackensack Hospital in Hackensack, N. J., the Williamsport Hospital, the Hahnemann Medical College and Hospital, and the General Hospital in Wilkes-Barre, Pa. Fulfillment of the fourth year requirement at non-affiliated hospitals requires special permission of the department chairman and of the Academic Standing Committee.

FIRST SEMESTER	
Bio. 201M	2½
Bio. 202M	2½
Chem. 201	4
Eng. 101	3
Math. 105	4
P.E. 100	0
16	

THIRD SEMESTER	
Bio. 205M	2½
Bio. 206M	2½
Chem. 221	4
Eng. 151	3
Hist. 101	3
Soc. Sci. Elective	3
18	

FIFTH SEMESTER	
Bio. 303	3
Bio. 307	3
Math. 123	3
Phys. 105	4
Elective	3
16	

SEVENTH SEMESTER

In lieu of the senior academic year on campus, one calendar year of study is required at an accredited school of medical technology.

SECOND SEMESTER	
Bio. 203M	2½
Bio. 204M	2½
Chem. 202	4
Eng. 102	3
Math. 106	4
P.E. 100	0
P.E. 105-106	1
17	

FOURTH SEMESTER	
Bio. 207M	2½
Bio. 208M	2½
Chem. 230	4
Eng. 152	3
Hist. 102	3
Soc. Sci. Elective	3
18	

SIXTH SEMESTER	
Bio. 302	3
Bio. 313	3
Phys. 106	4
Phys. 320	3
Elective	3
16	

EIGHTH SEMESTER**MUSIC AND MUSIC EDUCATION¹**

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.

	FIRST SEMESTER		SECOND SEMESTER	
	B.A.	B.S.	B.A.	B.S.
For. Lang. 101	3	—	For. Lang. 102	3
Eng. 101	3	3	Eng. 102	3
Math., Sci. Elective	3	3	Math., Sci. Elective	3
Mus. 105 or 106	5	5	Mus. 106	5
Mus. Ed. 101 or 103	—	2	Mus. Ed. 102 or 104	—
Hist. 101	—	3	Hist. 102	—
Applied Mus. ²	1	1	Applied Mus. ²	1
Mus. 121-124, 125-128, 131-134	½	½	Mus. 121-124, 125-128, 131-134	½
P.E. 100	0	0	P.E. 100	0
P.E. 105	1	1	P.E. 106	1
16½		18½		
	THIRD SEMESTER		FOURTH SEMESTER	
	B.A.	B.S.	B.A.	B.S.
Eng. 151	—	3	Eng. 152	—
Mus. Ed. 101 or 103	—	2	Mus. Ed. 102 or 104	—
Mus. 107	5	5	Mus. 108	5
Mus. 109	—	3	Mus. 110	—
Applied Mus. ²	1	1	Applied Mus. ²	1
Psy. 101	3	3	Psy. 102	3
Mus. 121-124, 125-128, 131-134	½	½	Mus. 121-124, 125-128, 131-134	½
P.E. 100	0	0	P.E. 100	0
For. Lang. 203	3	—	For. Lang. 204	3
Hist. 101	3	—	Hist. 102	3
15½		17½		
	FIFTH SEMESTER		SIXTH SEMESTER	
	B.A.	B.S.	B.A.	B.S.
Math., Sci. Elective	3	—	Math., Sci. Elective	3
Ed. 201	—	3	Ed. 202	—
Soc. Sci. Elective	3	3	Soc. Sci. Elective	3
Mus. Ed. 105	—	2	Mus. Ed. 105 or 106	—
Mus. Ed. 209	—	2	Mus. Ed. 210	—
Mus. Ed. 121	—	2	Mus. Ed. 123	—
Mus. Ed. 201	—	2	Mus. Ed. 202	—
Applied Mus. ²	2	1	Applied Mus. ²	2
Mus. 121-124, 125-128, 131-134	½	½	Mus. 121-124, 125-128, 131-134	½
Mus. 111	—	2	Mus. 112	—
Eng. 151	3	—	Eng. 152	3
Phil. 101	3	—	Phil. 230	3
Mus. 109	3	—	Mus. 110	3
17½		17½		

¹ There is a music fee of \$15 per semester for all music and music education majors.

² Private instruction. The fee for this instruction is in addition to the regular tuition charge.

SEVENTH SEMESTER

	B.A.	B.S.
Applied Mus. ¹	2	1
Mus. 215	2	2
Mus. 217	2	—
Mus. 121-124, 125-128 131-134	1/2	1/2
Electives	9	—
Mus. Ed. 127	—	2
Mus. Ed. 122 or 125	—	2
Mus. Ed. 340 or Elective	—	8-6
Mus. 113 or Elective	—	2-3
	15 1/2	15 1/2- 18 1/2

Total minimum credits required for a B.A. degree in Music—131.

Total minimum credits required for a B.S. degree in Music Education—140

NURSING

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 the professional nurse practitioner to use the nursing process in a variety of settings with people of all ages, and to develop the ability and motivation to continue her learning through instruction, experiences, and guidance in the undergraduate program.
2. Provide a foundation for graduate study in nursing.
3. Assist the currently practicing nurse within the community to maintain and expand her professional knowledge and skill through continuing education programs.

Philosophy of Nursing

Nursing is a profession committed to cultivating the quality of human life in a changing world. Professional nursing involves a deliberative process of assessment, problem-oriented planning, implementation, and the evaluation of nursing outcomes. The nurse practitioner fosters unique caring relationships which engenders

¹ Private instruction. The fee for this instruction is in addition to the regular tuition charge.

trust and cooperation, and insures the effectiveness of its practitioner through initial and continuing educational experiences.

The baccalaureate program prepares a competent, self-directed, professional nurse practitioner who exerts leadership in the emerging roles of primary, acute and long term care. Emphasis is on the maintenance of health and the surveillance of the health practices of people.

The curriculum pattern enables the student to integrate the arts, the sciences, and the humanities with nursing and choose electives in areas related to personal interests and career goals.

Each student brings with him/her experiences which are unique. Students are expected to share with the faculty the responsibility for maintaining an educational environment which engenders creativity and provides for a climate of continued personal and professional growth.

Instructional Resources

All professional nursing courses are conducted by the faculty of the Department of Nursing, and each faculty member participates in the planning and implementation of the curriculum. The resources of other departments of the College are also utilized to provide a program which is broad in scope.

Related field instruction and observations are directed by the nursing faculty, and planned especially for the Wilkes nursing students. Through cooperative agreements, the hospitals and agencies have been most generous in opening their facilities to the Wilkes nursing students: Mercy Hospital, Nesbitt Memorial Hospital, Veterans Administration Hospital, Wyoming Valley Hospital, Wilkes-Barre General Hospital; Friendship House (Scranton), Rural Health Corporation, Associated Internists of Kingston, Home Health Services of Northeastern Pennsylvania, Valley Crest, the Luzerne-Wyoming Mental Health Center, and the Hazleton-Nanticoke Mental Health Center.

STUDENTS ARE RESPONSIBLE FOR THEIR OWN TRANSPORTATION TO ASSIGNED CLINICAL AREAS.

The faculty believes that learning is an independent, self-initiated, and life-long process and is effective when the student is active in the learning process. Therefore, the opportunity for self-learning is provided in the Learning Center, which is equipped with electronic study carrels and audio-visual materials. A simulated hospital environment facilitates independent practice and study.

The center is open twelve hours a day and is staffed with nursing faculty who assist students to progress at their own pace, utilizing the equipment, supplies, and procedures which will be encountered in the various clinical settings.

Expenses of the Nursing Program

The student of nursing assumes all the financial obligations listed in the finance section of this catalogue. Additional expenses incurred in the nursing program include: uniforms, name pins, graduate nurse pins, yearly physical examinations, immunizations, dental and eye examinations, NLN achievement tests, liability insurance for sophomores, juniors, and seniors, and transportation to assigned clinical areas.

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 his level of competency. Previous education and/or practical experience which would involve repetitive learning may justify the applicant to seek higher level responsibilities.

The general admission requirements of the College must be fulfilled and in addition, the student must submit to the Chairman of the Department of Nursing:

1. The Departmental Matriculation Form
2. A transcript from the previous education in nursing (diploma, associate degree, practical or military nursing program)
3. A record of licensure and/or standardized test results.

Registered nurses may be admitted for either full-time or part-time study.

Students may challenge in the proper sequence, twenty-one credits of clinical nursing courses. Examinations are offered twice a year, in March and in November. Upon receipt of the approved petition and \$25 fee for each course, study materials and directions will be given to the student by the faculty advisor. Examinations

may not be repeated. Upon successful completion of the examination, the credits are recorded on the student's official record.

Students are advised to contact the Chairman of the Liberal Arts Departments for the dates and places of examinations for these courses.

Curriculum

The curriculum is an integrated program covering a four academic year period, totaling 127 credits. The faculty of the Department of Nursing reserves the right to make changes it deems necessary in course credit and content to meet relevant needs of society.

Satisfactory completion of all required nursing courses, which included both theory and practice, is pre-requisite for progression to the succeeding year of study. Only with the permission of the Chairman of the Nursing Department may changes be made.

Nursing courses are introduced in the first year and the nursing experiences progress from the simple to the complex throughout the four year period.

The student will have the option to select his/her area of concentration in Nursing in the senior year, and will be assigned a faculty advisor who is a clinical expert in the student's chosen field of interest. Opportunities for individualized learning are provided, to develop the student's ability for self direction and critical judgment.

FIRST SEMESTER		SECOND SEMESTER	
Eng. 101	3	Eng. 102	3
Psy. 101	3	Bio. 116	4
Bio. 115	4	Chem. 230	4
Chem. 105	4	Nsg. 102	4
Nsg. 101	3	P.E. 100	0
P.E. 100	0		
	<hr/>		<hr/>
	17		15
THIRD SEMESTER		FOURTH SEMESTER	
Bio. 113	4	Soc. 200	3
Nsg. 200	3	Psy. 102	3
Soc. 101	3	Nsg. 202	7
Nsg. 201	7	P.E. 100	0
P.E. 100	0	Elective	3
	<hr/>		<hr/>
	17		16

FIFTH SEMESTER

Hist. 101 or 102 or Eng. 151	3
Phil. 101 or 102	3
Nsg. 203	7
Elective	3
	16

SEVENTH SEMESTER

Hist. 101 or 102 or Eng. 151 or 152	3
Nsg. 295	6
Elective	6
	15

SIXTH SEMESTER

Hist. 101 or 102 or Eng. 151 or 152	3
Nsg. 204	7
Elective	3
Env. Sci. 102	3
	16

EIGHTH SEMESTER

Hist. 101 or 102 or Eng. 152	3
Nsg. 296	4
Nsg. 297	2
Elective	6
	15

- Nursing — 47 credits (Nsg. 200 — Nutrition is not included)
- Science — 23 credits
- Humanities — 15 credits
- Social Sciences — 18 credits
- Electives — 21 credits
- Minimum number of credits required for B.S. Degree in Nursing—127.

License to Practice

Candidates for a license to practice in the health field are required to have "good moral character." The 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 a party or otherwise included in any legal action or legal proceedings, either civil or criminal.

PHILOSOPHY — RELIGIOUS STUDIES

A major in the combined fields of philosophy and religious studies consists of twenty-four hours in philosophy and religious studies courses beyond Philosophy 101 and 102. At least eighteen of the twenty-four hours must be taken in philosophy. Philosophy-Religious Studies majors should schedule courses in philosophy and religious studies no later than their sophomore year.

Total minimum credits required for a B.A. degree in Philosophy—121.

PHYSICS

This 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 advisor.

Experience has shown that students who have not had four years of mathematics in secondary school will usually require some pre-college courses. In the summer session preceding entrance the student may take Math. 100, Pre-Calculus Mathematics (algebra and trigonometry), offered at Wilkes, or with the approval of the mathematics department take an equivalent course at another college or university. Credit in this remedial course does not exempt the student from any required elective in his program.

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: Economics 101 and 102 or Psychology 101 and 102; Political Science 101 and 102 or Sociology 101 and 102.

Students who are prospective secondary school teachers should consult the information on education course requirements listed in the section on Education Degree Requirements.

The B.S. curriculum in physics is designed to provide a thorough grounding in the fundamentals of this rapidly-expanding science, as well as to acquaint the student with the current frontiers of knowledge and research. Upon completion of the requirements for the degree, the student will be well prepared to proceed to graduate study leading to an advanced degree or to undertake an industrial position.

FIRST SEMESTER

	B.A.	B.S.
Math. 111	4	4
Eng. 101	3	3
Hist. 101	3	3
Phys. 201	4	4
P.E. 105	1	1
P.E. 100	0	0
	<u>15</u>	<u>15</u>

THIRD SEMESTER

	B.A.	B.S.
Math. 211	4	4
Phys. 203	3	3
For. Lang. 101 ¹	3	3
P.E. 100	0	0
Chem. 201	4	4
F.A. 101 or Elective	3	—
Phys. 321	—	3
	<u>17</u>	<u>17</u>

FIFTH SEMESTER

	B.A.	B.S.
Phys. 331	4	4
For. Lang. 203 ¹	3	3
Phys. 311	3	3
Eng. 151	3	3
Elective	3	—
Math. 361	—	3
	<u>16</u>	<u>16</u>

SEVENTH SEMESTER

	B.A.	B.S.
Phil. 101	3	—
Elective ²	13	8-10
Phys. 361	—	4
Adv. Math. Elective	—	3
	<u>16</u>	<u>15-17</u>

Total minimum credits required for B.A. degree in Physics—127.

Total minimum credits required for B.S. degree in Physics—129.

¹ German or Russian is required for B.S. majors. Math. 123 and 223 may be substituted for the language requirement with the approval of the student's advisor.

² Students contemplating graduate study in Physics should elect Phys. 351 (Quantum Mechanics).

SECOND SEMESTER

	B.A.	B.S.
Math. 112	4	4
Eng. 102	3	3
Hist. 102	3	3
Phys. 202	4	4
P.E. 106	1	1
P.E. 100	0	0
Eng. 131	—	2
	<u>15</u>	<u>17</u>

FOURTH SEMESTER

	B.A.	B.S.
Math. 212	4	4
Phys. 330	—	4
For. Lang. 102 ¹	3	3
P.E. 100	0	0
Elective	6-7	—
Chem. 202	4	4
Phys. 340	—	3
	<u>17-18</u>	<u>18</u>

SIXTH SEMESTER

	B.A.	B.S.
Phys. 332	—	4
For. Lang. 204 ¹	3	3
Elective	9-10	—
Eng. 152	3	3
Phys. 312	—	3
Math. 362	—	3
	<u>15-16</u>	<u>16</u>

EIGHTH SEMESTER

	B.A.	B.S.
Phil. 102	3	—
Elective	13	8-10
Phys. 380	—	4
Adv. Math. Elective	—	3
	<u>16</u>	<u>15-17</u>

POLITICAL SCIENCE

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 in-depth study and analysis.

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 (Math. 123) unless their area of greatest interest is Comparative and International, in which case knowledge of a second foreign language or proficiency beyond the 204 level in one foreign language is strongly recommended. Pre-law students are advised to take work in Accounting.

Total minimum credits required for B.A. degree in Political Science—121.

PSYCHOLOGY

Psychology 101 and 102 is 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 Psychology 101 and 102 sequence has been taken, that being Psychology 215, Research Design and Analysis. The student is then free to tailor his program of study to fit his own needs and interests. It is strongly recommended, however, that the student take Psychology 211 and 212, Experimental Psychology, especially if he has any intention of pursuing graduate training. Students are reminded that professional psychological work presumes advanced graduate study. Psychology 206, History of Psychology, would be useful to the student so that he 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 a B.A. degree in Psychology—121.

SOCIOLOGY — ANTHROPOLOGY

A major in Sociology-Anthropology consists of twenty-four hours. Sociology 101 and Anthropology 101 are required for the major. Although these courses are often prerequisites to most of the other course offerings, Sociology 101 and Anthropology 101 credit-hours are not accepted toward the major. One of the following courses will be accepted toward the major: Philosophy 240, or Philosophy 320, or Political Science 204. A student can elect to concentrate in sociology, or anthropology, or a combined study in both

* While not given within the Department of Psychology, these courses may still be counted toward the 24-credit hours required of the psychology major.

fields. Students who intend to major in Sociology-Anthropology are requested to plan their work in the department in consultation with the chairman. A major in Sociology-Anthropology shall include the following courses: Sociology 255, 280, and 393. With the approval of the department chairman, however, other courses may in some instances be substituted.

Total minimum credits required for a B.A. degree in Sociology—121.

SOCIAL SCIENCE — URBAN AFFAIRS

The Social Science degree with a major in urban affairs is designed to provide an interdisciplinary training for those students who wish to enter careers in governmental or non-governmental agencies concerned with the general phenomenon of urbanization at the national, state, or local level. Students who complete academic work in this program can continue graduate study either in the traditional academic disciplines or in interdepartmental programs.

The Social Science major in urban affairs consists of 39 semester hours in political science, economics and sociology, with a minimum of 12 semester hours in each. Economics 236 and Sociology 215 are required. Political Science 214 is required, and the 9 remaining required hours in Political Science are to be selected from Political Science 203, 204, 205, 207, 210, 211 and 398 (if topic relevant). Political Science 101 and 102, Economics 101 and 102, and Sociology 101 and 102 are not accepted toward the major.

Students who intend to pursue this program should consult with the Chairman of the Political Science Department.

Total minimum credits required for B.A. degree in Social Science-Urban Affairs—121.

THEATER ARTS

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, community, or professional theater.

Special Degree Programs

FIVE-YEAR B.S.-M.S. DEGREE IN BIOLOGY

During the first six semesters in the combined five-year program leading to a bachelor and master's 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 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 4th year, he may still graduate with the B.S. degree at the end of 4 years.

SEVENTH SEMESTER	
Chem. 352	3
Undergraduate Bio.	3
Graduate Bio.	3
Phil. 101	3
Econ., Psy., P.S., Soc. 101	6
Bio. 397*	1
	<hr/> 19

NINTH SEMESTER	
Graduate Bio.	9
Seminar Presentation	0
	<hr/> 9

EIGHTH SEMESTER	
Undergraduate Bio.	3
Graduate Bio.	3
Phil. 102	3
Econ., Psy., P.S., Soc. 102	6
Bio. 397*	1
Non-Bio. Elective	3
	<hr/> 19

TENTH SEMESTER	
Graduate Bio.	9
Seminar Presentation	0
	<hr/> 9

FIVE-YEAR B.S.-M.S. DEGREE IN MATHEMATICS

This program is designed for those who wish to attain a B.S. and an M.S. degree in Mathematics at Wilkes and will enable them to complete all requirements for both degrees in at most five years.

Eligibility

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 3.0 in all mathematics courses numbered above 300 and an overall average of 2.6 at the time of application. A form for this purpose is available from the department chairman.

* Each student may take only one semester of Bio. 397.

Degree Requirement

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 approved by an advisor, selected by the student, 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.

Requirements

The basic requirements for the degree in General 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.

B.A. PROGRAM IN 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 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 are listed below.

MAJOR REQUIREMENTS	Hours	CORE REQUIREMENTS	Hours
Econ. 101 & 102	6	English	12
Hist. 101 & 102	6	Foreign Language	12
Pol. Sci. 101 & 102	6	Mathematics/Science	12
Soc. 101 & 102	6	Fine Arts	6
Seminar I & II	6	Phil. 101	3
	<hr/> 30	Rel. Studies 200	3
		Hygiene	2
		Electives	6
			<hr/> 56
 MAJOR ELECTIVES	 Hours		
Econ. 224, 225, 227, 228, 229	9		
Hist. 236, 242, 327, 328, 356, 378, 382	9		
Pol. Sci. 222, 223, 224, 225, 226, 398 (If topic relevant)	9		
Soc. 252, 270, 275, 372	9		
	<hr/> 45		

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 preprofessional health sciences curriculum which will meet the minimum natural science, social science, and communicative skills 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, as well as such non-related areas as English, history, mathematics, political science and philosophy.

After completion of the two-year Wilkes sequence, the Joint Selection Committee will supervise the selection of approximately twenty-five (25) qualified candidates for entrance into the medical components at Hahnemann. Students who are not selected or do not elect to enter Hahnemann may still pursue one of a variety of degree options offered by Wilkes including the traditional pre-medical and pre-dental programs, the baccalaureate nursing pro-

gram, medical technology, natural sciences, social sciences and humanities.

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, Wilkes College, Wilkes-Barre, Pa. 18703.

Admission to Wilkes College does not imply automatic admission into the Hahnemann Medical Components.



PRE-PROFESSIONAL PROGRAMS IN HEALTH SCIENCES — FAMILY MEDICINE¹

FIRST YEAR

Wilkes College

FIRST SEMESTER		SECOND SEMESTER	
Bio. 201M	2½	Electives ⁴	5-6
Bio. 202M	2½	Chem. 202	4
Chem. 201	4	Math. 106 or 112	4
Math. 105 or 111	4	Eng. 102	3
Eng. 101 ²	3	P.E. 102	0
P.E. 101	0	P.E. 106 ³ (optional)	1
P.E. 105 ³ (optional)	1	Orientation — Medicine & Health Professions	0
	<hr/> 17		<hr/> 17-18

SUMMER I

Psych 101-102	6
Eng. 151-152	6

SECOND YEAR

THIRD SEMESTER		FOURTH SEMESTER	
Bio. 205M	2½	Electives ⁴	5-7
Bio. 206M	2½	Chem. 238	4
Chem. 237	4	Phys. 106 or 202	4
Phys. 105 or 201	4	Soc. 102	3
Soc. 101	3	P.E. 104	0
P.E. 103	0		
	<hr/> 16		<hr/> 16-18

SUMMER II

Soc. 200	3
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MEDICAL COMPONENT¹

THIRD YEAR

Hahnemann Medical College, Philadelphia, Pa.

Biochemistry	Physiology	Medical Problems
Developmental Biology (Gross Anatomy, Histology, Neuroanatomy, Genetics)	Microbiology	Human Behavior
	Pharmacology	Clinical Science
	Pathology	Summer Vacation

¹ Subject to change without prior notice. Because of the rapid changes in the area of medical education, the changes in this program occur more often and are more extensive than in other Wilkes College programs.

² Students may obtain advanced placement in English Composition.

³ Optional. 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.

⁴ Electives should include a one semester course in Eng. 131 (Speech). 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 (4 weeks)
Pediatrics (6 weeks)	

FIFTH YEAR

Hahnemann Medical College, Philadelphia, Pa.

Advanced Basic Science and Clinical Electives

Wilkes College and Wilkes-Barre Area Hospitals

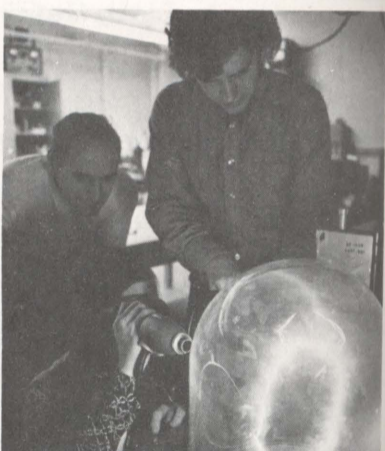
Vacation and/or Free Elective Periods
Family Medicine Track Rotations

SIXTH YEAR

Wilkes College and Wilkes-Barre Area Hospitals

Family Medicine Track Rotations
Graduate Level Courses at Wilkes College





Courses of Instruction

Description of Courses

Key To Course Numbering

100 Series – Service Courses

200 Series – Advanced Courses Applied
Toward Majors

300 Series – Advanced Undergraduate Courses

400 Series – Introductory Graduate Courses

500 Series – Exclusively Graduate Courses





Conscience at Wilkes

Mama:

Child, when do you think is the time to love somebody the most; when they done good and made things easy for everybody? Well, then, you ain't through learning—because that ain't the time at all. It's when he's at his lowest and can't believe in hisself 'cause the world done whipped him so. When you starts measuring somebody, measure him right, child, measure him right. Make sure you done taken into account what hills and valleys he come through before he got to wherever he is.

LORRAINE HANSBERRY
A Raisin In The Sun (Act III)



Description of Courses

Accounting

Professor R. Werner, chairman; Professor R. Capin; Assistant Professors Gettinger, Hall, Morrison.

ACCT. 101. ELEMENTARY ACCOUNTING I **Three credits**
Fundamental theory of debits and credits; problems of classification and interpretation of financial data; technique of recording; preparation of financial statements. Class, two hours a week; laboratory, four hours a week.

ACCT. 102. ELEMENTARY ACCOUNTING II **Three credits**
A continuation of Accounting 101. Principles of partnership and corporation accounting; introduction to departmental, manufacturing, and branch accounting; financial analyses of statements. Class, two hours a week; laboratory, four 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, two hours a week; laboratory, four hours a week.

ACCT. 112. INTERMEDIATE ACCOUNTING II **Three credits**
A continuation of Intermediate Accounting I. Intermediate problems pertaining to Investments in Bonds and Funds, Plant and Equipment, Intangibles, Long-Term Liabilities, and Stockholders Equity; financial statement analysis and Fund and Cash Flow Reporting. Class, two hours a week; laboratory, four hours a week.

ACCT. 201. COST ACCOUNTING I **Three credits**
Principles and practices of Cost Accounting including a study of job, process, and standard cost systems. Informative systems design, budgeting, variance analysis, and direct costing concepts are discussed.

ACCT. 204. MANAGERIAL ACCOUNTING **Three credits**
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.

NOTE: Accounting courses should be taken in sequence.

ACCT. 221. TAXES I 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, 202, 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, two hours a week; laboratory, two hours a week.
 Prerequisite: Acct. 221.

ACCT. 231. AUDITING I Three credits
 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, two hours a week; laboratory, two hours a week.
 Prerequisite: Acct. 202.

ACCT. 232. AUDITING II Three credits
 Advanced application of auditing principles to actual practice; problems of classification and interpretation of accounts; study of methods of internal control; preparation of reports to clients. Class, two hours a week; laboratory, two hours a week.
 Prerequisite: Acct. 231.

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, two hours a week; laboratory, two hours a week.
 Prerequisite: Acct. 112.

ACCT. 242. ADVANCED ACCOUNTING II Three credits
 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, two hours a week; laboratory, two hours a week.
 Prerequisite: Acct. 112 and permission of instructor.

ACCT. 252. ACCOUNTING INTERNSHIP Three credits
 This course provides a minimum of 240 hours of accounting in the office of a Certified Public Accountant or the equivalent.

Aerospace Studies

Professor Wing, chairman; Assistant Professors Willett, Bonebrake.

GENERAL MILITARY COURSE

The General Military Course (GMC) is a two-year program for freshmen and sophomores designed to provide 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. AS 101-102-201-202 may be substituted for P.E. 100 series.

AS 101. U.S. MILITARY FORCES IN THE CONTEMPORARY WORLD I One credit
 Background, missions, and functions of U.S. military forces, with emphasis on U.S. Air Force organization, doctrine, and strategic forces.

AS 102. U.S. MILITARY FORCES IN THE CONTEMPORARY WORLD II One credit
 U.S. general purpose military forces; insurgency and counter-insurgency; aerospace support forces and organizations.

AS 201. THE DEVELOPMENT OF AIR POWER I 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.

AS 202. THE DEVELOPMENT OF AIR POWER II 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.
 Prerequisite: AS 201.

AS 251. FLIGHT PROGRAM GROUND TRAINING 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. Spring semester. Limited spaces beyond AFROTC requirements available to Wilkes juniors or seniors. Fee: \$20.

PROFESSIONAL OFFICER COURSE

The Professional Officer Course (POC) is a four-semester program, normally taken during the junior and seniors years, mandatorially 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. NATIONAL SECURITY FORCES IN AMERICAN SOCIETY I Three credits
 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.
 Prerequisite: POC membership or permission of the instructor.

AS 302. NATIONAL SECURITY FORCES IN AMERICAN SOCIETY II**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 policymaking, analyzed through case studies.

Prerequisite: AS 301 or permission of instructor.

AS 303. CONCEPTS OF MANAGEMENT**Three credits**

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.

Prerequisite: AS 302 or permission of the instructor.

AS 304. CONCEPTS OF LEADERSHIP**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.

Prerequisite: AS 303 or permission of the instructor.

AS 000. LEADERSHIP LABORATORY

All AFROTC cadets will participate in Leadership Laboratory one hour per week during each semester. This program involves a progression of experiences designed to develop each student's leadership potential in a supervised training Leadership Laboratory. 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 AFROTC 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 program.

Biology

Professor Reif, chairman; Associate Professors Ogren, Hayes; Assistant Professors Doty, Erickon, Houseknecht, Rigley, Turoczi.

BIO. 101-102. BIOLOGICAL SCIENCE**Three credits each semester**

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. Practicum fee: \$10 each semester.

BIO. 113. MICROBIOLOGY**Four credits**

This course presents the basic principles of bacteriology and the relationship of micro-organisms 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 semester**

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. 201M. PRINCIPLES OF MODERN BIOLOGY**Two and one-half credits**

This course is an introduction to the basic physical and biochemical properties of life, and a survey of representative plant and animal types. Fee: \$15.

BIO. 202M. 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 will be emphasized. Fee: \$15.

BIO. 203M. 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 frog, chick, and man. Fee: \$15.

BIO. 204M. HISTOLOGY**Two and one-half credits**

Histology is the study of tissues and of the arrangement of tissues to form organs and organ systems. The material included in this course is restricted to vertebrate structures. Fee: \$15.

BIO. 205M. 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. 206M. GENERAL PHYSIOLOGY**Two and one-half credits**

Physiology is the study of the physical and chemical activities of all living organisms. Fee: \$15.

BIO. 207M. MICROBIOLOGY**Two and one-half credits**

Microbiology is the scientific study of microorganisms. The fundamental characteristics of prokaryotes and eukaryotes are discussed. Biology of viruses and principles of infection and immunity are included. Fee: \$15.

BIO. 208M. 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**

General Botany presents a broad consideration of the plant world. It includes the study of the fundamental principles of biology, emphasizing the structure, physiology, genetics, and ecology of plants. Lecture, two hours a week; laboratory, three hours a week. Fee: \$20.

BIO. 302. ENDOCRINOLOGY **Three credits**

Endocrinology is 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.

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

BIO. 303. BACTERIOLOGY **Three credits**

Bio. 303 is a general introduction, covering the morphology and growth of bacteria, sterilization, and applied uses of bacteria. It also includes a brief survey of other groups of microorganisms. 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. 201M-208M, 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. 201M-208M, or permission of instructor.

BIO. 306. NEUROBIOLOGY **Three credits**

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. 201M-208M, or permission of instructor.

BIO. 307. ANALYTICAL CYTOLOGY **Three credits**

This course presents an experimental analysis of cell structure, organelles, chemistry and activities by means of microscopic techniques and instrumentation. Fee: \$20.

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

BIO. 309. EVOLUTION **Three credits**

Evolution is the study of the modification of living things with time. Theories relating to the origin of life, natural selection, and speciation, as processes of organic evolution will be emphasized. Lecture, three hours.

Prerequisite: Bio. 201M-208M, 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 will occur and what form the changes will take. Laboratories, using local fauna, demonstrate principles discussed in lecture. Lecture, two hours; laboratory, three hours a week. Fee: \$20.

Prerequisite: Bio. 201M-208M, 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 a week; laboratory, three hours a week. Fee: \$20.

Prerequisite: Bio. 201M-208M, 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 per week; laboratory, three hours per week. Fee: \$20.

Prerequisite: Bio. 201M - 208M or permission of the instructor.

BIO. 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.

BIO. 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.

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

BIO. 395-396. INDEPENDENT RESEARCH **One to three credits**

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 the departmental chairman is required.

BIO. 397. SEMINAR **One-half credit each semester**

Presentations and discussions of selected topics.

Prerequisite: Approval of the department chairman is required.

BIO. 398. TOPICS **Three credits**

A study of topics of special interest not extensively treated in regularly offered courses may be presented under this course number.

Business Administration

Professor R. Werner, chairman; Professors Elliot, Farrar; Assistant Professors Gera, Engel, Gurdin, Hung.

B.A. 101. INTRODUCTION TO PRIVATE SECTOR BUSINESS **Three credits**

Designed to orient freshmen 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.

- B.A. 114. SALESMANSHIP** Three credits
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** Three credits
A study of basic principles of advertising. Elements of advertising; a survey of different departments of advertising work, including copy, art, display, engraving, trade-marks, and media. Analysis of current advertisements. Advertising as a social force.
- B.A. 220. REAL ESTATE** Three credits
The fundamentals of the real estate business, including consideration of titles, mortgages, leases, advertising, sale, purchase, development, and management of real property.
- B.A. 222. MARKETING** Three credits
The fundamentals of the marketing system, its functions, institutions and their importance in the economy are studied. Marketing pricing policies and practices are investigated; reference is made to marketing activities and government participation.
- B.A. 225. CORPORATION FINANCE** Three credits
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.
- B.A. 231. BUSINESS LAW — INTRODUCTION, CONTRACTS, AND SALES** Three credits
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, CORPORATIONS, AND REAL PROBLEMS** Three credits
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** Three credits
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.
- B.A. 240. PROPERTY INSURANCE** Three credits
This course is a study of the fundamentals of fire, casualty, and marine insurance.
- B.A. 241. LIFE INSURANCE** Three credits
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.
- B.A. 244. TIME AND MOTION STUDY** Three credits
The principles and techniques of time and motion study. Class, three hours a week; laboratory, two hours a week.
- B.A. 251. PRINCIPLES OF MANAGEMENT I** Three credits
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 a process of integrating knowledge developed by many disciplines. Social and ethical dimensions of the management process summarized.
- B.A. 252. PRINCIPLES OF MANAGEMENT II** Three credits
Application of universal concepts of management. Emphasis on problems of production, sales, personnel, office, finance, organization. Viewpoint on relationship to overall operation of enterprise. Develops analytical abilities and decision-making skills. Case study method emphasized.
- 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 paper is required.
- B.A. 397. SEMINAR** One to three credits
(Maximum of three credits per student)
Presentations and discussions of selected topics.

Business Education

Professor R. Werner, chairman; Assistant Professor Gera; Adjunct Professors Raspen, Giordano.

B.E. 100. PERSONAL TYPEWRITING No credit

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 Two credits

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: \$15.

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 One credit

Continuation of speed and accuracy development and reinforcement. Independent specialized production typing, with high degree of speed and accuracy on simulated on-the-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 and problems 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.

BUS. ED. 207. ADVANCED SHORTHAND I Three credits

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.

BUS. ED. 243. PRINCIPLES AND METHODS OF BUSINESS EDUCATION Three credits

Principles of business education; business curricula in secondary schools; psychology of skill-building; objectives, standards, content; tests and measurements, and techniques of instruction in business education courses; observation; student teaching demonstrations. Offered every other year.

Prerequisite: Approval of instructor.

Chemistry

Professor Bohning, chairman; Professors Rozelle, Swain; Associate Professors Salley, Faut, Stine, Labows.

CHEM. 101-102. CHEMICAL SCIENCE **Three credits each semester**

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. Fee: \$20.

CHEM. 201. ELEMENTS AND COMPOUNDS **Four credits**

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 **Four credits**

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

Prerequisite: Chem. 201.

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.

Prerequisite: Chem. 202, or permission of instructor.

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.

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 **Four credits**

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 **Four credits**

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 **One credit**

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 emphasizes 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 week.

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

CHEM. 336. CHEMICAL STRUCTURE DETERMINATION **Four credits**

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, gel permeation 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. ELEMENTARY PHYSICAL CHEMISTRY **Four credits**

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.

CHEM. 342. INTERMEDIATE PHYSICAL CHEMISTRY **Four credits**

Electrochemistry, electrokinetic phenomena, kinetic molecular theory, Maxwell Boltzman distribution, 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.

CHEM. 376. ADVANCED ANALYTICAL CHEMISTRY **Four credits**
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 week. Fee: \$30.
Prerequisite: Chem. 342.

CHEM. 395-396. INDEPENDENT RESEARCH **One to three credits each semester**
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 chairman is required.

CHEM. 397. SEMINAR **One credit**
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 chairman is required.

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

CHEM. 431-432. ADVANCED ORGANIC CHEMISTRY **Three credits each semester**
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.

CHEM. 434. STEREO CHEMISTRY **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.

CHEM. 440. QUANTUM CHEMISTRY **Three credits**
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.

CHEM. 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 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 week.
Prerequisite: Chem. 451, or equivalent.

Economics

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

EC. 101. PRINCIPLES OF ECONOMICS I **Three credits**
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 Economics 101. It is based upon a broad micro-economic foundation concentrated on such units as the firm, the industry, and the consumer.

EC. 201. MONEY AND BANKING **Three credits**
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. 202. THEORY OF MONEY **Three credits**
Development of monetary theory. Liquidity preference and loanable funds theories of interest. Saving, investment, and income determination. Keynesian and neo-Keynesian analysis. The inflationary process. Exchange rates and international monetary mechanism.

EC. 212. GOVERNMENT AND BUSINESS **Three credits**
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. 217. ECONOMICS OF TRANSPORTATION **Three credits**
Problems and policies of railroads, buses, trucks, inland waterways, and air and ocean transportation; economic aspects of transportation and traffic management; use of rates and tariff; significance of transportation to society.

EC. 222. THE AMERICAN LABOR MOVEMENT **Three credits**
A study of the evolving American labor movement and its ideology. This course deals with the development of American labor ideology and psychology in comparison with other labor movements. The relationship of the American labor movement to other political, social and economic institutions is investigated.

EC. 223. COLLECTIVE BARGAINING **Three credits**
An introduction to labor problems and an analyses 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 **Three credits**
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 and areas 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 are 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**
A historical analysis of major business cycles. Contemporary theories and a critical examination of public policy toward business cycles.

EC. 231. APPLIED GENERAL STATISTICS **Three credits**
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. ECONOMICS STATISTICS **Three credits**
A continuation of Economics 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. 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. ECONOMIC ANALYSIS **Three credits**
This course is designed to give coverage to the theory of value and distribution. The determinants of consumer demand and the principles governing costs and outputs of procedures are analyzed with some stress on recent theoretical investigations. The method is abstract and deductive.

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. 252. INTRODUCTION TO MATHEMATICAL ECONOMICS **Three credits**
The application of mathematical methods to economic analysis. The goal is to develop a fundamental understanding of the role of mathematics in economics. Emphasis is on the use of mathematical tools in macro and micro economics.

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

Education

Professor Hammer, chairman; Professor Darte; Associate Professors Barone, Belluci, Fahmy, Siles; Assistant Professors Johnson, Rees.

ED. 101-102-103-104-105-106. PRACTICUM IN EDUCATION **One-half credit**
Provides an opportunity for students to gain experience as teacher's 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 education.

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. 291. COMMUNICATIONS SKILLS IN ELEMENTARY EDUCATION **Two credits**
An introductory course in development of rationale, curriculum and materials for instruction of communications skills in the elementary school.

Prerequisite: Ed. 201, 202.

ED. 292. THE SCIENCES IN THE ELEMENTARY SCHOOL **Two credits**
An introductory course in development of rationale, curriculum and materials for instruction of social and natural sciences in the elementary school.

Prerequisite: Ed. 201, 202.

ED. 300. PROFESSIONAL SEMESTER IN ELEMENTARY EDUCATION **Fifteen credits**
Provides classwork and practical experience to prepare students for elementary school teaching. Fee: \$25.

To qualify for admission to the Professional Semester, students must secure the recommendation of the department chairman in their major and approval by the Education Department Chairman.

Prerequisites: Ed. 291, 292; Math. 232, 243 and cumulative grade point average of 1.85.

FOR TRANSFER AND CERTIFICATION PURPOSES, CREDIT WILL BE ASSIGNED AS FOLLOWS:

ED. 301. THE TEACHING OF READING **Two credits**
An introduction to the teaching of reading in the elementary grades.

ED. 302. METHODS AND MATERIALS IN ELEMENTARY SCHOOL ARITHMETIC **Two credits**
A study of curriculum content and teaching procedures in elementary school arithmetic.

ED. 303. METHODS AND MATERIALS IN ELEMENTARY SCHOOL SCIENCE **Two credits**
A study of curriculum content and teaching procedures in elementary school science.

ED. 304. METHODS AND MATERIALS IN ELEMENTARY SCHOOL SOCIAL STUDIES **Two credits**
A study of curriculum content and teaching procedures in elementary school history, geography, and government.

ED. 305. MULTI-SENSORY TECHNIQUES IN ELEMENTARY SCHOOL TEACHING **One credit**
A study of the use of multi-sensory teaching aids in the elementary school classroom.

ED. 306. STUDENT TEACHING IN ELEMENTARY SCHOOL **Six credits**
Students are assigned to work with experienced classroom teachers. They assume classroom responsibility and teach under supervision. Conferences are arranged with cooperating teachers and college supervisors.

ED. 320. PROFESSIONAL SEMESTER IN FINE ARTS EDUCATION **Fourteen credits**
Provides classwork and practical experience to prepare students for the teaching of art in elementary and secondary schools. Fee: \$25.

To qualify for admission to the Professional Semester, students must secure the recommendation of the department chairman in their major and approval by the Education Department chairman.

Students may schedule late afternoon or evening classes during the professional semester.

Prerequisite: Ed. 201, 202 and cumulative grade point average of 1.85.

FOR TRANSFER AND CERTIFICATION PURPOSES, CREDIT WILL BE ASSIGNED AS FOLLOWS:

ED. 321. ART CURRICULUM **Three credits**
A study of the organization of teaching materials for most effective use in the art curriculum.

ED. 322. THE TEACHING OF ART **Three credits**
A study of materials, techniques, and experiences in the public school art program; evaluation of past and present philosophies.

ED. 323. GENERAL CLASSROOM METHODS **One credit**
A study of various instructional procedures used in public school classrooms.

ED. 324. MULTI-SENSORY TECHNIQUES IN THE TEACHING OF ART **One credit**

A study of the use of multi-sensory aids in the teaching of art in elementary and secondary schools.

ED. 326. STUDENT TEACHING IN ART **Six credits**

Students are assigned to work with experienced classroom teachers and art specialists. They observe and teach in elementary and secondary school classrooms. Opportunities are provided for them to participate in school-wide activities. Conferences are arranged with co-operating teachers and college supervisors.

ED. 330. PROFESSIONAL SEMESTER IN SECONDARY EDUCATION **Twelve credits**

Provides classwork and practical experience to prepare students for secondary school teaching. Fee: \$25.

To qualify for admission to the Professional Semester, students must secure the recommendation of the department chairman in their major and approval by the Education Department chairman.

Students may schedule late afternoon or evening classes during the professional semester.

Prerequisite: Ed. 201, 202 and cumulative grade point average of 1.85.

FOR TRANSFER AND CERTIFICATION PURPOSES, CREDIT WILL BE ASSIGNED AS FOLLOWS:

ED. 331. PRINCIPLES OF SECONDARY EDUCATION **One and one-half credits**

A study of the historical development and organization of the American secondary school.

ED. 332. SECONDARY SCHOOL CURRICULUM **One and one-half credits**

A study of the content and organization of the secondary school curriculum.

ED. 333. SECONDARY SCHOOL TEACHING METHODS **One credit**

A study of various teaching procedures employed in the secondary school classroom.

ED. 334. MULTI-SENSORY TECHNIQUES IN SECONDARY SCHOOL TEACHING **One credit**

A study of the use of multi-sensory teaching aids in the secondary school classroom.

ED. 335. THE TEACHING OF READING IN SECONDARY SCHOOL SUBJECTS **One credit**

Instruction in reading methods in secondary school subjects.

ED. 336. STUDENT TEACHING IN THE SECONDARY SCHOOL **Six credits**

Students are assigned to work with experienced classroom teachers. They assume classroom responsibility and teach under supervision. Conferences are arranged with co-operating teachers and college supervisors.

ED. 351. EDUCATIONAL MEASUREMENTS **Three credits**

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

Prerequisite: Ed. 202.

ED. 352. GUIDANCE **Three credits**

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

Prerequisite: Ed. 202.

ED. 391. INSTRUCTIONAL STRATEGY AND EVALUATION **Two credits**

An introductory course in development of effective elementary school teacher behavior.

Prerequisite: Ed. 202, Psy. 221.

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 chairman is required.

ED. 397. SEMINAR **One to three credits. (Maximum of three credits per student.)**

Presentations and discussions of selected topics.

Prerequisite: Approval of department chairman is required.

ED. 398. TOPICS IN EDUCATION **Three credits**

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

Engineering

Associate Professor Toole, chairman; Associate Professor Nejib; Assistant Professor Orehtsky.

ENGI. 111. INTRODUCTION TO ENGINEERING **Three credits**

The engineering profession and its various disciplines. Methods of solving engineering problems. Use of the slide-rule and mathematical tables. Sketching and Drawing. Schematic diagrams and printed circuit layouts. Crystal models. Three hours lecture per week.

Electrical Engineering

E.E. 211-212. CIRCUIT THEORY I, II **Three credits each semester**

Analysis of simple circuit models. Kirchoff's Law. V-1 characteristics of circuit elements. Circuit Theorems. Forced and natural components of response. Three phase systems. Fourier series. Laplace transforms and their inverse. Transfer functions and the role of their poles and zeroes. Terminal behavior of linear networks. Impulse response. Sinusoidal steady state. Feedback systems and stability. Computer utilization for solutions.

E.E. 211 Three hours lecture per week.

E.E. 212. Two hours lecture and two hours discussion per week.

Prerequisite: Math. 112.

E.E. 251-252. ELECTRONIC CIRCUITS I, II **Four credits each semester**

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 per week. Fee: \$20 per semester.

Prerequisite: E.E. 211.

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 **Three credits**

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. 311. 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. Three hours class a week.

E.E. 320. ELECTROMECHANICAL ENERGY CONVERSION **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 class and one three-hour laboratory a week. Fee: \$20.

Prerequisite: E.E. 211 and Phys. 202.

E.E. 331-332. ELECTROMAGNETIC FIELDS I, II **Four credits each semester**

Vector analysis. The concept of fields. Dielectric and Magnetic media. Fields in conductors. Electric and Magnetic circuit elements. Maxwell's equations and boundary condition problems in one, two and three dimensional space. Plane electromagnetic waves and power flow. Transmission lines. Three hours lecture and one three-hour laboratory per week. Fee: \$20 each semester.

E.E. 335. ENERGY TRANSMISSION AND RADIATION **Three credits**

Plane waves in various media; reflection and refraction, standing waves, waveguides, transmission lines, antennas and radiation. Principles of electrodynamics. Three hours class a week.

Prerequisite: E.E. 331; Senior standing.

E.E. 381-382. ADVANCED ENGINEERING LABORATORY I, II

Four credits each semester

The following areas of study and application are included in this laboratory: The fabrication and testing of semiconductor devices and integrated circuits; thin and thick film circuits; characteristic measurements of VHF and Microwave devices and circuits; antenna characteristics and pattern measurements; coherent optical waves generation and modulation. One hour lecture-discussion and six-hour laboratory a week each semester. Fee: \$30.

Prerequisite: Senior standing.

E.E. 390. TOPICS IN ELECTRICAL ENGINEERING **Three credits**

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.

E.E. 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 is required.

E.E. 397. SEMINAR

One to three credits. (Maximum of three credits per student.)

Presentations and discussions of selected topics.

Prerequisite: Senior standing, or by special permission.

Materials Engineering**MA.E. 211-212. MATERIALS SCIENCE I, II** **Three credits each semester**

Introduction to the structure, properties and behavior of materials—metals, polymers and ceramics. Physical Metallurgy. Three hours lecture per week.

Prerequisite: Chem. 201.

MA.E. 311-312. X-RAY DIFFRACTION I, II **Three credits each semester**
X-Rays and their properties. Crystallography. Directions and intensities of diffracted beams. Laue, Debye-Scherrer, Diffractometer, Rotating, Oscillating, Weissenberg and Precession Methods. Outline of crystal structure analysis. Two hours lecture and one three-hour laboratory per week. Fee: \$20 each semester.

MA.E. 321-322. THERMODYNAMICS AND PHASE EQUILIBRIA **Three credits each semester**
Fundamentals of thermodynamics and the thermodynamic approach to phase equilibria, the phase rule and polymorphism. Theory of alloy phases. Order-disorder phenomena. Binary and ternary phase diagrams and their applications in materials engineering. Three hours lecture per week.

MA.E. 331. 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 class a week.

MA.E. 332. ENGINEERING POLYMERS **Three credits**
Introduction to high polymers as engineering materials and their mechanical, electrical and optical properties. Three lectures per week.

MA.E. 342. MECHANICAL METALLURGY **Three credits**
The mechanical properties of metals including: elasticity, plasticity, deformation of single crystal and polycrystalline metals dislocation theory, fracture, internal friction, testing and forming. Three lectures per week.

MA. E. 381-382. ADVANCED ENGINEERING LABORATORY I, II **Two credits each semester**
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 lecture-laboratories per week. Fee: \$30 per semester. Prerequisite: Chem. 221.

MA.E. 390. TOPICS IN MATERIALS ENGINEERING **Three credits**
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 per week. Prerequisite: Junior or Senior standing.

MA.E. 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 is required.

MA.E. 397. SEMINAR **One to three credits. (Maximum of three credits per student.)**
Presentations and discussions of selected topics. Prerequisite: Senior standing, or by special permission.

English

Associate Professor Kaska, chairman; Professors Rizzo, Fiester; Associate Professors Gutin, Terry; Assistant Professor Heaman; Instructors Kerr, Kinney; Adjunct Professors Lord, Moran.

ENG. 100. WRITING WORKSHOP **Three credits**
A remedial course in the fundamentals of writing. Combines extensive practice in the writing of expository prose with systematic study of the grammar and the rhetoric of the sentence and paragraph.

ENG. 101. COMPOSITION **Three credits**
Principles of exposition; collateral reading; writing of themes.

ENG. 102. COMPOSITION **Three credits**
Principles of exposition continued; collateral reading; writing of themes; research paper. Prerequisite: Eng. 101.

ENG. 151. WESTERN WORLD LITERATURE **Three credits**
Survey 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. 153. SURVEY OF ENGLISH LITERATURE **Three credits**
A study of the works and movements in English literature from the Anglo Saxon period through the eighteenth century. Prerequisite: Eng. 102.

ENG. 154. SURVEY OF ENGLISH LITERATURE **Three credits**
A study of the works and movements in English literature from the Romantic movement to the present. Prerequisite: Eng. 153.

ENG. 201. ADVANCED COMPOSITION **Three credits**
A study of rhetorical types and strategies. 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. 204. 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 154.
- ENG. 205. MODERN GRAMMAR** Three credits
A study of representative modern grammatical systems of English.
Prerequisite: Eng. 152 or 154.
- ENG. 213. CHAUCER** Three credits
Study of Chaucer's life and major works, including "The Canterbury Tales" and "Troilus and Criseyde".
Prerequisite: Eng. 152 or 154.
- ENG. 221. SHAKESPEARE** Three credits
A study of selected plays; written reports on others not studied in class.
Prerequisite: Eng. 152 or 154.
- ENG. 301. LITERARY CRITICISM** Three credits
A study of literary theory and the techniques of analysis.
Prerequisite: Eng. 152 or 154.
- ENG. 305. THE TEACHING OF ENGLISH** Three credits
A study of the problems of teaching English in the secondary schools.
- ENG. 310. MEDIEVAL ENGLISH LITERATURE** Three credits
A study of English literature to 1500, exclusive of Chaucer and the drama.
Prerequisite: Eng. 152 or 154.
- ENG. 320. TUDOR PROSE AND POETRY** Three credits
Study of English non-dramatic literature from 1485 to 1603.
Prerequisite: Eng. 152 or 154.
- 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 154.
- ENG. 330. SEVENTEENTH CENTURY PROSE AND POETRY** Three credits
A study of the non-dramatic literature of the period.
Prerequisite: Eng. 152 or 154.
- ENG. 335. MILTON** Three credits
A study of Milton's poetry and major prose.
Prerequisite: Eng. 152 or 154.

- ENG. 341. RESTORATION & EIGHTEENTH CENTURY DRAMA** Three credits
Study of the drama from 1600 to 1780.
Prerequisite: Eng. 152 or 154.
- ENG. 343. THE EIGHTEENTH CENTURY** Three credits
The chief poets and essayists of the eighteenth century. Includes Swift, Pope, and Johnson.
Prerequisite: Eng. 152 or 154.
- ENG. 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.
Prerequisite: Eng. 152 or 154.
- ENG. 354. ROMANTIC PROSE AND POETRY** Three credits
Study of Blake, Wordsworth, Coleridge, Shelley, Keats, and Byron, with related prose writers of the Romantic Period.
Prerequisite: Eng. 152 or 154.
- ENG. 360. VICTORIAN PROSE AND POETRY** Three credits
Readings in Tennyson, Browning, Arnold, and other significant writers of the Victorian Age.
Prerequisite: Eng. 152 or 154.
- ENG. 366. LATER ENGLISH NOVEL** Three credits
The major novelists of the nineteenth and early twentieth centuries.
Prerequisite: Eng. 152 or 154.
- ENG. 370. MODERN POETRY** Three credits
Study of the major English and American poetry of the twentieth century.
Prerequisite: Eng. 152 or 154.
- ENG. 372. MODERN NOVEL** Three credits
Study of the major English and American novels of the twentieth century.
Prerequisite: Eng. 152 or 154.
- ENG. 374. MODERN DRAMA** Three credits
Study of important dramatists, European and American, from the time of Ibsen.
Prerequisite: Eng. 152 or 154.
- ENG. 381. AMERICAN LITERATURE I** Three credits
A study of American literature to the Civil War.
Prerequisite: Eng. 152 or 154.
- ENG. 382. AMERICAN LITERATURE II** Three credits
A study of American literature from the Civil War to the present time.
Prerequisite: Eng. 152 or 154.

ENG. 383. AMERICAN NOVEL Three credits
A study of the American novel from its beginning to the present.
Prerequisite: Eng. 152 or 154.

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 chairman is required.

ENG. 397. SEMINAR One to three credits. (Maximum of three credits per student.)
Presentations and discussions of selected topics.
Prerequisite: Approval of department chairman is required.

ENG. 398. TOPICS Three credits
A study of special topics in English and American literature.
Prerequisite: Eng. 152 or 154.

Journalism

JOUR. 101. BASIC NEWS WRITING Three credits
A beginner's course in gathering and writing news. Topics include: definition of news, writing leads and building the story, law of libel, and news sources. Students make comparative study of and report on representative papers of the United States, both dailies and weeklies. There is constant practice in writing, with weekly news assignments. Fee: \$10.

JOUR. 102. ADVANCED NEWS WRITING Three credits
A course in advanced news writing designed as a follow-up to those who have had Journalism 101 (Basic News Writing) or its equivalent. Topics include: writing the human interest and feature-type article; specialized reporting and introductory copyreading. There is constant practice in writing, with weekly news assignments. Fee: \$10.
Prerequisite: Jour. 101, or approval of instructor.

JOUR. 251. NEWS EDITING Three credits
Evaluating news and display editing and rewriting news for the mass media, with emphasis on the daily newspaper and the use of local as well as wire service copy; newspaper typography, head writing, makeup and news judgment; the social responsibility of the media and their impact on society; and introduction to critical analyses of current press performance.
Prerequisites: Jour. 101 and 102.

JOUR. 252. PROFESSIONAL INTERNSHIP Three credits
A supervised observation-experience program of study and assignment to a member newspaper of the Pennsylvania Newspaper Publishers Association;

a licensed radio or television news staff; or a professional public relations firm in Luzerne or Lackawanna Counties. Students will work out a schedule of eight (8) hours of professional work per week with their employers and expect to spend two hours more each week in conference with the Journalism instructor and with others in the program.
Prerequisite: Jour. 251.

JOUR. 298. TOPICS Three credits
A study of special topics in journalism.
Prerequisite: Jour. 251.

JOUR. 395-396. INDEPENDENT RESEARCH One to three credits
Independent study of select subjects or problems in journalism.
Prerequisite: Jour. 251.

JOUR. 397. SEMINAR One to three credits
Presentation and discussions of selected topics.
Prerequisite: Jour. 251.

BROAD. 101. 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.

Speech

SPE. 101. FUNDAMENTALS OF SPEECH¹ Two credits
A basic course in the preparation and delivery of short speeches.

SPE. 105. ARGUMENTATION AND DEBATE Three credits
Training in the fundamentals of argumentation and debate. Practice in gathering and organizing evidence and supporting materials.

SPE. 298. TOPICS One to three credits
A study of special topics in speech.

SPE. 395-396. INDEPENDENT RESEARCH One to three credits
Independent study of select subjects or problems in speech and speech communication.

Environmental Sciences

Assistant Professor Berryman, acting chairman; Professor El-Ashry (on leave); Assistant Professor Cline; Instructor Mattei.

¹Credit for only one of the two courses Speech 101 and Th. Arts 131, will be accepted toward graduation requirements in any degree program.

ENV. SCI. 101. INTRODUCTORY EARTH SCIENCE **Three credits**
A survey of contemporary research in the earth sciences, dealing with the topics: the earth as a planet; the atmosphere and oceans; the solid earth; landscape and soil. A correlated laboratory program is designed to familiarize the student with natural phenomena and the underlying physical processes. Two hours lecture and two hours laboratory. Fee: \$15.

ENV. SCI. 102. MAN AND ENVIRONMENT **Three credits**
A survey course dealing with natural and man-made environments and their effects on living organisms with special emphasis on the disrupting effects of human activity on the ecosystem. It includes examples and historical background of important environmental problems with reappraisal of past failures, prediction of the effects of present trends, and the precautionary measures to be taken against future mistakes. Two hours lecture and two hours laboratory. Fee: \$15.

ENV. SCI. 211. GEOLOGY **Three credits**
A course in physical and environmental geology dealing with materials and surface features of the earth with special emphasis on the interactions of man and his physical environment. Regional problems of geologic interest are considered and field trips to nearby geologic features are included. Two hours lecture and two hours laboratory. Fee: \$20.
Prerequisite: Env. Sci. 101.

ENV. SCI. 232. HYDROLOGY **Three credits**
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: Env. Sci. 101.

ENV. SCI. 251. METEOROLOGY **Three credits**
The physical elements and processes which comprise weather and climate are examined along with their distribution in space and time and the specific relationships between weather, climate, and human activity. The fundamentals of weather observations, weather map analysis, and the statistical approach to climatic records for plans and design specifications are developed in a correlated laboratory program. Two hours lecture and two hours laboratory. Fee: \$20.
Prerequisite: Env. Sci. 101.

ENV. SCI. 282. SPACE SCIENCE **Three credits**
A survey of contemporary knowledge of astronomy from the fringe of the earth's atmosphere to the farthest galaxies. A correlated laboratory program is designed to familiarize the student with celestial coordinates and the physical processes underlying the interpretation of astronomical observations. Two hours lecture and two hours laboratory. Fee: \$20.
Prerequisite: Env. Sci. 101.

ENV. SCI. 330. ENVIRONMENTAL QUALITY MEASUREMENTS **Three credits**
A thorough grounding in the instrumentation and techniques employed in field sampling and in measuring environmental quality parameters in the field and in the laboratory. Two three-hour laboratory periods. Fee: \$20.
Prerequisite: Chem. 202.

ENV. SCI. 381. POPULATION AND COMMUNITY ECOLOGY **Three credits**
A study of populations and communities as living systems integrated with their environment. Field investigations of local plant and animal assemblages will constitute a major portion of the course. Two hours lecture and one three-hour laboratory. Fee: \$20.
Prerequisite: Bio. 208M.

ENV. SCI. 382. ENVIRONMENTAL GEOMORPHOLOGY **Three credits**
A study of man's 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: Env. Sci. 211 and 232.

ENV. SCI. 395-396. INDEPENDENT RESEARCH **One to three credits**
Independent study and research in the field of environmental sciences or on the environmental aspects of a problem in the field of the major. A research paper at a level significantly beyond a term paper is required.
Prerequisite: Approval of department chairman.

ENV. SCI. 397. SEMINAR **One to three credits**
Weekly seminars and discussion on specific problems resulting from the interaction of man and his environment. The extended program includes two lectures establishing necessary background.
Prerequisite: For three credits, three courses in the environmental sciences program or senior status. For one credit, none.

ENV. SCI. 401-402. TOPICS IN ENVIRONMENTAL SCIENCES I AND II **Three credits each**
Selected topics covering a variety of geophysical, geochemical and geological processes and their applications. These may include one or more of the following: dynamic geology, geochemistry of rocks and soils, aquatic geochemistry, trace substances and health, astrophysics, environmental management, climatic change.
Prerequisite: Senior standing and 12 credits in Environmental Science.

Fine Arts

Assistant Professor Casilli, chairman; Professor Colson; Assistant Professors D'Vorzon, Fuller, Guyler, Simon; Adjunct Professors Cohen, Richards.

- F.A. 101. EXPERIENCING ART I** Three credits
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.
No prerequisite.
- F.A. 102. EXPERIENCING ART II** Three credits
A continuation of F.A. 101.
Prerequisite: F.A. 101.
- F.A. 201. FUNDAMENTALS OF COLOR AND DESIGN I** Three credits
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 properties.
- F.A. 202. DRAWING AND COMPOSITION** Three credits
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 drawing.
No prerequisite.
- F.A. 203. OIL PAINTING** Three credits
An introduction to painting methods, techniques, and materials. Emphasis on the organization of composition and painting techniques.
Prerequisite: F.A. 202 and 208, or permission of instructor.
- F.A. 204. 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: F.A. 202 and 208, or permission of instructor.
- F.A. 205. ADVANCED PAINTING** Three credits
Increased emphasis on development of style and experimentation in contemporary art methods and techniques.
Prerequisite: F.A. 204.
- F.A. 206. PRINT MAKING** Three credits
An introduction of relief, intaglio, and planographic techniques including block printing, etching, lithography, and silk screen.
Prerequisite: F.A. 202 and 208, or permission of instructor.
- F.A. 207. ADVANCED PRINT MAKING** Three credits
Individual experimentation using plastics, photographic techniques in silk screen, lithography, and intaglio, as well as traditional methods.
Prerequisite: F.A. 206.

- F.A. 208. FUNDAMENTALS OF COLOR AND DESIGN II** Three credits
A continuation of Fundamentals of Color and Design I with a concentration on the similarities and differences between 2 and 3 dimensional design.
Prerequisite: F.A. 202.
- F.A. 210. MODELING AND THREE DIMENSIONAL CONSTRUCTION (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.
No prerequisite.
- F.A. 211. SCULPTURE II** Three credits
An exploration into metal sculpture employing gas and electric welding processes; plastics. Advanced work in carving, construction, and assemblage in various media.
Prerequisite: F.A. 210, or permission of instructor.
- F.A. 212. CERAMICS** Three credits
Exploration into the basic methods and techniques of hand building and wheel work. Experimentation in surfaces decoration, glazing, and kiln firing.
No prerequisite.
- F.A. 213. METALWORK AND JEWELRY** Three credits
A course in basic metalwork, enameling and jewelry techniques and design. Lecture, two hours; studio, two hours.
Prerequisite: Permission of instructor.
- F.A. 214. 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.
No prerequisite.
- F.A. 223. HISTORY OF ART I** Three credits
A survey of the history of architecture, sculpture and painting from the pre-historic period through Gothic era.
No prerequisite.
- F.A. 224. HISTORY OF ART II** Three credits
A survey of the history of architecture, sculpture and painting from the Renaissance through the nineteenth century.
No prerequisite.
- F.A. 226. HISTORY OF CONTEMPORARY ART** Three credits
A survey of the development of architecture, sculpture and painting from the late nineteenth century to the present.
No prerequisite.

F.A. 231. CONTEMPORARY DESIGN Two credits
A study of contemporary design in advertising, graphics, industrial design, architecture and landscaping.
Prerequisite: F.A. 202 and 208 or permission of instructor.

F.A. 240. ART IN THE ELEMENTARY SCHOOL CLASSROOM Three credits
An exploration of common situations in elementary education to discover the opportunities 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 processed used by children.

F.A. 280. TOPICS IN ART One to three credits
Study of one or more special topics in the Visual Arts. May be repeated for credit.

F.A. 311. SENIOR EXHIBIT Two credits
A study of exhibition and criticism techniques and the preparation of a portfolio and resume, climaxed by a showing of the student's work. Required of all art majors during the senior year.
Prerequisite: Permission of instructor.

F.A. 332. LIFE DRAWING Two credits
Provides advanced study and research for Fine Arts majors in the development of drawing skills using the live model.
Prerequisite: F.A. 202 or permission of instructor.

F.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 paper is required.
Prerequisite: Approval of department chairman is required.

F.A. 397. SEMINAR One to three credits. (Maximum of three credits per student.)
Presentations and discussions of selected topics.
Prerequisite: Permission of department chairman is required.

Foreign Languages (Modern)

Associate Professor Seitz, chairman; Associate Professors A. Belic, Bussette, Marban; Assistant Professors Arden, Karpinich, Miller, Verdier; Instructor Eaton.

French

FR. 101. ELEMENTARY FRENCH Three credits
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 Three credits
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 Three credits
Review of grammar; practice in oral and written French; selected readings of modern French prose.
Prerequisite: Fr. 102, or the equivalent.

FR. 204. INTERMEDIATE FRENCH Three credits
Introduction to French civilization; practice in oral and written French.
Prerequisite: Fr. 203, or the equivalent.

FR. 205. TECHNICAL FRENCH Three credits
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 Three credits
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.

FR. 251. MASTERPIECES OF FRENCH LITERATURE IN TRANSLATION Three credits
Problems of dramatic and novelistic form. Comparative analysis of plays by Corneille, Anouih, 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 Grillet.
May not be taken concurrently with or after completion of Fr. 301-302.
No prerequisite.

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.
May not be taken concurrently with or after completion of Fr. 301-302.
No prerequisite.

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.
No prerequisite.

FR. 301-302. SURVEY OF FRENCH LITERATURE**Three credits each semester**

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. 303. FRENCH LITERATURE OF THE SEVENTEENTH CENTURY**Three credits**

Study of classicism and the outstanding writers of the seventeenth century.

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

FR. 305. FRENCH LITERATURE OF THE EIGHTEENTH CENTURY**Three credits**

Study of the literature and thought in the eighteenth century, with special emphasis on Montesquieu, Diderot, Voltaire, and Rousseau.

Prerequisite: Fr. 30-302, or the equivalent.

FR. 306. NINETEENTH CENTURY FRENCH LITERATURE**Three credits**

The Romantic Movement: a study of the revolt against the classic 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 chairman.

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, Bola, Flaubert, Leconte de Lisle, Verlaine and Rimbaud.

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

FR. 308. TWENTIETH CENTURY FRENCH LITERATURE**Three credits**

Study of representative works of the major genre, 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**Three credits**

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 chairman.

FR. 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 is required.

FR. 397. SEMINAR**One to three credits. (Maximum of three credits per student.)**

Presentations and discussions of selected topics.

Prerequisite: Approval of department chairman 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.

GER. 203. INTERMEDIATE GERMAN**Three credits**

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, Harystmann, Kaiser, Brecht, Hochhuth and Weiss.
- 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 Nietzsche.
- GER. 301-302. SURVEY OF GERMAN LITERATURE** **Three credits each semester**
A survey of the literature of the important periods from the beginning to 1932.
Prerequisite: Ger. 204, or equivalent.
- GER. 303. HUMANISM, REFORMATION AND BAROQUE** **Three credits**
Study of major literary works of the 16th and 17th centuries.
Prerequisite: Ger. 301-302 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 chairman.
- 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** **Three credits**
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** **Three credits**
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 chairman.

- GER. 350. ADVANCED GERMAN GRAMMAR** **Three credits**
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 the 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 chairman.
- 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 paper is required.
Prerequisite: Approval of department chairman is required.
- GER. 397. SEMINAR** **One to three credits. (Maximum of three credits per student.)**
Presentations and discussions of selected topics.
Prerequisite: Approval of department chairman is required.
- GER. 398. TOPICS** **Three credits**
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 culture, economic, and political development of the Spanish-American countries.
Prerequisite: Sp. 203, or equivalent.
- SP. 301-302. SURVEY OF SPANISH LITERATURE** Three credits each semester
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 Realism.
Prerequisite: Sp. 301-302 or equivalent.
- SP. 306. TWENTIETH CENTURY SPANISH LITERATURE** Three credits
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** Three credits
Study of the evolution of Spanish-American literature from the discovery to the beginning of the Mexican revolution. Readings from outstanding works from different periods and regions.
Prerequisite: Sp. 204, 208 or equivalent.

- SP. 309. SURVEY OF SPANISH-AMERICAN LITERATURE** Three credits
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** Three credits
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 chairman.
- 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 chairman is required.
- SP. 397. SEMINAR** One to three credits. (Maximum of three credits per student.)
Presentations and discussions of selected topics.
Prerequisite: Approval of department chairman is required.
- SP. 398. TOPICS** Three credits
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** Three credits
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** Three credits
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 with confidence for self-expression and a basic active vocabulary. Practice in topical readings.
Prerequisite: Rus. 203, or equivalent.

History

Professor Leach, chairman; Professor Cox; Associate Professors Rodechko, Shao; Assistant Professors Berg, Meyers, Berlatsky.

HIST. 101-102. WORLD CIVILIZATION **Three credits each semester**
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 **Three credits each semester**
A general survey of American History from Colonial times to the present.

HIST. 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.

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 semester**
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.

HIST. 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.

HIST. 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.

HIST. 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.

HIST. 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.

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 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 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 **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 into the Commonwealth.

HIST. 347-348. HISTORY OF RUSSIA **Three credits each semester**
A study of the political, social, and intellectual history of Russia.

HIST. 351. MEDIEVAL EUROPE **Three credits**
Consideration will be given to political, economic, 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 reform and conflicts resulting from the crisis in the sixteenth century.
- HIST. 353-354. 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.
- HIST. 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.
- HIST. 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.
- HIST. 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 present.
- HIST. 363. HISTORY OF MODERN CHINA** **Three credits**
 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** **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.
- HIST. 367. MODERN SOUTH ASIA** **Three credits**
 A study of the political, social and economic development of the Indian sub-continent since 1500.
- HIST. 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.
- HIST. 391. HISTORIOGRAPHY AND RESEARCH** **Three credits**
 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 chairman is required.
- HIST. 398. TOPICS** **Three credits**
 Special topics in history. This course will be offered from time to time when interest and demand justify it.
- HIST. 497. SEMINAR** **One to three credits. (Maximum of three credits per student.)**
 Presentations and discussions of selected topics.
 Prerequisite: Approval of instructor is required.

Mathematics

Professor Wong, chairman; Associate Professors T. Richards, Earl, Merrill, Sours, Tillman; Assistant Professors DeCosmo, Salburg, Hansen, Weisman.

- MATH. 100. PRE-CALCULUS MATHEMATICS** **Four credits**
 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.
- MATH. 101-102. FUNDAMENTALS OF MATHEMATICS I AND II** **Three credits each semester**
 A mathematics appreciation course designed to give students a general background in mathematical concepts. It is intended for those who will not take other courses in mathematics. Not open to students with credits in Math. 103-104.
- MATH. 103-104. MATHEMATICS FOR ELEMENTARY SCHOOL TEACHERS I AND II** **Three credits each semester**
 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. 101-102.
- MATH. 105-106. INTRODUCTORY CALCULUS I AND II** **Four credits each semester**
 Intended primarily for students of social and natural sciences. Topics include: review of algebra, limit, differentiation, integration, sequences and series, partial differentiation, differential equation, and probability. Not open to students with credits in Math. 111-112.
 Prerequisite: Geometry, Algebra II, and some knowledge of Trigonometry.

MATH. 111-112. CALCULUS I AND II **Four credits each semester**

Calculus of functions of a real variable. Topics include: functions, limit and continuity, differentiation, integration and their applications, infinite sequences and series. Not open to students with credits in Math. 105-106.

Prerequisite: Math. 100 or at least three years of secondary school mathematics including geometry, algebra II, and topics in trigonometry.

MATH. 123. FORTRAN PROGRAMMING **Three credits**

Fortran IV programming, including advanced techniques with problems geared to the individual interests of students. Fee: \$20.

MATH. 124. COBOL PROGRAMMING **Three credits**

Common Business Oriented Language programming, including advanced techniques with problems geared to the individual interests of students. Primarily intended for students majoring in business administration and accounting. Fee: \$20.

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 the management, social 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.

Prerequisite: Two years of high school algebra.

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, 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 problem-discussion per week.

Prerequisite: Math. 112, or consent of department chairman.

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.

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. 211.

MATH. 223. ADVANCED PROGRAMMING **Three credits**

A problem-oriented continuation of Math. 123 or Math. 124. Fee: \$20.

Prerequisite: Math. 123 or 124.

MATH. 227. DATA STRUCTURES **Three credits**

A study of computer data structures including applications and programming techniques. This course covers methods for storing data internally, in the computer's memory, and externally, on direct access volumes. Fee: \$20.

Prerequisite: Math. 123 or 124.

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 students with credit in Math. 331.

Prerequisite: Math. 104, or consent of instructor.

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 students with credit in Math. 343.

Prerequisite: Math. 104, or consent of instructor.

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.

Prerequisite: Some elementary knowledge of matrices.

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.

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. 212 or consent of instructor.

MATH. 322. ASSEMBLY LANGUAGE **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 system concepts, structure and operation. Fee: \$20.

Prerequisite: Math. 123.

MATH. 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: Math. 124.

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.

MATH. 334. LINEAR ALGEBRA Three credits
Vector spaces, linear transformations, matrices, determinants, bilinear and quadratic forms, matrix polynomials.
Prerequisite: Math. 212, or consent of instructor.

MATH. 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.

MATH. 343. INTRODUCTION TO GEOMETRY Three credits
A study of selected topics from Euclidean geometry, affine geometry, projective geometry, and convexity.
Prerequisite: Math. 202 or consent of instructor.

MATH. 351-352. PROBABILITY AND MATHEMATICAL STATISTICS I AND II Three credits each semester
Random variables, probability distributions, expectation and limit theorems, estimation, testing statistical hypotheses, confidence intervals.
Prerequisite: Math. 106 or 112 or consent of instructor.

MATH. 361-362. INTRODUCTION TO APPLIED MATHEMATICS I AND II Three credits each semester
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.

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 on computers.
Prerequisite: Math. 211 and Math. 123 or permission of instructor.

MATH. 380. TOPICS IN MATHEMATICS Two to four credits
Study of one or more special topics in pure or applied mathematics. May be repeated for credit.
Prerequisite: Varies with topics studied.

MATH. 397. SEMINAR One to three credits
Presentation and discussion of selected topics.
Prerequisite: Approval of department chairman.

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.

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.

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 chairman.

MATH. 480. TOPICS IN MATHEMATICS Three 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.

Music¹

Professor Gasbarro, chairman; Associate Professors Chapline, A. Liva; Assistant Professors Garber, Santos, Fall, Weber; Instructors Haberkorn, Veremeychik.

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.

Fees for private instruction are in addition to the regular tuition charge.

¹There is a music fee of \$15 per semester for all music and music education majors.

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 **Three credits**

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 of study.

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 majors who are not enrolled in applied music in piano.

Prerequisite: Mus. 112.

MUS. 121-122-123-124. 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 for four years.

MUS. 125-126-127-128. 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 for four years.

MUS. 131-132-133-134. ORCHESTRA **One-half credit each semester**

Participation in the Northeastern Pennsylvania Philharmonic gives the student experience in the complete range of symphonic literature. Students desiring to participate in the orchestra should consult with the director.

MUS. 215. INSTRUMENTATION **Two credits**

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 chairman.

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.

MUS. 217. ANALYSIS **Two credits**

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 as found in the styles of Palestrina, di Lasso, and Ingegneri.

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 chairman is required.

MUS. 397. SEMINAR **One to three credits. (Maximum of three credits per student.)**

Presentations and discussions of selected topics.

Prerequisite: Approval of department chairman is required.

Music Education¹

- MUS. ED. 101-102. CLARINET CLASS AND METHODS** Two credits each semester
Methods of teaching and instruction in the clarinet.
No prerequisite.
- MUS. ED. 103-104. BRASS CLASS AND METHODS** Two credits each semester
Methods of teaching and instruction in the brass field.
No prerequisite.
- MUS. ED. 105. WOODWIND CLASS METHODS** Two credits
A class conducted as an introduction to the teaching of such woodwinds as clarinet, oboe, flute, and bassoon, with demonstrations of the class teaching of these instruments.
No prerequisite.
- MUS. ED. 106. BRASS CLASS METHODS** Two credits
A class in brass is conducted as an introduction to the teaching of such brass instruments as trumpet, horn, trombone, baritone, and tuba, with demonstration of the class teaching of these instruments.
No prerequisite.
- MUS. ED. 121. VIOLIN CLASS AND STRING METHODS** Two credits
A class in violin playing and in the teaching of string instruments.
No prerequisite.
- MUS. ED. 122. VIOLA CLASS AND STRING METHODS** Two credits
A class in viola playing and in the teaching of string instruments.
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 instruments.
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.

¹ There is a music fee of \$15 per semester for all music and music education majors.

- 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 material, stressing particularly elementary and high school instrumental materials the first semester and high school choral materials the second semester.
No prerequisite.
- MUS. ED. 340. PROFESSIONAL SEMESTER IN MUSIC EDUCATION** Eight credits
Provides classwork and practical experience to prepare for the teaching of music in elementary and secondary schools. Fee: \$25.
To qualify for admission to the Professional Semester, students must secure the recommendation of the department chairman in their major and the approval of the Education Department chairman.
Students may schedule late afternoon or evening classes during the professional semester.
Prerequisite: Ed. 201, 202 and cumulative grade point average of 1.85.
- FOR TRANSFER AND CERTIFICATION PURPOSES, CREDIT WILL BE
ASSIGNED AS FOLLOWS:
- MUS. ED. 343. GENERAL CLASSROOM METHODS** One credit
A study of various instructional procedures used in public school classrooms.
- MUS. ED. 344. MULTI-SENSORY TECHNIQUES IN THE TEACHING OF MUSIC** One credit
A study of the use of multi-sensory aids in the teaching of music in elementary and secondary schools.

- MUS. ED. 346. STUDENT TEACHING IN MUSIC** **Six credits**
A course in the observation and student teaching of vocal or instrumental music in elementary and secondary schools.

Nursing

Professor McHenry, chairman; Assistant Professors Alexander, Bond, Bourcier, Rarig, Schreiber, Zendian; Instructors Alichnie, Goodnight, Gultus, Hayes, Morgan, Telban, Turner.

- NSG. 101. INTRODUCTION TO NURSING** **Three credits**
A basic course in nursing which explores the concepts of man, the quality of human life, nursing and profession. Man's needs and nursing's roles and responsibilities for health care are defined and analyzed within the context of changing social needs and health service delivery systems.
- NSG. 102. THE NURSING PROCESS** **Four credits**
The components of the process, and the knowledge and skills essential to each are defined and developed. Theory is supplemented by laboratory experiences which include skill development through self instruction and selected activities in human service agencies in the community. Lab fee: \$20.
Prerequisite: Nsg. 101, Bio. 115, Chem. 105.
- 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 and Nsg. 102. (may be taken concurrently)
- NSG. 201. NURSING CARE OF THE GROWING FAMILY I** **Seven credits**
Focus is on the nursing needs of the growing family during the childbearing and child rearing years. Theory includes normal reproduction and complications, the well child and common health hazards. The psychosocial, psychiatric and community health concepts will be integrated. Lab fee: \$20.
Prerequisite: Nsg. 102, Bio. 116. (Bio. 113 and Nsg. 200 may be taken concurrently)
- NSG. 202. NURSING CARE OF THE GROWING FAMILY II** **Seven credits**
Focus is on the health needs of the older child through adolescence, and young adult. Theory and learning experiences are designed to help the student develop the nursing knowledge and skills necessary to assist in the promotion of comfort, health and security. Mental health and community health concepts are integrated. Lab fee: \$20.
Prerequisite: Nsg. 201.
- NSG. 203. NURSING OF THE ADULT FAMILY MEMBER I** **Seven credits**
Focus is primarily on the adult family member's medical-surgical health problems. Theory is correlated with clinical experience in the episodic and

distributive settings. Rehabilitation, mental health, psychiatric and community nursing concepts are integrated as a part of total nursing care. Lab fee: \$20.

Prerequisite: Nsg. 202.

- NSG. 204. NURSING OF THE ADULT FAMILY MEMBER II** **Seven credits**
Theory and selected clinical experiences in applying concepts and techniques in increasingly complex problems of mobility due to accident, injury, disease or old age. This involves the acute and chronic problems; also the aging patient facing the culmination of life in old age, and to the inevitable issues of death and bereavement. Lab fee: \$20.

Prerequisite: Nsg. 203.

- NSG. 295. CONCEPTS IN NURSING PRACTICE** **Six credits**
Designed to provide the student with advanced knowledge and opportunities to function more independently in the delivery of primary health care. The focus is on developing the competencies of the nurse practitioner as leader, health teacher, and innovator. Methods of systematic investigation in the solution of individual and family nursing problems are studied in terms of the changing patterns within health care systems. (Lecture-discussion and clinical laboratory experience).

Prerequisite: Phil. 101 or 102 and Nsg. 204.

- NSG. 296. INDEPENDENT STUDY** **Four credits**
Independently structured by the student, in conjunction with his faculty advisor, based on his career goals and the options available to him in a variety of clinical settings used for learning experiences. Systematic investigation in the direct, independent practice of nursing is presented and evaluated in individual conferences and seminars. Emphasis is placed on preparation for the immediate role of the nurse practitioner. (Seminar and clinical laboratory experience).

Prerequisite: Nsg. 295.

- NSG. 297. CONTEMPORARY PROBLEMS IN NURSING** **Two credits**
Exploration of contemporary problems and issues relating to the practice of nursing and the profession, and the role of the professional nurse as a future leader.

Prerequisite: Nsg. 295 (may be taken concurrently).

Philosophy – Religious Studies

Assistant Professor Henson, chairman; Associate Professors Kay, Williams; Assistant Professor Wuori; Adjunct Professors Barras, Vujica.

Philosophy

- PHIL. 101. INTRODUCTION TO PHILOSOPHY** **Three credits**
An introduction to the nature and function of philosophy, and its relations to some of the other fields of human interest. The approach is through such typical problems as: the nature and origin of life, the relation of mind and body, freedom of the will, the theories of right and wrong, arguments for theism. This course is a prerequisite to all advanced philosophy courses.

PHIL. 102. LOGIC AND SCIENTIFIC METHOD Three credits
Elementary principles and techniques of clear and sound thinking. General rules of inductive and deductive reasoning; recognition of fallacies; the nature of scientific knowledge, its methods, its aims, its presuppositions.

PHIL. 210. ETHICS Three credits
A critical study of standards for judging the rightness or wrongness of conduct. An inquiry into what men ought to do. A survey of representative ethical theories with the emphasis on their application to currently controversial issues in the social, economic, and political fields.

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 relation of faith and reason; arguments for God's existence; the problem of evil; the argument for immortality.

PHIL. 230. AESTHETICS Three credits
A critical examination of contemporary problems in the philosophy of art: defining the nature of art and the artistic process, methods and standards in evaluating works of art, the role of aesthetic theory, perception and the aesthetic attitude, and the nature and role of aesthetic judgments.

PHIL. 240. SOCIAL AND POLITICAL PHILOSOPHIES 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.

PHIL. 250. ANCIENT AND MEDIEVAL PHILOSOPHY Three credits
A study of the development of Western thought from Thales to Occam with special attention to such key thinkers as Plato, Aristotle, Democritus, Plotinus, Thomas Aquinas and Duns Scotus.

PHIL. 260. HISTORY OF MODERN PHILOSOPHY Three credits
The major trends in philosophical thought from the Renaissance to the end of the nineteenth century, with special emphasis on: Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume, Kant, Hegel, Schopenhauer, Comte, Bentham, and Mill.

PHIL. 270. CONTEMPORARY PHILOSOPHY Three credits
A critical examination of current trends in philosophy, with special emphasis on: British and American realism; pragmatism; positivism; contemporary Marxism; existentialism; and linguistic analysis. Major philosophers to be studied: James, Dewey, Moore, Husserl, Russell, Carnap, Santayana, Whitehead, Heidegger, Sartre, and Wittgenstein.

PHIL. 280. PHILOSOPHIES 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.

PHIL. 290. 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 casual determinism, fatalism, the relationship between mind and body, and the nature of universals.

PHIL. 297. PHILOSOPHICAL EXPLORATIONS Three credits
An introductory treatment of some specific contemporary issue of a philosophical nature. The course content is variable and may include borderline problems between philosophy and the sciences, arts, and humanities, such as technology and value, philosophy of biology, futurology, medical ethics, philosophy and literature, etc.

This course may be repeated for credit.

PHIL. 320. THE PHILOSOPHY OF SCIENCE Three credits
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.

PHIL. 330. 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.

PHIL. 340. STUDIES IN PLATO Three credits
A critical inquiry into some central issues of Plato's philosophy, such as the foundations of ethics, politics and scientific knowledge; the theory of forms; the nature of man and of the cosmos; and the nature of the philosophic enterprise.

Prerequisite: Phil. 101 and 250, or consent of the instructor.

PHIL. 360. SYMBOLIC LOGIC Three credits
A review of the propositional calculus and a thorough examination of the predicate calculus, including identity, definite descriptions, and relations. Emphasis will be placed upon the concept of a formal system and axiomatization, as well as properties of deductive systems such as consistency, completeness, independence of axioms, and other formal properties.

Prerequisite: Phil. 102, or permission of instructor.

PHIL. 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 is required.

PHIL. 397. SEMINAR

One to three credits. (Maximum of three credits per student.)

Presentations and discussions of selected topics.

Prerequisite: Approval of department chairman is required.

Religious Studies**R.S. 200. MAN'S RELIGIONS****Three credits**

Nature and origin of religion. Sacred literatures, beliefs, and rituals of the great historical and living faiths. A comparison of the more important features of the great religions. The contributions of religion to the development and preservation of cultural values.

R.S. 201. THE LITERATURE OF THE OLD TESTAMENT**Three credits**

The course aims at giving the 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 Near East.

R.S. 202. THE 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.

R.S. 212. CONTEMPORARY TRENDS IN RELIGIOUS THOUGHT **Three credits**

A study of the development of religious thought from "Neo-Orthodoxy" 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.

Physical Education and Hygiene

Professor Reese, chairman; Associate Professors Saracino, Schmidt; Assistant Professor Domzalski; Instructors Bearde, Bloomberg (on leave), Meyers (on leave), Moyer, Skvarla, Thomas.

Because of the importance of health and the possession of a sound body, 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. The work in physical education includes soccer, football, basketball, baseball, volley ball, 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

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. HYGIENE²**Two credits required**

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.

Physics

Professor Donahoe, chairman; Professors Bellas, Holden; Associate Professors Bailey, Hostler; Assistant Professor Placek.

PHYS. 101-102. PHYSICAL SCIENCE**Three credits each semester**

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 Math. not necessary.

PHYS. 105-106. INTRODUCTORY PHYSICS**Four credits each semester**

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. Three class hours and one three-hour laboratory each week. Fee: \$20 each semester.

¹ Students enrolled in AFROTC may substitute AS 101-102-201-202 for the P.E. 100 series.
² Class instruction in personal hygiene is required of all students, even those excused by physicians from taking physical education.

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 chairman.

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 chairman.

Physics 392, Advanced Laboratory, may be a corequisite.

PHYS. 311-312. MECHANICS **Three credits each semester**

Intermediate level courses designed to develop a thorough understanding of the principles of mechanics and the application of mathematical methods to the solution of its 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. 320. ELECTRONIC INSTRUMENTATION FOR THE LIFE AND BEHAVIORAL SCIENCES **Three credits****PHYS. 321. ELECTRONIC INSTRUMENTATION FOR THE PHYSICAL SCIENCES** **Three credits**

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.

PHYS. 331-332. ELECTRICITY AND MAGNETISM **Four credits each semester**

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 week each semester. Fee: \$20 each semester.

Prerequisite: Phys. 202 and Math. 212.

PHYS. 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. Three hours lecture-discussion a week.

Prerequisite: Phys. 202.

PHYS. 351. QUANTUM 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. Three hours lecture-discussion a week.

Prerequisite: Phys. 312, Math. 362.

PHYS. 361. ATOMIC PHYSICS **Four credits**

Black body radiation, wave-particle duality, hydrogenic atoms, multielectron atoms, molecules, solids. Class, three hours and one three-hour laboratory a week. Fee: \$20.

Prerequisite: Phys. 203, 311, 331.

PHYS. 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. 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
One or two credits — Hours to be arranged
Students desiring to undertake laboratory work in topics of their own choosing should consult the department chairman. Fee: \$20.
Prerequisite: Phys. 203, Math. 212.

PHYS. 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 is required.

PHYS. 397. SEMINAR
One to three credits. (Maximum of three credits per student.)
Presentations and discussions of selected topics.
Prerequisite: Approval of department chairman is required.

THE 400 SERIES COURSES ARE GRADUATE COURSES AVAILABLE TO UNDERGRADUATE SENIORS WITH PERMISSION OF THE INSTRUCTOR AND THE DEPARTMENT CHAIRMAN.

PHYS. 401-402. METHODS OF MATHEMATICAL PHYSICS Three credits each semester
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.
Prerequisite: Math. 362, or equivalent.

PHYS. 423. X-RAY DIFFRACTION Three credits
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 per week. Fee: \$20.
Prerequisite: Phys. 471.

PHYS. 427. SOLID STATE DEVICES Three credits
Application of energy band theory. Fermi-Dirac statistics. Conduction theory. 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.

PHYS. 473. 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. 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, chairman; Associate Professor Belic; Assistant Professors Tuhy, Niehoff; Adjunct Professors Shaw, McDonald.

I. INTRODUCTORY COURSES

P.S. 101. POLITICAL SCIENCE I Three credits
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. 101 and 102.

P.S. 204. POLICY FORMATION Three credits
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. 101 and 102.

**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 inter-relationships between local, state, and Federal policies and agencies.

Prerequisite: P.S. 101 and 102.

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. 101 and 102.

III. GOVERNMENT ORGANIZATION AND ADMINISTRATION**P.S. 207. PUBLIC ADMINISTRATION****Three credits**

Same as course listed above in Group II.

P.S. 210. PROBLEMS IN METROPOLITAN AREAS**Three 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. 101 and 102.

**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. 101 and 102.

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. 101 and 102.

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 and 102.

**P.S. 223. COMPARATIVE POLITICS: THE POLITICAL
SYSTEMS OF WESTERN EUROPE****Three credits**

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.

**P.S. 224. COMPARATIVE POLITICS: THE USSR 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 inter-locking 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 credits**

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**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 Government.

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 **Three credits**
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. 101 and 102.

PHIL. 240. SOCIAL AND POLITICAL PHILOSOPHIES **Three credits**
See description under Philosophy.

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-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 Environmental Science. Student must consult with department before registering.

P.S. 395-396. INDEPENDENT RESEARCH **One-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 required.
Prerequisite: Approval of department.

P.S. 397. SEMINAR **Three credits**
Presentation and discussion of selected topics by students.
Prerequisite: P.S. 393.

P.S. 398. TOPICS IN POLITICAL SCIENCE **Three credits**
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 in Law in an Unequal Society, etc. May be repeated when topic differs.
Prerequisite: Permission of department, criterion depending on topic.

Psychology

Professor Riley, chairman; Associate Professor Stetten; Assistant Professors Hobrock, Raslear; Adjunct Professor Kanner.

PSY. 101-102. GENERAL PSYCHOLOGY **Three credits each semester**
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 **Three credits**
An examination of current theories in psychology, with emphasis upon the major systematic 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 semester**
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 **Three credits**
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 **Three credits**
Various principles and phenomena of sensation and perception are studied within the visual, auditory, olfactory-gustatory, 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 **Three credits**
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 disorders.

Prerequisite: Psy. 101-102.

PSY. 242. PSYCHOLOGICAL TESTS **Three credits**
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 **Three credits**
An introduction to the industrial application of psychology in the selection, classification, and training of employees; reduction of monotony and fatigue; the maladjusted worker; accident prevention; work conditions; and employee motivation and morale.

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.

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 **Three credits**
A general survey of the principal forms of mental abnormalities, with emphasis on causes, symptoms, course, and treatment.

Prerequisite: Psy. 221 and 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 chairman is required.

PSY. 397. SEMINAR **One to three credits. (Maximum of three credits per student.)**
Presentations and discussion of selected topics.

Prerequisite: Approval of department chairman is required.

PSY. 398. TOPICS IN PSYCHOLOGY **Three credits**
A study in topics of special interest not extensively treated in regularly offered courses.

Retailing

Professor R. Werner, chairman.

RET. 101. PRINCIPLES OF RETAILING **Three credits**
A basic course that discusses the opportunities in retailing; types of retail institutions; problems of store policy, store location; study of the organizational structure of department stores; organization and functions of all store divisions.

RET. 210. ELEMENTS OF MERCHANDISE: TEXTILES **Three credits**
Merchandise information; fibers and fabrics; history, production, manufacturing process from fiber to finished fabric; textile terminology, trade names. Identification, testing of fibers; care of fabrics; new developments. Study of natural, industrial and synthetic materials.

RET. 211. MERCHANDISE INFORMATION: NON-TEXTILES **Three credits**
Materials, other than textiles, used in the creation of merchandise are covered through the study of raw materials. Categories of merchandise covered include: leather goods, such as shoes, gloves, handbags, and luggage; floor coverings; glass, pottery, and china; and furniture.

RET. 212. PURCHASES AND MERCHANDISING CONTROL **Three credits**
The principles, techniques, and problems encountered in merchandising; purchase planning, markup, markdown, inventories and their control, turnover, retail method of inventory, and the types and limitation of stock control systems.

Prerequisite: B.A. 115, or approval of instructor.

RET. 214. RETAIL BUYING **Three credits**
A study of the scientific 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, stockturns, and other factors that are necessary to keep lines complete.

Prerequisite: Approval of instructor.

**RET. 224. RECENT TRENDS AND DEVELOPMENTS
IN RETAILING**

Three credits

Review of fundamentals; trends in retailing; study of developments in cooperation with retail store executives. Laboratory work; reports on trends and developments.

RET. 225. RETAIL PRACTICE

Three credits

In cooperation with local stores, students interested in Retailing must be employed for an average of 12 to 15 hours a week during one term of the junior or senior year. During the period of employment, students will be required to submit reports concerning their work to the instructor; the store manager or personnel director is required to evaluate the students' ability and aptitude for retailing. Credit for the course given upon certification by the manager or personnel director of the co-operating store that students have satisfactorily completed their terms of employment.

Students who wish to seek their own place of employment may be permitted to do so, provided the place of employment has been approved by the instructor. In general, this approval will be given to employment in department stores, independent stores, variety stores, chain stores, and specialty stores where students will receive a variety of experience, and the stores are of a sufficient size to provide adequate and diversified experience.

Prerequisite: Permission of instructor.

Sociology and Anthropology

Associate Professor Goldman, chairman; Assistant Professors Kemrer, Martin, Natzke; Adjunct Professor Moravec.

Sociology

SOC. 101. INTRODUCTION TO SOCIOLOGY

Three credits

A systematic view of sociology, providing essentials for an approach to questions about man in society; analysis of social processes, structures, and functions.

SOC. 200. THE FAMILY

Three credits

History and ethnological studies of family. Role of family in the development of the individual. Interrelation of church, state, and family. Social conditions and changes affecting the American family. Family instability and disorganization.

Prerequisite: Soc. 101 and Anth. 101 or permission 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 and Anth. 101.

SOC. 230. SOCIAL PROBLEMS

Three credits

A survey of most pressing contemporary social problems and an examination of current theories of social disorganization.

Prerequisite: Soc. 101 and Anth. 101.

SOC. 235. CRIME AND JUVENILE DELINQUENCY

Three credits

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. 230, or permission of instructor.

SOC. 240. MEDICAL AND PSYCHIATRIC SOCIOLOGY

Three credits

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 and Anth. 101 or permission of instructor.

SOC. 251. FIELDS OF SOCIAL WORK

Three credits

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 and Anth. 101 and Psy. 101 and 102.

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 countries.

Prerequisite: Soc. 101 and Anth. 101 and Psy. 101 and 102.

SOC. 255. INTRODUCTION TO SOCIAL PSYCHOLOGY

Three credits

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 and Anth. 101 and Psy. 101 and 102.

SOC. 260. PERSONALITY AND SOCIAL STRUCTURE

Three credits

Examination of current theories and research bearing upon the relationship between personality and social structure; contributions and convergent development in psychology, anthropology, and sociology.

Prerequisite: Soc. 101 and Anth. 101 and Soc. 255.

SOC. 265. SOCIOLOGY OF INDUSTRY **Three credits**
An analysis of the formal and informal social organization of the work plant and of the relationship between modern industrial organization and the community.

Prerequisite: Soc. 101 and Anth. 101 and Ec. 101 and 102 or permission of instructor.

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 and Anth. 101 and Psy. 101 and 102.

SOC. 280. 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 and Anth. 101 and two other courses in sociology or permission of instructor.

SOC. 297. TOPICS **Three credits**
A study of topics of special interest not extensively treated in regularly offered courses.

Prerequisite: Approval of instructor.

SOC. 393. METHODS OF RESEARCH IN SOCIOLOGY **Three credits**
Introduction to sociological research; selected problems of research in social relations; interviewing techniques; questionnaire design and case studies.

Prerequisite: Approval of instructor.

SOC. 394. SOCIOLOGICAL ANALYSIS **Three credits**
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 employed.

Prerequisite: Approval of instructor.

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: Approval of department chairman.

SOC. 397. SEMINAR **Three credits**
Presentation and discussion of selected themes and issues in Sociology.

Prerequisite: Approval of department chairman.

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 **Three credits**
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: Soc. 101 and Anth. 101.

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 specific findings. The course will include several field trips.

Prerequisite: Soc. 101 and Anth. 101, or approval of instructor.

ANTH. 297. TOPICS **Three credits**
A study of topics of special interest not extensively treated in regularly offered courses.

Prerequisite: 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. 102 and 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: Approval of the department chairman.

ANTH. 397. SEMINAR **Three credits**
Presentation and discussion of selected themes and issues in anthropology.

Prerequisite: Approval of the department chairman.

Theater Arts

Associate Professor Groh, chairman; Assistant Professor Holm; Instructor Fields.

TH. ARTS 101. APPROACH TO THEATER **Three credits**
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 **Two credits**
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 Eng. 131 or 132. 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 **Three credits**
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 **Three credits**
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. Emphasis will be on structure of the playhouse and influence of society on theater of various ages.

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: FUNDAMENTALS **Three credits**
The 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 credits**
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, he will plan and supervise the lighting, he will 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 **One to three credits**
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 **One to three credits. (Maximum of three credits per student.)**
Presentations and discussions of selected topics.



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WILLIAM H. SWORD, JR.
E. ARTHUR TRABANT, Ph.D.
WILLIAM J. UMPHRED
NORMAN E. WEISS
JOSEPH A. WIENDL

TERM OF OFFICE

Expiring June, 1976

CHARLES N. BURNS, M.D.
ALAN M. GLOVER, Ph.D.
ANDREW HOURIGAN, JR.
ROBERT L. JONES
ROBERT H. MELSON
GERALD MOFFATT

CHARLES H. MINER, JR.
MAX ROSENN
JOSEPH J. SAVITZ
LOUIS SHAFFER
WILLIAM J. UMPHRED

Expiring June, 1977

JAMES A. ADONIZIO
BEN BADMAN, JR.
EDWARD BIXBY, M.D.
NOEL CAVERLY
MRS. WILLIAM DAVIDOWITZ
MRS. RICHARD M. EHRET

MRS. EBERHARD L. FABER
THOMAS H. KILEY
EDWIN M. KOSIK
ROBERT ROYER
RONALD SIMMS

Expiring June, 1978

DONALD F. CARPENTER
WILLIAM L. CONYNGHAM
MRS. WALTER M. DIENER
RICHARD MASLOW
F. ELLSWORTH PARKHURST
RICHARD L. PEARSALL

FRANK L. PINOLA
RICHARD M. ROSS, JR.
WILLIAM H. SWORD, JR.
E. ARTHUR TRABANT, Ph.D.
NORMAN E. WEISS
JOSEPH A. WIENDL

COMMITTEE APPOINTMENTS

Executive

JOSEPH J. SAVITZ, Chairman
JOSEPH A. WIENDL,
First Vice Chairman
BEN BADMAN, JR.,
Second Vice Chairman
DONALD F. CARPENTER
ANDREW HOURIGAN, JR.
ROBERT L. JONES
THOMAS H. KILEY
EDWIN M. KOSIK
CHARLES H. MINER, JR.
MAX ROSENN
LOUIS SHAFFER
WILLIAM J. UMPHRED

Finance and Audit

THOMAS H. KILEY, Chairman
WILLIAM L. CONYNGHAM
NOEL CAVERLY
MRS. WALTER M. DIENER
ANDREW HOURIGAN, JR.
ROBERT L. JONES
ROBERT MELSON
GERALD MOFFATT
RICHARD M. ROSS, JR.
LOUIS SHAFFER
WILLIAM H. SWORD, JR.
NORMAN WEISS

Nominations

CHARLES H. MINER, JR., Chairman
BEN BADMAN, JR.
EDWARD BIXBY, M.D.
DONALD F. CARPENTER
WILLIAM L. CONYNGHAM
MRS. EBERHARD L. FABER
THOMAS H. KILEY
RICHARD L. PEARSALL
MAX ROSENN
WILLIAM J. UMPHRED

Campus and Buildings

LOUIS SHAFFER, Chairman
JAMES A. ADONIZIO
BEN BADMAN, JR.
MRS. WILLIAM DAVIDOWITZ
CHARLES H. MINER, JR.
F. ELLSWORTH PARKHURST
RONALD SIMMS
NORMAN WEISS

College Development

WILLIAM J. UMPHRED, Chairman
JAMES A. ADONIZIO
DONALD F. CARPENTER
MRS. WILLIAM DAVIDOWITZ
ALAN M. GLOVER, Ph.D.
RICHARD MASLOW
RICHARD L. PEARSALL
FRANK L. PINOLA
RICHARD M. ROSS, JR.
ROBERT ROYER
LOUIS SHAFFER
WILLIAM H. SWORD, JR.

Academic Program

ANDREW HOURIGAN, JR., Chairman
CHARLES N. BURNS, M.D.
MRS. EBERHARD L. FABER
THOMAS H. KILEY
ROBERT MELSON
MAX ROSENN
ROBERT ROYER
RONALD SIMMS
E. ARTHUR TRABANT, Ph.D.

Student Affairs

EDWIN M. KOSIK, Chairman
WILLIAM L. CONYNGHAM
MRS. WILLIAM DAVIDOWITZ
MRS. RICHARD M. EHRET
ALAN GLOVER, Ph.D.
ANDREW HOURIGAN, JR.
F. ELLSWORTH PARKHURST
RONALD SIMMS

Faculty/Trustee Committee on Academic Freedom

BEN BADMAN, JR.
ROBERT L. JONES
CHARLES N. BURNS, M.D.
(Alternate)
WILLIAM L. CONYNGHAM
(Alternate)

Ex-Officio on All Committees

JOSEPH J. SAVITZ
ROBERT S. CAPIN, Acting President



Officers of Administration

ROBERT S. CAPIN (1959) B.S. (Wilkes) C.P.A. (State of Pennsylvania) M.B.A. Lehigh	Acting President Dean of Academic Affairs
ANDREW SHAW, JR. (1972) B.S. (Wilkes) M.G.A. (Pennsylvania)	Assistant to the President for management and operation Director of Institute of Regional Affairs Affirmative Action Officer
GEORGE F. RALSTON (1946) B.A. (North Carolina) M.A. (Columbia)	Dean of Student Affairs
RALPH B. ROZELLE (1962) B.S. (Wilkes) Ph.D. (Alfred)	Dean of Health Sciences
THOMAS J. MORAN (1970) B.S. (Wilkes) M.S. (Columbia)	Executive Director Public Relations and Development
JOHN P. WHITBY (1947) B.S. (Bloomsburg) M.S. (Columbia)	Dean of Admissions
CHARLES R. ABATE (1966) B.S. (Wilkes)	Business Manager
ALEX PAWLENOK (1967) B.S. (Wilkes)	Comptroller
JOHN J. CHWALEK (1946) B.S. (East Tennessee) M.A. (Columbia)	Director of Placement
JANE KATHLEEN LAMPE (1969) B.A. (Rosary) M.A. (Michigan) M.Ed. (Virginia)	Dean of Women
ARTHUR J. HOOVER (1955) B.S. (Wilkes) M.Ed. (Pennsylvania State)	Director of Alumni and Community Affairs

DAVID WILLIAMS (1970) B.S. (Wilkes)	Director of Computer Center
JOHN F. MEYERS (1967) B.A. (Minnesota) M.A. (Clark)	Director of Continuing Education and Graduate Studies
RICHARD G. RASPEN (1967) B.S. (Wilkes) M.Ed. (Bloomsburg)	Director of Financial Aid
DORIS E. BARKER (1974) (Wyoming Seminary Dean's School of Business)	Registrar
TERESA B. McDONALD (1972) B.S. (Bloomsburg) M.P.A. (Pennsylvania State)	Director of Federal Programs and Institutional Research-(IRA)
BERNARD J. VINOVRSKI (1971) B.S. (Wilkes)	Assistant Dean of Admissions and Freshman Financial Aid
JOSEPH J. CHISARICK (1970) B.S. (Wilkes) C.P.A. (State of Pennsylvania)	Assistant Comptroller
LINDA HOBROCK (1969) B.S. (Bowling Green) M.Ed. (Lehigh)	Assistant Dean of Women
EDWARD R. BALTRUCHITIS (1972) B.S. (Mansfield) M.A. (George Washington)	Assistant Dean of Men
GEORGE G. PAWLUSH (1969) B.S. (Wilkes) M.S. Wilkes)	Assistant Director of Public Relations
ALBERT E. FODERARO (1974) B.A. (Indiana University of Pennsylvania) M.A. (Indiana University of Pennsylvania)	Director of Housing
FRED J. CROOP (1973) B.S. (Wilkes)	Assistant Comptroller
MARY ELIZABETH DENNISON (1975) B.A. (Carlow) M.Ed. (Pittsburgh)	Assistant Director of Housing

**WILKES-HAHNEMANN COOPERATIVE MEDICAL EDUCATION
PROGRAM IN FAMILY MEDICINE**

RALPH B. ROZELLE (1962) B.S. (Wilkes) Ph.D. (Alfred)	Project Director and Dean of Health Sciences
ANTHONY J. TURCHETTI (1973) B.S., M.S. (Pennsylvania State) LL.B. (George Washington) M.D. (Hahnemann)	Clinical Coordinator and Associate Dean

COLLEGE SERVICES

ROBERT M. KERR B.S. (Bucknell) M.D. (Jefferson)	College Physician
JOSEPH H. KANNER B.A. (Bucknell) M.A. (New School for Social Research)	Director of Testing Service
RUTH V. BISHOP	Recorder
MILDRED GITTINS	Manager of the Bookstore
NELSON F. CARLE	Superintendent of Buildings and Grounds
EUGENE L. MANGANELLO	Personnel & Systems Coordinator
BETTY SOBESKI, R.N.	College Nurse
JANE DeGROSE, R.N.	College Nurse
JEANNE CONWAY	Housing Coordinator

Date following name is the year of appointment.

ACADEMIC OFFICERS

ROBERT S. CAPIN	Acting President & Dean of Academic Affairs
RICHARD L. WING	Chairman, Aerospace Studies Department
CHARLES B. REIF	Chairman, Biology Department
JAMES J. BOHNING	Chairman, Chemistry Department
ROBERT E. WERNER	Chairman, Commerce and Finance Dept.
EUGENE L. HAMMER	Chairman, Education Department
JAMES M. TOOLE	Chairman, Engineering Department
THOMAS N. KASKA	Chairman, English Department
BRUCE F. BERRYMAN	Acting Chairman, Environmental Science Dept.
HENRY R. CASILLI	Chairman, Fine Arts Department
MICHAEL H. SEITZ	Chairman, Foreign Language Department
DAVID M. LEACH	Chairman, History Department
BING K. WONG	Chairman, Mathematics Department
WILLIAM R. GASBARRO	Chairman, Music Department
RUTH W. McHENRY	Chairman, Nursing Department
DONALD A. HENSON	Chairman, Philosophy and Religious Studies Dept.
JOHN G. REESE	Chairman, Physical Education and Hygiene Dept.
FRANCIS J. DONAHOE	Chairman, Physics Department
JEAN M. DRISCOLL	Chairman, Political Science Department
ROBERT C. RILEY	Chairman, Psychology Department
DANIEL R. GOLDMAN	Chairman, Sociology and Anthropology Dept.
ALFRED S. GROH	Chairman, Theater Arts Dept.
DALE A. BUEHLER	Head Librarian

Faculty

In alphabetical order, with date of appointment following the name.

ROBERT S. CAPIN (1959) B.S. (Wilkes) C.P.A. (State of Pennsylvania) M.B.A. (Lehigh)	Administration	Acting President
<hr/>		
FREDERIC E. BELLAS (1961) B.S., M.S., Ph.D. (Pennsylvania State)	Physics	Professor
JAMES J. BOHNING (1959) B.S. (Valparaiso) M.S. (New York) Ph.D. (Northeastern)	Chemistry	Professor

Date following name is the year of appointment.

CHESTER E. COLSON (1958) B.S. (Massachusetts School of Art) M.S. (Columbia)	Fine Arts	Professor
HAROLD E. COX (1963) B.A. (William and Mary) M.A., Ph.D. (Virginia)	History	Professor
FRANCK G. DARTE, II (1968) B.A. (Yale) M.S., Ed.D. (Pennsylvania)	Education	Professor
FRANCIS J. DONAHOE (1964) B.A. (LaSalle) Ph.D. (Pennsylvania)	Physics	Professor
JEAN M. DRISCOLL (1973) B.S., M.A. (Michigan) Ph.D. (Northwestern)	Political Science	Professor
MOHAMED T. EL-ASHRY (1969) B.S. (Cairo, Egypt) M.S., Ph.D. (Illinois)	Environmental Science	Professor (on leave)
GEORGE F. ELLIOT (1950) B.A. (Montclair State) M.A. (Clark)	Economics	Professor
WELTON FARRAR (1948) B.S., M.S. (Pennsylvania)	Economics	Professor
BENJAMIN F. FIESTER, JR. (1956) B.A. (Wilkes) M.A. (Bucknell) Ph.D. (Pennsylvania State)	English	Professor
WILLIAM R. GASBARRO (1958) B.S. (Juilliard) M.A. (Columbia)	Music Education	Professor
EUGENE L. HAMMER (1953) B.S. (Wheaton) M.A. (Northwestern) Ed.D. (Columbia)	Education	Professor
STANLEY J. HOLDEN (1963) B.A. (Brooklyn) Ph.D. (Alfred)	Physics	Professor
DAVID M. LEACH (1969) B.A. (Whitman) Ph.D. (Rochester)	History	Professor
RUTH W. McHENRY (1971) B.S., M.A. (Columbia)	Nursing	Professor
JOHN G. REESE (1955) B.S., M.Ed. (Pennsylvania State)	Physical Education	Professor

Date following name is the year of appointment.

CHARLES B. REIF (1942) B.A., M.A., Ph.D. (Minnesota)	Biology	Professor
ROBERT C. RILEY (1949) B.A. (Bucknell) Ph.D. (Pennsylvania State)	Psychology	Professor
PHILIP L. RIZZO (1957) B.A., M.A., Ph.D. (Pennsylvania)	English	Professor
RALPH B. ROZELLE (1962) B.S. (Wilkes) Ph.D. (Alfred)	Chemistry	Professor
FRANCIS J. SALLEY (1950) B.S. (St. Joseph's) M.S. (Pennsylvania)	Chemistry	Professor
HOWARD A. SWAIN, JR. (1960) B.S. (Grove City) Ph.D. (Pennsylvania)	Chemistry	Professor
JAMES M. TOOLE (1968) B.S. (Pennsylvania State) M.S. (Wilkes) Ph.D. (Pennsylvania State)	Engineering	Professor
ROBERT E. WERNER (1955) B.A. (Roosevelt) M.S., Ph.D. (Wisconsin)	Economics	Professor
RICHARD L. WING (1973) B.S. (Cornell) M.S. (Southern California)	Aerospace Studies	Professor
BING K. WONG (1968) B.A. (Kansas State at Pittsburgh) M.A., Ph.D. (Illinois)	Mathematics	Professor
FRANK G. BAILEY (1968) B.S. (Pennsylvania) M.S. (Stevens) M.A. (Columbia) Ph.D. (Polytechnic Institute of Brooklyn)	Physics	Associate Professor
MICHAEL J. BARONE (1964) B.S. (Wilkes) M.S. (Bucknell)	Education	Associate Professor
ANGEL BELIC (1968) LL.D. (Zagreb) Ph.D. (Rome, Italy)	Foreign Languages	Associate Professor
JOSEPH T. BELLUCCI (1967) B.S. (Scranton) M.Ed., Ed.D. (Lehigh)	Education	Associate Professor

Date following name is the year of appointment.

DALE A. BUEHLER (1962) B.A. (Franklin & Marshall) M.S. in L.S. (Drexel Institute of Tech.)	Library	Associate Professor
CEDRIC U. BUSETTE (1975) B.A. (Brooklyn) M.A., Ph.D. (Southern California)	Foreign Languages	Associate Professor
RICHARD B. CHAPLINE (1959) B.S., M.S. (Juilliard)	Music	Associate Professor
ROBERT DeYOUNG (1960) B.S. (Rhode Island) M.A. (Columbia)	Economics	Associate Professor
BERENICE D'VORZON (1968) B.F.A. (Cranbrook Academy of Art) M.A. (Columbia)	Fine Arts	Associate Professor
BOYD L. EARL (1963) B.S. (Wilkes) M.S. (Bucknell)	Mathematics	Associate Professor
MAHMOUD H. FAHMY (1968) B.A. (Alexandria, Egypt) M.A. (Columbia) Ph.D. (Syracuse)	Education	Associate Professor
OWEN D. FAUT (1967) B.S. (Muhlenberg) Ph.D. (Massachusetts Institute of Technology)	Chemistry	Associate Professor
DANIEL R. GOLDMAN (1975) B.S., M.A. (Indiana) Ph.D. (Oregon)	Sociology	Associate Professor
ALFRED S. GROH (1947) B.A. (Syracuse) M.A. (Columbia)	Theater Arts	Associate Professor
STANLEY S. GUTIN (1959) B.A., M.A. (Maryland) Ph.D. (Pennsylvania)	English	Associate Professor
WILBUR F. HAYES (1967) B.A. (Colby) M.S., Ph.D. (Lehigh)	Biology	Associate Professor
LEVERE C. HOSTLER (1967) B.S. (Massachusetts Institute of Technology) M.S., Ph.D. (Stanford)	Physics	Associate Professor
THOMAS KASKA (1966) B.A. (Wilkes) M.A., Ph.D. (Duquesne)	English	Associate Professor

Date following name is the year of appointment

STANLEY B. KAY (1964) B.A. (Case Western Reserve) M.A. (Michigan) Ph.D. (Ohio State)	Philosophy	Associate Professor
JOHN N. LABOWS (1967) B.S. (Lafayette) Ph.D. (Cornell)	Chemistry	Associate Professor
ANNE VANKO LIVA (1970) (Juilliard)	Music	Associate Professor
HILDA A. MARBAN (1969) B.A., B.S. (Vedado Institute) Ph.D. (Havana) M.A. (Trinity) Ph.D. (Virginia)	Foreign Languages	Associate Professor
SAMUEL MERRILL, III (1973) B.A. (Tulane) M.A., Ph.D. (Yale)	Mathematics	Associate Professor
UMID R. NEJIB (1965) B.S. (Baghdad) M.S., Ph.D. (Carnegie-Mellon)	Engineering	Associate Professor
ROBERT E. OGREN (1963) B.A. (Wheaton) M.S. (Northwestern) Ph.D. (Illinois)	Biology	Associate Professor
THOMAS R. RICHARDS (1943) B.S. (Pennsylvania State) M.S. (Bucknell)	Mathematics	Associate Professor
JAMES P. RODECHKO (1971) B.A. (Hofstra) M.A., Ph.D. (Connecticut)	History	Associate Professor
DORIS B. SARACINO (1960) B.S., M.S. (East Stroudsburg)	Physical Education	Associate Professor
ROLAND C. SCHMIDT, JR. (1962) B.S. (Bloomsburg) M.S. (Scranton)	Physical Education	Associate Professor
MICHAEL H. SEITZ (1971) A.B. (Dartmouth) A.M. (Harvard) Ph.D. (Michigan)	Foreign Languages	Associate Professor
KUO-KANG SHAO (1966) B.A. (Taiwan) M.A., Ph.D. (Pennsylvania)	History	Associate Professor

Date following name is the year of appointment.

J. GEORGE SILES (1963) B.A. (Wilkes) M.S. (Scranton) Ph.D. (Lehigh)	Education	Associate Professor
RICHARD E. SOURS (1965) B.S. (Towson) M.S. (Michigan State) Ph.D. (Virginia)	Mathematics	Associate Professor
ROBERT D. STETTEN (1968) B.A., Ph.D. (Lehigh) M.S. Psychology (Iowa) M.A. Political Science (Iowa)	Psychology	Associate Professor
WILLIAM R. STINE (1965) B.S. (Union) Ph.D. (Syracuse)	Chemistry	Associate Professor
WAGIHA ABDEL-GAWAD TAYLOR (1969) B.A. (Alexandria) M.A. (Brown) Ph.D. (Clark)	Economics	Associate Professor
LEE C. TERRY (1968) B.A. (Southern Methodist) Ph.D. (Texas)	English	Associate Professor
STEPHEN J. TILLMAN (1970) Sc.B., Ph.D. (Brown)	Mathematics	Associate Professor
HOWARD WILLIAMS (1973) B.S. (Wilkes) M.A., Ph.D. (Pennsylvania State)	Economics	Associate Professor
ROY E. WILLIAMS (1967) B.A. (Eastern Nazarene) S.T.B. (Temple) Ph.D. (Drew)	Philosophy and Religious Studies	Associate Professor
MARIAN E. ALEXANDER (1972) B.S. (New York) M.S. (Simmons)	Nursing	Assistant Professor
HEATHER M. ARDEN (1973) B.A. (Michigan State) M.A., Ph.D. (New York)	Foreign Languages	Assistant Professor
DOLORES M. BANKO (1975) B.S. (Misericordia) M.S. (Maryland)	Nursing	Assistant Professor
JAMES P. BERG (1965) B.A. (Harvard) B.D., M.Div. (Lutheran Seminary) M.A. (Pennsylvania)	History	Assistant Professor

Date following name is the year of appointment.

JOEL BERLATSKY (1970) B.A. (Carleton) M.A. (Brown) Ph.D. (Northwestern)	History	Assistant Professor
BRUCE F. BERRYMAN (1973) B.S., M.S., Ph.D. (Wisconsin)	Environmental Science	Assistant Professor
BETTY B. BOND (1975) B.S. (Duke) M.S. (Catholic University of America)	Nursing	Assistant Professor
GALEN D. BONEBRAKE (1975) B.S. (Indiana) M.S. (Rensselaer)	Aerospace Studies	Assistant Professor
FLORENCE R. BOURCIER (1973) B.S.N., M.S. (Boston)	Nursing	Assistant Professor
HENRY R. CASILLI (1971) B.S. (Edinboro) M.A. (Pennsylvania State)	Fine Arts	Assistant Professor
JEFFREY T. CLINE (1974) B.S. (Wisconsin State) Ph.D. (Michigan State)	Environmental Science	Assistant Professor
LORNA C. DARTE (1969) B.A. (George Washington) M.S. in L.S. (Drexel Institute of Technology)	Library	Assistant Professor
JAMES G. DeCOSMO (1962) B.S. (West Chester) M.S. (Adelphi)	Mathematics	Assistant Professor
EUGENE S. DOMZALSKI (1969) B.S. (Wyoming) M.S. (Wilkes)	Physical Education	Assistant Professor
ROBERT B. DOTY (1975) B.S. (Maryland) M.S. (Florida) Ph.D. (Pennsylvania State)	Biology	Assistant Professor
THEODORE J. ENGEL (1966) B.B.A., M.A. (Miami)	Business Administration	Assistant Professor
JOHN E. ERICKSON (1974) B.S., M.S. (North Carolina State) Ph.D. (Washington)	Biology	Assistant Professor
H. CUTLER FALL (1969) B.A. (Brown) M.A. (Yale) Ph.D. (California, Santa Barbara)	Music	Assistant Professor

Date following name is the year of appointment.

RICHARD A. FULLER (1969) B.S. (New York) M.A. (Columbia)	Fine Arts	Assistant Professor
HERBERT GARBER (1965) B.A. (New York) M.A., Ed.D. (Columbia)	Music	Assistant Professor
GEORGE GERA (1958) B.S. (Bloomsburg) M.A. (Columbia)	Business Education	Assistant Professor
LOUIS GETTINGER (1975) B.B.A. (College of City of New York) M.B.A. (American University) C.P.A. (State of Pennsylvania)	Accounting	Assistant Professor
CHARLES S. GURDIN, JR. (1969) B.A. (Michigan) J.D. (Toledo)	Business Administration	Assistant Professor
VIVIAN V. GUYLER (1973) B.A. (Bates) M.A. (New York)	Fine Arts	Assistant Professor
ROBERT W. HALL (1973) B.S., M.B.A. (Pennsylvania State) C.P.A. (State of Pennsylvania)	Accounting	Assistant Professor
WILLIAM A. HANSEN (1974) B.S. (Illinois Institute of Technology) M.S., Ph.D. (Northwestern)	Mathematics	Assistant Professor
ROBERT J. HEAMAN (1969) B.A. (Detroit) M.A., Ph.D. (Michigan)	English	Assistant Professor
DONALD A. HENSON (1970) B.A., M.A., Ph.D. (Purdue)	Philosophy	Assistant Professor
JON R. C. HOBROCK (1967) B.A. (Kenyon) M.S. (Lehigh)	Psychology	Assistant Professor
KLAUS HOLM (1970) B.S. (New York) M.F.A. (Yale)	Theater Arts	Assistant Professor
CLYDE R. HOUSEKNECHT (1972) B.A. (Lycoming) M.S. (Pennsylvania State) Ph.D. (Minnesota)	Biology	Assistant Professor
CHU M. HUNG (1975) B.S. (St. Joseph's) M.B.A. (Northern Illinois) Ph.D. (Louisiana State)	Business Administration	Assistant Professor

Date following name is the year of appointment.

EDWIN L. JOHNSON (1966) B.A. (Wilkes) M.A. (Bucknell)	Education	Assistant Professor
WALTER KARPINICH (1975) B.S., M.A. (Temple) Ph.D. (Ukrainian Free Univ., Munich)	Foreign Languages	Assistant Professor
MEADE KEMRER (1972) B.A. (Lycoming) M.A. (Temple) Ph.D. (Arizona)	Sociology and Anthropology	Assistant Professor
FREDERICK J. KROHLE (1965) B.A. (Wilkes) M.S. in L.S. (Drexel Institute of Technology)	Library	Assistant Professor
ROY N. MARTIN (1971) B.A. (Cincinnati) M. Div. (Lexington Seminary)	Sociology	Assistant Professor
JOHN F. MEYERS (1967) B.A. (Minnesota) M.A. (Clark)	History	Assistant Professor
INGER MILLER (1968) Baccalaureate, Aarhus Cathedral School, Denmark B.A. (Wilkes) M.A. (Pennsylvania State)	Foreign Languages	Assistant Professor
IRWIN MORRISON (1974) B.B.A. (City College of New York) LL.B. (Brooklyn) LL.M. (New York) C.P.A. (State of New York)	Accounting	Assistant Professor
JOHN H. NATZKE (1973) B.A. (Wisconsin State) M.A., Ph.D. (Western Michigan)	Sociology	Assistant Professor
LEOTA NEVIL (1968) B.S. in Ed. (Bloomsburg) M.S. in Ed. (Wilkes)	Library	Assistant Professor
WALTER H. NIEHOFF (1968) B.A. (Lafayette) M.A. (Pennsylvania State)	Political Science	Assistant Professor

Date following name is the year of appointment.

JOHN L. OREHOTSKY (1971) B.S. (Massachusetts Institute of Technology) M.S. (Polytechnic Institute of Brooklyn) Ph.D. (Syracuse)	Engineering	Assistant Professor
WALTER A. PLACEK, JR. (1969) B.S. (Wilkes) M.Ed. (Pennsylvania State)	Physics	Assistant Professor
MARY ELIZABETH RARIG (1975) B.S.N. (Western, Ontario) M.Ed. (Columbia)	Nursing	Assistant Professor
THOMAS G. RASLEAR (1975) B.S. (City College of New York) Sc.M., Ph.D. (Brown)	Psychology	Assistant Professor
RICHARD T. REES (1972) B.S. (Wilkes) M.Ed., Ed.D. (Rutgers)	Education	Assistant Professor
LOUIS RIGLEY (1974) B.S. (Alderson-Broadus) Ph.D. (West Virginia)	Biology	Assistant Professor
JOSEPH H. SALSBURG (1959) B.A. (Bucknell) A.M. (Columbia)	Mathematics	Assistant Professor
ROSENDO E. SANTOS, JR. (1968) B.M. (Philippines) M.M. (Catholic Univ. of America)	Music	Assistant Professor
JUDITH K. SCHREIBER (1974) B.S. (Wilkes) M.S. (Scranton)	Nursing	Assistant Professor
HERBERT B. SIMON (1969) B.A., M.A. (New York)	Fine Arts	Assistant Professor
PHILIP R. TUHY (1960) B.A. (Valparaiso) M.G.A. (Pennsylvania)	Political Science	Assistant Professor
LESTER J. TUROCZI (1972) B.A., M.S., Ph.D. (Rutgers)	Biology	Assistant Professor
WILLIAM J. WEBER (1970) B.S. (Maryland) M.M. (Catholic)	Music	Assistant Professor
DAVID B. WEISMAN, JR. B.A. (Tulane) Ph.D. (C.U.N.Y.)	Mathematics	Assistant Professor
RICHARD D. WILLET (1974) B.S. (Michigan State) M.A. (California State, Sacramento)	Aerospace Studies	Assistant Professor

Date following name is the year of appointment.

GERALD K. WUORI (1975) B.A. (Northern Illinois) M.A., Ph.D. (Purdue)	Philosophy	Assistant Professor
ANNE G. ZENDIAN (1975) B.S. (Wilkes) M.S. (Scranton)	Nursing	Assistant Professor
MARY CHRISTINE ALICHNIE (1974) B.S. (Pittsburgh)	Nursing	Instructor
RODGER BEARDE (1971) B.S., M.Ed. (West Chester)	Physical Education	Instructor
SANDRA L. BLOOMBERG (1971) B.A. (Wilkes)	Physical Education	Instructor (on leave)
PHYLLIS S. CHENG (1971) B.S. (Wilkes)	Library	Instructor
SALLY C. CONNOR (1971) B.A. (Pennsylvania)	Library	Instructor
SHIRLEY EATON (1973) B.S. (Boston) M.A. (Middlebury)	Foreign Languages	Instructor
JAY E. FIELDS (1973) B.A. (West Liberty State) M.A. (West Virginia) M.A. (Central Michigan)	English	Instructor
DONALD W. GAUNTLETT (1974) B.S. (Kutztown) M.A.T. (Brown)	Chemistry	Instructor
ELLEN L. GOODNIGHT (1975) B.S. (Columbia Union)	Nursing	Instructor
MARGARET T. GULITUS (1975) B.S. (Misericordia)	Nursing	Instructor
MICHAEL HABERKORN (1972) B.Mus., M.Mus. (Illinois)	Music	Instructor
KATHRYN V. HAYES (1975) B.S. (Temple)	Nursing	Instructor
MARY Z. KERR (1969) B.A. (Wellesley) M.A. (Rochester)	English	Instructor
BRADFORD L. KINNEY (1973) B.A. (Florida Southern) M.A. (Indiana)	English	Instructor
CHARLES M. MATTEI (1970) B.S., M.S. (Notre Dame)	Environmental Science	Instructor

Date following name is the year of appointment.

GAY F. MEYERS (1970) B.S. (Lock Haven) M.S. (Wilkes)	Physical Education	Instructor (on leave)
DIANA W. MORGAN (1975) B.S. (Wilkes)	Nursing	Instructor
DEBORAH A. MOYER (1975) B.S. (East Stroudsburg)	Physical Education	Instructor
JANICE N. PEDERSEN (1974) B.A. (Augsburg) M.M. (Colorado)	Music	Instructor
HSI-PING SHAO (1974) B.Ed. (National Taiwan) M.A. (Pennsylvania) M.S. in L.S. (Drexel)	Library	Instructor
JOSEPH SKVARLA (1971) B.A. (Wilkes)	Physical Education	Instructor
SHARON G. TELBAN (1975) B.S. (Wilkes)	Nursing	Instructor
JULIA M. THOMAS (1975) B.A. (Misericordia)	Physical Education	Instructor
MARILYN L. TURNER (1973) B.S.N. (Loma Linda)	Nursing	Instructor
GABRIELLE M. VERDIER (1975) B.A. (San Francisco) M.A. (Harvard) M.Phil (Yale)	Foreign Languages	Instructor
THEODORE M. VEREMEYCHIK (1971) B.S. (Indiana University of Pa.) M.M. (Miami)	Music	Instructor
ABRAHAM D. BARRAS (1971) B.A. (Columbia) B. Rel. Ed., MHL., DHL. (Jewish Theological Seminary)	Religion	Adjunct Professor
JAMES L. BENDER (1974) School of Medical Technology Robert Packer Hospital	Medical Technology	Adjunct Professor
LINDA BOCLAIR (1975) School of Medical Technology Hahnemann Medical College and Hospital	Medical Technology	Adjunct Professor
MARK COHEN B.A. (Wilkes)	Fine Arts	Adjunct Professor

Date following name is the year of appointment.

BARBARA CRAIG, R.S.M. (1973) B.A. (Misericordia) M.A. (Middlebury) Ph.D. (Georgetown)	Education Upward Bound	Adjunct Professor
LINDA A. GIORDANO (1973) B.S. (Wilkes)	Business Education	Adjunct Professor
VIVIAN R. GOLLATZ (1974) School of Medical Technology Allentown General Hospital	Medical Technology	Adjunct Professor
CAROLYN GRABOWSKI (1975) School of Medical Technology Hackensack Hospital Association	Medical Technology	Adjunct Professor
ALAN HUSBAND (1970) B.S. (Millersville) M.S. (Temple)	Educational Development Center	Adjunct Professor
JOSEPH H. KANNER (1949) B.A. (Bucknell) M.A. (New School for Social Research)	Psychology	Adjunct Professor
CHARLOTTE V. LORD (1962) B.S. (New York) M.A. English (Bucknell) M.A. Italian (Middlebury) Ph.D. (Pennsylvania)	English	Adjunct Professor
TERESA B. McDONALD (1972) B.S. (Bloomsburg) M.P.A. (Pennsylvania State)	Political Science	Adjunct Professor
THOMAS J. MORAN (1970) B.S. (Wilkes) M.S. (Columbia)	Journalism	Adjunct Professor
JAROSLAV G. MORAVEC (1963) LL.D. (Prague, Czechoslovakia) Ph.D. (Boston)	Sociology	Adjunct Professor
RICHARD G. RASPEN (1967) B.S. (Wilkes) M.Ed. (Bloomsburg)	Business Administration	Adjunct Professor
J. PHILIP RICHARDS (1962) B.F.A. (Syracuse)	Fine Arts	Adjunct Professor
SANDRA RISHL (1975) School of Medical Technology The Williamsport Hospital	Medical Technology	Adjunct Professor
HELEN M. RUANE (1974) School of Medical Technology Wilkes-Barre General Hospital	Wilkes-Hahnemann Program	Adjunct Professor
ANDREW SHAW, JR. (1972) B.S. (Wilkes) M.G.A. (Pennsylvania)	Political Science	Adjunct Professor

JOSEPH A. SKOK (1969)
 B.S. (Lock Haven)
 M.Ed. (Pennsylvania State)

ANTHONY J. TURCHETTI (1973)
 B.S., M.S. (Pennsylvania State)
 LL.B. (George Washington)
 M.D. (Hahnemann)

STANKO M. VUJICA (1947)
 B.A. (Zagreb)
 M.A. (Innsbruck)
 Ph.D. (Zagreb)

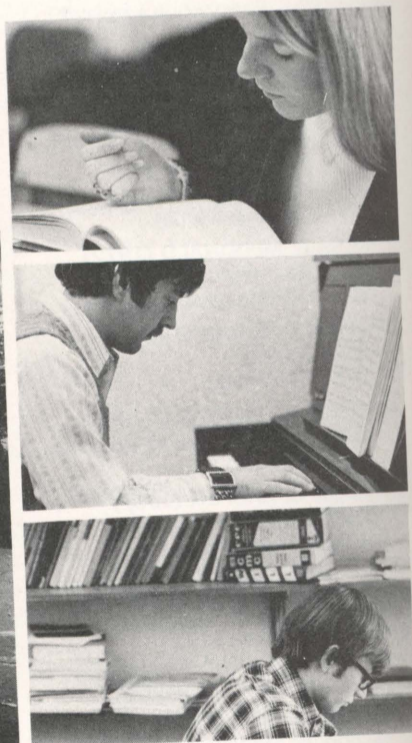
DOROTHY L. ZUFALL (1974)
 School of Medical Technology
 The Somerset Hospital

Educational Development Center Adjunct Professor

Wilkes-Hahnemann Program Adjunct Professor

Philosophy and Religious Studies Adjunct Professor

Medical Technology Adjunct Professor



Standing Committees of the Faculty

The following are the Faculty Committee assignments made for the academic year 1975-76. The President is ex-officio on all Committees except Committees on Academic Freedom.

Academic Standing

Herbert Garber, Chairman (1977)
 Eugene Hammer (1976)
 Stanley Kay (1976)
 Mary Kerr (1976)
 John Labows (1976)
 Jean Driscoll (1977)
 David Leach (1977)
 John Orehotsky (1977)
 Mohamed El-Ashry (1978)
 Benjamin Fiester (1978)
 Charles Reif (1978)
 Joseph Salsburg (1978)
 Doris Barker
 Jane Lampe
 George Ralston
 John Whitby

Admissions

Frederic Bellas, Chairman (1977)
 Jeffrey Cline (1976)
 Jon Hobrock (1976)
 Roy Williams (1976)
 William Gasbarro (1977)
 John Orehotsky (1977)
 Clyde Houseknecht (1978)
 Herbert Simon (1978)
 Richard Sours (1978)
 John Chwalek
 John Whitby

Athletic

James DeCosmo, Chairman (1977)
 George Elliot (1976)
 Roland Schmidt (1976)
 Philip Tuhy (1976)
 Shirley Eaton (1977)
 Richard Wing (1977)
 Welton Farrar (1978)
 Jon Hobrock (1978)
 Richard Rees (1978)
 Arthur Hoover
 John Reese

Curriculum

Howard Swain, Chairman (1977)
 Mahmoud Fahmy (1976)
 Umid Nejib (1976)
 Robert Riley (1976)
 George Siles (1976)
 Thomas Kaska (1977)
 William Stine (1977)
 Stephen Tillman (1977)
 Joel Beriatsky (1978)
 Donald Henson (1978)
 Michael Seitz (1978)
 Lester Turoczy (1978)
 John Meyers
 Bernard Vinovrski

Faculty Policy

Francis Salley, Chairman (1976)
 James Rodechko (1976)
 Joseph Bellucci (1977)
 Robert DeYoung (1977)
 David Leach (1978)
 Richard Sours (1978)

Financial Aid

Walter Placek, Chairman (1978)
 Inger Miller (1976)
 George Siles (1976)
 Philip Tuhy (1976)
 Rodger Bearde (1977)
 Wilbur Hayes (1977)
 Thomas Richards (1977)
 Sally Connor (1978)
 Robert Stetten (1978)
 Richard Raspen
 Bernard Vinovrski

Standing Committees of the Faculty

The President is ex-officio on all Committees except Committees on Academic Freedom.

Graduate Studies

Franck Darte, Chairman (1977)
Dale Buehler (1976)
Mahmoud Fahmy (1976)
James Toole (1976)
Robert Werner (1976)
Francis Donahoe (1977)
Mohamed El-Ashry (1977)
Clyde Houseknecht (1977)
James Bohning (1978)
Jean Driscoll (1978)
Roy Williams (1978)
Bing Wong (1978)
Stanley Gutin
John Meyers

Library

Wagiha Taylor, Chairman (1977)
Cutler Fall (1976)
Janice Pedersen (1976)
Richard Porter (1976)
Stanley Gutin (1977)
Frederick Krohle (1977)
Angel Belic (1978)
Edwin Johnson (1978)
Kuo-Kang Shao (1978)
Dale Buehler
David Williams

Student Life

Lorna Darte, Chairman (1976)
Bradford Kinney (1976)
Hsi-Ping Shao (1976)
Doris Saracino (1977)
James Toole (1977)
Lester Turoczi (1977)
John Labows (1978)
John Natzke (1978)
Richard Rees (1978)
Edward Baltruchitis
Albert Foderaro
Jane Lampe
George Ralston

Student Publications

Gay Meyers, Chairman (1976)
Angel Belic (1976)
Alfred Groh (1976)
Frank Bailey (1977)
Chester Colson (1977)
Lee Terry (1977)
Joseph Bellucci (1978)
Robert Heaman (1978)
Stanley Kay (1978)
David DeCosmo
Thomas Moran

Teacher Recognition and Effectiveness

Boyd Earl, Chairman (1976)
George Gera (1976)
Mary Kerr (1976)
Berenice D'Vorzon (1977)
William Hansen (1977)
Hilda Marban (1977)
Jay Fields (1978)
William Gasbarro (1978)
Meade Kemrer (1978)
Linda Hobrock
Arthur Hoover

Academic Freedom

- a. MEDIATION
Eugene Hammer (1976)
Robert Werner (1977)
Robert Riley (1978)
James Bohning, alternate (1976)
- b. FACULTY - TRUSTEE
George Elliot (1976)
Welton Farrar (1977)
Benjamin Fiester, alternate (1976)

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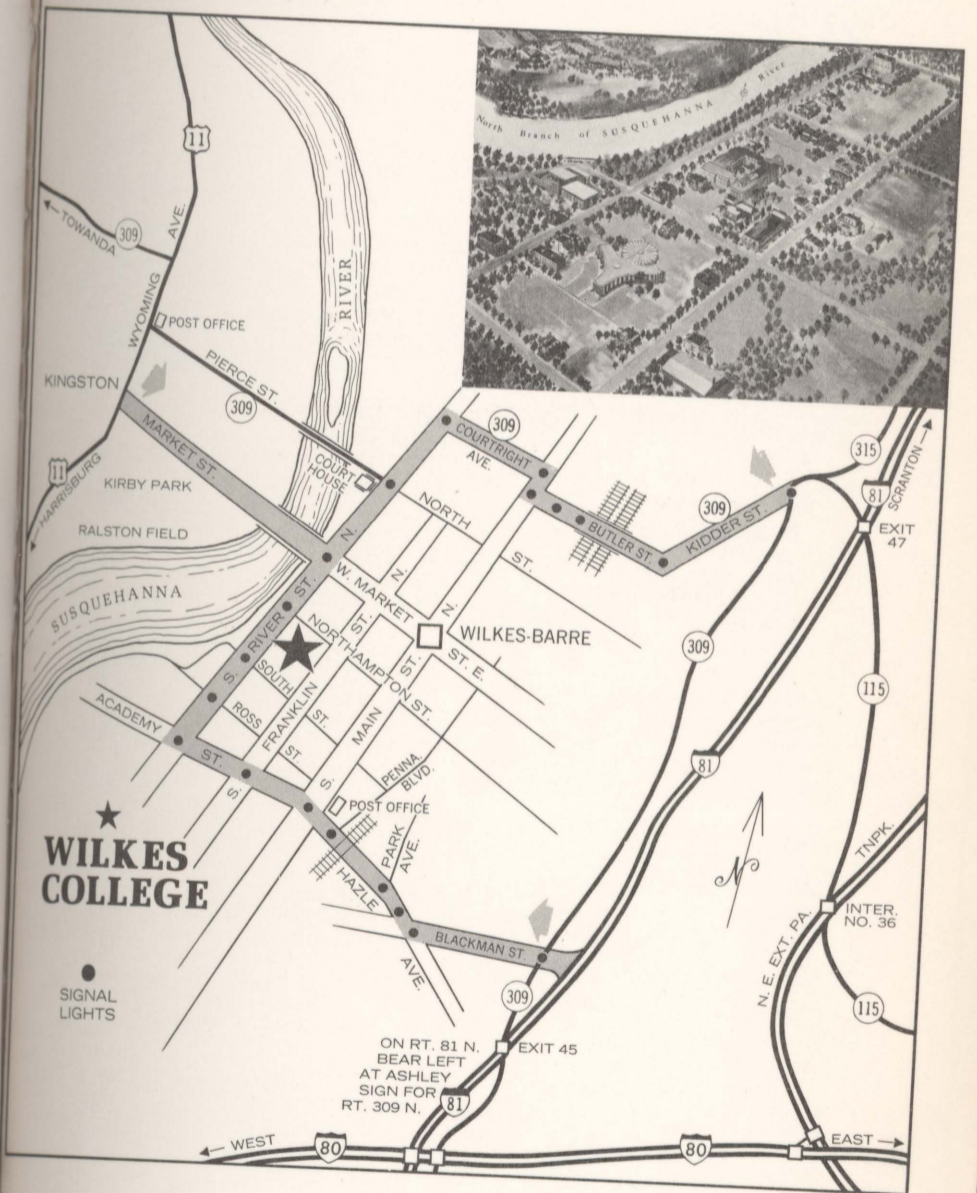
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Wilkes College
BULLETIN 1975-1977

GRADUATE
DIVISION



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WILKES-BARRE, PENNSYLVANIA

Academic Calendar

FALL SEMESTER — 1975

Registration —

Thursday, August 28 8:30 a.m. to 8:00 p.m.
Friday, August 29 8:30 a.m. to 8:00 p.m.

Classes begin —

Wednesday, September 3 8:00 a.m.

Thanksgiving Recess —

Tuesday, November 25 10:00 p.m.
to Monday, December 1 8:00 a.m.

Classes end —

Friday, December 12 10:00 p.m.

Examinations —

Monday, December 15 thru Saturday, December 20

SPRING SEMESTER — 1976

Registration —		
Thursday, January 29	8:30 a.m. to 8:00 p.m.	
Friday, January 30	8:30 a.m. to 8:00 p.m.	
Classes begin —		
Monday, February 2	8:00 a.m.	
Spring Vacation —		
Friday, March 19	10:00 p.m.	
to Monday, March 29	8:00 a.m.	
Easter Vacation —		
Friday, April 16	10:00 p.m.	
to Tuesday, April 20	8:00 a.m.	
Last day to file application for assistantships —		
Monday, May 10		
Classes end —		
Friday, May 14	10:00 p.m.	
Examinations —		
Monday, May 17 thru Saturday, May 22		
Commencement —		
Sunday, May 30		

For further information, write or call:

John F. Meyers, Director
Division of Continuing Education
and
Graduate Studies
170 South Franklin 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 College 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 Department 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 application. 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 Departments of Biology and Chemistry. Applicants for the M.B.A. degree must take the Admission Test for Graduate Study in Business.

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 average 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 the Graduate School and the chairman of the appropriate department will review provisional admissions annually in order to re-evaluate 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 is given regular admission and who receives more than nine credits with the grade of 2, or who receives three credits with the grade of 0 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:

- a. Acceptance by an Advisor and an Advisory Committee; before completion of nine hours of graduate study;
- b. 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. Degree students desiring to take courses for transfer at 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 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. In these cases, it is the responsibility of the student to notify the faculty member. Grades of "X" must be removed through satisfactory completion of all course work within four weeks of the end of the 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 will 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.

Students engaged in active thesis research but not formally registered for thesis or other credit courses during a semester will be required to pay a \$10 fee to cover advisory functions. This fee does not include any which may be assessed by the individual departments for materials and/or use of equipment.

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. The 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.

When requests for more than one transcript are on the same order, the charge will be:

- a. One dollar for the first copy;
- b. Seventy-five cents for the second copy;
- c. Fifty cents for the third copy;
- d. Twenty-five cents for each copy thereafter.

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 of the student.

Tuition Cost per Semester: \$75 per credit hour.

Thesis Research Fee: \$10 per semester. (See under regulations on thesis research for information.)

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.

Summer 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 responsibility of the graduate student to inform the Graduate School 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 1975-1976 and 1976-1977 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, 1975 — August 25, 1975

Spring semester, 1976 — January 15, 1976

Fall semester, 1976 — August 25, 1976

Spring semester, 1977 — January 15, 1977

ADDITIONAL COURSES

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 year 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.

All applicants must take the Graduate Record Examination and forward scores in support of their application.

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

Two graduate programs are offered in biology, one leading to the Master of Science Degree, the other to the Master of Science Degree in Education with a major in biology. Information on requirements for the Master of Science degree is given below. 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 27.

The program leading to the Master of Science Degree in Biology includes three distinct requirements: course work, independent laboratory research, and a reading knowledge of one foreign language.

A candidate for the Master of Science Degree in Biology must have a minimum of twenty-one 400-level credits for graduation. These 400-level credits will include six for thesis. A maximum of nine 300-level credits will be allowed. A candidate must have completed three credits in biochemistry or must take them at the college for credit.

The candidate must demonstrate a reading knowledge of a foreign language, either through examination or by successful completion of two years of language in undergraduate school.

Following completion of eighteen of the twenty-four required credit hours of course work, a graduate student will be required to take a comprehensive examination on the fundamental principles of biology.

A graduate student in the Department of Biology is considered to be a candidate for the degree, Master of Science, after he has completed twenty-four credit hours of course work, fulfilled the language requirements, passed the comprehensive written examination, and submitted the outline of his thesis.

The student will be required to select a committee, a research topic, and an adviser at 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. To qualify for the degree a candidate must present an acceptable thesis and must pass an oral examination in the subject area of his research.

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.

- 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 304. BACTERIOLOGY** **Three credits**
 Biology 304 covers the relationship of bacteria to disease, immunity, serology, and pathology. Laboratory work continues with special stains, identification of unknowns, isolation of bacteria from natural sources, and techniques used in applied bacteriology. Fee: \$20.
 Prerequisite: Biology 303.
- 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.
 Prerequisite: Permission of the instructor.
- 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. Lecture, three hours a week.
- BIOLOGY 310. ANIMAL BEHAVIOR** **Three credits**
 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.

- 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.
 Prerequisite: Permission of the instructor.
- 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.
 Prerequisite: Permission of the instructor.
- 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 404. FAUNISTIC AND FLORISTIC BIOLOGY** **Three credits**
 Faunistic and 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 411. ADVANCED TOPICS IN BACTERIOLOGY** **Three credits**
 Advanced topics centered around the structure and function of bacterial cells.
 Prerequisite: One semester of bacteriology, biochemistry.
- 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 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 451. INVERTEBRATE BIOLOGY Three credits
 Classification, functional adaptations and development of selected non-chordate animals.

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

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:

1. 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, corporation finance, economics, marketing, money and banking, and statistics will probably have an adequate background to complete 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
Corporation Finance	1 semester
Money and Banking	1 semester
Marketing	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 Admission Test for Graduate Study in Business.

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 successfully 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 Administration 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 Three credits
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

ECONOMICS 473-4. PRE-SEMINARS No graduate credit
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)

ECONOMICS 501. MANAGERIAL ECONOMICS Three credits

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.

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 Three credits

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

Three credits

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 non-linear 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 theoretical 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. examination.

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 Three credits
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

Master of Science in Education

ADMISSION

For admission to graduate study in chemistry, the applicant shall have a Baccalaureate Degree 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 application. 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 27. 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 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 Three credits
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 (optional), three hours a week. Breakage deposit required. Fee: \$20.
Prerequisite: Permission of instructor.

CHEMISTRY 342. INTERMEDIATE PHYSICAL CHEMISTRY Three 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 (optional), three hours a week. Breakage deposit required. Fee: \$20.
Prerequisite: Permission of instructor.

CHEMISTRY 376. ADVANCED ANALYTICAL CHEMISTRY Three credits
The theory and application of modern techniques and instructional 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. Breakage deposit required. Fee: \$20.
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 Three credits
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 pathways.
Prerequisite: Chemistry 238 or equivalent.

CHEMISTRY 452. BIOCHEMISTRY II Three credits
A study of metabolism with emphasis on metabolic regulation and related enzymes. Certain special topics such as photosynthesis may also be covered.
Prerequisite: Chemistry 451 or equivalent.

CHEMISTRY 516. 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 Three credits
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 spectroscopy, 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.)

CHEMISTRY 590. THESIS

Six credits

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 holding the interim certificate 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 Three credits
A foundation course in reading instruction.

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.

EDUCATION 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 education; 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 Three credits
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.

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.

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	E	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	F	Mathematics
B	Chemistry	G	Physics
C	Environmental Science	H	Reading
D	English	I	Social Sciences
E	History	J	Educational Theater

EDUCATION 541. SECONDARY SCHOOL CURRICULUM Three credits
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, social 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 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 27.

COURSES OF INSTRUCTION

ENGLISH 301. LITERARY CRITICISM Three credits
A study of literary theory and the techniques of analysis.

ENGLISH 310. MEDIEVAL ENGLISH LITERATURE Three credits
A study of English literature to 1500, exclusive of Chaucer and the drama.

ENGLISH 320. TUDOR PROSE AND POETRY Three credits
Study of English non-dramatic literature from 1485 to 1603.

ENGLISH 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.

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 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.
- ENGLISH 383. AMERICAN NOVEL** Three credits
A study of the American novel from its beginning to the present.
- 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** Three credits
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 structuralists.
- ENGLISH 410. STUDIES IN MEDIEVAL LITERATURE** Three credits
The study of selected topics in Medieval English literature.
- ENGLISH 420. STUDIES IN RENAISSANCE LITERATURE** Three credits
A study of selected major figures of the English Renaissance.
- ENGLISH 440. STUDIES IN RESTORATION AND EIGHTEENTH CENTURY LITERATURE** Three credits
A study of selected topics in English 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** Three credits
A study of selected major British authors of the twentieth century.
- 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.

Environmental Science

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 SCIENCE 401-402. TOPICS IN ENVIRONMENTAL SCIENCE I AND II** Three credits each
Selected topics covering a variety of geophysical, geochemical, and geological processes and their applications. These may include one or more of the following: geochronology, dynamic geology, geochemistry of rocks and soils, trace substances and environmental health, environmental geomorphology, environmental management, climatic changes, condensation and precipitation processes, etc.

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 is strongly recommended.

Information on requirements of the Education Department for the Master of Science in Education, major in history, will be found under Education on page 27.

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** Three credits
Discovery, exploration and settlement; development of social, political, religious and intellectual institutions; independence and political reorganization.
- HISTORY 332. THE NATIONAL PERIOD** Three credits
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 warfare.
- 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** 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.
- 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 into the Commonwealth.
- 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** Three credits
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. 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 present.

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

Three credits

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

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.

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 credit.)

Prerequisite: Approval of the instructor is required.

Mathematics

Master of Science

Master of Science in Education

THE COURSES OF STUDY ARE INTENDED FOR:

- Students who plan to continue their studies beyond the master level,
- teachers of secondary or junior college mathematics who seek to strengthen their subject-matter competence, and
- 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

- M.S. in Mathematics
A minimum of thirty credits of approved courses 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.
 - Education courses: 12 credits
six credits in Area I
three credits in Area II
three credits in Area IV
 - Mathematics courses: 18 credits
At least three credits must be in courses numbered above 400.

COURSES OF INSTRUCTION

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 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 Three credits

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 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.

MATHEMATICS 380. TOPICS IN MATHEMATICS Two to four credits

Study of one or more special topics in pure or applied mathematics. May be repeated for credit.

Prerequisite: Consent of the instructor.

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. Topics from General Commutative Algebra: 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 480. TOPICS IN MATHEMATICS Three 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: Consent of instructor.

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, L_p -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 Three credits

Polyhedra, simplicial homology theory, cohomology rings, and homotopy groups.

Prerequisite: Mathematics 342.

MATHEMATICS 580. TOPICS IN MATHEMATICS Three credits

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 Six credits

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 27. 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 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: \$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. QUANTUM 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

Three credits

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

Three credits

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

Three credits

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 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 theory. 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 Three credits

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.

PHYSICS 473. 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. 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.

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 flux, etc.

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 Three credits

Methods of energy band calculations, relativistic effects including spin, electron phonon interactions, superconductivity, cooperative phenomena, order-disorder, ferromagnetism.

PHYSICS 574. SEMICONDUCTIVITY Three credits

A detailed study of the theory of semiconductivity. Topics include statistical theory of rectification, transistor effect, etc.

Corequisite: Physics 571.

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.

PHYSICS 590. THESIS Six credits

* 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)

JAMES J. BOHNING

Professor of Chemistry
Ph.D. (Northeastern)

DALE A. BUEHLER

Associate Professor, Library
M.S. (Drexel Institute of Technology)

FRANCIS J. DONAHOE

Professor of Physics
Ph.D. (Pennsylvania)

JEAN M. DRISCOLL

Professor of Political Science
Ph.D. (Northwestern)

MOHAMED T. EL-ASHRY

Professor of Environmental Science
Ph.D. (Illinois)

MAHMOUD H. FAHMY

Associate Professor of Education
Ph.D. (Syracuse)

STANLEY S. GUTIN

Associate Professor of English
Ph.D. (Pennsylvania)

CLYDE R. HOUSEKNECHT

Assistant Professor of Biology
Ph.D. (Minnesota)

JAMES M. TOOLE

Professor of Engineering
Ph.D. (Pennsylvania State)

ROBERT E. WERNER

Professor of Economics
Ph.D. (Wisconsin)

ROY E. WILLIAMS

Associate Professor of Philosophy
and Religious Studies
Ph.D. (Drew)

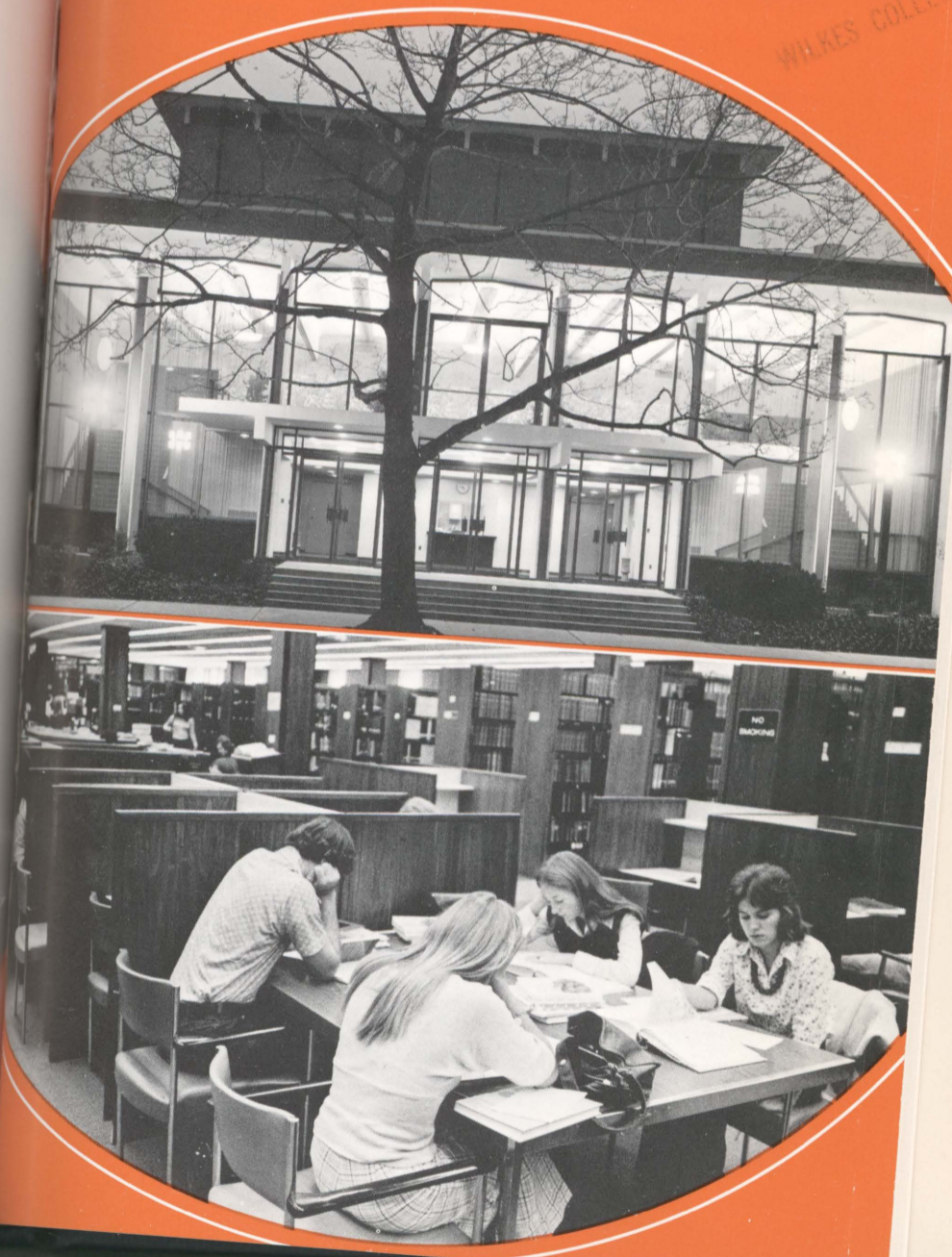
BING K. WONG

Professor of Mathematics
Ph.D. (Illinois)

Information on the graduate school may be obtained by writing to:

John F. Meyers
Director of Graduate Studies
Wilkes College
Wilkes-Barre, Pennsylvania 18703

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Wilkes Evening College
1975 BULLETIN
Fall Semester WILKES-BARRE
PENNSYLVANIA



ANDREW FARLEY
AUG 6 1975
WILKES COLLEGE

Calendar

Registration for Evening College and Graduate School:

Thursday, August 28	8:30 a.m. to 8:00 p.m.
Friday, August 29	8:30 a.m. to 8:00 p.m.
Wednesday, September 3	Classes begin at 6:00 p.m.
Tuesday, November 25	Thanksgiving Recess begins at 10:00 p.m.
Monday, December 1	Classes resume at 6:00 p.m.
Friday, December 12	Classes end for Fall Semester
Monday, December 15	Final Examinations begin
Saturday, December 20	Final Examinations end

INTERSESSION

Monday, January 5	Classes begin
Friday, January 30	Classes end

Spring Semester — 1976

Registration for Evening College and Graduate School:

Thursday, January 29	8:30 a.m. to 8:00 p.m.
Friday, January 30	8:30 a.m. to 8:00 p.m.

For further information, write or call:

John F. Meyers, Director
Division of Continuing Education and Graduate Studies
Wilkes College
170 South Franklin Street
Wilkes-Barre, Pennsylvania 18703
Phone: 824-4651 Ext. 303
(After 4:30 p.m. — 824-4656)

WILKES COLLEGE

Bulletin



EVENING SESSION

Fall Semester
1975

WILKES-BARRE, PENNSYLVANIA

AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION INSTITUTION

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, 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 faculty as a guide to learning.

Wilkes College

Wilkes College had its beginnings 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 liberal arts college. The college has grown steadily to its current enrollment of approximately 2,000 full-time day students and 1,000 evening students engaged in undergraduate, graduate, and continuing education programs.

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.

AN INDEPENDENT COLLEGE

It was inevitable that the new college should be non-sectarian, 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 non-denominational in its control.

FREEDOM OF INQUIRY

Years have passed since Bucknell gave the control of the Junior College to a local Board of Trustees, guided by the late Gilbert S. McClintock, and events of these years demonstrate the wisdom of this decision. With responsibility came a pressing desire to strengthen the work of the faculty, united in their faith that the intellectual and spiritual resources of the student are vigorous where the creative mind is free.

UNITY AMIDST DIVERSITY

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 full circle Wilkes College brings together students of many faiths,

backgrounds, and countries. It encourages them to maintain their convictions and their loyalties. It encourages them to create friendships based upon respect for differences, and to adhere to those ideals that create unity and good will amidst diversity.

While academic work is the basis of the college program, the faculty recognizes that academic training will be of little importance unless students emerge as men and women of strong faith and fine character. In the words of John Stuart Mill, "Before you can make men doctors and lawyers, you must first make them men."

Wilkes College is committed to education as a way of life.

A COOPERATIVE EFFORT

The original concept of community effort has been strengthened with the passing of the years and with growing experience. It has been clearly demonstrated that the students, the college, and the community all benefit from cooperative effort. This cooperative relationship, with its emphasis on trained intelligence and extended planning, has resulted in cooperative action.

DECADES OF GROWTH

Because of their interest and faith, friends have multiplied their support during the past decades and the campus has expanded steadily so that it now includes most of the properties facing the River Common. Fortunately, a growing endowment has kept pace with the expansion of the campus.

ACCREDITATION

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 Accounting curriculum has been accredited by the Certified Public Accounting Examiners of the State of New York and the Chemistry curriculum has been certified by the American Chemical Society.

Evening College

INFORMATION

CURRICULA

UNDERGRADUATE PROGRAM

To meet the needs of ambitious men and women who desire the help which may come from college instruction, Wilkes College offers a wide program of evening courses from which selections may be made according to individual tastes and requirements.

The courses offered by the Evening College are designed for their special value to the following groups:

1. Those employed in business or governmental organizations who desire and need training to fit them for advancement.
2. Men and women who wish to prepare themselves by study and training for work in a new field.
3. Teachers, nurses and those in other professions who desire additional training in one or more subjects in order to meet the professional requirements demanded of them.
4. Business executives who are interested in the study of problems relating to business administration and the economy of the nation and the world.
5. Those who wish to prepare for the profession of accounting and aspire to qualify for certification by the Commonwealth of Pennsylvania as Certified Public Accountants.
6. Individuals wishing to broaden their knowledge or to increase their skill in certain fields for their personal satisfaction and improvement.
7. Men and women seeking college degrees through attendance in the Evening College.

Except where designated in the course schedule, classes for courses offered in the evening will be scheduled on Monday through Thursday between the hours of 6:00 p.m. and 10:00 p.m.

ADMISSIONS

Evening College students who wish to work toward a degree shall make application for admission as degree candidates when they first register. Students who enrolled without any plan to earn a degree, but who conclude in consequence of their experience in the Evening College that they wish to earn a degree, must apply for admission to the degree program when they complete thirty hours of work in the Evening Division. When this application is made, the student's record will be examined to determine his eligibility and his prospects of successful achievement. This will be followed by a personal interview with the Director of the Evening Division and a recommendation will then be submitted to the Office of Admissions.

If the student is accepted as a degree candidate, he will be notified by the Office of Admissions. If the student is not accepted as a degree candidate, he may petition to continue as a special student. This will offer him a further opportunity to demonstrate his ability to benefit from continued study.

Students who have been refused admission to the regular day school are not encouraged to seek admission to the Evening Division. However, if written permission is granted by the Dean of Admissions, a student may apply for admission to the Evening Division as a special student.

No student listed as an academic failure at this or any other college shall be permitted to register in the Evening Division for one full calendar year after his failure. After the lapse of a year a student from another college may submit an application for admission. A Wilkes student who has been denied the privilege of continuing his studies must apply to the Academic Standing Committee for re-admission.

Students who wish to transfer from another institution must provide transcripts of all previous college work.

Students who do not satisfy the usual educational requirements for admission to degree programs may qualify by demonstrating their competence. This can be done by passing the qualifying examinations for a secondary school diploma and by demonstrating their proficiency in evening classes. The Director of the Evening Division will inform the student of the steps that are needed to qualify him for admission.

Under the regulations of the Veterans Administration, a student who does not qualify as a degree candidate may follow one of two programs. He may pursue college work from a planned list of courses approved by the Veterans Administration; or, he may earn the high school equivalent

diploma by passing the United States Armed Forces Institute (USAFI) and/or the General Equivalency Diploma (GED) tests in order to apply for admission as a degree candidate.

The Director of the Evening Division will act as advisor to all students enrolled on a part-time basis (Day or Evening Division) and to all students enrolled in the Evening Division on a full-time basis.

If a day student enrolls for an Evening Division course, he will retain his day-school faculty advisor. If an Evening Division student enrolls in a day-school course, he will be classified as a Special Student for the semester in which he is registered for the day-school course. During this period he will retain his Evening Division advisor. Should he transfer to the day-school, he will be assigned a regular faculty advisor.

RESEARCH AND GRADUATE CENTER

The Research and Graduate Center is an excellently equipped and staffed installation that is an integral part of the college complex. During the school term the Center will continue the various public and private research projects now in progress.

LABOR - MANAGEMENT TRAINING COURSES

To establish a climate for industrial redevelopment the college has pioneered a Labor-Management Training Program in which the needs of the individual and the company are analyzed.

Plans are arranged in consultation with officials, foremen, and other employees and are designed to meet the general and specific requirements of the particular group. Where several firms are confronted with common problems, special classes are organized to include representation of several companies.

INSTITUTE OF REGIONAL AFFAIRS

The Institute of Regional Affairs is a multi-purpose college organization which views regional problems as belonging to no simple academic discipline, but rather as a contemporary phenomenon spilling into many disciplines. The Institute was created to assure coordination of varied efforts in order to better understand and resolve complex and contemporary problems.

Its four-fold purpose is: education and training, community information, research, and consultation.

FACILITIES

The college is located in Wilkes-Barre, Pennsylvania, in the heart of the picturesque and historic Wyoming Valley. This location in the foothills of the Poconos offers abundant cultural and recreational facilities and affords close proximity and convenient transportation to the metropolitan areas of New York and Philadelphia.

THE LIBRARY

The Library posts its Fall schedule at the beginning of the semester.

Evening College students may borrow books from the Library by presenting their I.D. cards.

THE BOOKSTORE

The Bookstore offers a complete stock of necessary textbooks and supplies. It will be open as follows:

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

EXPENSES

All charges must be paid at the time registration forms are processed.

Books and supplies may be purchased at the bookstore and must be paid for at the time of purchase.

Undergraduate:

Undergraduate students who register for 11 credits or less pay \$65 per credit.

Undergraduate students who register for 12 or 13 credits pay \$75 per credit.

Undergraduate students who register for more than 13 but no more than 18 credits pay a flat tuition fee of \$1150 per semester. (Those students who take more than 18 credits pay \$75 for each credit above 18.)

Graduate:

All graduate students pay \$75 per credit.

FINANCIAL AID

Various programs of financial aid are available to students studying on either a full-time, or a part-time basis.

Students enrolled on a full-time basis are eligible to apply for all aid programs at the College, and should consult the current **Bulletin** for

a description of programs and procedures. For financial aid purposes, a full-time student is defined as one carrying 12 credits or more each semester.

Students enrolled at least half-time (6 to 11 credits each semester) are eligible to receive loans through the State Guaranteed Loan Program of at least \$1,000 per year, interest-free, while the student remains in half-time study and for nine months after enrollment ceases, if the adjusted family income is less than \$15,000 for the preceding year. Applications and further information can be obtained from a hometown bank or savings-and-loan association.

For the first time in 1975-76, part-time students are eligible to apply for non-repayable grant assistance through the Federal Basic Educational Opportunity Grant Program. Although these grants range from \$200 to \$1,400, awards for half-time and three-quarter time students will be reduced somewhat, according to the number of credits actually being carried.

Inquiries about financial aid should be made to the Director of Financial Aid, Chase Hall, 184 South River Street, Wilkes-Barre, Pa.

WITHDRAWAL

A student may withdraw from the evening session or drop courses without prejudice at any time during the first ten weeks of the semester, providing that he gives verbal or written notice to this effect to his instructor and to the Director of the Evening College within this ten-week period.

Students in good standing who withdraw from the college will receive a refund of tuition under the following conditions: during the first six weeks of the evening session one-half of the tuition will be refunded upon request to the Director of the Evening College, 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 Evening College Schedule becomes necessary. Such a change may include the cancellation of one course or the addition of another. Therefore, the college reserves the right to cancel or reschedule any course due to insufficient enrollment or any other reason. Wherever possible, any change will be posted during registration. Students who have registered for courses that are subsequently cancelled or rescheduled will be notified as promptly as possible.



Certificate of Achievement Program

IN

**ACCOUNTING
MANAGEMENT**

**BANKING
MARKETING**

Students in the field of Business Administration, who hold full-time jobs and attend Wilkes part-time, are required to devote many years to their quest for a bachelor's degree. To encourage these business men and women, Wilkes College will award a "Certificate of Achievement" to those who earn 42 hours of credit in evening and summer school programs with at least 24 hours in Business Administration and 18 hours in general education.

The Certificate of Achievement does not designate the completion of any recognized program. It gives recognition of achievement and notes that the recipient has completed a sequence of courses which may be credited toward the bachelor's degree should the student elect to continue his studies for the degree.

It is important to note that the courses in these programs are presently offered at the college and are now required for the Bachelor's degree in Commerce and Finance.

A student taking six credit hours of work in the Fall, Spring, and Summer sessions can complete the requirements for the certificate in two and one-half years. A student who elects not to attend the summer sessions will require three and one-half years to complete the program.

Call or write for brochure and further information.

Evening College UNDERGRADUATE DIVISION Fall Semester — 1975

Course	Description	Day & Hour	Room No.	Credit Hrs.
ACCOUNTING:				
acct. 101E	Elementary Accounting I	M 6:30-9:30	Par. 35	3
acct. 102E	Elementary Accounting II (Pre: Acct. 101)	W 6:30-9:30	Par. 45	3
acct. 111E	Intermediate Accounting I (Pre: Acct. 102)	T 6:30-9:30	Par. 35	3
acct. 201E	Cost Accounting I (Pre: Acct. 112 or approval of Instructor)	W 6:30-9:30	Par. 35	3
acct. 221E	Taxes I (Pre: Acct. 112, 202 or approval of Instructor)	Th 6:30-9:30	Par. 35	3
acct. 231E	Auditing I (Pre: Acct. 202)	M 6:30-9:30	Par. 45	3
acct. 241E	Advanced Accounting I (Pre: Acct. 112)	T 6:30-9:30	Par. 45	3
BIOLOGY:				
bio. 101E	Biological Science I Laboratory Lab Fee: \$10	Th 6:30-9:30 TBA	SLC 380 TBA	3
BROADCASTING:				
broadcast. 101E	Introduction to Broadcasting	Th 6:30-9:30	DDD 220	3
BUSINESS ADMINISTRATION:				
A. 101E	Introduction to the Private Sector of Business	T 6:30-9:30	Par. 53	3
A. 209E	Business Correspondence and Reports (Pre: Eng. 102)	Th 6:30-9:30	Par. 45	3
A. 209E-2	Business Correspondence and Reports (Pre: Eng. 102)	W 6:30-9:30	Par. 34	3
A. 225E	Corporation Finance (Pre: Econ. 102)	W 6:30-9:30	Par. 25	3
A. 231E	Business Law--Introduction, Contracts and Sales (Pre: B.A. 225)	Th 6:30-9:30	Par. 25	3

Course	Description	Day & Hour	Room No.	Credit Hrs.
B.A. 241E	Life Insurance (Pre: Approval of Instructor)	M 6:30-9:30	Par. 25	3
B.A. 251E	Principles of Management I	M 6:30-9:30	Par. 23	3
BUSINESS EDUCATION:				
B.E. 105E	Elementary Shorthand	TTh 6:00-8:00	Par. 33	2
B.E. 107E	Elementary Typewriting Fee: \$10	TTh 8:00-10:00	Par. 33	2
ECONOMICS:				
Econ. 101E	Principles of Economics I	T 6:30-9:30	Par. 43	3
Econ. 102E	Principles of Economics II (Pre: Econ. 101)	Th 6:30-9:30	Par. 43	3
Econ. 102E-2	Principles of Economics II (Pre: Econ. 101)	Th 6:30-9:30	SLC 209-11	3
Econ. 201E	Money and Banking (Pre: Econ. 102)	Th 6:30-9:30	Par. 23	3
Econ. 217E	Economics of Transportation (Pre: Econ. 102)	M 6:30-9:30	Par. 34	3
Econ. 223E	Collective Bargaining (Pre: Econ. 102)	W 6:30-9:30	Par. 23	3
Econ. 225E	International Trade (Pre: Econ. 102)	M 6:30-9:30	Par. 43	3
Econ. 227E	Economic Geography of North America, Europe, and The Soviet Union (Pre: Econ. 102)	W 6:30-9:30	Par. 43	3
Econ. 229E	Comparative Economic Systems (Pre: Econ. 102 or Approval of Instructor)	Th 6:30-9:30	Par. 34	3
Econ. 231E	Applied General Statistics (Pre: Approval of Instructor)	T 6:30-9:30	Par. 23	3
Econ. 241E	Economic Analysis (Pre: Econ. 102)	T 6:30-9:30	Par. 34	3
ENGINEERING:				
E.E. 211A	Circuit Theory I (Pre: Math. 112)	MW 5:00-6:30	SLC 223	3
E.E. 381A	Advanced Engineering Laboratory I (Pre: Senior standing)	Sat. 9:00 a.m. to 4:00 p.m.	SLC 22	4
Ma.E. 211A	Materials Science I (Pre: Chem. 201)	TTh 5:00-6:30	SLC 223	3

Course	Description	Day & Hour	Room No.	Credit Hrs.
ENGLISH:				
Eng. 101E	Composition I	W 6:30-9:30	SLC 216	3
Eng. 102E	Composition II (Pre: Eng. 101)	Th 6:30-9:30	SLC 216	3
Eng. 151E	Western World Literature I (Pre: Eng. 102 or equivalent in composition)	M 6:30-9:30	SLC 270	3
Eng. 440E	Studies in Restoration and Eighteenth Century Literature: Pope, Swift, and Johnson	M 6:30-9:30	SLC 315	3
ENVIRONMENTAL SCIENCE:				
Envi. Sci. 101E	Introductory Earth Science Laboratory Lab Fee \$15	W 6:30-10:00	SLC 435 TBA	3
FINE ARTS:				
A. 101E	Experiencing Art I	T 6:00-9:00	SLC 105	3
A. 214E	Photography I	M 6:30-10:00	SLC 9	3
A. 280E	Topics in Art: Batik and Fabric Design	W 6:00-9:30	SLC 206	3
A. 280E-4	Topics in Art: History of American Art	MW 6:30-8:00	SLC 1	3
FOREIGN LANGUAGES:				
Ger. 251E	Masterpieces of German Literature in Translation	T 6:30-9:30	SLC 215	3
HISTORY				
Hist. 101E	History of World Civilization I	W 6:30-9:30	SLC 207	3
Hist. 102E	History of World Civilization II	T 6:30-9:30	SLC 209	3
Hist. 325E	American Ethnic History	T 6:30-9:30	SLC 207	3
Hist. 353E	Early Modern Europe, 1648-1815	M 6:30-9:30	SLC 209	3
Hist. 363E	Modern China	Th 6:30-9:30	SLC 207	3
JOURNALISM:				
Jour. 101E	Basic News Writing Fee: \$10	M 6:30-9:30	Par. 33	3
Jour. 251E	News Editing (Pre: Jour. 101, 102 or approval of instructor)	W 6:30-9:30	Par. 33	3
MATHEMATICS:				
Math. 101E	Fundamentals of Mathematics I (Not open to students with credits in Math. 103-104)	MW 6:30-8:00	SLC 409	3

Course	Description	Day & Hour	Room No.	Instructor
MUSIC:				
Mus. 101E	Introduction to the Literature and Materials of Music I	T 6:30-9:30	DDD 202	3
Applied Music		Room and hours to be arranged		
	Note: It is important that all students who register for applied music through the Evening College consult with Mr. William Gasbarro, Department Chairman, before completing their registrations.			
PHILOSOPHY - RELIGIOUS STUDIES:				
Phil. 101E	Introduction to Philosophy	M 6:30-9:30	SLC 207	3
Phil. 102E	Logic and Scientific Method	W 6:30-9:30	SLC 204	3
Phil. 102E-2	Logic and Scientific Method	Th 6:30-9:30	SLC 204	3
PHYSICAL EDUCATION:				
P.E. 105E	Hygiene	T 7:00-8:00	Weck.An.	1
PHYSICS:				
Phys. 101E	Physical Science I	Th 6:30-9:30	SLC 133	3
Phys. 321E	Instrumentation for Physical Sciences	T 6:00-8:00	SLC 160	3
Phys. 351E	Quantum Mechanics (Pre: Phys. 312, Math. 362)	MW 6:30-8:00	SLC 160	3
POLITICAL SCIENCE:				
P.S. 101E	Political Science I	M 6:30-9:30	SLC 204	3
P.S. 223E	Comparative Politics: The Political Systems of Western Europe (Pre: P.S. 101 and P.S. 102)	T 6:30-9:30	SLC 204	3
PSYCHOLOGY:				
Psy. 101E	General Psychology I	W 6:30-9:30	SLC 334	3
Psy. 102E	General Psychology II (Pre: Psy. 101)	Th 6:30-9:30	SLC 334	3
Psy. 221E	Child Psychology (Pre: Psy. 101-102)	W 6:30-9:30	SLC 342	3
Psy. 232E	Human Behavior (Pre: Psy. 101-102)	M 6:30-9:30	SLC 334	3
Psy. 331E	Abnormal Psychology (Pre: Psy. 221 and Psy. 232)	W 6:30-9:30	SLC 347	3
READING:				
	Speed reading and study skills development	T 6:00-9:00	Ross 1	0

Course	Description	Day & Hour	Room No.	Instructor
RETAILING:				
Ret. 101E	Principles of Retailing	W 6:30-9:30	Par. 53	3
Ret. 101E-2	Principles of Retailing	T 6:30-9:30	Par. 43	3
Ret. 214E	Retail Buying (Pre: Approval of instructor)	T 6:30-9:30	Par. 53	3
SOCIOLOGY:				
Soc. 101E	Introduction to Sociology	M 6:30-9:30	Par. 53	3
Soc. 251E	Fields of Social Work (Pre: Soc. 101-102 and Psy. 101-102)	Th 6:30-9:30	Par. 53	3
Anth. 297E	Topics: Physical Anthropology (Pre: Approval of instructor)	T 6:30-9:30	Par. 25	3
SPEECH:				
Spch. 101E	Fundamentals of Speech	T 6:00-8:00	SLC 315	2

GRADUATE DIVISION

Fall Semester - 1975

Course	Description	Day & Hour	Room No.	Instructor
BIOLOGY:				
Bio. 303A	Bacteriology Laboratory Laboratory Fee: \$20	MW 8:00-9:50 M 2:00-5:00	SLC 315 SLC 305	Staff
Bio. 307	Analytical Cytology Laboratory Laboratory Fee: \$20	TTh 9:00-9:50 T 2:00-5:00	SLC 380 SLC 359	Ogren
Bio. 311A	Population and Community Ecology Laboratory Laboratory Fee: \$20	TTh 10:00-10:50 Th 2:00-5:00	SLC 380 SLC 370	Houseknecht
Bio. 402	Cell Biology	TBA	TBA	Ogren
Bio. 432	Advanced Physiology (Pre: Undergraduate Physiology)	TBA	TBA	Hayes
BUSINESS ADMINISTRATION:				
Acct. 503	Managerial Accounting	Th 6:30-9:30	Par. 56	Hall
B.A. 502	Management Science	W 6:30-9:30	SLC 133	Engel
B.A. 511	Modern International Commerce	T 6:30-9:30	Par. 56	Taylor
B.A. 522	Quantitative Aspects of Management	M 6:30-9:30	SLC 133	Williams
Econ. 506	Labor-Management Economics	M 6:30-9:30	Par. 56	Werner
Econ. 531	Industrial Relations and the Law	W 6:30-9:30	Par. 56	Werner
CHEMISTRY:				
Chem. 341A	Elementary Physical Chemistry Laboratory Laboratory Fee: \$20 (Pre: Permission of instructor)	MWF 9:00-9:50 Th 8:00-11:00	SLC 270 SLC 256	Swain
Chem. 401	Applied Chemistry	TBA	TBA	Stine
Chem. 411	Advanced Inorganic Chemistry	TBA	TBA	Faut
Chem. 440	Quantum Chemistry	TBA	TBA	Swain
Chem. 451	Biochemistry I	TBA	TBA	Stine

Course	Description	Day & Hour	Room No.	Instructor
EDUCATION:				
Ed. 430	Developmental Reading (Pre: Ed. 405 or equivalent)	W 6:00-9:00	SLC 315	Siles
Ed. 510	Psychological Foundations of Education	W 6:00-9:00	SLC 209-11	Hammer
Ed. 513	Comparative Foundations of Education	M 6:00-9:00	SLC 311-13	Fahmy
Ed. 514	Historical Foundations of Education	W 6:00-9:00	SLC 270	Barone
Ed. 520	Tests and Measurements	Th 6:00-9:00	SLC 311-13	Bellucci
Ed. 525	Educational Research I	Th 6:00-9:00	TBA	Hammer
Ed. 526	Educational Research II (Pre: Ed. 521 or equivalent)	Th 6:00-9:00	SLC 315	Rees
Ed. 532A	PEE: Mathematics	M 6:00-9:00	SLC 318-20	Staff
Ed. 532D	PEE: Social Studies	Th 6:00-9:00	SLC 160	Fahmy
Ed. 534	Elementary School Curriculum (Pre: 15 graduate credits)	M 7:00-10:00	SLC 316-17	Darte
Ed. 560A	Psychology of Exceptional Children: Mentally Retarded	T 6:00-9:00	SLC 133	Staff
Ed. 561	Individual Assessment	W 6:00-9:00	SLC 311-13	Staff
Ed. 570	Supervision of Instruction	M 4:00-7:00	SLC 316-17	Darte
ENGLISH:				
Eng. 301	Literary Criticism	MW 4:00-5:30	Bdf. 12	Kaska
Eng. 360	Victorian Prose and Poetry	TTh 4:00-5:30	Bdf. 13	Heaman, R.
Eng. 440E	Studies in the 18th Century: Pope, Swift, and Johnson	M 6:30-9:30	SLC 315	Terry
HISTORY:				
Hist. 325E	American Ethnic History	T 6:30-9:30	SLC 207	Rodechko
Hist. 327A	History of the Foreign Policy of the United States	MWF 8:00-8:50	SLC 215	Leach
Hist. 333A	The Age of Big Business	MTTh 9:00-9:50	SLC 215	Cox
Hist. 341A	British Empire I	MWF 1:00-1:50	SLC 207	Berlatsky
Hist. 351A	Medieval Europe	MWF 12:00-12:50	SLC 215	Berg
Hist. 353E	Early Modern Europe	M 6:30-9:30	SLC 209	Berlatsky
Hist. 355A	Europe in the 19th Century	MTTh 2:00-2:50	SLC 215	Shao
Hist. 363E	Modern China	Th 6:30-9:30	SLC 207	Shao
Hist. 398A	Topics: The Era of the American Revolution	MWF 11:00-11:50	SLC 315	Meyers

For further information write or call:

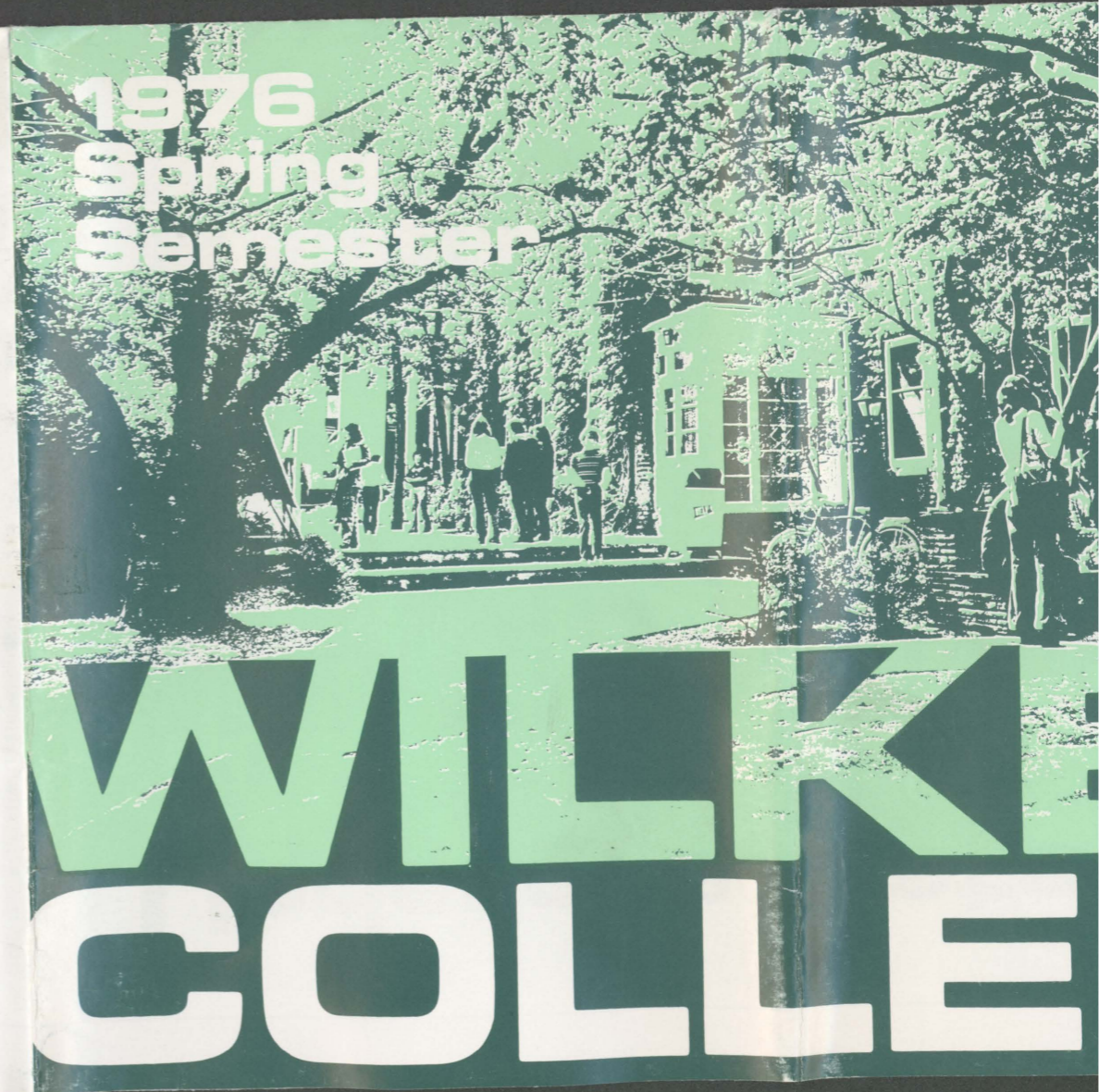
John F. Meyers, Director
Division of Continuing Education and Graduate Studies
Wilkes College
170 South Franklin Street
Wilkes-Barre, Pennsylvania 18703

Phone: 824-4651
(After 4:30 p.m. — 824-4656)

1976
Spring
Semester



WILKES
COLLEGE



Undergraduate

Course	Description	Day & Hour	Room No.	Cr. Hrs.
ACCOUNTING:				
Acct. 101E	Elementary Accounting I	W 6:30-9:30	Par. 35	3
Acct. 102E	Elementary Accounting II	M 6:30-9:30	Par. 35	3
Acct. 112E	Intermediate Accounting II	T 6:30-9:30	Par. 35	3
Acct. 204E	Managerial Accounting	W 6:30-9:30	Par. 45	3
Acct. 222E	Taxes II (Pre: Acct. 221)	Th 6:30-9:30	Par. 45	3
Acct. 242E	Advanced Accounting II (Pre: Acct. 112 and permission of instructor)	T 6:30-9:30	Par. 45	3
BIOLOGY:				
Bio. 102E	Biological Science II (Pre: Bio. 101)	Th 6:30-9:30	SLC 380	3
Bio. 310E	Animal Behavior (Pre: Bio. 201M-208M, or permission of instructor)	M 7:00-9:00 W 7:00-10:00	SLC 365	3
BUSINESS ADMINISTRATION:				
B.A. 114E	Salesmanship	M 6:30-9:30	Par. 34	3
B.A. 115E	Mathematics of Business and Finance	Th 6:30-9:30	Par. 33	3
B.A. 216E	Advertising	T 6:30-9:30	Par. 53	3
B.A. 220E	Real Estate	W 6:30-9:30	Par. 43	3
B.A. 222E	Marketing	Th 6:30-9:30	Par. 53	3
B.A. 232E	Business Law—Agency, Partnerships, Corporations and Real Property	Th 6:30-9:30	Par. 34	3
B.A. 240E	Property Insurance	M 6:30-9:30	Par. 23	3
B.A. 244E	Time and Motion Study	W 6:30-9:30	Par. 34	3
B.A. 252E	Principles of Management II	M 6:30-9:30	Par. 45	3
BUSINESS EDUCATION:				
Bus. Ed. 106E	Intermediate Shorthand (Pre: Bus. Ed. 105 or approval of instructor)	TTh 6:00-8:00	Par. 25-27	2
Bus. Ed. 108E	Intermediate Typewriting Fee: \$15 (Pre: Bus. Ed. 107 or approval of instructor)	TTh 8:00-10:00	Par. 25-27	2
ECONOMICS:				
Econ. 101E	Principles of Economics I	Th 6:30-9:30	Par. 23	3
Econ. 102E	Principles of Economics II	T 6:30-9:30	Par. 23	3
Econ. 228E	Economic Geography of Asia, Africa, and Latin America	W 6:30-9:30	Par. 23	3
Econ. 232E	Economics Statistics Fee: \$15	T 6:30-9:30	Par. 33	3
Econ. 236E	Public Finance	Th 6:30-9:30	Par. 43	3
EDUCATION:				
Ed. 351A	Educational Measurements (Pre: Ed. 202)	TTh 4:00-5:30	SLC 342	3
ENGINEERING:				
EE 212A	Circuit Theory II (Pre: Math. 112)	MW 5:00-7:00	SLC 223	3
EE 320A	Electromechanical Energy Conversion Fee: \$20 (Pre: EE 211 and Phys. 202)	Sat 9:00 a.m.-4:00 p.m.	SLC 223	4
Ma. E. 212A	Materials Science II (Pre: Chem. 201)	TTh 5:00-6:30	SLC 223	3

Course	Description	Day & Hour	Room No.	Cr. Hrs.
ENGLISH:				
Eng. 101E	Composition I	T 6:30-9:30	DDD 102	3
Eng. 102E	Composition II (Pre: Eng. 101)	Th 6:30-9:30	SLC 207-13	3
Eng. 152E	Western World Literature II (Pre: Eng. 151)	M 6:30-9:30	SLC 311-13	3
Eng. 152E-2	Western World Literature II (Pre: Eng. 151)	W 6:30-9:30	Kirby 102	3
Eng. 201A	Advanced Composition (Pre: Eng. 102)	MW 4:00-5:30	Kirby 103	3
Eng. 310A	Medieval English Literature (Pre: Eng. 152 or Eng. 154)	MW 4:00-5:30	Kirby 102	3
Eng. 372A	Modern Novel (Pre: Eng. 152 or Eng. 154)	TTh 4:00-5:30	DDD 101	3
Eng. 450E	Studies in Romantic and Victorian Literature: Blake and the Poetry of Vision	W 6:30-9:30	Kirby 208	3
ENVIRONMENTAL SCIENCES:				
Env. Sci. 102E	Man and Environment Fee: \$15	W 6:00-9:30	SLC 435	3
FINE ARTS:				
F. A. 101E	Experiencing Art I	W 6:00-9:00	SLC 105	3
F. A. 102E	Experiencing Art II (Pre: F. A. 101)	W 6:00-9:00	SLC 117	3
F. A. 212E	Ceramics	M 6:30-9:30	CG 102	3
F. A. 214E	Photography I	T 6:30-10:00	SLC 9-105	3
F. A. 214E-2	Photography I	T 6:30-10:00	SLC 9-105	3
F. A. 280E	Topics: Introduction to Weaving	W 6:30-9:30	SLC 206	3
F. A. 332A	Life Drawing	M 5:00-7:00	SLC 115	2
FOREIGN LANGUAGES:				
Fr. 204E	Intermediate French II (Pre: Fr. 203 or the equivalent)	TTh 6:30-8:00	DDD 220	3
HISTORY:				
Hist. 101E	World Civilization I	W 6:30-9:30	SLC 204	3
Hist. 102E	World Civilization II	T 6:30-9:30	SLC 207-13	3
Hist. 334E	Twentieth Century America	T 6:30-9:30	SLC 133	3
Hist. 354E	Early Modern Europe, 1648-1815	M 6:30-9:30	SLC 133	3
Hist. 364E	Diplomatic History of the Far East	Th 6:30-9:30	SLC 204-05	3
JOURNALISM:				
Jour. 102E	Advanced News Writing Fee: \$10 (Pre: Jour. 101 or approval of instructor)	M 6:30-9:30	Par. 25-27	3
Jour. 252A	Professional Internship (Pre: Jour. 251)	M 4:30-6:00	Par. 25-27	3
Jour. 298E	Topics: Editing the Small Magazine (Pre: Jour. 251)	W 6:30-9:30	Par. 25-27	3
Jour. 298A	Industrial House Organ Advertising	TTh 4:00-5:40	TBA	3
MATHEMATICS:				
Math. 102E	Fundamentals of Mathematics II (Pre: Math. 101, not open to students with credit in Math. 103-104)	MW 6:30-8:00	SLC 409	3
Math. 124E	Cobol Programming Fee: \$20	TTh 6:30-8:00	SLC 424	3
Math. 314A	Functions of a Complex Variable (Pre: Math. 212 or consent of instructor)	MW 4:00-6:00	SLC 405	3
Math. 342A	Introduction to Topology (Pre: Math. 311 or consent of instructor)	TTh 4:00-5:30	SLC 411	3
Math. 352A	Probability and Mathematical Statistics II (Pre: Math. 106 or 112 or approval of instructor)	MW 4:00-5:30	SLC 411	3

Course	Description
MUSIC:	
Mus. 101E	Introduction to the Materials and Literature of Music I
Applied Music	Room and hour: Note: It is important that all students v Evening College consult with Mr. Willia before completing their registration.
PHILOSOPHY - RELIGIOUS STUDIES:	
Phil. 101E	Introduction to Philosophy
Phil. 102E	Logic and Scientific Method
Phil. 297E	Philosophical Explorations: Death and Immortality
PHYSICS:	
Phys. 102E	Physical Science II
POLITICAL SCIENCE:	
P.S. 102E	Political Science II
P.S. 235E	American Political Thought (Pre: P.S. 101-102)
PSYCHOLOGY:	
Psy. 101E	General Psychology I
Psy. 102E	General Psychology II (Pre: Psy. 101)
Psy. 221E	Child Psychology (Pre: Psy. 101-102)
Psy. 232E	Human Behavior (Pre: Psy. 101-102)
Psy. 242E	Psychological Tests (Pre: Psy. 101-102)
READING:	
	Reading improvement and study skills for Secondary and College Students and Adults Note: It is important that all students with College consult with Dr. George Siles, Dir before completing their registration.
RETAILING:	
Ret. 212E	Purchases & Merchandising Control (Pre: B.A. 115 or approval of instructor)
Ret. 224E	Recent Trends and Developments in Retailing
SOCIOLOGY AND ANTHROPOLOGY:	
Anth. 101E	Introduction to Anthropology
Anth. 297E	Topics: Pennsylvania Archaeology
Soc. 230E	Social Problems (Pre: Soc. 101 and Anth. 101)
Soc. 252E	Comparative Social Welfare System (Pre: Soc. 101 and Anth. 101; Psy. 101-102)
Soc. 275E	Sociology of Minorities (Pre: Soc. 101 and Anth. 101; Psy. 101-102)
SPEECH:	
Spch. 101E	Fundamentals of Speech
Spch. 298E	Topics: Parliamentary Procedure
THEATER ARTS:	
T.A. 398E	Topics: Costuming

WILKES COLLEGE — "Small enough to know your needs, but large enough to meet them" — WILKES COLLEGE

Course	Description	Day & Hour	Room No.	Instructor
BIOLOGY:				
Bio. 302A	Endocrinology Laboratory Lab Fee: \$20	MW 9:00 M 2:00-5:00	SLC 316 TBA	Erickson
Bio. 306A	Neurobiology Laboratory Lab Fee: \$20	TTh 1:00 W 2:00-5:00	SLC 380 SLC 315	Hayes
Bio. 308A	Advanced Genetics Laboratory Lab Fee: \$20	MW 11:00 Th 2:00-5:00	SLC 380 SLC 370	Turocz

Course	Description	Day & Hour	Room No.	Instructor
Chem. 376A	Advanced Analytical Chemistry Laboratory Lab Fee: \$30	TTh 1:00 T 2:00-5:00 or F 2:00-5:00	SLC 270 SLC 203	Salley
Chem. 402	Applied Chemistry II (Pre: Chem. 401 or permission of instructor)	TBA	TBA	Stine
Chem. 434	Stereochemistry	TBA	TBA	Labows
Chem. 452	Biochemistry (Pre: Chem. 451 or equivalent)	TBA	TBA	Stine
Chem. 541	Chemical Thermodynamics and Statistical Thermodynamics	TBA	TBA	Swain

Course	Description
Hist. 332A	The National Period
Hist. 334E	Twentieth Century America
Hist. 342A	History of Great Britain and the British Empire and Commonwealth
Hist. 352A	The Renaissance and Reformation
Hist. 354E	Early Modern Europe, 1648-1815
Hist. 356A	Europe in the Twentieth Century
Hist. 364E	Diplomatic History of the

Course	Description	Day & Hour	Room No.	Cr. Hrs.
ACCOUNTING:				
Acct. 101E	Elementary Accounting I	W 6:30-9:30	Par. 35	3
Acct. 102E	Elementary Accounting II	M 6:30-9:30	Par. 35	3
Acct. 112E	Intermediate Accounting II	T 6:30-9:30	Par. 35	3
Acct. 204E	Managerial Accounting	W 6:30-9:30	Par. 45	3
Acct. 222E	Taxes II (Pre: Acct. 221)	Th 6:30-9:30	Par. 45	3
Acct. 242E	Advanced Accounting II (Pre: Acct. 112 and permission of instructor)	T 6:30-9:30	Par. 45	3
BIOLOGY:				
Bio. 102E	Biological Science II (Pre: Bio. 101)	Th 6:30-9:30	SLC 380	3
Bio. 310E	Animal Behavior (Pre: Bio. 201M-208M, or permission of instructor)	M 7:00-9:00 W 7:00-10:00	SLC 365	3
BUSINESS ADMINISTRATION:				
Bus. Adm. 114E	Salesmanship	M 6:30-9:30	Par. 34	3
Bus. Adm. 115E	Mathematics of Business and Finance	Th 6:30-9:30	Par. 33	3
Bus. Adm. 216E	Advertising	T 6:30-9:30	Par. 53	3
Bus. Adm. 220E	Real Estate	W 6:30-9:30	Par. 43	3
Bus. Adm. 222E	Marketing	Th 6:30-9:30	Par. 53	3
Bus. Adm. 232E	Business Law—Agency, Partnerships, Corporations and Real Property	Th 6:30-9:30	Par. 34	3
Bus. Adm. 240E	Property Insurance	M 6:30-9:30	Par. 23	3
Bus. Adm. 244E	Time and Motion Study	W 6:30-9:30	Par. 34	3
Bus. Adm. 252E	Principles of Management II	M 6:30-9:30	Par. 45	3
BUSINESS EDUCATION:				
Bus. Ed. 106E	Intermediate Shorthand (Pre: Bus. Ed. 105 or approval of instructor)	TTh 6:00-8:00	Par. 25-27	2
Bus. Ed. 108E	Intermediate Typewriting Fee: \$15 (Pre: Bus. Ed. 107 or approval of instructor)	TTh 8:00-10:00	Par. 25-27	2
ECONOMICS:				
Econ. 101E	Principles of Economics I	Th 6:30-9:30	Par. 23	3
Econ. 102E	Principles of Economics II	T 6:30-9:30	Par. 23	3
Econ. 228E	Economic Geography of Asia, Africa, and Latin America	W 6:30-9:30	Par. 23	3
Econ. 232E	Economics Statistics Fee: \$15	T 6:30-9:30	Par. 33	3
Econ. 236E	Public Finance	Th 6:30-9:30	Par. 43	3
EDUCATION:				
Ed. 351A	Educational Measurements (Pre: Ed. 202)	TTh 4:00-5:30	SLC 342	3
ENGINEERING:				
Eng. 212A	Circuit Theory II (Pre: Math. 112)	MW 5:00-7:00	SLC 223	3
Eng. 320A	Electromechanical Energy Conversion Fee: \$20 (Pre: EE 211 and Phys. 202)	Sat 9:00 a.m.-4:00 p.m.	SLC 223	4
Eng. E. 212A	Materials Science II (Pre: Chem. 201)	TTh 5:00-6:30	SLC 223	3

Course	Description	Day & Hour	Room No.	Cr. Hrs.
ENGLISH:				
Eng. 101E	Composition I	T 6:30-9:30	DDD 102	3
Eng. 102E	Composition II (Pre: Eng. 101)	Th 6:30-9:30	SLC 207-13	3
Eng. 152E	Western World Literature II (Pre: Eng. 151)	M 6:30-9:30	SLC 311-13	3
Eng. 152E-2	Western World Literature II (Pre: Eng. 151)	W-6:30-9:30	Kirby 102	3
Eng. 201A	Advanced Composition (Pre: Eng. 102)	MW 4:00-5:30	Kirby 103	3
Eng. 310A	Medieval English Literature (Pre: Eng. 152 or Eng. 154)	MW 4:00-5:30	Kirby 102	3
Eng. 372A	Modern Novel (Pre: Eng. 152 or Eng. 154)	TTh 4:00-5:30	DDD 101	3
Eng. 450E	Studies in Romantic and Victorian Literature: Blake and the Poetry of Vision	W 6:30-9:30	Kirby 208	3
ENVIRONMENTAL SCIENCES:				
Env. Sci. 102E	Man and Environment Fee: \$15	W 6:00-9:30	SLC 435	3
FINE ARTS:				
F. A. 101E	Experiencing Art I	W 6:00-9:00	SLC 105	3
F. A. 102E	Experiencing Art II (Pre: F. A. 101)	W 6:00-9:00	SLC 117	3
F. A. 212E	Ceramics	M 6:30-9:30	CG 102	3
F. A. 214E	Photography I	T 6:30-10:00	SLC 9-105	3
F. A. 214E-2	Photography I	T 6:30-10:00	SLC 9-105	3
F. A. 280E	Topics: Introduction to Weaving	W 6:30-9:30	SLC 206	3
F. A. 332A	Life Drawing	M 5:00-7:00	SLC 115	2
FOREIGN LANGUAGES:				
Fr. 204E	Intermediate French II (Pre: Fr. 203 or the equivalent)	TTh 6:30-8:00	DDD 220	3
HISTORY:				
Hist. 101E	World Civilization I	W 6:30-9:30	SLC 204	3
Hist. 102E	World Civilization II	T 6:30-9:30	SLC 207-13	3
Hist. 334E	Twentieth Century America	T 6:30-9:30	SLC 133	3
Hist. 354E	Early Modern Europe, 1648-1815	M 6:30-9:30	SLC 133	3
Hist. 364E	Diplomatic History of the Far East	Th 6:30-9:30	SLC 204-05	3
JOURNALISM:				
Jour. 102E	Advanced News Writing Fee: \$10 (Pre: Jour. 101 or approval of instructor)	M 6:30-9:30	Par. 25-27	3
Jour. 252A	Professional Internship (Pre: Jour. 251)	M 4:30-6:00	Par. 25-27	3
Jour. 298E	Topics: Editing the Small Magazine (Pre: Jour. 251)	W 6:30-9:30	Par. 25-27	3
Jour. 298A	Industrial House Organ Advertising	TTh 4:00-5:40	TBA	3
MATHEMATICS:				
Math. 102E	Fundamentals of Mathematics II (Pre: Math. 101, not open to students with credit in Math. 103-104)	MW 6:30-8:00	SLC 409	3
Math. 124E	Cobol Programming Fee: \$20	TTh 6:30-8:00	SLC 424	3
Math. 314A	Functions of a Complex Variable (Pre: Math. 212 or consent of instructor)	MW 4:00-6:00	SLC 405	3
Math. 342A	Introduction to Topology (Pre: Math. 311 or consent of instructor)	TTh 4:00-5:30	SLC 411	3
Math. 352A	Probability and Mathematical Statistics II (Pre: Math. 106 or 112 or approval of instructor)	MW 4:00-5:30	SLC 411	3

Course	Description	Day & Hour	Room No.	Cr. Hrs.
MUSIC:				
Mus. 101E	Introduction to the Materials and Literature of Music I	T 6:30-9:30	DDD 202	3
Applied Music	Room and hours to be arranged			
Note: It is important that all students who register for Applied Music through the Evening College consult with Mr. William Gasbarro, Music Department Chairman, before completing their registration.				
PHILOSOPHY - RELIGIOUS STUDIES:				
Phil. 101E	Introduction to Philosophy	T 6:30-9:30	SLC 209-11	3
Phil. 102E	Logic and Scientific Method	W 6:30-9:30	SLC 133	3
Phil. 297E	Philosophical Explorations: Death and Immortality	M 6:30-9:30	SLC 204	3
PHYSICS:				
Phys. 102E	Physical Science II	Th 6:30-9:30	SLC 133	3
POLITICAL SCIENCE:				
P.S. 102E	Political Science II	M 6:30-9:30	SLC 160	3
P.S. 235E	American Political Thought (Pre: P.S. 101-102)	T 6:30-9:30	SLC 160	3
PSYCHOLOGY:				
Psy. 101E	General Psychology I	Th 6:30-9:30	SLC 334	3
Psy. 102E	General Psychology II (Pre: Psy. 101)	M 6:30-9:30	SLC 334	3
Psy. 221E	Child Psychology (Pre: Psy. 101-102)	M 6:30-9:30	SLC 342	3
Psy. 232E	Human Behavior (Pre: Psy. 101-102)	W 6:30-9:30	SLC 342	3
Psy. 242E	Psychological Tests (Pre: Psy. 101-102)	M 6:30-9:30	SLC 347	3
READING:				
	Reading improvement and study skills for Secondary and College Students and Adults	M 6:00-9:00	Ross 1	0
Note: It is important that all students who register for reading through the Evening College consult with Dr. George Siles, Director of the Reading Improvement Center, before completing their registration.				
RETAILING:				
Ret. 212E	Purchases & Merchandising Control (Pre: B.A. 115 or approval of instructor)	W 6:30-9:30	Par. 33	3
Ret. 224E	Recent Trends and Developments in Retailing	T 6:30-9:30	Par. 34	3
SOCIOLOGY AND ANTHROPOLOGY:				
Anth. 101E	Introduction to Anthropology	T 6:30-9:30	SLC 204	3
Anth. 297E	Topics: Pennsylvania Archaeology	W 6:30-9:30	SLC 160	3
Soc. 230E	Social Problems (Pre: Soc. 101 and Anth. 101)	W 6:30-9:30	Par. 53	3
Soc. 252E	Comparative Social Welfare Systems (Pre: Soc. 101 and Anth. 101; Psy. 101-102)	Th 6:30-9:30	Par. 35	3
Soc. 275E	Sociology of Minorities (Pre: Soc. 101 and Anth. 101; Psy. 101-102)	M 6:30-9:30	Par. 43	3
SPEECH:				
Spch. 101E	Fundamentals of Speech	T 6:00-8:00	Kirby 102	2
Spch. 298E	Topics: Parliamentary Procedure	W 5:00-7:00	DDD 201	1
THEATER ARTS:				
T.A. 398E	Topics: Costuming	M 6:30-9:30	CPA	3

WILKES COLLEGE — "Small enough to know your needs, but large enough to meet them" — WILKES COLLEGE

Course	Description	Day & Hour	Room No.	Instructor
BIOLOGY:				
Bio. 302A	Endocrinology Laboratory Lab Fee: \$20	MW 9:00 M 2:00-5:00	SLC 316 TBA	Erickson
Bio. 306A	Neurobiology Laboratory Lab Fee: \$20	TTh 1:00 W 2:00-5:00	SLC 380 SLC 315	Hayes
Bio. 308A	Advanced Genetics Laboratory Lab Fee: \$20	MW 11:00 Th 2:00-5:00	SLC 380 SLC 370	Turoczi

Course	Description	Day & Hour	Room No.	Instructor
Chem. 376A	Advanced Analytical Chemistry Laboratory Lab Fee: \$30	TTh 1:00 T 2:00-5:00 or F 2:00-5:00	SLC 270 SLC 203	Salley
Chem. 402	Applied Chemistry II (Pre: Chem. 401 or permission of instructor)	TBA	TBA	Stine
Chem. 434	Stereochemistry	TBA	TBA	Labows
Chem. 452	Biochemistry (Pre: Chem. 451 or equivalent)	TBA	TBA	Stine
Chem. 541	Chemical Thermodynamics and Statistical Thermodynamics	TBA	TBA	Swain

Course	Description	Day & Hour	Room No.	Instructor
Hist. 332A	The National Period	MWF 11:00	SLC 215	Meyers
Hist. 334E	Twentieth Century America	T 6:30-9:30	SLC 133	Rodechko
Hist. 342A	History of Great Britain and the British Empire and Commonwealth	MWF 1:00	SLC 315	Berlatsky
Hist. 352A	The Renaissance and Reformation	MWF 12:00	SLC 215	Berg
Hist. 354E	Early Modern Europe, 1648-1815	M 6:30-9:30	SLC 133	Berlatsky
Hist. 356A	Europe in the Twentieth Century	MTTh 2:00	SLC 215	Shao
Hist. 364E	Diplomatic History of the Far East	Th 6:30-9:30	SLC 204	Shao

Shorthand (5 or approval of instructor)	TTh 6:00-8:00	Par. 25-27	2
Typewriting (7 or approval of instructor)	TTh 8:00-10:00	Par. 25-27	2
Economics I	Th 6:30-9:30	Par. 23	3
Economics II	T 6:30-9:30	Par. 23	3
Geography of Asia, Latin America	W 6:30-9:30	Par. 23	3
Statistics	T 6:30-9:30	Par. 33	3
	Th 6:30-9:30	Par. 43	3
Measurements	TTh 4:00-5:30	SLC 342	3
Physics II	MW 5:00-7:00	SLC 223	3
Physical Conversion	Sat 9:00 a.m.-4:00 p.m.	SLC 223	4
Physics 202 Science II	TTh 5:00-6:30	SLC 223	3

FOREIGN LANGUAGES:

Fr. 204E	Intermediate French II (Pre: Fr. 203 or the equivalent)	TTh 6:30-8:00	DDD 220	3
HISTORY:				
Hist. 101E	World Civilization I	W 6:30-9:30	SLC 204	3
Hist. 102E	World Civilization II	T 6:30-9:30	SLC 207-13	3
Hist. 334E	Twentieth Century America	T 6:30-9:30	SLC 133	3
Hist. 354E	Early Modern Europe, 1648-1815	M 6:30-9:30	SLC 133	3
Hist. 364E	Diplomatic History of the Far East	Th 6:30-9:30	SLC 204-05	3

JOURNALISM:

Jour. 102E	Advanced News Writing Fee: \$10 (Pre: Jour. 101 or approval of instructor)	M 6:30-9:30	Par. 25-27	3
Jour. 252A	Professional Internship (Pre: Jour. 251)	M 4:30-6:00	Par. 25-27	3
Jour. 298E	Topics: Editing the Small Magazine (Pre: Jour. 251)	W 6:30-9:30	Par. 25-27	3
Jour. 298A	Industrial House Organ Advertising	TTh 4:00-5:40	TBA	3

MATHEMATICS:

Math. 102E	Fundamentals of Mathematics II (Pre: Math. 101, not open to students with credit in Math. 103-104)	MW 6:30-8:00	SLC 409	3
Math. 124E	Cobol Programming Fee: \$20	TTh 6:30-8:00	SLC 424	3
Math. 314A	Functions of a Complex Variable (Pre: Math. 212 or consent of instructor)	MW 4:00-6:00	SLC 405	3
Math. 342A	Introduction to Topology (Pre: Math. 311 or consent of instructor)	TTh 4:00-5:30	SLC 411	3
Math. 352A	Probability and Mathematical Statistics II (Pre: Math. 106 or 112 or approval of instructor)	MW 4:00-5:30	SLC 411	3

Psy. 242E	Psychological Tests (Pre: Psy. 101-102)	M 6:30-9:30	SLC 347	3
READING:				
	Reading improvement and study skills for Secondary and College Students and Adults	M 6:00-9:00	Ross 1	0
Note: It is important that all students who register for reading through the Evening College consult with Dr. George Siles, Director of the Reading Improvement Center, before completing their registration.				

RETAILING:

Ret. 212E	Purchases & Merchandising Control (Pre: B.A. 115 or approval of instructor)	W 6:30-9:30	Par. 33	3
Ret. 224E	Recent Trends and Developments in Retailing	T 6:30-9:30	Par. 34	3

SOCIOLOGY AND ANTHROPOLOGY:

Anth. 101E	Introduction to Anthropology	T 6:30-9:30	SLC 204	3
Anth. 297E	Topics: Pennsylvania Archaeology	W 6:30-9:30	SLC 160	3
Soc. 230E	Social Problems (Pre: Soc. 101 and Anth. 101)	W 6:30-9:30	Par. 53	3
Soc. 252E	Comparative Social Welfare Systems (Pre: Soc. 101 and Anth. 101; Psy. 101-102)	Th 6:30-9:30	Par. 35	3
Soc. 275E	Sociology of Minorities (Pre: Soc. 101 and Anth. 101; Psy. 101-102)	M 6:30-9:30	Par. 43	3

SPEECH:

Spch. 101E	Fundamentals of Speech	T 6:00-8:00	Kirby 102	2
Spch. 298E	Topics: Parliamentary Procedure	W 5:00-7:00	DDD 201	1

THEATER ARTS:

T.A. 398E	Topics: Costuming	M 6:30-9:30	CPA	3
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WILKES COLLEGE — "Small enough to know your needs, but large enough to meet them" — WILKES COLLEGE

	Day & Hour	Room No.	Instructor
Psychology	MW 9:00 M 2:00-5:00	SLC 316 TBA	Erickson
Psychology 20	TTh 1:00 W 2:00-5:00	SLC 380 SLC 315	Hayes
Psychology 20	MW 11:00 Th 2:00-5:00	SLC 380 SLC 370	Turoczi
Psychology for	M 7:00-9:00 W 7:00-10:00	SLC 365 SLC 365	Rigley
Psychology 0	TTh 9:00 F 2:00-5:00	SLC 380 SLC 305	Rigley
Psychology in Bacteriology (Pre: Bacteriology, Biochemistry)	TBA	TBA	Rigley
Physiology	TBA	TBA	Erickson
Physiology (s equivalent) (Pre: Bio. 411 and Bio. 430 will be on M, in SLC 365 at 7:00 p.m.)			
Seminar	M 6:30-9:30	Par. 56	Hall
Sociology	Th 6:30-9:30	SLC 215	Gurdin
Medical Procedure	Th 6:30-9:30	Par. 56	Taylor
Theory	T 6:30-9:30	Par. 56	Hung
Management	T 6:30-9:30	Par. 43	Engel
Economics	M 6:30-9:30	Par. 53	Werner
Statistics	W 6:30-9:30 M 6:30-9:30	Par. 56 Par. 33	Werner Williams
Physical	MWF 9:00 Th 8:00-11:00	SLC 270 SLC 256	Swain

Course	Description	Day & Hour	Room No.	Instructor
Chem. 376A	Advanced Analytical Chemistry Laboratory Lab Fee: \$30	TTh 1:00 T 2:00-5:00 or F 2:00-5:00	SLC 270 SLC 203	Salley
Chem. 402	Applied Chemistry II (Pre: Chem. 401 or permission of instructor)	TBA	TBA	Stine
Chem. 434	Stereochemistry	TBA	TBA	Labows
Chem. 452	Biochemistry (Pre: Chem. 451 or equivalent)	TBA	TBA	Stine
Chem. 541	Chemical Thermodynamics and Statistical Thermodynamics	TBA	TBA	Swain
EDUCATION:				
Ed. 511	Philosophical Foundations of Education	Th 6:00-9:00	SLC 209-11	Fahmy
Ed. 512	Social Foundations of Education	M 6:00-9:00	SLC 215	Barone
Ed. 520	Tests and Measurements	M 6:00-9:00	SLC 209-11	Bellucci
Ed. 521	Statistics in Education	T 6:00-9:00	SLC 215	Bellucci
Ed. 530	Diagnosis and Correction of Reading Difficulties (Pre: Ed. 430 or equivalent)	W 6:00-9:00	SLC 207-13	Siles
Ed. 532C	PEE: Language Arts	Th 6:00-9:00	SLC 311-13	Siles
Ed. 532E	PEE: Art Fee: \$10	M 6:00-9:00	SLC 206	Fuller
Ed. 560B	Psychology of Exceptional Children: Socially and Emotionally Maladjusted	M 6:00-9:00	SLC 207-13	Ohberg
ENGLISH:				
Eng. 310A	Medieval English Literature	MW 4:00-5:30	Kirby 102	Fiestier
Eng. 372A	Modern Novel	TTh 4:00-5:30	DDD 101	Rizzo
Eng. 450E	Studies in Romantic and Vic- torian Literature: Blake and the Poetry of Vision	W 6:30-9:30	Kby. 208	R. Heaman
ENVIRONMENTAL SCIENCE:				
Env. Sci. 402	Topics in Environmental Science II	TBA	TBA	Mattei
HISTORY:				
Hist. 322	American Social and Intellectual History	TThF 10:00	SLC 315	Rodechko
Hist. 326A	Urban History	MTTh 9:00	SLC 220	Cox
Hist. 328A	History of the Foreign Policy of the United States	MWF 8:00	SLC 215	Leach

Course	Description	Day & Hour	Room No.	Instructor
Hist. 332A	The National Period	MWF 11:00	SLC 215	Meyers
Hist. 334E	Twentieth Century America	T 6:30-9:30	SLC 133	Rodechko
Hist. 342A	History of Great Britain and the British Empire and Commonwealth	MWF 1:00	SLC 315	Berlatsky
Hist. 352A	The Renaissance and Reformation	MWF 12:00	SLC 215	Berg
Hist. 354E	Early Modern Europe, 1648-1815	M 6:30-9:30	SLC 133	Berlatsky
Hist. 356A	Europe in the Twentieth Century	MTTh 2:00	SLC 215	Shao
Hist. 364E	Diplomatic History of the Far East	Th 6:30-9:30	SLC 204	Shao
MATHEMATICS:				
Math. 322A	Assembly Language	MWF 3:00	SLC 411	Hansen
Math. 334A	Linear Algebra	MWF 10:00	SLC 424	Sours
Math. 342A	Introduction to Topology (Pre: Math. 311 or consent of instructor)	TTh 4:00-5:30	SLC 411	Weisman
Math. 352A	Probability and Mathematical Statistics II	MW 4:00-5:30	SLC 411	Richards
Math. 364A	Numerical Analysis	MWF 12:00	SLC 409	Merrill
Math. 380A	Topics in Mathematics: Applied Algebra (Pre: Consent of instructor)	TBA	TBA	Tillman
Math. 470A	Readings in Mathematics (Pre: Consent of Department Chairman)	TBA	TBA	Staff
PHYSICS:				
Phys. 330A	Optics and Light Laboratory Lab Fee: \$25 (Open to students pursuing the M.S. degree in Physics Education)	MTTh 9:00 W 2:00-5:00	SLC 147 SLC 158	Donahoe
Phys. 340A	Thermodynamics (Open to students pursuing the M.S. degree in Physics Education)	MWF 12:00	SLC 147	Bellas
Phys. 530E	Electricity and Magnetism	TTh 7:30-9:00	SLC 150	Hostler
Phys. 551E	Quantum Mechanics (Pre: Phys. 401, Phys. 511; Corequisite Phys. 402)	TBA	TBA	Bellas
SOCIOLOGY:				
Soc. 397A	Seminar: Issues in the Sociology of Education (Open to students pursuing the M.S. degree in History Education)	Th 1:00-4:00	Par. 53	Natzke

Division

B.A. 244E	Time and Motion Study	W 6:30-9:30	Par. 3	3
B.A. 252E	Principles of Management II	M 6:30-9:30	Par. 45	3
BUSINESS EDUCATION:				
Bus. Ed. 106E	Intermediate Shorthand (Pre: Bus. Ed. 105 or approval of instructor)	TTh 6:00-8:00	Par. 25-27	2
Bus. Ed. 108E	Intermediate Typewriting Fee: \$15 (Pre: Bus. Ed. 107 or approval of instructor)	TTh 8:00-10:00	Par. 25-27	2
ECONOMICS:				
Econ. 101E	Principles of Economics I	Th 6:30-9:30	Par. 23	3
Econ. 102E	Principles of Economics II	T 6:30-9:30	Par. 23	3
Econ. 228E	Economic Geography of Asia, Africa, and Latin America	W 6:30-9:30	Par. 23	3
Econ. 232E	Economics Statistics Fee: \$15	T 6:30-9:30	Par. 33	3
Econ. 236E	Public Finance	Th 6:30-9:30	Par. 43	3
EDUCATION:				
Ed. 351A	Educational Measurements (Pre: Ed. 202)	TTh 4:00-5:30	SLC 342	3
ENGINEERING:				
EE 212A	Circuit Theory II (Pre: Math. 112)	MW 5:00-7:00	SLC 223	3
EE 320A	Electromechanical Energy Conversion Fee: \$20 (Pre: EE 211 and Phys. 202)	Sat 9:00 a.m.-4:00 p.m.	SLC 223	4
Ma. E. 212A	Materials Science II (Pre: Chem. 201)	TTh 5:00-6:30	SLC 223	3

F. A. 332A	Life Drawing	M 5:00-7:00	SLC 115	2
FOREIGN LANGUAGES:				
Fr. 204E	Intermediate French II (Pre: Fr. 203 or the equivalent)	TTh 6:30-8:00	DDD 220	3
HISTORY:				
Hist. 101E	World Civilization I	W 6:30-9:30	SLC 204	3
Hist. 102E	World Civilization II	T 6:30-9:30	SLC 207-13	3
Hist. 334E	Twentieth Century America	T 6:30-9:30	SLC 133	3
Hist. 354E	Early Modern Europe, 1648-1815	M 6:30-9:30	SLC 133	3
Hist. 364E	Diplomatic History of the Far East	Th 6:30-9:30	SLC 204-05	3
JOURNALISM:				
Jour. 102E	Advanced News Writing Fee: \$10 (Pre: Jour. 101 or approval of instructor)	M 6:30-9:30	Par. 25-27	3
Jour. 252A	Professional Internship (Pre: Jour. 251)	M 4:30-6:00	Par. 25-27	3
Jour. 298E	Topics: Editing the Small Magazine (Pre: Jour. 251)	W 6:30-9:30	Par. 25-27	3
Jour. 298A	Industrial House Organ Advertising	TTh 4:00-5:40	TBA	3
MATHEMATICS:				
Math. 102E	Fundamentals of Mathematics II (Pre: Math. 101, not open to students with credit in Math. 103-104)	MW 6:30-8:00	SLC 409	3
Math. 124E	Cobol Programming Fee: \$20	TTh 6:30-8:00	SLC 424	3
Math. 314A	Functions of a Complex Variable (Pre: Math. 212 or consent of instructor)	MW 4:00-6:00	SLC 405	3
Math. 342A	Introduction to Topology (Pre: Math. 311 or consent of instructor)	TTh 4:00-5:30	SLC 411	3
Math. 352A	Probability and Mathematical Statistics II (Pre: Math. 106 or 112 or approval of instructor)	MW 4:00-5:30	SLC 411	3

Psy. 242E	Psychological Tests (Pre: Psy. 101-102)	M 6:30-9:30	SLC 347	3
READING:				
	Reading improvement and study skills for Secondary and College Students and Adults Note: It is important that all students who register for reading through the Evenir College consult with Dr. George Siles, Director of the Reading Improvement Center before completing their registration.	M 6:00-9:00	Ross 1	0
RETAILING:				
Ret. 212E	Purchases & Merchandising Control (Pre: B.A. 115 or approval of instructor)	W 6:30-9:30	Par. 33	3
Ret. 224E	Recent Trends and Developments in Retailing	T 6:30-9:30	Par. 34	3
SOCIOLOGY AND ANTHROPOLOGY:				
Anth. 101E	Introduction to Anthropology	T 6:30-9:30	SLC 204	3
Anth. 297E	Topics: Pennsylvania Archaeology	W 6:30-9:30	SLC 160	3
Soc. 230E	Social Problems (Pre: Soc. 101 and Anth. 101)	W 6:30-9:30	Par. 53	3
Soc. 252E	Comparative Social Welfare Systems (Pre: Soc. 101 and Anth. 101; Psy. 101-102)	Th 6:30-9:30	Par. 35	3
Soc. 275E	Sociology of Minorities (Pre: Soc. 101 and Anth. 101; Psy. 101-102)	M 6:30-9:30	Par. 43	3
SPEECH:				
Spch. 101E	Fundamentals of Speech	T 6:00-8:00	Kirby 102	2
Spch. 298E	Topics: Parliamentary Procedure	W 5:00-7:00	DDD 201	1
THEATER ARTS:				
T.A. 398E	Topics: Costuming	M 6:30-9:30	CPA	3

WILKES COLLEGE — "Small enough to know your needs, but large enough to meet them" — WILKES COLLEGE

Course	Description	Day & Hour	Room No.	Instructor
BIOLOGY:				
Bio. 302A	Endocrinology Laboratory Lab Fee: \$20	MW 9:00 M 2:00-5:00	SLC 316 TBA	Erickson
Bio. 306A	Neurobiology Laboratory Lab Fee: \$20	TTh 1:00 W 2:00-5:00	SLC 380 SLC 315	Hayes
Bio. 308A	Advanced Genetics Laboratory Lab Fee: \$20	MW 11:00 Th 2:00-5:00	SLC 380 SLC 370	Turoczi
Bio. 310E	Animal Behavior Laboratory Lab Fee: \$20	M 7:00-9:00 W 7:00-10:00	SLC 365 SLC 365	Rigley
Bio. 313A	Parasitology Laboratory Lab Fee: \$20	TTh 9:00 F 2:00-5:00	SLC 380 SLC 305	Rigley
Bio. 411*	Advanced Topics in Bacteriology (Pre: One semester of Bacteriology, Biochemistry)	TBA	TBA	Rigley
Bio. 430*	Reproductive Physiology (Pre: Bio. 302 or its equivalent) *(The first meeting of Bio. 411 and Bio. 430 will be on February 2, 1976, in SLC 365 at 7:00 p.m.)	TBA	TBA	Erickson
BUSINESS ADMINISTRATION:				
Acct. 545	Professional Seminar	M 6:30-9:30	Par. 56	Hall
B.A. 507	Business and Society	Th 6:30-9:30	SLC 215	Gurdin
B.A. 512	Price Policy and Procedure	Th 6:30-9:30	Par. 56	Taylor
B.A. 521	Organizational Theory	T 6:30-9:30	Par. 56	Hung
B.A. 552	Financial Management	T 6:30-9:30	Par. 43	Engel
Econ. 473	Pre-Seminar	M 6:30-9:30	Par. 53	Werner
Econ. 501	Managerial Economics	W 6:30-9:30	Par. 56	Werner
Econ. 505	Managerial Statistics	M 6:30-9:30	Par. 33	Williams
CHEMISTRY:				
Chem. 342A	Intermediate Physical Chemistry Laboratory Lab Fee: \$20	MWF 9:00 Th 8:00-11:00	SLC 270 SLC 256	Swain

Course	Description	Day & Hour	Room No.	Instructor
Chem. 376A	Advanced Analytical Chemistry Laboratory Lab Fee: \$30	TTh 1:00 T 2:00-5:00 or F 2:00-5:00	SLC 270 SLC 203	Salley
Chem. 402	Applied Chemistry II (Pre: Chem. 401 or permission of instructor)	TBA	TBA	Stine
Chem. 434	Stereochemistry	TBA	TBA	Labows
Chem. 452	Biochemistry (Pre: Chem. 451 or equivalent)	TBA	TBA	Stine
Chem. 541	Chemical Thermodynamics and Statistical Thermodynamics	TBA	TBA	Swain
EDUCATION:				
Ed. 511	Philosophical Foundations of Education	Th 6:00-9:00	SLC 209-11	Fahmy
Ed. 512	Social Foundations of Education	M 6:00-9:00	SLC 215	Barone
Ed. 520	Tests and Measurements	M 6:00-9:00	SLC 209-11	Bellucci
Ed. 521	Statistics in Education	T 6:00-9:00	SLC 215	Bellucci
Ed. 530	Diagnosis and Correction of Reading Difficulties (Pre: Ed. 430 or equivalent)	W 6:00-9:00	SLC 207-13	Siles
Ed. 532C	PEE: Language Arts	Th 6:00-9:00	SLC 311-13	Siles
Ed. 532E	PEE: Art Fee: \$10	M 6:00-9:00	SLC 206	Fuller
Ed. 560B	Psychology of Exceptional Children: Socially and Emotionally Maladjusted	M 6:00-9:00	SLC 207-13	Ohberg
ENGLISH:				
Eng. 310A	Medieval English Literature	MW 4:00-5:30	Kirby 102	Fiester
Eng. 372A	Modern Novel	TTh 4:00-5:30	DDD 101	Rizzo
Eng. 450E	Studies in Romantic and Victorian Literature: Blake and the Poetry of Vision	W 6:30-9:30	Kby. 208	R. Heaman
ENVIRONMENTAL SCIENCE:				
Env. Sci. 402	Topics in Environmental Science II	TBA	TBA	Mattei
HISTORY:				
Hist. 322	American Social and Intellectual History	TThF 10:00	SLC 315	Rodechko
Hist. 326A	Urban History	MTTh 9:00	SLC 220	Cox
Hist. 328A	History of the Foreign Policy of the United States	MWF 8:00	SLC 215	Leach

Course	Description	Day & Hour	Room No.	Instructor
Hist. 332A	The National Period	MWF 11:00	SLC 215	Meyer
Hist. 334E	Twentieth Century America	T 6:30-9:30	SLC 133	Rodechko
Hist. 342A	History of Great Britain and the British Empire and Commonwealth	MWF 1:00	SLC 315	Berlatsky
Hist. 352A	The Renaissance and Reformation	MWF 12:00	SLC 215	Berlatsky
Hist. 354E	Early Modern Europe, 1648-1815	M 6:30-9:30	SLC 133	Berlatsky
Hist. 356A	Europe in the Twentieth Century	MTTh 2:00	SLC 215	Shapiro
Hist. 364E	Diplomatic History of the Far East	Th 6:30-9:30	SLC 204	Shapiro
MATHEMATICS:				
Math. 322A	Assembly Language	MWF 3:00	SLC 411	Hansen
Math. 334A	Linear Algebra	MWF 10:00	SLC 424	Sourin
Math. 342A	Introduction to Topology (Pre: Math. 311 or consent of instructor)	TTh 4:00-5:30	SLC 411	Weisman
Math. 352A	Probability and Mathematical Statistics II	MW 4:00-5:30	SLC 411	Richardson
Math. 364A	Numerical Analysis	MWF 12:00	SLC 409	Merrill
Math. 380A	Topics in Mathematics: Applied Algebra (Pre: Consent of instructor)	TBA	TBA	Tillman
Math. 470A	Readings in Mathematics (Pre: Consent of Department Chairman)	TBA	TBA	Stapleton
PHYSICS:				
Phys. 330A	Optics and Light Laboratory Lab Fee: \$25 (Open to students pursuing the M.S. degree in Physics Education)	MTTh 9:00 W 2:00-5:00	SLC 147 SLC 158	Donahoe
Phys. 340A	Thermodynamics (Open to students pursuing the M.S. degree in Physics Education)	MWF 12:00	SLC 147	Bella
Phys. 530E	Electricity and Magnetism	TTh 7:30-9:00	SLC 150	Hostler
Phys. 551E	Quantum Mechanics (Pre: Phys. 401, Phys. 511; Corequisite Phys. 402)	TBA	TBA	Bella
SOCIOLOGY:				
Soc. 397A	Seminar: Issues in the Sociology of Education (Open to students pursuing the M.S. degree in History Education)	Th 1:00-4:00	Par. 53	Natzke

WILKES COLLEGE

General Information

Accreditation

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 Accounting curriculum has been accredited by the Certified Public Accounting Examiners of the State of New York and the Chemistry curriculum has been certified by the American Chemical Society.

The Graduate programs are approved by the Pennsylvania State Department of Education.

Admissions

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, 170 South Franklin Street, Wilkes-Barre, Pennsylvania 18703.

Degree Programs

Bachelor of Arts degrees are offered in the following subject areas:

Biology	Mathematics & Computer Science
Chemistry	Music
Economics	Philosophy-Religious Studies
Elementary Education	Physics
English	Political Science
English/Theater Arts	Psychology
Fine Arts	Social Science / Urban Affairs
Foreign Language	Sociology-Anthropology
History	
Individualized Studies	
International Relations	

Bachelor of Science degrees are offered in the following subject areas:

Biology	Environmental Science
Chemistry	Mathematics (including Computer Science)
Commerce and Finance	Medical Technology
(a) Accounting	Music Education
(b) Business Administration	Nursing
(c) Business Education	Physics
Engineering	

Master of Science degrees are offered in the following subject areas:

Biology	Chemistry	Physics
Business Administration	Mathematics	

Master of Science in Education degrees are offered in the following subject areas:

Biology	Elementary Education	Mathematics
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Expenses

All charges must be paid at the time registration forms are processed.

Undergraduate:

Undergraduate students who register for 11 credits or less pay \$65 per credit.

Undergraduate students who register for 12 or 13 credits pay \$75 per credit.

Undergraduate students who register for more than 13 but no more than 18 credits pay a flat tuition fee of \$1150 per semester. (Those students who take more than 18 credits pay \$75 for each credit above 18.)

Graduate:

All graduate students pay \$75 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.

Calendar for Spring Semester, 1976

Registration for evening college, part-time, and graduate students

Thursday, January 298:30 a.m. to 8 p.m.

Friday, January 30.....8:30 a.m. to 8 p.m.

Monday, February 2.....Classes begin at 8 a.m.

Friday, March 19.....Spring recess begins at 5 p.m.

Monday, March 29.....Classes resume at 8 a.m.

Monday, May 17, through

Saturday, May 22.....Final examination period

Sunday, May 30.....Baccalaureate Service and



Programs

offered in the following

Mathematics &
Computer Science
Music
Philosophy-Religious
Studies
Physics
Political Science
Psychology
Social Science /
Urban Affairs
Sociology-Anthropology

are offered in the following

Environmental Science
Mathematics (including
Computer Science)
Medical Technology
Music Education
Nursing
Physics

are offered in the following

Chemistry Physics
Mathematics

degrees are offered in the

Education Mathematics
 Physics
 Special Education

"Certificate of Achievement" to un-
derstand of Business Adminis-
tration credit in Evening College
with at least 24 hours in
18 hours in general edu-

Library

Library is open to all Wilkes
borrow books from the Library
with identification cards. Hours
vary each academic session.

Store

may be purchased at the
lower level of Pickering
at the time of purchase. The
hours are from 9 a.m. to 4:30 p.m. Monday

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.

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Monday, May 17, through

Saturday, May 22.....Final examination period

Sunday, May 30.....Baccalaureate Service and
Commencement Exercises

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 re-
serves the right to cancel or reschedule any course due
to insufficient enrollment or any other reason. When pos-
sible, 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.

For further information write or call:

John F. Meyers, Director
Division of Continuing Education and Graduate Studies
Wilkes College
170 South Franklin Street
Wilkes-Barre, Pennsylvania 18703
Phone: 824-4651 Ext. 303
(After 4:30 p.m., 824-4656)



Degree Programs

Bachelor of Arts degrees are offered in the following subject areas:

Biology	Mathematics & Computer Science
Chemistry	Music
Economics	Philosophy-Religious Studies
Elementary Education	Physics
English	Political Science
English/Theater Arts	Psychology
Fine Arts	Social Science / Urban Affairs
Foreign Language	Sociology-Anthropology
History	
Individualized Studies	
International Relations	

Bachelor of Science degrees are offered in the following subject areas:

Biology	Environmental Science
Chemistry	Mathematics (including Computer Science)
Commerce and Finance	Medical Technology
(a) Accounting	Music Education
(b) Business Administration	Nursing
(c) Business Education	Physics
Engineering	

Master of Science degrees are offered in the following subject areas:

Biology	Chemistry	Physics
Business Administration	Mathematics	

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.)

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.

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.

Calendar for Spring Semester, 1976

Registration for evening college, part-time, and graduate students

Thursday, January 298:30 a.m. to 8 p.m.

Friday, January 30.....8:30 a.m. to 8 p.m.

Monday, February 2.....Classes begin at 8 a.m.

Friday, March 19.....Spring recess begins at 5 p.m.

Monday, March 29.....Classes resume at 8 a.m.

Monday, May 17, through

Saturday, May 22.....Final examination period

Sunday, May 30.....Baccalaureate Service and Commencement Exercises

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.

For further information write or call:

John F. Meyers, Director

Division of Continuing Education and Graduate Studies

Wilkes College

170 South Franklin Street

Wilkes-Barre, Pennsylvania 18703

Phone: 824-4651 Ext. 303

(After 4:30 p.m., 824-4656)

