

WILKES  
COLLEGE  
*Bulletin*

1970-1971



WILKES COLLEGE, PENNSYLVANIA



WILKES  
COLLEGE  
*Bulletin*

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WILKES COLLEGE WILKES-BARRE, PA.

FALL AND SPRING  
SEMESTERS — 1970-71

VOL. XIX

Wilkes-Barre, Pennsylvania 18703



ARCHIVES

College Calendar

LD6051  
W2266  
1970-1971

FALL SEMESTER — 1970-71

<i>Freshman Orientation</i>	Tuesday, September 8 to Saturday, September 12
<i>Registration—Upperclassmen</i>	Friday, September 11
<i>Classes Begin</i>	Monday, September 14
<i>Report on Incomplete Grades for previous term and Summer Sessions</i>	Saturday, October 10
<i>Progress Reports</i>	Saturday, October 24
<i>Pre-registration for Seniors and Juniors</i>	Monday, November 2 to Friday, November 6
<i>Pre-registration for Sophomores</i>	Monday, November 9 to Friday, November 13
<i>Pre-registration for Freshmen</i>	Monday, November 16 to Friday, November 20
<i>Thanksgiving Recess</i>	Saturday, Nov. 21, 12:00 Noon to Monday, November 30, 8:00 a.m.
<i>Christmas Vacation</i>	Saturday, Dec. 19, 12:00 Noon to Monday, January 4, 8:00 a.m.
<i>Classes Resume</i>	Monday, January 4, 8:00 a.m.
<i>Classes End for Fall Semester</i>	Saturday, January 9, 12:00 Noon
<i>Examination Period</i>	Monday, January 11 to Wednesday, January 20 (9 days)
<i>First Semester Ends</i>	Wednesday, January 20

College Calendar

SPRING SEMESTER — 1971

<i>Registration</i>	Friday, January 29
<i>Classes Begin</i>	Monday, February 1
<i>Report on Incomplete Grades for previous term</i>	Saturday, February 27
<i>Progress Reports</i>	Saturday, March 13
<i>Spring Vacation</i>	Saturday, April 3, 12:00 Noon to Monday, April 12, 8:00 a.m.
<i>Classes Resume</i>	Monday, April 12, 8:00 a.m.
<i>Pre-registration for Juniors</i>	Monday, April 12 to Friday, April 16
<i>Pre-registration for Sophomores</i>	Monday, April 19 to Friday, April 23
<i>Pre-registration for Freshmen</i>	Monday, April 26 to Friday, April 30
<i>Classes End for Spring term</i>	Saturday, May 15, 12:00 Noon
<i>Examination Period</i>	Monday, May 17 to Wednesday, May 26 (9 days)
<i>Baccalaureate</i>	Sunday, June 6, 5:00 p.m.
<i>Commencement</i>	Monday, June 7, 8:00 p.m.

(The College issues a supplementary Summer Bulletin)

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## Contents

College Calendar, 2  
Wilkes College, 6  
*An Educated Man*, 8

### POLICIES AND OBJECTIVES

*Education at Wilkes*, 10  
Admissions, 11  
Registration, 15  
Tuition, Fees and Expenses, 15  
Financial Assistance, 19  
Scholarships, 19  
Loans, 22  
Employment, 23

### FACILITIES

*Experience at Wilkes*, 34  
Buildings and Plant, 35

### STUDENT LIFE

*Studying at Wilkes*, 42  
Counseling, 43  
Student Activities, 45  
Social Activities, 47  
Athletics, 50  
Student Responsibility, 51

### THE ACADEMIC PROGRAM

*Learning at Wilkes*, 54  
Curricula, 55  
Academic Requirements, 57  
Graduation Requirements, 61

### THE COLLEGE AND THE COMMUNITY

*Service at Wilkes*, 66  
Institute of Regional Affairs, 67  
Wilkes-Barre Philharmonic  
Orchestra, 69  
Fine Arts Fiesta, 69  
Performing Arts Center, 69

### UNDERGRADUATE PROGRAMS

*Leadership at Wilkes*, 72  
Bachelor of Arts Degree, 73  
Bachelor of Science Degree, 76  
Degree Requirements, 77

### COURSES OF INSTRUCTION

*Conscience at Wilkes*, 110  
Description of Courses, 111

### PERSONNEL OF THE COLLEGE

*Commitment at Wilkes*, 216  
Board of Trustees, 217  
Officers of Administration, 219  
College Services, 220  
Faculty, 221

INDEX, 241



# 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, coeducational, liberal arts college. The College has grown slowly to its current enrollment of approximately 2200 full-time day students and 500 part-time evening school 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.

## 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 their 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 small 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.

## 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.

## 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. This cooperative relationship, with its emphasis on trained intelligence and extended planning, has resulted in cooperative action.

## 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. 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.*

## Policies and Objectives

### 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

True education demands a love of learning and a spirit of sacrifice and service. Education is not a right or privilege but an opportunity that carries with it obligations prescribed by the College and responsibilities shared with the student.

This concept has guided the faculty and trustees in developing the philosophy and procedures of the Admissions Committee, making it possible for students of ability, determination, and soundness of character to study at Wilkes.

Here the student will find an atmosphere of competitive learning in the world of ideas. His desire to undertake study at Wilkes places him among the ready men for whom education is an experience in excellence. He will be charged with the responsibility for fulfilling that trust.

The careful selection of able and committed students is deemed essential to the attainment of high standards and warm personal relationships between students and faculty.

## Undergraduate Admission Requirements

### SECONDARY SCHOOL RECORD

Candidates applying for admission to Wilkes should be secondary school graduates and 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, and science education should be prepared to enter Math. 111 — Analysis I (Calculus).

### APPLICATION FOR ADMISSION

To assist students seeking admission, the College has adopted procedures designed to simplify admissions.

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 to him with a \$10.00 registration fee.



*ENTRANCE EXAMINATIONS*

All candidates for admission to the freshman class will be required to take entrance examinations. The Admissions Committee considers these test results in relation to the applicant's secondary school transcript and the record of performance during the secondary school years.

*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 Committee meets and acts upon all applications. Notification of action by the Committee is sent immediately. Resident students are required to forward a \$100.00 tuition and dormitory deposit by May 1; local students are required to forward a \$50.00 tuition deposit by May 1 in order to guarantee their entry into the College.

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

*ADMISSIONS COMMITTEE*

The Admissions Committee is comprised of the Dean of Admissions and appointed faculty members. This committee acts upon special cases referred to it by the Dean of Admissions.

*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 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 dismissal. 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 dropped from any other college or university until a period of one year has elapsed.

*ADVANCED COURSE STANDING*

Superior students who have undertaken college-level courses in secondary school may request college credit for such work and permission to enter advanced courses. To qualify for advanced placement, the secondary school student must take the Advanced Placement tests of the College Entrance Examination Board, in addition to the regular Scholastic Aptitude tests required for admission. Action by the College will be determined by scores obtained on the Advanced Placement Examination, the secondary school record submitted by the student, and the recommendations of the secondary school faculty. After he is admitted the applicant will request the College Entrance Examination Board to send the results of the Advanced Placement Tests to the Dean of Admissions. The request will then be considered by the Admissions Committee and the appropriate department chairman. The applicant will be advised of their action prior to registration.



## 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 School

The faculty offers selected courses during two six-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 Admissions Office.

A student from another college who wishes to take summer work at Wilkes must secure the approval of the proper officer of his own institution if he expects to receive credit for such work.

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 Deans.

Inquiries concerning summer graduate courses should be directed to the Chairman of 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 \$10.00.

Incoming freshman students will be sent a program of courses they will be enrolled in for the first semester. This program should be approved by the student and returned to the Admissions Office within two weeks. Any questions or changes relating to this program should be directed to the Dean of Admissions immediately.

## Expenses

### TUITION

The flat tuition fee of \$800.00 per semester will be charged to all students taking a course load of fourteen to eighteen hours. A student who registers for fewer than fourteen hours of work will be charged at a rate of \$60.00 per credit hour. A student who elects a heavier schedule than 18 hours will be charged \$60.00 for each additional credit hour.

### EVENING SCHOOL

Students registered in the Evening School will be charged \$60.00 per semester hour. Further information regarding the content of the courses, requirements for undergraduate and graduate degrees, and requirements for teacher certification may be secured from the Office of Admissions.

### SUMMER SCHOOL

Students registering for courses in the six and eight-week Summer School sessions will be charged \$60.00 per semester hour of study payable before registration.

### 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. When these fees total more than \$50.00 a flat fee of \$50.00 per semester will be charged.



Medical technology students will be charged in both the seventh and eighth semesters a \$50.00 College Administrative Fee for supervision of the hospital course work required in this program.

The cost of individual instruction in applied music is \$50.00 for full-time students for a series of fourteen half-hour lessons. The College accepts a limited number of special students for individual instruction in applied music for a series of fourteen half-hour lessons at a cost of \$70.00 per semester.

A student activities fee of \$20.00 provides for a number of special programs, including plays, recitals, and lectures, offered at the Center for the Performing Arts.

A graduation fee of \$25.00 is charged to all graduating seniors.

#### TRANSCRIPTS

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 given *on the same order* the charge shall 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.

#### CHEMISTRY BREAKAGE

Students taking chemistry laboratory courses are required to deposit \$10.00 to cover possible charges for broken, lost, or damaged equipment. The unexpended balance of this fee is refundable.

#### INSURANCE COVERAGE

The College makes available both accident and accident and health insurance to students. Each student will be required to purchase an accident policy at a cost of \$10.00. A health insurance policy is available to commuting students but is optional with them. Health insurance required of all resident students is prepaid as part of the dormitory charge. Both policies provide protection for twelve

months and premiums are payable in full with the first semester charges. There are four fully accredited hospitals in the vicinity of the campus, and a college physician and college infirmary are available for emergency treatment.

#### PAYMENTS

All payments for tuition, room and board, fees, etc., are due prior to final registration.

Payment of all charges for tuition, fees, room and board is to be made at the Finance Office, Parrish Hall, before registration. 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 registration, 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 date of registration will be denied the privilege of class attendance and, if a dormitory student, he shall be excluded from the dormitory 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.



## Living Quarters and Board

### DORMITORIES

Residence for boarding students is provided in a new dormitory for men and in a number of large mansions that have been given to, or purchased by, the College in recent years. The women's dormitories accommodate from twelve to fifty students and a resident proctor. Every effort is made to maintain a homelike atmosphere. Students and their families are invited to inspect these homes. Each room includes a bureau, desk, chair, and a bed. Students will supply their own blankets; bed linens and towels are furnished through a local laundry on contract by the College.

The admission of resident students is limited to the capacity of the dormitories, and all students not residing with parents or guardians are required to live in the dormitories. A recent addition to this policy gives students twenty-one years of age or older permission to live off campus, and seniors with parental consent have the same privilege.

Any exception to this rule must be requested in writing to the Dean of Student Affairs, and must be approved by the Administrative Council after recommendation by the Council of Deans.

A deposit of \$50.00 is required to reserve a room. The charge for room and board is \$585.00 per student per semester. This charge includes the cost of health and accident insurance and linen rental and laundry service for bed linen and towels only. Personal laundry plans are offered, and for students who wish to do their own laundry, facilities are available on campus.

Resident students are required to take their meals at the College Dining Hall. Exceptions will not be made without formal recommendation from the college physician and the approval of the Dean's Council.

Each resident student will be required to maintain a minimum balance of \$50.00 on deposit with the College so long as that student is enrolled. Charges for damage to College dormitory property will be automatically deducted from the student's deposit. When the student graduates or terminates his matriculation at the College, he will be given the refundable portion of the deposit.

Information regarding dormitories can be obtained from the Office of Admissions.

## 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 student should consider a combination of *work, loans, and grants*.

## Scholarships

A few honor 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.

## 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.



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 in 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.

### EDUCATIONAL OPPORTUNITY GRANTS

Federal grants ranging from \$200 to \$1,000 are available to students demonstrating exceptional financial need, who, except for this aid, would be unable to obtain a higher education. Applications will be considered for an Educational Opportunity Grant award if the expected parental contribution, as determined by the College Scholarship Service, cannot exceed \$625.



*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.

*NATIONAL DEFENSE 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 loan cancellation provisions for students who enter teaching. Applicants will be notified by the Committee if their financial aid package includes a National Defense Student Loan.

*STATE GUARANTY LOAN PROGRAMS*

Most states now operate guaranteed loan programs which enable students to borrow from their local banks to meet educational expenses. Ordinarily, no interest is charged while the student remains in school if adjusted family income is below \$15,000 per year. 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, 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.	EFI Fund Management Program
575 Madison Avenue	36 South Wabash — Room 1000
New York, New York 10022	Chicago, Illinois 60603



## Founders of Scholarships

Each year 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.

*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.

*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 founders. The purpose of this scholarship is to aid the child 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 boys 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 boys 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.

*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.



*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 will be 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.

*Annual Name Scholarships*

*THE WILLIAM H. CONYNGHAM MEMORIAL SCHOLARSHIP* is awarded annually by Mrs. Conyngham in memory of her late husband, a friend and neighbor of the College and for years an outstanding leader in business and community life.

*DICKSON MEMORIAL SCHOLARSHIPS.* Funds for four scholarships have been given to the College by the Trustees of the Allan H. and Kate P. Dickson Memorial Trust. These half-tuition scholarships will be granted to students of high scholastic achievement and aptitude who have also demonstrated leadership in student affairs during their high school years.

*JOHN LLOYD EVANS MEMORIAL SCHOLARSHIP* was created in memory of John Lloyd Evans, a life-long lover of music, conductor of the Dr. Mason Glee Society, conductor of The Sheldon Choral Society and the Wilkes-Barre Mixed Choral Society. The scholarship of \$300 will be awarded to a senior in music or music education who has demonstrated outstanding ability in his chosen field of study.

*DONALD T. JONES MEMORIAL SCHOLARSHIP.* David Ertley, Inc. has given a scholarship in memory of Donald T. Jones, a graduate of Wilkes College and a member of the Music Department up to the time of his death.

*MR. HARLAND W. HOISINGTON* gives an annual scholarship to assist students of high scholastic ability.

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

*ARTHUR J. PODESTA SCHOLARSHIP* is given anonymously by friends, in honor of Arthur J. Podesta, 1969 Community Scholarship Campaign Chairman, for that student demonstrating strong potential academic ability who will benefit from scholarship aid.

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

*LOUISE M. THOMAS MEMORIAL AWARD* is presented annually to a junior or senior girl who is majoring in education and plans to enter the teaching profession.

*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.

*THE GILBERT D. DAVIS MEMORIAL SCHOLARSHIP* is awarded by the Class of 1961 to a Wilkes student who demonstrates outstanding leadership abilities and who meets qualifications of academic competence and need.

*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.

*THE NEIL C. DADURKA - DONALD F. STRAUB MEMORIAL SCHOLARSHIP* is awarded annually to a Wilkes student of ability and need who makes a significant contribution to the life of the College. This scholarship is made possible by the generosity of the Class of 1957.

*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.

*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.



*Special Endowments*

*THE W. S. CARPENTER MEMORIAL 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* has been created by Dorothy Dickson Darte in memory of her father, Allan Hamilton Dickson, to encourage enlightened teaching, extended scholarship, and creative writing in the field of literature.

*GILBERT S. McCLINTOCK* was the chairman of the Junior College Committee of Bucknell University when, 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.

## 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 new library, completed in the summer of 1968, has been named by the Trustees in honor of the first president of Wilkes College.

Since 1947 Kirby Hall, the former residence of Mr. and Mrs. Fred Morgan Kirby, has been 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 new Eugene Shedden Farley Library occupies the corner of West South and South Franklin Streets. The four floors contain spacious reading rooms, student study carrels, faculty research offices; audio-visual equipment; 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.

The library contains more than 100,000 volumes and 1,350 current periodicals and journals, with space provided for a total of 300,000 volumes and study area for 600 students. Shelved on open stacks, books are easily accessible and may be borrowed for periods of two weeks. Reserve books for particular courses circulate for the



time period specified by the instructor. Students may borrow books from the ten nearby libraries (public and college) through the inter-library loan system.

An introduction to the uses of the library is given to every freshman during the freshman orientation week.

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 Admiral Harold R. Stark, former Chief of Naval Operations and currently 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, and organic synthesis.

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.

#### 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, 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*.

#### 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 new facility is integrated with the Performing Arts Center completed in the fall of 1965.

The band and the choruses present concerts locally and on tour. To encourage musicianship the department has been host to the Pennsylvania Intercollegiate Choral Festival. Nationally known music educators, clinicians, and performers have participated in workshop and classroom activities. During the winter and spring semesters *Town and Gown* concert series presents students and music faculty in instrumental and vocal programs before audiences from both the College and the community.



*CONYNGHAM ANNEX (ART GALLERY)*

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

*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 edits the *Alumnus* and 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 Pennsylvania in Wilkes-Barre, Allentown, Bethlehem, Easton, Harrisburg, Scranton, Philadelphia; in New York in Binghamton, New York City, Long Island; in New Jersey in Newark, Somerville, Morristown, Trenton; Wilmington, Delaware; Baltimore, Maryland; Washington, D.C.

*THE BOOKSTORE*

Books, stationery, and supplies may be purchased at the College Bookstore in the new men's dormitory. 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 \$50.00 per semester.

The College also maintains a United States Post Office substation in the men's dormitory.

*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's newly furnished Snack Bar, behind McClintock Hall.

#### CLASSROOMS AND INSTRUCTION

The Institute of Regional Affairs occupies the fifth floor of Parrish 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.

Bedford Hall, a gift of Mr. and Mrs. Paul Bedford, is the home of the English Department.

Pickering Hall, next to the library, is the home of the Art Department. Classes in fine arts and in art education meet also in Conyngham Annex.

#### OFFICES OF ADMINISTRATION

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

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 Dean of Men, the Dean of Women, the Director of Athletics, the Registrar, the Director of Student Activities, the Alumni Office, the Public Relations Office, and 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 occupies the first floor.

#### DORMITORIES

Over 25 dormitories 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 potentialities 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 at the beginning of the term are therefore set aside to assist freshmen in planning their academic program.

During the first week, new students may take aptitude and interest tests. The week also gives the new students an opportunity to become acquainted with one another and to learn about the College, the curriculum, and the student activities.

Throughout their first term small groups of freshmen meet for one hour a week to discuss informally their personal, academic, and vocational objectives. Representatives of the faculty and student body discuss with them:

1. Methods of intelligent self-directed study.
2. Standards of value in personal conduct and in relationships with others.
3. Values of the College extracurricular program.
4. The value of college experiences in developing a philosophy of life.

By placing responsibility upon the student for planning and conducting these discussions, the College encourages clarity of thought and expression, initiative, poise, and breadth of view.



### *STUDENT ADVISEMENT*

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

### *COLLEGE CONSULTATION SERVICE*

The College Consultation Service offers individual assistance to students with difficulties of a personal or environmental nature. Students may apply directly to the Consultation Service for appointments or may arrange for consultation through the Deans' Office. Interviews with the specially trained staff are conducted on an entirely confidential basis.

## Student Activities

The student activities of the College broaden a student's interests begun in the classroom. The faculty 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 Athletics, Dramatics, the College Band, Debating, Choral Club, Collegians Male Chorus, Women's Chorus, Madrigal Singers, the College newspaper, the yearbook, and the literary magazine.

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 advisers 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, 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 dormitory social functions and develops and administers dormitory policy in conjunction with the Council of Deans.

#### PUBLICATIONS

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.

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.

## Social Activities

The College believes in helping students to help themselves. Groups are encouraged to initiate programs that will serve their interest 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; Student Government's party for children of St. Stanislaus Orphanage; Wilkes J.C.'s party for YMCA children; Student Work Day, in support of an orphan in a foreign land.

In addition there are various social affairs to raise money for the United Fund, 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. At all these functions members of the faculty and their wives are invited guests and chaperones.

#### COME-AND-MEET-US-PARTY

Student Government makes plans for student leaders to welcome the freshmen one week before the semester starts. An informal party and dance for the entire student body culminate the week's introduction to college life.

#### 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, a play, and a film.



### 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.

### FORMAL DANCES

Student organizations and clubs sponsor four formal affairs, open to the entire student body. The Homecoming Dance, for alumni and undergraduates; the Lettermen's Christmas Formal; Theta Delta Rho's Valentine Formal; and during Spring Weekend the Cinderella Ball have become traditions on campus.

### TDR AND LETTERMEN TEAS

Throughout the year TDR and the Lettermen sponsor afternoon teas and student receptions. The women of Theta Delta Rho entertain those high school seniors who plan to enter the College the following year.

### IDC CHRISTMAS PARTY

The Inter-Dormitory Council sponsors an annual Christmas party preceding the winter vacation. The student body, faculty, and administration are invited to a buffet and dance.

### HAMPTON EXCHANGE PROGRAM

IDC also sponsors a social exchange program between students from Wilkes and Hampton Institute, Hampton Roads, Virginia. Several Wilkes students and an equal number of Hampton students visit each other's campus. Faculty members and Deans accompany both groups.

### 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. Tourneys 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 most 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 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. At the Ball at midnight on Saturday a senior, chosen by the student body by secret ballot, is crowned Cinderella Queen.

### 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.

### THE PRESIDENT'S PICNIC

On the Saturday before Commencement the graduating class is invited by the President to a picnic and outing in the country.



## 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.

The College maintains intercollegiate schedules in nine varsity sports: football, baseball, basketball, soccer, golf, tennis, swimming, wrestling, and lacrosse. Men who take part in intercollegiate sports satisfy the requirements for physical education for the duration of that sport.

A program of intramural sports and physical education stresses physical standards and cooperative team spirit and recreation. Every man has a chance to participate in basketball, touch football, volleyball, softball, and bowling. The athletic program for women includes dancing, folk and modern, bowling, basketball, softball, and swimming.

### *ATHLETIC POLICY*

Intercollegiate athletics are introduced for the benefit of the student body 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, and the Eastern Collegiate Athletic Conference.

## 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.

It is recognized that courtesy and consideration are the basis of good relations between individuals. Informal and friendly associations between students and faculty are a tradition on campus.

Although these relations are flexible, certain precedents have been established in the best interests of the individual and the College. A few are mentioned here:

1. The possession and use of liquor on campus are forbidden, and none will be served at college affairs.
2. Smoking is not permitted in classrooms or hallways, or in the library. Facilities are available in various buildings for students who may wish to smoke during their free periods.
3. Although participation in at least one student activity is encouraged, each student is responsible for planning and utilizing his time effectively.
4. The faculty cooperates with students who miss classes because of illness, or as representatives of the College, or for special religious observances; in cases of excessive absence the student shall present his instructors with a note from the Deans. In all instances the student is expected to make up the work that is missed.



# The Academic Program

## Curricula

## Academic Requirements

## Graduation Requirements



## 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 rediscovering 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.

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

#### *COOPERATIVE GRADUATE PROGRAMS*

Wilkes is cooperating with both Lehigh and Temple Universities to make graduate programs available to regional teachers and businessmen.

The Temple University program leads to the degree of Master of Science in General Education and is accepted by the Commonwealth for permanent certification of classroom teachers. Candidates may register at the College. Under this cooperative program, all credits are granted by Temple University.

Wilkes and Lehigh University are cooperating in offering graduate courses in education leading to a Master's Degree in Education, and graduate courses in Business Administration leading to a Master's Degree in Business Administration.

Details of these graduate programs may be obtained by writing to the Director of Graduate Studies.



## 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, 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.

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 are ordinarily 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.

## 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.

*Inc.* means that a student receives an incomplete grade. Incompletes will be granted to students who because of illness or reasons beyond their control have been unable to satisfy specific course assignments. All unfinished work must be completed before the fourth week of the following term. If an incomplete is not removed within this period, the grade will be changed to a zero.

### COURSE CREDITS

Each course at the College is assigned a specific number of credits. For example, English 101 is a 3 credit course and English 151 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. Carried	Grade	Points	Credit Hrs. Passed
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 a 1.85 average in 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. The faculty expects students to achieve the following minimum averages:

	General Average	Major Average
Freshman Year .....	1.4	1.6
Sophomore Year .....	1.7	1.9
Junior Year .....	1.85	2.0

If these minimum averages are not attained during each semester of the year indicated, the student's record is reviewed by the Academic Standing Committee to determine whether or not he should be 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, and 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 adviser and the Dean. An overload will be permitted only for students with an average grade record of 3 or special need.

**WITHDRAWALS**

Students may change their courses during the first week of a semester, provided they secure the approval of their faculty adviser and the Dean. A student who withdraws from a course after the first week but who continues other courses will receive a zero unless the Dean, faculty adviser, and instructor agree that the student be permitted to drop the course without prejudice.



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-matriculating student.

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

#### CHANGE OF PROGRAM

Students who wish to transfer from one department to another shall obtain the approval of the Department Chairmen and the Dean. The student shall satisfy the curriculum requirements of the Bulletin in force at the time of transfer.

#### 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 academic record made by students carrying a normal load for their curriculum during their last two years at the College. Requirements for Honors are as follows: for *cum laude*, a cumulative average of 3.35; *magna cum laude*, 3.60; *summa cum laude*, 3.80.

## Graduation Requirements

All candidates for degrees and certificates must 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. Transfer students must complete the last 30 credits in residence at the College.
2. He must earn a grade of 1 or better in each required subject.
3. He must obtain a cumulative average of 1.85 for all courses.
4. He must obtain a cumulative average of 2.0 for all subjects within his major.
5. He must satisfy all requirements pertaining to the orientation and physical education programs.
6. He must demonstrate competence in written and spoken English.

*No student shall graduate until all financial obligations to the College have been satisfied.*



## Awards

At Commencement a number of awards are presented to outstanding students in selected fields. The Deans also give two special awards for highest academic achievement.

### Senior 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 AWARD IN THE HUMANITIES AND SOCIAL SCIENCES* is given each year by Miss Annette Evans to the man or woman in the graduating class who has demonstrated outstanding scholarship in one or both of these areas, and has manifested intellectual curiosity and creative imagination.

*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 BIOLOGY RESEARCH AWARD* is presented annually to the graduate who has demonstrated exceptional ability in a research project. The faculty of the Biology Department selects the recipient of this award.

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

*THE WALL STREET JOURNAL AWARD* is granted to a graduate in commerce and finance for high scholarship in his field of concentration.

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

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

*THE L. J. VAN LAEYS AWARD IN JOURNALISM* is given to the graduate who has done the most creditable work in the field of journalism.

*THE MATHEMATICS AWARD* is granted 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.

*THE OUTSTANDING GRADUATE OF THE YEAR AWARD* is given by the Wilkes College Alumni Association to the graduate considered by a special faculty committee to have made the strongest contribution to the life of the College.

### Undergraduate Awards

*THE MRS. JAMES McKANE AWARDS* of \$25 each are made to the man and woman in the junior class who have ranked highest in their class throughout their first two years of college.

*THE LINDA MORRIS AWARD* is given by Mr. and Mrs. Herbert Morris in memory of their daughter, Linda, to that young woman who has maintained the highest academic record through the first three years at Wilkes College.

*THE JOHN WILKES, INC., ANNUAL FORENSIC AWARD* is made annually to the Wilkes student who has demonstrated outstanding ability in the field of forensics during the previous year.

*THE WILKES FACULTY WOMEN'S AWARD* is given to the sophomore woman who has ranked first in her class during her freshman year.



*THE ALPHA RHO CHAPTER OF THE DELTA KAPPA GAMMA SOCIETY AWARD* is offered annually to an outstanding young woman in the field of education. The Alpha Rho Committee on Professional Affairs, in cooperation with the Wilkes College Administration, will select a Junior student from Wyoming Valley who shows a concern for and a commitment to the education of young people and who possesses those qualities of enthusiastic leadership which will contribute to the advancement of the teaching profession.

## The College and the Community

Office of Community Services

Wilkes-Barre Philharmonic  
Orchestra

Fine Arts Fiesta

Performing Arts 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 a contemporary phenomenon 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, 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 together in an effort to develop that mutual understanding that is essential to constructive action.

#### 2. *Banking*

Short courses have been co-sponsored with both the Institute of Banking and the Savings and Loan Institute. The instructional program offered to the personnel of these two groups is intended to assist them to meet changing needs and acquire a broad knowledge in their fields.

#### 3. *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 Public Instruction, Commonwealth of Pennsylvania.

#### 4. *Other Activities*

From time to time, the Psychology Department, the Sociology Department, the Education Department, and the Guidance Center have initiated and participated in seminars, conferences, and workshops, in the fields of social welfare, mental health, 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.

## Wilkes-Barre Philharmonic Orchestra

The Wilkes-Barre Philharmonic Orchestra, organized under the aegis of the College in the fall of 1951, presents a series of four symphony concerts annually. A number of the 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 five-day festival of music, drama, and the arts presented on the public square each spring.

## Performing Arts Center

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, student recitals, lectures, choral and band concerts, Town and Gown programs, and other cultural events are offered throughout the year.

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



## Undergraduate Programs

Bachelor of Arts Degree

Bachelor of Science Degree

Degree Requirements



## 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 chairman.

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 the student to achieve intellectual, social, and spiritual development.

### Bachelor of Arts Degree

Programs leading to the Bachelor of Arts degree are primarily concerned with the cultivation of an understanding of our civilization and of the 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.

#### A R E A S

##### *Humanities*

English  
Fine Arts  
Foreign Languages  
Mathematics  
Music  
Philosophy - Religion

##### *Social Sciences*

Commerce and Finance  
Economics  
Education  
History  
Political Science  
Psychology  
Social Science  
Sociology

##### *Sciences*

Biology  
Chemistry  
Physics



GENERAL REQUIREMENTS FOR B.A. DEGREE

The following courses 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.

Required Courses	Credit Hours	To be Taken in Semesters
<i>Humanities</i>		
Eng. 101, 102 — Composition	6	1-2
Eng. 151, 152 — World Literature	8	3-4
Hist. 101, 102 — World Civilization	6	1-2
Phil. 101 — Introduction; Phil. 102 — Logic	6	3-4-5-6
F.A. 101 — Experiencing Art; or Mus. 101 — Introduction I; or Th. Arts 101 — Approach to Theater <sup>1</sup>	3	1 or 2
For. Lang. <sup>2</sup> 101, 102 — Elementary, For. Lang. <sup>2</sup> 203, 204 — Intermediate	6-12	1-2-3-4
<i>Math, Science Electives</i>		
Math. <sup>3</sup> 101, 102 — Fundamentals; or Phys. 101, 102 — Physical Science; or Bio. 101, 102 — Biological Science; or Env. Sci. 101 — Earth Science, Env. Sci. 102 — Space Science	12	1-2-3-4
<i>Social Science Electives</i>		
Ec. 101, 102 — Principles; or P. S. 101, 102 — Political Science; or Psy. 101, 102 — General Psychology; or Soc. 101, 102 — Sociology and Anthropology	12	3-4-5-6
<i>Physical Education</i>		
Phys. Ed. 101, 102, 103, 104 — Physical Education	0	1-2-3-4
Phys. Ed. 105, 106 — Hygiene	2	1-2
	67	

<sup>1</sup> Courses in Speech, Argumentation and Debate, and Speech for the Stage (2 credits each) are not required for the Bachelor of Arts degree, but may be taken as an elective.

<sup>2</sup> 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 student's adviser.

<sup>3</sup> The mathematics requirement will vary with individual programs. Students planning to major in Accounting, Biology, Business Administration, Chemistry, Economics, Engineering, Elementary Education, Mathematics, and Physics should check individual program requirements listed in the Bulletin.

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	Fine Arts	Physics
Chemistry	Foreign Language	Political Science
Economics	History	Psychology
Education (Elementary and Secondary) <sup>1</sup>	Mathematics	Social Science
English	Music	Sociology
	Philosophy - Religion	

COURSE REQUIREMENTS

The specific requirements for a degree in any of the above majors are listed in the section of this bulletin titled "Degree Requirements." The student with his faculty adviser will plan the proper sequence of his major course requirements.

<sup>1</sup> Students wishing to prepare for public school teaching should refer to page 81 for detailed information concerning the selection of a major and the sequence of required courses in Education.



## Bachelor of Science Degree

The Bachelor of Science degree programs require more concentration upon 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.

### GENERAL REQUIREMENTS FOR B. S. DEGREE

The general requirements for the Bachelor of Science degree are basically the same as those required for the Bachelor of Arts degree. Specific requirements are described in this bulletin under the section titled "Degree Requirements."

### SELECTION OF A MAJOR

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

Biology	Engineering
Chemistry	Music Education
Commerce and Finance	Medical Technology
(a) Accounting	Nursing Education
(b) Business Administration	Physics
(c) Business Education	

### COURSE REQUIREMENTS

The specific requirements for a degree in any of the above majors are listed in the section of this bulletin titled "Degree Requirements." The student with his faculty adviser will plan the proper sequence of his major course requirements.

## Degree Requirements

### B.A. AND B.S. DEGREE PROGRAMS

The following section of the bulletin provides the detailed information on the requirements for each of the degree programs offered at Wilkes College.

The general requirements for the B.A. degree are listed on page 74 of this bulletin. They are repeated on the following page to provide guidance in scheduling. Courses in Fundamentals of Speech, Argumentation and Debate, and Speech for the Stage are available as electives that may be taken during the freshman year.

The course sequence listed in the following outline is the standard sequence for all B.A. degree majors except those in biology, chemistry, fine arts, mathematics, music, and physics. These programs will be specifically outlined for convenience in scheduling.

The following pages, therefore, 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. The major subject areas follow in alphabetical order.



## General Requirements for B. A. Degree

FIRST SEMESTER		SECOND SEMESTER	
Eng. 101 — Composition	3	Eng. 102. — Composition	3
For. Lang. 101 — Elementary	3	For. Lang. 102 — Elementary	3
Hist. 101 — World Civilization	3	Hist. 102 — World Civilization	3
Math., Science Elective (see page 74)	3	Math., Science Elective (see page 74)	3
Fine Arts Elective (see page 74) <sup>1</sup>	3	Fine Arts Elective (see page 74) <sup>1</sup>	3
P.E. 101 — Physical Education	0	P.E. 102 — Physical Education	0
P.E. 105 — Hygiene	1	P.E. 106 — Hygiene	1
	15-16		15-16
THIRD SEMESTER		FOURTH SEMESTER	
Eng. 151 — World Literature	4	Eng. 152 — World Literature	4
For. Lang. 203 — Intermediate	3	For. Lang. 204 — Intermediate	3
Math., Science Elective (see page 74)	3	Math., Science Elective (see page 74)	3
Social Science Electives (see page 74)	6	Social Science Electives (see page 74)	6
(Phil. 101 — Introduction) <sup>2</sup>	0	(Phil. 102 — Logic) <sup>2</sup>	0
P.E. 103 — Physical Education	0	P.E. 104 — Physical Education	0
	16		16
FIFTH SEMESTER		SIXTH SEMESTER	
Phil. 101 — Introduction <sup>2</sup>	3	Phil. 102 — Logic <sup>2</sup>	3
Major and electives <sup>3</sup>	12-13	Major and electives <sup>3</sup>	12-13
	15-16		15-16
SEVENTH SEMESTER		EIGHTH SEMESTER	
Major and electives	15-16	Major and electives	15-16

<sup>1</sup> Courses in Speech, Argumentation and Debate, and Speech for the Stage (2 credits each) are not required for the Bachelor of Arts degree, but may be taken as an elective during the freshman year.

<sup>2</sup> 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 Religion courses may be substituted for Phil. 102 in any major with the approval of the student's adviser and the Philosophy Department chairman. No substitutions are permitted for Phil. 101.

<sup>3</sup> Students planning to fulfill requirements for teacher certification will usually take required education courses as electives in the fifth and sixth semester.

## Course Requirements in the Majors

Biology<sup>1</sup>

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. Students planning to major in biology should take courses in secondary school that prepare them to start the College mathematics program with the course in analysis, Math 111. 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 (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.

The B.S. curriculum listed on page 90 is recommended for the student interested in a professional career in biology.

The following are the degree requirements for the Bachelor of Arts degree with a major in biology.

FIRST SEMESTER		SECOND SEMESTER	
Bio 103 — General Biology	4	Bio. 104 — General Biology	4
Chem. 201 — Principles of Chemistry	4	Chem. 202 — Chemical Equilibria	4
Eng. 101 — Composition	3	Eng. 102 — Composition	3
Math 111 — Analysis I	4	Math. 112 — Analysis II	4
P. E. 101 — Physical Education	0	P. E. 102 — Physical Education	0
P. E. 105 — Hygiene	1	P. E. 106 — Hygiene	1
	16		16
THIRD SEMESTER		FOURTH SEMESTER	
Bio. 201 — Vertebrate Morphogenesis	4	Bio. 202 — Biology of Vertebrate Organs	4
Chem. 221 — Inorganic Quantitative Analysis	4	Chem. 232 — Organic Chemistry	4
For. Lang. 101 — Elementary	3	For. Lang. 102 — Elementary	3
Hist. 101 — World Civilization	3	Hist. 102 — World Civilization	3
Electives <sup>2</sup>	3-4	Electives <sup>2</sup>	3-4
P. E. 103 — Physical Education	0	P. E. 104 — Physical Education	0
	17-18		17-18

<sup>1</sup> A preprofessional degree program is described on page 56. The first three years of the program described here will be followed by pre-professional candidates.

<sup>2</sup> Electives must include: Ec., P.S., Psy., Soc. 101-102 — 12; Eng. 151, 152 — 8; Phil. 101, 102 — 6; F.A. 101 or Mus. 101 or Th. Arts 101 — 3; Bio. 311 and/or Bio. 331 (7th semester) or Bio. 332 (8th semester) — 4-8.



FIFTH SEMESTER		SIXTH SEMESTER	
Bio. 321 — Genetics	4	Bio. 322 — Ecology	3
For. Lang. 203 — Intermediate	3	Bio. 224 — Biological Techniques	1
Phys. 105 — Introduction	4	For. Lang. 204 — Intermediate	3
Electives <sup>1</sup>	6-7	Phys. 106 — Introduction	4
		Electives <sup>1</sup>	4-7
	<hr/>		<hr/>
	17-18		15-18
SEVENTH SEMESTER		EIGHTH SEMESTER	
Bio. 397 — Seminar	1	Bio. 397 — Seminar	1
Electives <sup>1</sup>	15-17	Electives <sup>1</sup>	15-17
	<hr/>		<hr/>
	16-18		16-18

### Chemistry

This curriculum is designed for the student interested in a major in chemistry in preparation for a career in teaching, medicine, dentistry, technical sales, technical librarianship, as technical translator, etc. The student will choose electives after consultation with his adviser.

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 (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.

The B.S. curriculum listed on page 91 is recommended for the student interested in a professional career in chemistry.

Chemistry 212 and 341 must be taken in addition to those courses listed below. The general requirements for the B.A. degree, listed on page 74 in the bulletin, must also be met.

FIRST SEMESTER		SECOND SEMESTER	
Chem. 201 — Introduction to the Principles of Chemistry	4	Chem. 202 — Chemical Equilibria	4
Hist. 101 — World Civilization	3	Hist. 102 — World Civilization	3
Math. 111 — Analysis I	4	Math. 112 — Analysis II	4
Eng. 101 — Composition	3	Eng. 102 — Composition	3
P. E. 101 — Physical Education	0	P. E. 102 — Physical Education	0
P. E. 105 — Personal Hygiene	1	P. E. 106 — Personal Hygiene	1
	<hr/>		<hr/>
	15		15

<sup>1</sup> Electives must include: Ec., P.S., Psy., Soc. 101-102 — 12; Eng. 151, 152 — 8; Phil. 101, 102 — 6; F.A. 101 or Mus. 101 or Th. Arts 101 — 3; Bio. 311 and/or Bio. 331 (7th semester) or Bio. 332 (8th semester) — 4-8.

THIRD SEMESTER		FOURTH SEMESTER	
Chem. 221 — Inorganic Quantitative Analysis	4	Chem. 232 — Organic Chemistry	4
Math. 211 — Intermediate Analysis I	4	Phys. 202 — General Physics II	4
Phys. 201 — General Physics I	4	Electives	9
Electives	6		<hr/>
	18		17
FIFTH SEMESTER		SIXTH SEMESTER	
Chem. 233 — Organic Chemistry	4-5	Chem. 262 — Chemical Literature	1
Phys. 203 — General Physics III	3	Electives	15
Electives	9		<hr/>
	16-17		16
SEVENTH SEMESTER		EIGHTH SEMESTER	
Chem. 261 — History of Chemistry	1	Electives	15-18
Electives	14-17		<hr/>
	15-18		15-18

### 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 adviser. 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. 100, Math. 111 and 112.

### Education

Students wishing to prepare for public school teaching in Business subjects or Music complete the B.S. program described for these subjects. Other prospective teachers must satisfy B.A. degree requirements subject to the following restrictions:

1. Prospective elementary school teachers:
  - a. may select any major listed on page 75.
  - b. must elect Math. 103-104.
  - c. must elect Psych. 101-102.
  - d. must elect Ed. 201, 202, 299, and 300. (Note that Psych. 102 is prerequisite to Ed. 202.)



2. Prospective secondary school teachers:
- may elect to major in Biology, Chemistry, Economics, English, Foreign Languages, History, Mathematics, Physics, or Political Science. Students who major in Economics or Political Science must complete 18 credits in History beyond 102.
  - must elect Psych. 101-102.
  - must elect Ed. 201, 202, and 330. (Note that Psych. 102 is prerequisite to Ed. 202.)

Teacher certification requirements for most states may be met at Wilkes College. Students are expected to familiarize themselves with specific state requirements.

### English

Students who major in English are required to take English 101, 102, and 131 in the freshman year; 151 and 152 in the sophomore year; and 24 credit hours including 201, 204, 213, 221 in addition to the general requirements for the B.A. degree. Those students planning to become public school teachers must also include either English 381 or English 382 among their required courses. English 132 or Theater Arts 131 may be taken instead of English 131. Selection and scheduling of these courses will be done in consultation with the student's adviser. Students with at least a 3.0 average in 101, 102, and 151 may take an advanced English course simultaneously with 152. The cumulative average in the major will be calculated from the grades received in all English courses except those prescribed for the Freshman year. The English Department strongly recommends that its majors choose either German or French as their foreign language.

### 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. Electives may be used to fulfill the requirements for certification in education.

FIRST SEMESTER		SECOND SEMESTER	
Eng. 101 — Composition	3	Eng. 102 — Composition	3
Hist. 101 — World Civilization	3	Hist. 102 — World Civilization	3
For. Lang. 101 <sup>1</sup> — Elementary	3	For. Lang. 102 <sup>1</sup> — Elementary	3
F.A. 201 — Color and Design	3	F.A. 202 — Drawing & Composition	3
P. E. 101 — Physical Education	0	P. E. 102 — Physical Education	0
P. E. 105 — Hygiene	1	P. E. 106 — Hygiene	1
Math., Science Elective (see page 74)	3	Math., Science Elective (see page 74)	3
	<hr/> 16		<hr/> 16

<sup>1</sup> French or German is recommended for students who plan to continue with graduate programs in Art.

### THIRD SEMESTER

Eng. 151 — World Literature	4
For. Lang. 203 — Intermediate	3
F.A. 203 — Oil Painting I	3
F.A. 223 — History of Art I	3
P. E. 103 — Physical Education	0
Math., Science Elective (see page 74)	3
	<hr/> 16

### FIFTH SEMESTER

Phil. 101 — Introduction	3
F.A. 211 — Modeling & Construction	3
F.A. 213 — Metalwork and Jewelry	3
F.A. 226 — History of Modern Art	3
Social Science Electives (see page 74)	6
	<hr/> 18

### SEVENTH SEMESTER

F.A. 231 — Contemporary Design	2
F.A. 332 — Studio Problems	2
F.A. 311 <sup>1</sup> — Senior Exhibit	2
Electives	9-12
	<hr/> 15-16

### FOURTH SEMESTER

Eng. 152 — World Literature	4
For. Lang. 204 — Intermediate	3
F.A. 204 — Water Color Painting	3
F.A. 224 — History of Art II	3
P. E. 104 — Physical Education	0
Math., Science Elective (see page 74)	3
	<hr/> 16

### SIXTH SEMESTER

Phil. 205 — Aesthetics	3
F.A. 212 — Ceramics	3
F.A. 206 — Graphics	3
Elective (optional)	0-3
Social Science Electives (see page 74)	6
	<hr/> 15-18

### EIGHTH SEMESTER

F.A. 311 <sup>1</sup> — Senior Exhibit	2
Electives	14-15
	<hr/> 14-16

### 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.

### History

Students who major in history are required to take History 101 and 102 in the freshman year, History 107 and 108 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 and 395 or 396.

### Mathematics

Students who major in mathematics are required to complete twenty-four hours of courses numbered above 211, including Math. 212, 222, 311-312, 331, and 334, in addition to the general requirements for the B.A. degree (with the exception of Phil. 102 which is replaced by Math. 222 — Set Theory and Logic).

The B.S. curriculum listed on page 101 is recommended for the student interested in a professional career in mathematics.

<sup>1</sup> Senior Exhibit will be scheduled either the seventh or eighth semester after consultation with the department chairman.



Prospective elementary or secondary school teachers are advised to elect Math. 343 and 351.

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 (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.

It is highly recommended that the prospective mathematics majors elect French, German, or Russian in high 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. Spanish is not recommended.

The following program lists the sequence of course requirements for the B.A. degree in Mathematics and the semesters in which they should normally be taken.

<b>FIRST SEMESTER</b>		<b>SECOND SEMESTER</b>	
Eng. 101 — Composition	3	Eng. 102 — Composition	3
For. Lang. 101 — Elementary Elective <sup>1</sup>	3	For. Lang. 102 — Elementary	3
Social Science Elective <sup>2</sup>	3	Phys. 201 — General Physics I	4
Math. 111 — Analysis I	3	Social Science Elective <sup>2</sup>	3
P.E. 101 — Physical Education	4	Math. 112 — Analysis II	4
P.E. 105 — Hygiene	0	P.E. 102 — Physical Education	0
	1	P.E. 106 — Hygiene	1
	<hr/>		<hr/>
	17		18
<b>THIRD SEMESTER</b>		<b>FOURTH SEMESTER</b>	
Eng. 151 — World Literature	4	Eng. 152 — World Literature	4
For. Lang. 103 — Intermediate Elective <sup>3</sup>	3	For. Lang. 104 — Intermediate	3
Phys. 202 — General Physics II	3	Math. 222 — Set Theory and Logic	3
Math. 211 — Intermediate Analysis I	4	Phys. 203 — General Physics III	3
P.E. 103 — Physical Education	0	Math. 212 — Intermediate Analysis II	4
	<hr/>	P.E. 104 — Physical Education	0
	18		<hr/>
			17
<b>FIFTH SEMESTER</b>		<b>SIXTH SEMESTER</b>	
Hist. 101 — World Civilization	3	Hist. 102 — World Civilization	3
Social Science Elective <sup>2</sup>	3	Social Science Elective <sup>2</sup>	3
Electives <sup>4</sup>	9-12	Electives <sup>4</sup>	9-12
	<hr/>		<hr/>
	15-18		15-18
<b>SEVENTH SEMESTER</b>		<b>EIGHTH SEMESTER</b>	
Electives <sup>4</sup>	15-18	Electives <sup>4</sup>	15-18

<sup>1</sup> Must be one of these: F.A. 101 — Experiencing Art I, Mus. 101 — Introduction, or Th. Arts 101 — Approach to Theater.

<sup>2</sup> Must elect two out of the four sequences: Ec., Psy., Soc., P.S. 101-102. Prospective elementary or secondary teachers must elect Psy. 101-102 in their freshman year.

<sup>3</sup> Prospective elementary or secondary school teachers must elect Ed. 201—Introduction. Others should elect Phil. 101 — Introduction.

<sup>4</sup> These electives must include: (a) Math. 311-312, 331, 334 and at least two other mathematics courses numbered above 222, and (b) Phil. 101 if the student has elected Ed. 201 in the third semester. (c) For prospective secondary school teachers, Ed. 202 in the junior year. (d) For prospective elementary school teachers, Ed. 202 in the 7th semester and Ed. 299 in the 8th semester.

Music<sup>1</sup>

Students who major in music are required to complete the following program of studies in addition to the general requirements for the B. A. degree. Students interested in careers in music education should follow the program described in the Bachelor of Science in Music Education. This program is described on page 104 of this bulletin. The following are the course requirements for the music major.

<b>FIRST SEMESTER</b>		<b>SECOND SEMESTER</b>	
Math. 101 — Fundamentals or Bio. 101 — Biological Science or Phys. 101 — Physical Science or Env. Sci. 101 — Earth Science	3	Math. 102 — Fundamentals or Bio. 102 — Biological Science or Phys. 102 — Physical Science or Env. Sci. 102 — Space Science	3
Eng. 101 — Composition	3	Eng. 102 — Composition	3
For. Lang. 101 — Elementary	3	For. Lang. 102 — Elementary	3
Mus. 105 — Theory of Music	5	Mus. 106 — Theory of Music	5
Applied Music <sup>2</sup>	1	Applied Music <sup>2</sup>	1
Band, Orchestra, Chorus	1/2	Band, Orchestra, Chorus	1/2
P. E. 101 — Physical Education	0	P. E. 102 — Physical Education	0
P. E. 105 — Hygiene	1	P. E. 106 — Hygiene	1
	<hr/>		<hr/>
	16 1/2		16 1/2
<b>THIRD SEMESTER</b>		<b>FOURTH SEMESTER</b>	
For. Lang. 203 — Intermediate	3	For. Lang. 204 — Intermediate	3
Mus. 107 — Theory of Music	5	Mus. 108 — Theory of Music	5
Applied Music <sup>2</sup>	1	Applied Music <sup>2</sup>	1
Psy. 101 — Psychology	3	Psy. 102 — Psychology	3
Hist. 101 — World Civilization	3	Hist. 102 — World Civilization	3
Math. 101 — Fundamentals or Bio. 101 — Biological Science or Phys. 101 — Physical Science or Env. Sci. 101 — Earth Science	3	Math. 102 — Fundamentals or Bio. 102 — Biological Science or Phys. 102 — Physical Science or Env. Sci. 102 — Space Science	3
Band, Orchestra, Chorus	1/2	Band, Orchestra, Chorus	1/2
P. E. 103 — Physical Education	0	P. E. 104 — Physical Education	0
	<hr/>		<hr/>
	18 1/2		18 1/2
<b>FIFTH SEMESTER</b>		<b>SIXTH SEMESTER</b>	
Eng. 151 — World Literature	4	Eng. 152 — World Literature	4
Phil. 101 — Introduction	3	Phil. 230 — Aesthetics	3
Mus. 109 — History of Music	3	Mus. 110 — History of Music	3
Applied Music <sup>2</sup>	2	Applied Music <sup>2</sup>	2
Soc. 101 — Sociology	3	Soc. 102 — Sociology	3
Band, Orchestra, Chorus	1/2	Band, Orchestra, Chorus	1/2
	<hr/>		<hr/>
	15 1/2		15 1/2

<sup>1</sup> There is a music fee of \$10 per semester for all music and music education majors.

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



SEVENTH SEMESTER		EIGHTH SEMESTER	
Applied Music <sup>1</sup>	2	Applied Music <sup>1</sup>	2
Mus. 215 — Instrumentation	2	Mus. 216 — Arranging	2
Mus. 217 — Analysis	2	Mus. 218 — Counterpoint	3
Band, Orchestra, Chorus	1/2	Band, Orchestra, Chorus	1/2
Electives	9	Electives	9
	<hr/>		<hr/>
	15 1/2		16 1/2

### Philosophy — Religion

A major in the combined fields of philosophy and religion consists of twenty-four hours in philosophy and religion courses beyond Philosophy 101 and 102. At least eighteen hours of the twenty-four hours must be taken in Philosophy. Philosophy-Religion majors must schedule courses in philosophy and religion in their sophomore year.

### 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 adviser.

*The B.S. curriculum on page 106 is recommended for the student interested in a professional career in physics.*

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 (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 preferred sequence is listed on page 87.

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

FIRST SEMESTER		SECOND SEMESTER	
Math. 111 — Analysis I	4	Math. 112 — Analysis II	4
Eng. 101 — Composition	3	Eng. 102 — Composition	3
Hist. 101 — World Civilization	3	Hist. 102 — World Civilization	3
Phys. 201 — General Physics I	4	Phys. 202 — General Physics II	4
P.E. 105 — Personal Hygiene	1	P.E. 106 — Personal Hygiene	1
P.E. 101 — Physical Education	0	P.E. 102 — Physical Education	0
	<hr/>		<hr/>
	15		15

THIRD SEMESTER		FOURTH SEMESTER	
Math. 211 — Intermediate Analysis I	4	Math. 212 — Intermediate Analysis II	4
Phys. 203 — General Physics III	3	For. Lang. 102 — Elementary	3
For. Lang. 101 — Elementary	3	Chem. 202 — Chemical Equilibria	4
P.E. 103 — Physical Education	0	P.E. 104 — Physical Education	0
Chem. 203 — Introduction to Principles of Chemistry	4	Electives	6-7
F.A. 101 — Experiencing Art I or Mus. 101 — Introduction or Th. Arts 101 — Approach to Theater	3		<hr/>
	<hr/>		17-18
	17		

FIFTH SEMESTER		SIXTH SEMESTER	
Phys. 331 — Electricity & Magnetism	4	For. Lang. 204 — Intermediate	3
For. Lang. 203 — Intermediate	3	Eng. 152 — World Literature	4
Phys. 311 — Mechanics	3	Electives	9-10
Eng. 151 — World Literature	4		<hr/>
Elective	3		16-17
	<hr/>		
	17		

SEVENTH SEMESTER		EIGHTH SEMESTER	
Phil. 101 — Introduction	3	Phil. 102 — Logic	3
Electives	13	Electives	13
	<hr/>		<hr/>
	16		16

The student must choose at least six credits from the following list in addition to those prescribed in the curriculum:

- |                 |                       |
|-----------------|-----------------------|
| Physics 230 (4) | Physics 332 (4)       |
| Physics 231 (3) | Physics 361 (4)       |
| Physics 240 (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.



### Political Science

A major in political science consists of twenty-four hours which must include either Political Science 201 or Political Science 202. Political Science 101 and 102 are not accepted toward a major.

### Psychology

A major in psychology consists of twenty-four hours. Psychology 101 and 102 are not accepted toward a major; Sociology 255 and Education 202 are accepted. In addition to the general requirements the department requires that the two-semester courses in mathematics, physics, and general biology be taken. In addition, English 131 or 132 or Theater Arts 131 and Economics 231 are required.

The major in psychology is designed for students who plan to continue the study of psychology on the graduate level, as well as for those whose interests lie in the teaching of psychology in colleges or in the application of the study to such fields as advertising, clinical work, business, education, and industrial personnel work. Students are cautioned that an undergraduate major in psychology does not qualify them for professional psychological work. No student can qualify as a psychologist without advanced graduate study; in a great many fields today, moreover, professional psychologists must hold the degree of Doctor of Philosophy.

### Sociology — Anthropology

A major in sociology consists of twenty-four hours. Although Sociology 101, 102 are prerequisites to all the courses in sociology, they are not accepted toward a major in sociology. Political Science 204 and Philosophy 240 will be accepted toward the major in sociology. Students who intend to major in sociology are requested to plan their work in the department in consultation with the chairman. A major in sociology shall include the following courses: Sociology 255, 280, and 395. With the approval of the department chairman, however, other courses may in some instances be substituted.

### 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, Political Science 251, and Sociology 215 are required. 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 director of the Institute of Regional Affairs.



## Course Requirements for B.S. Degree Programs

### Biology<sup>1</sup>

The following curriculum in biology 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. 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 (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	
Bio. 103 — General Biology	4	Bio. 104 — General Biology	4
Chem. 201 — Principles of Chemistry	4	Chem. 202 — Chemical Equilibria	4
Eng. 101 — Composition	3	Eng. 102 — Composition	3
Math. 111 — Analysis I	4	Math. 112 — Analysis II	4
P. E. 101 — Physical Education	0	P. E. 102 — Physical Education	0
P. E. 105 — Hygiene	1	P. E. 106 — Hygiene	1
	<hr/> 16		<hr/> 16
THIRD SEMESTER		FOURTH SEMESTER	
Bio. 201 — Vertebrate Morphogenesis	4	Bio. 202 — Biology of Vertebrate Organs	4
Chem. 221 — Inorganic Quantitative Analysis	4	Chem. 232 — Organic Chemistry	4
Eng. 151 — World Literature	4	Eng. 152 — World Literature	4
Hist. 101 — World Civilization	3	Hist. 102 — World Civilization	3
For. Lang. 101 — Elementary	3	For. Lang. 102 — Elementary	3
P. E. 103 — Physical Education	0	P. E. 104 — Physical Education	0
	<hr/> 18		<hr/> 18
FIFTH SEMESTER		SIXTH SEMESTER	
Bio. 321 — Genetics	4	Bio. 322 — Ecology	3
Chem. 235 — Organic Chemistry	4	Bio. 224 — Biological Techniques	1
Ec., Psy., P.S., Soc. 101	3	Ec., Psy., P.S., Soc. 102	3
For. Lang. 203 — Intermediate	3	For. Lang. 204 — Intermediate	3
Phys. 105 — Introduction	4	Phys. 106 — Introduction	4
	<hr/> 18	Elective <sup>2</sup>	3
			<hr/> 17

<sup>1</sup> This degree meets the same general requirements as listed for B.A. Degree, page 79.  
<sup>2</sup> Elective must include one semester of Fine Arts options (see page 74).

### SEVENTH SEMESTER

Bio. 311 — Bacteriology	4
Bio. 331 — Physiology	4
Bio. 397 — Seminar	1
Phil. 101 — Introduction	3
Ec., Psy., P.S., Soc. 101	3
Elective <sup>1</sup>	3
	<hr/> 18

### EIGHTH SEMESTER

Bio. 312 — Bacteriology	4
Bio. 332 — Evolutionary Mechanisms	3
Bio. 397 — Seminar	1
Phil. 102 — Logic	3
Ec., Psy., P.S., Soc. 102	3
Elective <sup>1</sup>	3
	<hr/> 17

### 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 in chemistry may enter industry immediately upon graduation or may continue their studies in graduate school.

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 (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.

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 310 in the senior year of the B.S. course of study.

FIRST SEMESTER		SECOND SEMESTER	
Chem. 201 — Introduction to the Principles of Chemistry	4	Chem. 202 — Chemical Equilibria	4
Eng. 101 — Composition	3	Eng. 102 — Composition	3
Hist. 101 — World Civilization	3	Hist. 102 — World Civilization	3
Math. 111 — Analysis I	4	Math. 112 — Analysis II	4
P.E. 101 — Physical Education	0	P.E. 102 — Physical Education	0
P.E. 105 — Hygiene	1	P.E. 106 — Hygiene	1
	<hr/> 15		<hr/> 15

<sup>1</sup> Elective must include one semester of Fine Arts options (see page 74).



Chemistry

*THIRD SEMESTER*

Chem. 221 — Inorganic Quantitative Analysis	4
For. Lang. 101 — Elementary	3
Math. 211 — Intermediate Analysis I	4
Phys. 201 — General Physics I	4
P.E. 103 — Physical Education	0
<hr/>	
	15

*FIFTH SEMESTER*

Chem. 233 — Organic Chemistry	5
Chem. 341 — Elementary Physical Chemistry	4
Eng. 151 — World Literature	4
For. Lang. 203 — Intermediate	3
Phys. 203 — General Physics III	3
<hr/>	
	19

*SEVENTH SEMESTER*

Chem. 395 — Research	3
Chem. 261 — History of Chemistry	1
Chem. 397 — Seminar	1/2
Electives <sup>1</sup>	12-14
<hr/>	
	16 1/2-18 1/2

*FOURTH SEMESTER*

Chem. 212 — Inorganic Chemistry	3
Chem. 232 — Organic Chemistry	4
For. Lang. 102 — Elementary	3
Math. 212 — Intermediate Analysis II	4
Phys. 202 — General Physics II	4
P.E. 104 — Physical Education	0
<hr/>	
	18

*SIXTH SEMESTER*

Chem. 334 — Organic Qualitative Analysis	3
Chem. 342 — Intermediate Physical Chemistry	4
Chem. 262 — Chemical Literature	1
Eng. 152 — World Literature	4
For. Lang. 204 — Intermediate Elective <sup>1</sup>	3
<hr/>	
	15-18

*EIGHTH SEMESTER*

Chem. 376 — Advanced Analytical Chemistry	4
Chem. 397 — Seminar	1/2
Electives <sup>1</sup>	11-12
<hr/>	
	15 1/2-16 1/2

<sup>1</sup> 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

MAJOR IN ACCOUNTING

*FIRST SEMESTER*

Acct. 101 — Elementary I	3
Eng. 101 — Composition	3
Hist. 101 — World Civilization	3
Ec. 111 — Economic History	3
Math. 100 — Pre-calculus Mathematics	4
P. E. 101 — Physical Education	0
P. E. 105 — Hygiene	1
<hr/>	
	17

*THIRD SEMESTER*

Acct. 111 — Intermediate I	3
B. A. 231 — Business Law	3
Ec. 101 — Principles I	3
Eng. 151 — World Literature	4
Bio. 101 — Biological Science or Phys. 101 — Physical Science or Env. Sci. 101 — Earth Science	3
Eng. 131 — Fundamentals of Speech	2
P. E. 103 — Physical Education	0
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	18

*FIFTH SEMESTER*

Acct. 201 — Cost Accounting I	3
Ec. 201 — Money & Banking	3
Ec. 231 — Applied Statistics	3
Soc. 101 — Sociology or P. S. 101 — Political Science I	3
Phil. 101 — Introduction	3
Elective <sup>1</sup>	3
<hr/>	
	18

*SEVENTH SEMESTER*

Acct. 221 — Taxes I	3
Acct. 231 — Auditing I	3
B. A. 209 — Correspondence & Reports	3
B. A. 225 — Corporation Finance	3
B. A. 251 — Principles of Management I	3
Elective <sup>1</sup>	3
<hr/>	
	18

*SECOND SEMESTER*

Acct. 102 — Elementary II	3
Eng. 102 — Composition	3
Hist. 102 — World Civilization	3
F. A. 101 — Experiencing Art I or Mus. 101 — Introduction or Th. Arts 101 — Approach to Theater	3
B.A. 115 — Mathematics of Business and Finance	3
P. E. 102 — Physical Education	0
P. E. 106 — Hygiene	1
<hr/>	
	16

*FOURTH SEMESTER*

Acct. 112 — Intermediate II	3
B. A. 232 — Business Law	3
Ec. 102 — Principles II	3
Eng. 152 — World Literature	4
Bio. 102 — Biological Science or Phys. 102 — Physical Science or Env. Sci. 102 — Space Science	3
P. E. 104 — Physical Education	0
<hr/>	
	16

*SIXTH SEMESTER*

Acct. 202 — Cost Accounting II	3
Acct. 242 — Advanced	3
B. A. 233 — Business Law	3
Ec. 232 — Economic Statistics	3
Soc. 102 — Sociology or P. S. 102 — Political Science II	3
Elective <sup>1</sup>	3
<hr/>	
	18

*EIGHTH SEMESTER*

Acct. 232 — Auditing II	3
Acct. 252 — Internship	3
Ec. 202 — Theory of Money or Ec. 236 — Public Finance	3
Ec. 228 — Economic Geography	3
Elective <sup>1</sup>	3
<hr/>	
	15

<sup>1</sup> 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.



Commerce and Finance

MAJOR IN BUSINESS ADMINISTRATION

**FIRST SEMESTER**

Acct. 101 — Elementary I	3
Ec. 111 — Economic History	3
Eng. 101 — Composition	3
Hist. 101 — World Civilization	3
Bio. 101 — Biological Science or Phys. 101 — Physical Science or Env. Sci. 101 — Earth Science	3
P. E. 101 — Physical Education	0
P. E. 105 — Hygiene	1
<hr/>	
	16

**THIRD SEMESTER**

B. A. 231 — Business Law	3
Ec. 101 — Principles I	3
Eng. 151 — World Literature	4
Math. 100 — Pre-calculus Mathematics	4
P. S. 101 — Political Science I or Soc. 101 — Sociology	3
P. E. 103 — Physical Education	0
<hr/>	
	17

**FIFTH SEMESTER**

B. A. 251 — Principles of Management	3
Ec. 201 — Money & Banking	3
Ec. 231 — Applied Statistics	3
Phil. 101 — Introduction	3
Electives	6
<hr/>	
	18

**SEVENTH SEMESTER**

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

**SECOND SEMESTER**

Acct. 102 — Elementary II	3
F. A. 101 — Experiencing Art I or Mus. 101 — Introduction or Th. Arts 101 — Approach to Theater	3
Eng. 102 — Composition	3
Eng. 131 — Fundamentals of Speech	2
Hist. 102 — World Civilization	3
Bio. 102 — Biological Science or Phys. 102 — Physical Science or Env. Sci. 102 — Space Science	3
P. E. 102 — Physical Education	0
P. E. 106 — Hygiene	1
<hr/>	
	18

**FOURTH SEMESTER**

B. A. 232 — Business Law	3
Ec. 102 — Principles II	3
Eng. 152 — World Literature	4
B.A. 115 — Mathematics of Business and Finance	3
P. S. 102 — Political Science II or Soc. 102 — Sociology	3
P. E. 104 — Physical Education	0
<hr/>	
	16

**SIXTH SEMESTER**

B. A. 252 — Principles of Management II	3
Ec. 202 — Theory of Money or Ec. 228 — Economic Geography or C and F elective	3
Ec. 232 — Economic Statistics	3
Phil. 102 — Logic	3
B. A. 222 — Marketing 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	Ec. 236 — Public Finance
B. A. 225 — Corporation Finance	Ec. 241 — Economic Analysis
B. A. 226 — Investments	Math. 111 — Analysis I
Ec. 202 — Theory of Money	Math. 112 — Analysis II
Ec. 225 — International Trade	Math. 267-268 — Introduction to Computer Programming I-II

ECONOMICS

Ec. 212 — Government & Business	Ec. 230 — Business Cycles
Ec. 217 — Economics of Transportation	Ec. 236 — Public Finance
Ec. 222 — American Labor Movement	Ec. 241 — Economic Analysis
Ec. 223 — Collective Bargaining	Ec. 245 — Consumer Economics
Ec. 225 — International Trade	Ec. 395-396 — Research
Ec. 226 — Economic Geography of the World	Math. 111 — Analysis I
Ec. 229 — Comparative Economic Systems	Math. 112 — Analysis II
	Math. 267-268 — Introduction to Computer Programming I-II

MANAGEMENT AND INDUSTRIAL RELATIONS

B. A. 251 — Principles of Management I	Psy. 251 — Industrial Psychology
B. A. 252 — Principles of Management II	Math. 111 — Analysis I
Ec. 222 — American Labor Movement	Math. 112 — Analysis II
B. A. 240 — Property Insurance	Soc. 265 — Sociology of Industry
B. A. 241 — Life Insurance	P.S. 208 — Labor Legislation
Ec. 223 — Collective Bargaining	Math. 267-268 — Introduction to Computer Programming I-II
Psy. 212 — Psychological Tests	

MARKETING

B. A. 114 — Salesmanship	Math. 112 — Analysis II
B. A. 216 — Advertising	Ret. 101 — Principles of Retailing
B. A. 240 — Property Insurance	Ret. 214 — Retail Buying
Ec. 217 — Economics of Transportation	Soc. 265 — Sociology of Industry
Ec. 225 — International Trade	Psy. 243 — Industrial Psychology
Ec. 245 — Consumer Economics	Math. 267-268 — Introduction to Computer Programming I-II
Math. 111 — Analysis I	



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 <sup>1</sup> —Elementary Shorthand	2
or Acct. 101 — Elementary I	3
Bus. Ed. 107 — Elementary Typewriting	2
Eng. 131 — Fundamentals of Speech	2
Bio. 101 — Biological Science or Phys. 101 — Physical Science or Env. Sci. 101 — Earth Science	3
Eng. 101 — Composition	3
Hist. 101 — World Civilization	3
P. E. 101 — Physical Education	0
P. E. 105 — Hygiene	1
	<hr/>
	16-17

SECOND SEMESTER

Bus. Ed. 106 <sup>1</sup> —Elementary Shorthand	2
or Acct. 102 — Elementary II	3
Bus. Ed. 108 — Elementary Typewriting	2
Eng. 102 — Composition	3
B.A. 115 — Mathematics of Business and Finance	3
Bio. 102 — Biological Science or Phys. 102 — Physical Science or Env. Sci. 102 — Space Science	3
Hist. 102 — World Civilization	3
P. E. 102 — Physical Education	0
P. E. 106 — Hygiene	1
	<hr/>
	17-18

THIRD SEMESTER

Bus. Ed. 207 — Advanced Shorthand or Acct. III — Intermediate I	3
Bus. Ed. 201 <sup>2</sup> — Advanced Typewriting	1
Acct. 101 — Elementary I or Ret. 101 — Principles	3
B. A. 231 — Business Law	3
Psy. 101 — Psychology	3
Ec. 101 <sup>3</sup> — Principles I	3-4
P. E. 103 — Physical Education	0
	<hr/>
	15-17

FOURTH SEMESTER

Bus. Ed. 208 — Advanced Shorthand or Acct. 112 — Intermediate II	3
Bus. Ed. 202 <sup>2</sup> — Advanced Typewriting	1
Acct. 102 — Elementary II or Retailing Elective	3
Psy. 102 — Psychology	3
P. E. 104 — Physical Education	0
Ec. 102 <sup>3</sup> — Principles II	3
B. A. 232 — Business Law	3
	<hr/>
	15-16

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

<sup>2</sup> Students following accounting sequence need not take third and fourth semesters of typewriting.

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

FIFTH SEMESTER

Acct. 111 — Intermediate I or Ret. 101 — Principles or Elective <sup>1</sup>	3
Soc. 101 — Sociology or P.S. 101 — Political Science I	3
Eng. 151 — World Literature	4
Ed. 201 — Introduction	3
B.A. 251 — Principles of Management I	3
	<hr/>
	16

SIXTH SEMESTER

Acct. 112 — Intermediate II or Retailing Elective <sup>1</sup>	3
Soc. 102 — Sociology or P.S. 102 — Political Science II	3
Eng. 152 — World Literature	4
Ed. 202 — Educational Psychology	3
B.A. 252 — Principles of Management II	3
	<hr/>
	16

SEVENTH SEMESTER

Bus. Ed. 243 — Principles and Methods of Business Education	3
Bus. Ed. 205 — Office Procedures and Machines	4
Phil. 101 — Introduction	3
Mus. 101 — Introduction or F. A. 101 — Experiencing Art I or Th. Arts 101 — Approach to Theater	3
B. A. 209 — Business Correspondence & Reports	3
	<hr/>
	16

EIGHTH SEMESTER

Ed. 330 — Secondary Education	12
Elective	3
	<hr/>
	15

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. 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.

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 (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.

<sup>1</sup> Students who have already met required accounting and retailing courses would elect one course in both the fifth and sixth semesters, preferably one of the two should be in retailing to meet requirement for certification in retailing.



Engineering

FRESHMAN YEAR  
COMMON TO ALL ENGINEERING PROGRAMS

FIRST SEMESTER		SECOND SEMESTER	
Math. 111 — Analysis I	4	Math. 112 — Analysis II	4
Chem. 201 — Introduction to the Principles of Chemistry	4	Chem. 202 — Chemical Equilibria	4
Eng. 101 — Composition	3	Phys. 201 — General Physics I	3
Engi. 107 — Engineering Graphics I	2	Eng. 102 — Composition	3
Liberal Arts Elective	3	Engi. 108 — Engineering Graphics II	2
P.E. 105 — Hygiene	1	P.E. 106 — Hygiene	1
P.E. 101 — Physical Education	0	P.E. 102 — Physical Education	0
	<hr/>		<hr/>
	17		18

ELECTRICAL ENGINEERING

Second, third and fourth year requirements leading to a B.S. degree in electrical engineering.

THIRD SEMESTER		FOURTH SEMESTER	
Math. 211 — Intermediate Analysis I	4	Math. 212 — Intermediate Analysis II	4
Phys. 202 — General Physics II	4	Phys. 203 — General Physics III	3
E.E. 211 — Circuit Theory I	3	E.E. 212 — Circuit Theory II	4
M.E. 211 — Mechanics I, Statics	3	M.E. 212 — Mechanics II, Dynamics	3
Math. 267 — Introduction to Computer Programming I	3	Ma.E. 102 — Materials Science	3
	<hr/>	Eng. 131 — Speech	2
	17		<hr/>
			18

FIFTH SEMESTER		SIXTH SEMESTER	
E.E. 331 — Electromagnetic Fields I	4	E.E. 332 — Electromagnetic Fields II	4
E.E. 251 — Electronic Circuits I	4	E.E. 252 — Electronic Circuits II	4
E.E. 271 — Physical Electronics	3	E.E. 272 — Solid State Devices	3
Math., Science or Engi. Electives	3	Math., Science or Engi. Electives	3
Liberal Arts Elective <sup>1</sup>	3-4	Liberal Arts Elective <sup>1</sup>	3-4
	<hr/>		<hr/>
	17-18		17-18

SEVENTH SEMESTER		EIGHTH SEMESTER	
E.E. 335 — Energy Transmission and Radiation	3	E.E. 320 — Electromechanical Energy Conversion	4
E.E. 381 — Advanced Engineering Laboratory I	4	E.E. 382 — Advanced Engineering Laboratory II	4
Engi. 397 — Seminar	1	Engi. 397 — Seminar	1
Engineering or Science Elective	4	Engineering or Science Elective	3
Liberal Arts Elective <sup>1</sup>	6	Liberal Arts Elective <sup>1</sup>	6
	<hr/>		<hr/>
	18		18

<sup>1</sup> English 151, 152 (Western World Literature) is a required elective.

MATERIALS SCIENCE ENGINEERING

Second, third and fourth year requirements leading to a B.S. degree in materials science engineering.<sup>1</sup>

THIRD SEMESTER		FOURTH SEMESTER	
Math. 211 — Intermediate Analysis I	4	Math. 212 — Intermediate Analysis II	4
Phys. 202 — General Physics II	4	Phys. 203 — General Physics III	3
E.E. 211 — Circuit Theory I	3	M.E. 212 — Mechanics II, Dynamics	3
M.E. 211 — Mechanics I, Statics	3	Ma.E. 102 — Materials Science	3
Ec. 101 — Principles of Economics	3	Eng. 131 — Speech	2
	<hr/>	Liberal Arts Elective	3
	17		<hr/>
			18

FIFTH SEMESTER		SIXTH SEMESTER	
E.E. 331 — Electromagnetic Fields I	4	Ma.E. 212 — X-Ray Diffraction	4
E.E. 251 — Electronic Circuits I	4	Ma.E. 242 — Physical Metallurgy	3
Ma.E. 211 — Crystallography	3	Chem. 342 — Intermediate Physical Chemistry	4
Chem. 341 — Elementary Physical Chemistry	4	Liberal Arts Elective	3
Math. or Engineering Elective	3	Math. or Science Elective	4
	<hr/>		<hr/>
	18		18

SEVENTH SEMESTER		EIGHTH SEMESTER	
Ma.E. 321 — Phase Equilibria	3	Ma.E. 322 — Crystal Growth and Defects	4
Ma.E. 331 — Crystalline Anisotropy	3	Ma.E. 382 — Materials Engineering Instrumentation Laboratory	3
Chem. 221 — Inorganic Quantitative Analysis	4	Liberal Arts Electives <sup>2</sup>	6
Liberal Arts Elective <sup>2</sup>	3-4	Math. or Science Electives	6
Science Elective	3		<hr/>
	<hr/>		19
	16-17		

<sup>1</sup> For Freshman year see page 98.

<sup>2</sup> English 151, 152 (Western World Literature) is a required elective.



CIVIL ENGINEERING

Second year requirements for the two-year civil engineering program.<sup>1</sup>

THIRD SEMESTER		FOURTH SEMESTER	
Math. 211 — Intermediate Analysis I	4	Math. 212 — Intermediate Analysis II	4
Phys. 202 — General Physics II	4	Phys. 203 — General Physics III	3
M.E. 211 — Mechanics I. Statics	3	M.E. 212 — Mechanics II. Dynamics	3
C.E. 103 — Plane Surveying	3	C.E. 104 — Route Surveying	4
Liberal Arts Elective	3	Ma.E. 102 — Materials Science	3
	<hr/> 17		<hr/> 17

CHEMICAL ENGINEERING

Second year requirements for the two-year chemical engineering program.<sup>1</sup>

THIRD SEMESTER		FOURTH SEMESTER	
Math. 211 — Intermediate Analysis I	4	Math. 212 — Intermediate Analysis II	4
Phys. 202 — General Physics II	4	Phys. 203 — General Physics III	3
M.E. 211 — Mechanics I. Statics	3	M.E. 212 — Mechanics II. Dynamics	3
Chem. 221 — Inorganic Quantitative Analysis	4	Chem. 232 — Organic Chemistry I	4
Liberal Arts Elective	3	Ma.E. 102 — Materials Science	3
	<hr/> 18		<hr/> 17

MECHANICAL ENGINEERING

Second year requirements for the two-year mechanical engineering program.<sup>1</sup>

THIRD SEMESTER		FOURTH SEMESTER	
Math. 211 — Intermediate Analysis I	4	Math. 212 — Intermediate Analysis II	4
Phys. 202 — General Physics II	4	Phys. 203 — General Physics III	3
M.E. 211 — Mechanics I. Statics	3	M.E. 212 — Mechanics II. Dynamics	3
E.E. 211 — Circuit Theory I	3	M.E. 111 — Manufacturing Processes	3
Liberal Arts Elective	3	Ma.E. 102 — Materials Science	3
	<hr/> 17		<hr/> 16

<sup>1</sup> For Freshman year see page 98.

Mathematics

The B.S. curriculum provides for a greater concentration of advanced mathematics courses and enables students to take more physical science electives than is possible in the B.A. 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. Spanish is not acceptable toward fulfillment of the language requirement in this program.

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 (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.

Students intending to pursue graduate studies in mathematics should elect Math. 314, 341, 432, and 442. Those contemplating careers in industry are advised to take Math. 267-268 as early as possible in their programs. Students who foresee possible change to the B.A. program in order to prepare themselves as secondary or elementary school teachers are advised to elect Psy. 101-102 in their freshman year.

The following program lists the sequence of course requirements for the B.S. degree in Mathematics and the semesters in which they should normally be taken.

FIRST SEMESTER		SECOND SEMESTER	
Eng. 101 — Composition	3	Eng. 102 — Composition	3
For. Lang. 101 — Elementary	3	For. Lang. 102 — Elementary	3
Elective <sup>1</sup>	3	Phys. 201 — General Physics I	4
Social Science Elective <sup>2</sup>	3	Social Science Elective <sup>2</sup>	3
Math. 111 — Analysis I	4	Math. 112 — Analysis II	4
P.E. 101 — Physical Education	0	P.E. 102 — Physical Education	0
P.E. 105 — Hygiene	1	P.E. 106 — Hygiene	1
	<hr/> 17		<hr/> 18

<sup>1</sup> Must be one of these: F.A. 101 — Experiencing Art I; Mus. 101 — Introduction; or Th. Arts 101 — Approach to Theater.

<sup>2</sup> Must elect one of these sequences: Ec., Psy., Soc., P.S. 101-102.

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THIRD SEMESTER		FOURTH SEMESTER	
Eng. 151 — World Literature	4	Eng. 152 — World Literature	4
For. Lang. 203 — Intermediate	3	For. Lang. 204 — Intermediate	3
Phys. 202 — General Physics II	4	Phys. 203 — General Physics III	3
Math. 211 — Intermediate Analysis I	4	Math. 212 — Intermediate Analysis II	4
P.E. 103 — Physical Education	0	P.E. 104 — Physical Education	0
Elective	3		
	<hr/> 18		<hr/> 17
FIFTH SEMESTER		SIXTH SEMESTER	
Hist. 101 — World Civilization	3	Hist. 102 — World Civilization	3
Social Science Elective <sup>1</sup>	3	Social Science Elective <sup>1</sup>	3
Electives <sup>2</sup>	9-12	Electives <sup>2</sup>	9-12
	<hr/> 15-18		<hr/> 15-18
SEVENTH SEMESTER		EIGHTH SEMESTER	
Electives <sup>2</sup>	15-18	Electives <sup>2</sup>	15-18

<sup>1</sup> These electives must include Math. 311-312, 331, 334, and at least two other Mathematics courses numbered above 222, and Phil. 101.  
<sup>2</sup> Must elect one of these sequences: Ec., Psy., Soc., P.S. 101-102.

### 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 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., 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		SECOND SEMESTER	
Bio. 103 — General Biology	4	Bio. 104 — General Biology	4
Chem. 201 — Introduction	4	Chem. 202 — Chemical Equilibria	4
Eng. 101 — Composition	3	Eng. 102 — Composition	3
Math. 111 — Analysis I <sup>1</sup>	4	Math. 112 — Analysis II <sup>1</sup>	4
P.E. 101 — Physical Education	0	P. E. 102 — Physical Education	0
P. E. 105 — Personal Hygiene	1	P. E. 106 — Personal Hygiene	1
	<hr/> 16		<hr/> 16
THIRD SEMESTER		FOURTH SEMESTER	
Bio. 115 — Anatomy & Physiology	4	Bio. 116 — Anatomy & Physiology	4
Chem. 221 — Inorganic Quantitative Analysis	4	Chem. 232 — Organic Chemistry	4
Eng. 151 — World Literature	4	Eng. 152 — World Literature	4
Hist. 101 — World Civilization	3	Hist. 102 — World Civilization	3
For. Lang. 101 — Elementary	3	For. Lang. 102 — Elementary	3
P.E. 103 — Physical Education	0	P.E. 104 — Physical Education	0
	<hr/> 18		<hr/> 18
FIFTH SEMESTER		SIXTH SEMESTER	
Bio. 311 — Bacteriology	4	Bio. 312 — Bacteriology	4
Bio. 204 — Microtechnique	3	Elective	3
Phys. 105 — Introductory Physics	4	Phys. 106 — Introductory Physics	4
For. Lang. 203 — Intermediate	3	For. Lang. 204 — Intermediate	3
Ec., Psy., P.S., Soc. 101	3	Ec., Psy., P.S., Soc. 102	3
	<hr/> 17		<hr/> 17
SEVENTH SEMESTER <sup>2</sup>		EIGHTH SEMESTER <sup>2</sup>	
Clinical Chemistry	13 weeks	Haematology & Blood Bank	12 weeks
Microbiology	8 weeks	Histology	6 weeks
Urinalysis	4 weeks	Serology	7 weeks

<sup>1</sup> Students who have a math deficiency may register in a lower level math course with the permission of their adviser.  
<sup>2</sup> To be taken at an affiliated school of medical technology. Fee \$50 each semester.



Music Education<sup>1</sup>

FIRST SEMESTER	
Eng. 101 — Composition	3
Bio. 101 — Biological Science or Phys. 101 — Physical Science or Env. Sci. 101 — Earth Science	3
Mus. 105 — Theory of Music	5
Mus. Ed. 101 — Clarinet Class or Mus. Ed. 103 — Brass Class	2
Hist. 101 — World Civilization	3
Applied Music <sup>2</sup>	1
Band, Orchestra, Chorus	1/2
P. E. 101 — Physical Education	0
P. E. 105 — Hygiene	1
	<hr/>
	18 1/2

THIRD SEMESTER	
Eng. 151 — World Literature	4
Mus. Ed. 101 — Clarinet Class or Mus. Ed. 103 — Brass Class	2
Mus. 107 — Theory of Music	5
Mus. 109 — History of Music	3
Applied Music <sup>2</sup>	1
Psy. 101 — Psychology	3
Band, Orchestra, Chorus	1/2
P. E. 103 — Physical Education	0
	<hr/>
	18 1/2

FIFTH SEMESTER	
Ed. 201 — Introduction	3
Ec. 101 — Principles I or P. S. 101 — Political Science I or Soc. 101 — Sociology	3
Mus. Ed. 105 — Woodwind Class	2
Mus. Ed. 209 — Conducting	2
Mus. Ed. 121 — Violin Class	2
Mus. Ed. 201 — Elementary School Methods	2
Applied Music <sup>2</sup>	1
Band, Orchestra, Chorus	1/2
Mus. 111 — Piano Class	2
	<hr/>
	17 1/2

SECOND SEMESTER	
Eng. 102 — Composition	3
Bio. 102 — Biological Science or Phys. 102 — Physical Science or Env. Sci. 102 — Space Science	3
Mus. 106 — Theory of Music	5
Mus. Ed. 102 — Clarinet Class or Mus. Ed. 104 — Brass Class	2
Hist. 102 — World Civilization	3
Applied Music <sup>2</sup>	1
Band, Orchestra, Chorus	1/2
P. E. 102 — Physical Education	0
P. E. 105 — Hygiene	1
	<hr/>
	18 1/2

FOURTH SEMESTER	
Eng. 152 — World Literature	4
Mus. Ed. 102 — Clarinet Class or Mus. Ed. 104 — Brass Class	2
Mus. 108 — Theory of Music	5
Mus. 110 — History of Music	3
Applied Music <sup>2</sup>	1
Psy. 102 — Psychology	3
Band, Orchestra, Chorus	1/2
P. E. 104 — Physical Education	0
	<hr/>
	18 1/2

SIXTH SEMESTER	
Ed. 202 — Educational Psychology	3
Ec. 102 — Principles II or P. S. 102 — Political Science II or Soc. 102 — Sociology	3
Mus. Ed. 106 — Brass Class	2
Mus. Ed. 210 — Conducting	2
Mus. Ed. 122 — Viola and String Methods	2
Mus. Ed. 202 — Secondary School Methods	2
Applied Music <sup>2</sup>	1
Band, Orchestra, Chorus	1/2
Mus. 112 — Piano Class	2
	<hr/>
	17 1/2

<sup>1</sup> There is a music fee of \$10 per semester for all music and music education majors.  
<sup>2</sup> Private instruction. The fee for this instruction is in addition to the regular tuition charge.

SEVENTH SEMESTER	
Mus. 215 — Instrumentation	2
Mus. Ed. 127 — Voice Class	2
Mus. Ed. 123 — Violoncello and Bass	2
Mus. Ed. 340 — Professional Semester in Music Education	8
Applied Music <sup>1</sup>	1
Band, Orchestra, Chorus	1/2
Mus. 113 — Piano Class or elective	2-3
	<hr/>
	17 1/2-18 1/2

EIGHTH SEMESTER	
Mus. 216 — Arranging	2
Mus. Ed. 128 — Voice Class	2
Mus. Ed. 125 — Percussion Class Methods	2
Applied Music <sup>1</sup>	1
Band, Orchestra, Chorus	1/2
Elective	6
Mus. 114 — Piano Class or elective	2-3
	<hr/>
	15 1/2-16 1/2

Nursing Education

The program in Nursing Education is designed for the preparation of instructors, head nurses, and supervisors in hospitals and schools of nursing. It presupposes graduation from an approved school of nursing and State registration. Credits required for the degree are one hundred twenty-three, of which at least seventy-three must be college credits. The number of credits allowed for the school of nursing program ranges from thirty-five to fifty and will be determined by an evaluation of the student's record and by results obtained on the Graduate Nurse Examination.

FIRST SEMESTER	
Eng. 101 — Composition	3
Hist. 101 — World Civilization	3
Bio. 103 — General Biology or Math. 101 — Fundamentals or Phys. 101 — Physical Science or Env. Sci. 101 — Earth Science	3-4
F. A. 101 — Experiencing Art I or Mus. 101 — Introduction or Th. Arts 101 — Approach to Theater	3
Soc. 101 — Sociology or Psy. 101 — Psychology	3
N. E. 101 — Foundations	2
	<hr/>
	17-18

SECOND SEMESTER	
Eng. 102 — Composition	3
Hist. 102 — World Civilization	3
Bio. 104 — General Biology or Math. 102 — Fundamentals or Phys. 102 — Physical Science or Env. Sci. 102 — Space Science	3-4
N. E. 104 — Community Resources	2
Soc. 102 — Sociology or Psy. 102 — Psychology	3
N. E. 106 — Supervision	2
Elective (optional) <sup>2</sup>	2-3
	<hr/>
	16-19

THIRD SEMESTER	
Eng. 151 — World Literature	4
Phil. 101 — Introduction	3
Soc. 101 — Sociology or Psy. 101 <sup>3</sup> — Psychology	3
Ed. 351 — Educational Measurements	2
N. E. 107 — Principles & Methods	2
N. E. 108 — Techniques	1
Elective	2-3
	<hr/>
	15-18

FOURTH SEMESTER	
Eng. 152 — World Literature	4
Phil. 102 — Logic	3
Soc. 102 — Sociology or Psy. 102 <sup>3</sup> — Psychology	3
N. E. 102 — Trends in Nursing	2
N. E. 112 — Field Experience	4
Elective	2-3
	<hr/>
	16-19

<sup>1</sup> Private instruction. The fee for this instruction is in addition to the regular tuition charge.  
<sup>2</sup> If the Bio. 104 laboratory course is taken, the elective will not be allowed.  
<sup>3</sup> P. S. 101, P. S. 102, Ec. 101, Ec. 102 may be substituted as electives.



## Physics

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.

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 (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

Math. 111 — Analysis I	4
Eng. 101 — Composition	3
Hist. 101 — World Civilization	3
Phys. 201 — General Physics I	4
P.E. 105 — Hygiene	1
P. E. 101 — Physical Education	0
	<hr/>
	15

## THIRD SEMESTER

Math. 211 — Intermediate Analysis I	4
Phys. 203 — General Physics III	3
Phys. 231 — Electronics	3
Ger. 101 <sup>1</sup> — Elementary	3
Chem. 201 — Introduction to the Principles of Chemistry	4
P. E. 103 — Physical Education	0
	<hr/>
	17

## FIFTH SEMESTER

Math. 361 — Advanced Calculus I	3
Phys. 331 — Electricity & Magnetism	4
Phys. 311 — Mechanics	3
Ger. 203 <sup>1</sup> — Intermediate	3
Eng. 151 — World Literature	4
	<hr/>
	17

## SECOND SEMESTER

Math. 112 — Analysis II	4
Eng. 102 — Composition	3
Hist. 102 — World Civilization	3
Phys. 202 — General Physics II	4
P.E. 106 — Hygiene	1
P. E. 102 — Physical Education	0
	<hr/>
	15

## FOURTH SEMESTER

Math. 212 — Intermediate Analysis II	4
Phys. 230 — Optics and Light	4
Phys. 240 — Thermodynamics	3
Ger. 102 <sup>1</sup> — Elementary	3
Chem. 202 — Chemical Equilibria	4
P. E. 104 — Physical Education	0
	<hr/>
	18

## SIXTH SEMESTER

Math. 362 — Advanced Calculus II	3
Phys. 332 — Electricity & Magnetism	4
Phys. 312 — Mechanics	3
Ger. 205 <sup>1</sup> — Scientific	3
Eng. 152 — World Literature	4
	<hr/>
	17

<sup>1</sup> Russian may be substituted for German with the approval of the adviser. Math. 267 and Math. 268 — Computer Programming I and II, may be substituted for German with the approval of the student's adviser.

## SEVENTH SEMESTER

Phys. 361 — Atomic Physics	4
Advanced Math. Elective	3
Eng. 131 — Fundamentals of Speech	2
Electives <sup>1</sup>	6-8
	<hr/>
	15-17

## EIGHTH SEMESTER

Phys. 380 — Nuclear Physics	4
Advanced Math. Elective	3
Electives <sup>1</sup>	8-10
	<hr/>
	15-17

<sup>1</sup> Students contemplating graduate study in Physics should elect Phys. 351 — Quantum Mechanics.



# Courses of Instruction

## Description of Courses

100 SERIES — SERVICE COURSES

200 SERIES — ADVANCED COURSES APPLIED  
TOWARD MAJORS

300 SERIES — ADVANCED UNDERGRADUATE COURSES

400 SERIES — BASIC 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 Rosenberg, chairman; Associate Professor Capin; Assistant Professors Curtis, P. Werner; Instructors Zavada, Pawlenok.

#### Acct. 101. Elementary Accounting I

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

*Three credits*

#### Acct. 102. Elementary Accounting II

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.

Prerequisite: Acct. 101.

*Three credits*

#### Acct. 111. Intermediate Accounting I

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.

Prerequisite: Acct. 102.

*Three credits*

#### Acct. 112. Intermediate Accounting II

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.

Prerequisite: Acct. 111.

*Three credits*



**Acct. 201. Cost Accounting I**

Accounting for material, labor, and overhead expenses; methods of apportionment of manufacturing costs; detailed study of job-cost and process-cost methods. Class, two hours a week; laboratory, two hours a week.

Prerequisite: Acct. 112, or approval of instructor.

*Three credits*

**Acct. 202. Cost Accounting II**

Establishing the practical use of cost systems through analytical and comparative statements; detailed study of various cost systems; standard costs; budgets; interpretation of data. Class, two hours a week; laboratory, two hours a week.

Prerequisite: Acct. 201, or approval of instructor.

*Three credits*

**Acct. 221. Taxes I**

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.

*Three credits*

**Acct. 222. Taxes II**

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.

*Three credits*

**Acct. 231. Auditing I**

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.

*Three credits*

**Acct. 232. Auditing II**

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.

*Three credits*

**Acct. 241. Advanced Accounting I**

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.

*Three credits*

**Acct. 242. Advanced Accounting II**

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

Prerequisite: Acct. 112 and permission of instructor.

*Three credits*

**Acct. 252. Accounting Internship**

This course provides a minimum of 240 hours of accounting in the office of a Certified Public Accountant.<sup>1</sup>

*Three credits*

**BIOLOGY**

Professor Reif chairman; Professors Cohen, Michelini; Associate Professors Ogren, Kimball, Tappa, Mizianty; Assistant Professor Hayes, Acheson; Instructor Schonwetter.

**Bio. 101-102. Biological Science**

Biological Science is a survey course intended for students who take no other courses in biology. It presents the essential general

<sup>1</sup> Or the equivalent.



information about plants and animals, explains fundamental laws governing the biological world, and emphasizes their relationship to man. Class, three hours a week.

*Three credits each semester*

#### **Bio. 103-104. General Biology**

This course surveys both the plant and animal kingdoms, outlines the history of biology, the organization of matter, the structure of representative plants and animals, and the methods of classification. It considers the basic principles of physiology, genetics, embryology, evolution, and ecology. Lecture, three hours a week; laboratory, three hours a week. Fee: \$20 each course.

*Four credits each semester*

#### **Bio. 111-112. General Botany**

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. Class, two hours a week; laboratory, three hours a week. Fee: \$20 each course.

*Three credits each semester*

#### **Bio. 113. Microbiology**

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. Class, three hours a week; laboratory, three hours a week. Fee: \$20.

*Four credits*

#### **Bio. 115-116. Human Anatomy & Physiology**

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. Class, three hours a week; laboratory, three hours a week. Fee: \$20 each course.

*Four credits each semester*

#### **Bio. 201. Vertebrate Morphogenesis**

Vertebrate Morphogenesis is a study of the development and general morphological characteristics of selected vertebrates. The taxonomy and evolution of Phylum Chordata will be emphasized. Lecture, two hours a week; laboratory, six hours a week. Fee: 20.

Prerequisite: Bio. 104.

*Four credits*

#### **Bio. 202. Biology of Vertebrate Organs**

Biology of Vertebrate Organs is a study of major vertebrate tissues and organs from the modern standpoints of cytology, development, function, regulation, and interrelationships. Lecture, two hours a week; laboratory, six hours a week. Fee: \$20.

Prerequisites: Bio. 201 and Chem. 221.

*Four credits*

#### **Bio. 204. Microtechnique**

Microtechnique embraces all methods of studying specimens with the microscope. The course also includes the study of normal tissues and organs. The laboratory work covers the technique of preparing microscopic slides. Lecture, one hour a week; laboratory, six hours a week. Fee: \$20.

Prerequisite: Bio. 116, or permission of instructor.

*Three credits*

#### **Bio. 224. Biological Techniques**

A laboratory course in the preparation of materials for use in the study of organisms. Included will be such procedures as are needed to prepare photographs, make microscope slides, accomplish field collecting and telemetry, and the production of drawings for publication. Three-hour practicum.

*One credit*

#### **Bio. 311-312. Bacteriology**

Bio. 311 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. Class, two hours a week; laboratory, six hours a week. Fee: \$20.

Prerequisite: Bio. 104.

*Four credits*

Bio. 312 covers the relationship of bacteria to disease, immunity, serology, and the pathogenic organisms. Laboratory work continues with special stains, identification of unknowns, isolation of bacteria from natural sources, and techniques used in applied bacteriology. Class, two hours a week; laboratory, six hours a week. Fee: \$20.

Prerequisite: Bio. 311.

*Four credits*

#### **Bio. 321. Genetics**

Genetics is the study of the inheritance of normal characters and the variation of these characters in plants and animals. Laboratory work includes the study of genetic mechanisms in various botanical, animal, and microbial species. Class, three hours a week; laboratory, three hours a week. Fee: \$20.

Prerequisite: through Bio. 202, or permission of instructor.

*Four credits*

#### **Bio. 322. Ecology**

Ecology is the study of the relationship between organisms, singly and collectively, and their environments, including the biotic and physical factors of the environments. Class, two hours a week; laboratory and field trips, three hours a week. Fee: \$20.

Prerequisite: through Bio. 321, or permission of instructor.

*Three credits*

#### **Bio. 331. Physiology**

Physiology is the study of the physical and chemical activities characteristic of all living organisms. Laboratory work includes experiments involving living forms. Class, two hours a week; laboratory, six hours a week. Fee: \$20.

Prerequisite: through Bio. 322, Chem. 230, and Phys. 112, or permission of instructor.

*Four credits*

#### **Bio. 332. Evolutionary Mechanisms**

Evolutionary Mechanisms 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.

Prerequisite: Bio. 322 or permission of instructor.

*Three credits*

#### **Bio. 395-396. Independent Research**

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

Prerequisite: Approval of the department chairman is required.

*One to three credits*

#### **Bio. 397. Seminar**

Presentations and discussions of selected topics.

Prerequisite: Approval of the department chairman is required.

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

### **BUSINESS ADMINISTRATION**

Professor Rosenberg, chairman; Professor R. Werner; Associate Professors Elliot, Farrar, Capin; Assistant Professors Gera, Engel, Chesler, Gurdin, Orłowski, Anaza; Instructors Roberts, Wasileski, Kelly, Szumilo.

#### **B.A. 114. Salesmanship**

The art of selling; the motive behind all buying; creation of interest and desire; presentation of services; meeting objections; types of customers.

Prerequisite: approval of instructor.

*Three credits*

#### **B.A. 115. Mathematics of Business and Finance**

This course will include progressions, logarithms, per cent, interest, discounts, equation of value, annuities, sinking funds, depreciation, taxes, profit and loss.

*Three credits*



**B.A. 209. Business Correspondence and Reports**

Fundamental principles of business writing with emphasis on letters and reports.

Prerequisites: Eng. 102.

*Three credits*

**B.A. 216. Advertising**

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.

*Three credits*

**B.A. 220. Real Estate**

The fundamentals of the real estate business, including consideration of titles, mortgages, leases, advertising, sale, purchase, development, and management of real property.

Prerequisite: Ec. 102.

*Three credits*

**B.A. 222. Marketing**

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.

Prerequisite: Ec. 102.

*Three credits*

**B.A. 225. Corporation Finance**

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

Prerequisite: Ec. 102.

*Three credits*

**B.A. 226. Investments**

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.

Prerequisite: B. A. 225.

*Three credits*

**B.A. 231. Business Law—Introduction and Contracts**

The foundation for all subjects in the field of business law. The nature, classification and sources of law. An introduction to the structure and functioning of the Federal and State Courts as agencies for enforcement of legal rights. A brief resume of the law of Torts and Crimes with reference to business problems. Examination of the essential elements of a contract under both the common law and the Uniform Commercial Code, the nature of contract rights, discharge of contracts and remedies for their breach.

Prerequisite: Ec. 102, or approval of instructor.

*Three credits*

**B.A. 232. Business Law—Agency and Sales**

A general study of the law of agency; its nature and creation, the rights and liabilities of principals, agents and third persons, and the termination of the agency. A study of the law of sales of goods, the transfer of title and risk of loss, warranties in sales, the duties and liabilities of the parties, remedies for breach, security interests in goods. A comparison of the uniform sales act with the sales article of the Uniform Commercial Code.

Prerequisite: B. A. 231.

*Three credits*

**B.A. 233. Business Law—Partnerships and Corporations**

The principles of law governing partnerships and corporations, with emphasis on the historical development of business enterprises. The law with respect to the formation, operation, internal relationships and dissolution of partnerships and corporations with particular reference to their dependency upon the law of agency. Rights



and duties of the partnership and corporate enterprise with respect to the government, the owners, and the public. Advantages and disadvantages of these forms of business activity.

Prerequisite: B. A. 231.

*Three credits*

#### **B.A. 234. Business Law—Property**

The law of real property, nature and types of interests in land. A discussion of deeds and their prerequisites. The rights and duties of the landowner to the public. Rights of the government versus rights of the landowner. The landlord-tenant relationship, the mortgagor-mortgagee relationship. Business crimes (crimes affecting property). The protection of personal and business property, tangible and intangible.

Prerequisite: B. A. 231, 232, Acct. 102.

*Three credits*

#### **B.A. 240. Property Insurance**

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

Prerequisite: B.A. 232, or approval of instructor.

*Three credits*

#### **B.A. 241. Life Insurance**

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

Prerequisite: approval of instructor.

*Three credits*

#### **B.A. 244. Time and Motion Study**

The principles and techniques of time and motion study. Class, three hours a week; laboratory, two hours a week.

*Three credits*

#### **B.A. 251. Principles of Management I**

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.

*Three credits*

#### **B.A. 252. Principles of Management II**

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.

Prerequisite: B.A. 251.

*Three credits*

#### **B.A. 395-396. Independent Research**

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

Prerequisite: Approval of the department chairman is required.

*One to three credits*

#### **B.A. 397. Seminar**

Presentations and discussions of selected topics.

Prerequisite: Approval of the department chairman is required.

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

### **BUSINESS EDUCATION**

Professor Rosenberg, chairman; Assistant Professor Gera; Instructor Dolbear.

#### **Bus. Ed. 105. Elementary Shorthand**

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

*Two credits*



**Bus. Ed. 106. Intermediate Shorthand**

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.

*Two credits*

**Bus. Ed. 107. Elementary Typewriting**

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 \$10.

*Two credits*

**Bus. Ed. 108. Intermediate Typewriting**

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 \$10.

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

*Two credits*

**Bus. Ed. 201. Advanced Typewriting I**

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 \$10.

Prerequisite: Bus. Ed. 108.

*One credit*

**Bus. Ed. 202. Advanced Typewriting II**

Continuation of speed and accuracy development and reinforcement. Independent specialized production typing, with high degree of speed and accuracy on simulated on-the-job experience: Technical, Professional (Medical, Legal, Scientific) and Government offices. Three hours laboratory. Fee \$10.

Prerequisite: Bus. Ed. 201.

*One credit*

**Bus. Ed. 205. Office Procedures and Business Machines**

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 \$10.

Prerequisite: Approval of instructor.

*Four credits*

**Bus. Ed. 207. Advanced Shorthand I**

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.

*Three credits*

**Bus. Ed. 208. Advanced Shorthand II**

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.

*Three credits*



**Bus. Ed. 243. Principles and Methods of Business Education**

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.

*Three credits*

**CHEMISTRY**

Associate Professor Bohning, chairman; Professors Rozelle, Swain; Associate Professors Salley, Faut, Stine, Labows; Assistant Professor Stockham; Instructor Buckman.

**Chem. 105. General Chemistry**

This course is intended for students who take no advanced courses in inorganic, physical, or analytical chemistry. It introduces some of the fundamental laws and theories of chemistry with emphasis on chemical composition. Atomic structure, chemical bonding, solutions, kinetic theory, equilibrium, and radioactivity are considered. Class, three hours a week; laboratory, three hours a week. Breakage deposit required. Laboratory fee: \$20.

*Four credits*

**Chem. 106. Organic & Biological Chemistry**

An introduction to the chemistry of carbon compounds and reactions of common functional groups with emphasis on the structures of carbohydrates, proteins and amino acids, steroids and nucleic acids. The laboratory will emphasize the techniques involved in the separation and identification of various classes of organic compounds. Lecture, three hours a week; laboratory, three hours a week. Breakage deposit required. Laboratory fee: \$20.

Prerequisite: Chem. 105 and permission of instructor.

*Four credits*

**Chem. 201. Introduction to the Principles of Chemistry**

Chemical periodicity and stoichiometry are emphasized. States of matter, atomic theory, and dynamic equilibrium are introduced. Class, three hours a week; laboratory, three hours a week. Breakage deposit required. Fee: \$20.00.

*Four credits*

**Chem. 202. Chemical Equilibria**

A study of the principles of chemical equilibria. Laboratory will involve theory and development of schemes of qualitative analysis with particular emphasis on the reactions of metallic elements. Class, three hours a week; laboratory, three hours a week. Breakage deposit required. Fee: \$20.00.

Prerequisite: Chem. 201.

*Four credits*

**Chem. 212. Systematic Inorganic Chemistry**

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. Breakage deposit required. Fee: \$20.

Prerequisite: Chem. 202, Math 112, or permission of instructor.

*Four credits*

**Chem. 221. Inorganic Quantitative Analysis**

An introduction to the theory and practice of typical analyses: volumetric, gravimetric, and instrumental. Class, two hours a week; laboratory, six hours a week. Breakage deposit required. Fee: \$20.00.

Prerequisite: Chem. 202, or permission of the instructor.

*Four credits*



**Chem. 232. Organic Chemistry I**

An introduction to the chemistry of carbon compounds through the reactions of common functional groups in aliphatic, alicyclic, aromatic and heterocyclic systems. Reaction pathways will be considered. Emphasis in laboratory will be placed on the development of fundamental techniques. Class, three hours a week; laboratory, three hours a week. Breakage deposit required. Fee: \$20.00.

Prerequisite: Chem. 221, or permission of the instructor.

*Four credits*

**Chem. 233. Organic Chemistry II**

A continuation of Chem. 230. Emphasis in laboratory is placed on advanced techniques and sequential syntheses. Class, three hours a week; laboratory, six hours a week. Breakage deposit required. Fee: \$20.00.

Prerequisite: Chem. 232.

*Five credits*

**Chem. 235. Organic Chemistry IIa**

A continuation of Chem. 230. Not open to B.S. chemistry majors. Class, three hours a week; laboratory, three hours a week. Breakage deposit required. Fee: \$20.00.

Prerequisite: Chem. 232.

*Four credits*

**Chem. 261. History of Chemistry**

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

Prerequisite: Completion of twenty chemistry credits.

*One credit*

**Chem. 262. Chemical Literature**

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

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

*Two credits*

**Chem. 334. Organic Qualitative Analysis**

A study of the systematic identification of organic compounds and mixtures utilizing classical and instrumental techniques. Class, one hour a week; laboratory, six hours a week. Breakage deposit required. Fee: \$20.00.

Prerequisite: Chem. 233.

*Three credits*

**Chem. 341. Elementary Physical Chemistry**

The first, second, and third laws of thermodynamics are emphasized. The topics of electrochemistry, chemical kinetics, the phase rule, and the states of matter are introduced. Class, three hours a week; laboratory, three hours a week. Breakage deposit required. Fee: \$20.00.

Prerequisite: Chem. 221, Math 211, Phys. 152, or permission of the instructor.

*Four credits*

**Chem. 342. Intermediate Physical Chemistry**

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. Breakage deposit required. Fee: \$20.00.

Prerequisite: Chem. 221, Math 211, Phys. 152, or permission of the instructor.

*Four credits*



**Chem. 376. Advanced Analytical Chemistry**

The theory and application of modern techniques and instrumental procedures, such as spectrophotometric, electro-analytical, and chromatographic. Theory and practice of analysis of more complex materials. Class, two hours a week; laboratory, six hours a week. Breakage deposit required. Fee: \$20.00.

Prerequisite: Chem. 342.

*Four credits*

**Chem. 352. Biochemistry**

A study of the nature and metabolism of proteins, carbohydrates, lipids, and other physiological substances. Emphasis is placed on the mechanism of enzymatic catalysis. Class, three hours a week.

Prerequisite: Chem. 233, 235, or permission of the instructor.

*Three credits*

**Chem. 395-396. Independent Research**

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

Prerequisite: Approval of the department chairman is required.

*One to three credits each semester.*

**Chem. 397. Seminar**

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

Prerequisite: Approval of the department chairman is required.

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

**Chem. 411. Systematic Inorganic Chemistry**

Oxidation-Reduction, atomic structure, theory and application of the principles of chemical bonding, systematic study of properties related to extra-nuclear structure of atoms, coordination chemistry, acid-base phenomena, non-aqueous solvents, descriptive chemistry. Class, three hours a week.

Prerequisite: Chem. 342, or permission of the instructor.

*Three credits*

**Chem. 431-432. Advanced Organic Chemistry**

A detailed study of modern theories of mechanism and structure. Topics include nucleophilic and electrophilic substitution, elimination reactions, molecular rearrangements, carbonyl reactions, stereochemistry, kinetics. Class, three hours.

*Three credits each semester*

**Chem. 440. Quantum Chemistry**

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

Prerequisite: Chem. 342.

*Three credits*

**ECONOMICS**

Professor Rosenberg, chairman; Professor R. Werner; Associate Professors Elliot, Farrar; Assistant Professors DeYoung, Engel, Chesler, Orlowski, Anaza; Instructor Szumilo.

**Ec. 101. Principles of Economics I**

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

*Three credits*

**Ec. 102. Principles of Economics II**

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.

Prerequisite: Ec. 101.

*Three credits*



**Ec. 111. Economic History**

A study of the development of economic institutions with emphasis on the historical roots and evolutionary development of our modern economy. Analysis of causes of development. Major stress is on institutions.

*Three credits*

**Ec. 201. Money and Banking**

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

Prerequisite: Ec. 102.

*Three credits*

**Ec. 202. Theory of Money**

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.

Prerequisite: Ec. 201.

*Three credits*

**Ec. 204. Consumer Credit**

This course includes consumer credit in its various aspects. It includes retail credit, sales finance, credit unions, and credit bureau activities.

Prerequisite: approval of instructor.

*Two credits*

**Ec. 212. Government and Business**

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

Prerequisite: P. S. 101, Ec. 102.

*Three credits*

**Ec. 217. Economics of Transportation**

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.

Prerequisite: Ec. 102.

*Three credits*

**Ec. 222. The American Labor Movement**

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.

Prerequisite: Ec. 102.

*Three credits*

**Ec. 223. Collective Bargaining**

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.

Prerequisite: Ec. 102.

*Three credits*

**Ec. 224. Economic Development**

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

Prerequisites: Ec. 101 and Ec. 102 or approval of the instructor.

*Three credits*

**Ec. 225. International Trade**

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.

Prerequisite: Ec. 102.

*Three credits*

**Ec. 227. Economic Geography of North America, Europe and the Soviet Union**

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

Prerequisite: Ec. 102.

*Three credits*

**Ec. 228. Economic Geography of Asia, Africa, and Latin America**

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

Economics 227 is not a prerequisite.

*Three credits*

**Ec. 229. Comparative Economic Systems**

The institutions of planned economy of the U.S.S.R. and those of the contemporary experiment in evolutionary socialism in Great Britain are studied. Constant objective comparisons are made with institutions which are characteristic of a capitalistic economy.

Prerequisite: Ec. 102 or approval of instructor.

*Three credits*

**Ec. 230. Business Cycles**

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

Prerequisite: approval of instructor.

*Three credits*

**Ec. 231. Applied General Statistics**

A course in statistical methods and their application. A collection and interpretation of statistical data, frequency distribution and measures of central tendency, fitting the normal curve, analysis of

variance. Lecture, three hours; laboratory, two hours. Fee: \$10.

Prerequisite: approval of instructor.

*Three credits*

**Ec. 232. Economic Statistics**

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: \$10.

Prerequisite: Ec. 231.

*Three credits*

**Ec. 236. Public Finance**

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.

Prerequisite: Ec. 102, P. S. 101.

*Three credits*

**Ec. 241. Economic Analysis**

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 producers are analyzed with some stress on recent theoretical investigations. The method is abstract and deductive.

Prerequisite: Ec. 102.

*Three credits*

**Ec. 245. Consumer Economics**

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, income disposition and marketing and pricing of consumer goods. Relationships between government activities and the consumer are studied.

Prerequisite: Ec. 102.

*Three credits*



**Ec. 395-396. Independent Research**

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

Prerequisite: Approval of the department chairman is required.  
*One to three credits*

**Ec. 397. Seminar**

Presentations and discussions of selected topics.

Prerequisite: Approval of the department chairman is required.  
*One to three credits. (Maximum of three credits per student.)*

**EDUCATION**

Professor Hammer, chairman; Professor Jessee; Associate Professors West, Darte, J. Allen, Caldwell; Assistant Professors Siles, Barone, Fahmy, Bellucci, Johnson; Instructors Davis, Brandschain.

**Ed. 201. Introduction to Education**

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.  
*Three credits*

**Ed. 202. Educational Psychology**

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

Prerequisite: Psy. 102, Junior standing.  
*Three credits*

**Ed. 298. Principles of Nursery-Kindergarten Education**

A study of the historical development, organization, and rationale of early childhood education, including observation of programs for young children.

Prerequisite: Ed. 201 and Ed. 202.  
*Three credits*

**Ed. 299. Principles of Elementary Education**

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

Prerequisite: Ed. 201 and Ed. 202.  
*Three credits*

**Ed. 300. Professional Semester in Elementary Education**

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

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

Prerequisite: Ed. 299, Math 104.  
*Fifteen credits*

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

**Ed. 301. The Teaching of Reading**

An introduction to the teaching of reading in the elementary grades.

*Two credits*

**Ed. 302. Methods and Materials in Elementary School Arithmetic**

A study of curriculum content and teaching procedures in elementary school arithmetic.

*Two credits*

**Ed. 303. Methods and Materials in Elementary School Science**

A study of curriculum content and teaching procedures in elementary school science.

*Two credits*

**Ed. 304. Methods and Materials in Elementary School Social Studies**

A study of curriculum content and teaching procedures in elementary school history, geography, and government.

*Two credits*



**Ed. 305. Multi-Sensory Techniques in Elementary School Teaching**

A study of the use of multi-sensory teaching aids in the elementary school classroom.  
*One credit*

**Ed. 306. Student Teaching in the Elementary School**

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.  
*Six credits*

**Ed. 310. Professional Semester in Nursery-Kindergarten Education**

Provides classwork and practical experience to prepare students for Nursery-Kindergarten teaching. Fee \$25.

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

Prerequisite: Ed. 298, Psych. 221.

*Fifteen credits*

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

**Ed. 311. Family and Community-Life Education**

A study of the early childhood teacher's role in family and community life education.  
*Two credits*

**Ed. 312. Nutrition, Hygiene, General Health**

A study of the teacher's role in nutrition, hygiene, and health of young children.  
*Two credits*

**Ed. 313. Curriculum Study**

A study of the content and organization of early childhood curriculum.  
*Two credits*

**Ed. 314. Methodology**

A study of methods and materials of early childhood instruction.  
*Two credits*

**Ed. 315. Use of Multi-Sensory Devices**

A study of the use of multi-sensory teaching aids in the early childhood center.  
*One credit*

**Ed. 316. Practicum**

Students are assigned to work with early-childhood teachers. They assume classroom responsibility and work under supervision. Conferences are arranged with cooperative teachers and college supervisors.  
*Six credits*

**Ed. 320. Professional Semester in Fine Arts Education**

Provides classwork and practical experience to prepare students for the teaching of art in elementary and secondary schools. Fee \$25.

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

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

Prerequisite: Ed. 201, 202.

*Fourteen credits*



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

**Ed. 321. Art Curriculum**

A study of the organization of teaching materials for most effective use in the art curriculum.

*Three credits*

**Ed. 322. The Teaching of Art**

A study of materials, techniques, and experiences in the public school art program; evaluation of past and present philosophies.

*Three credits*

**Ed. 323. General Classroom Methods**

A study of various instructional procedures used in public school classrooms.

*One credit*

**Ed. 324. Multi-Sensory Techniques in the Teaching of Art**

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

*One credit*

**Ed. 326. Student Teaching in Art**

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.

*Six credits*

**Ed. 330. Professional Semester in Secondary Education**

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

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

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

Prerequisite: Ed. 201, 202.

*Twelve credits*

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

**Ed. 331. Principles of Secondary Education**

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

*One and one-half credits*

**Ed. 332. Secondary School Curriculum**

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

*One and one-half credits*

**Ed. 333. Secondary School Teaching Methods**

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

*One credit*

**Ed. 334. Multi-Sensory Techniques in Secondary School Teaching**

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

*One credit*



**Ed. 335. The Teaching of Reading in Secondary School Subjects**

Instruction in reading methods in secondary school subjects.  
*One credit*

**Ed. 336. Student Teaching in the Secondary School**

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.

*Six credits*

**Ed. 351. Educational Measurements**

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

Prerequisite: Ed. 202.

*Two credits*

**Ed. 352. Guidance**

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

Prerequisite: Ed. 202.

*Three credits*

**Ed. 395-396. Independent Research**

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

Prerequisite: Approval of the department chairman is required.

*One to three credits*

**Ed. 397. Seminar**

Presentations and discussions of selected topics.

Prerequisite: Approval of the department chairman is required.

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

**ENGINEERING**

Associate Professor Toole, chairman; Associate Professors Thomas, Nejib; Assistant Professor Kaby.

**Engi. 107. Engineering Graphics I**

Methods of solving engineering problems. Instruction in the use of the slide rule and mathematical tables. The use of drawing instruments, systems of representation such as orthographic, isometric, and oblique projections. Vector quantities and vector diagrams. Graphical mathematics. Nomographs. Two hours lecture and four hours practicum per week. Fee: \$20.

*Three credits*

**Engi. 108. Engineering Graphics II**

A continuation of spatial relationships as represented by points, lines, planes, other surfaces and solids. Sections and conventions. The intersection of surfaces and solids. Transformation of coordinates. Practicum, six hours a week. Fee: \$20.

*Two credits*

**Engi. 280. Industrial Training Program**

Industrial and research experience gained concurrently with undergraduate studies through organized plant assignments with various companies and industries. (Offered during the summer.)

Prerequisite: Junior Standing.

*Civil Engineering*

**C.E. 103. Plane Surveying**

Lectures, recitations and problems on the theory and practice of plane and topographic surveying. Field exercises, including the adjustment and use of surveying equipment including transit, levels, compass and tape for surveys of area, topography, profile, grading, excavating and the location of details. Interpretation of



and mapping from field notes with attendant computations and the balancing of surveys. Emphasis on the application of surveying to engineering work in general. Practicum, seven hours a week. Fee: \$20.

Prerequisite: Engi. 107.

*Three credits*

#### **C.E. 104. Route Surveying**

A study of the engineering and economic problems affecting the location of routes of communication. Lectures, recitations, field work and problems on the theory and use of simple horizontal, compound, reverse, spiral and vertical alignment curves; grades, cross sections, mass diagrams and earth work computations, grade crossing, right-of-way, and drainage problems. Solar observation to determine true bearing and azimuth. Class, two hours a week; practicum, six hours a week. Fee: \$20.

Prerequisite: C. E. 103.

*Four credits*

#### *Electrical Engineering*

#### **E.E. 211. Circuit Theory I**

Analysis of simple circuit models. Kirchoff's Law;  $v-i$  characteristics of network elements. Forced and natural components of response; natural frequencies, the complex frequency plane, resonance. Transfer functions and the roles of their poles and zeroes. The use of digital computer in solutions. Three hours lecture a week. Fee: \$20.

Prerequisite: Math. 112.

*Three credits*

#### **E.E. 212. Circuit Theory II**

Fourier series and its application. The Laplace transformation and evaluation of the inverse. Terminal behavior of linear networks. Impulse response; its calculation and its use in obtaining response to other excitations; the convolution integral. The sinusoidal steady state: plots, charts and loci that exhibit frequency

dependence, impedance matching and transformers (Smith Charts). Feedback systems and stability. Introduction to random signal and noise; correlation functions and spectra. Three hours class and one three-hour discussion-laboratory a week. Fee: \$20.

Prerequisite: Phys. 202, E.E. 211.

*Four credits*

#### **E.E. 251. Electronic Circuits I**

The development of the operating principles and terminal characteristics of electronic devices, particularly semiconductor diodes and transistors. Amplifiers, oscillators and rectifiers at audio and radio frequencies. Three hours class and one three-hour laboratory a week. Fee: \$20.

Prerequisite: Phys. 202 or by special permission.

*Four credits*

#### **E.E. 252. Electronic Circuits II**

Application of electronic devices in detection, modulation, wave-shaping and switching circuits. Design consideration for small and large signals at audio and radio frequencies. The design of complete systems using such sub-systems. Three hours class and one three-hour laboratory a week. Fee: \$20.

Prerequisite: E.E. 251.

*Four credits*

#### **E.E. 271. Physical Electronics**

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.

Prerequisite: Phys. 203.

*Three credits*



### E.E. 272. Solid State Devices

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

Prerequisites: E.E. 331, E.E. 271.

Three credits

### E.E. 311. Logic and Switching Circuits

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.

Prerequisites: E.E. 251, E.E. 252.

Three credits

### E.E. 312. Pulse and Timing Circuits

Tube, transistor circuit techniques and design for diversity of waveforms. Functions needed in pulse systems. Instrumentation and computers. Three hours class a week.

Prerequisite: E.E. 251, E.E. 252.

Three credits

### E.E. 320. Electromechanical Energy Conversion

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.

Prerequisites: E.E. 211, E.E. 331.

Four credits

### E.E. 331. Electromagnetic Fields I

Vector analysis. The concept of fields. Electrostatic forces images, potential and Gauss's law. Magnetostatic forces and Ampere's law. Dielectric and Magnetic media. Fields in conductors. Electric and magnetic circuit elements. Plane electromagnetic waves. Three hours class and one three-hour laboratory a week. Fee: \$20.

Prerequisite: Phys. 202, Math 212.

Four credits

### E.E. 332. Electromagnetic Fields II

Differential form of Maxwell's equations. Electrostatics, magnetostatics and boundary condition problems in one- two- and three-space dimensions. Transverse electromagnetic waves; energy and power flow. Three hours class and one three-hour laboratory a week. Fee: \$20.

Prerequisite: E.E. 331.

Four credits

### E.E. 335. Energy Transmission and Radiation

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

Prerequisite: E.E. 331; Senior standing.

Three credits

### E.E. 342. Microwave Circuits and Devices

Matrix algebra techniques, reduction of waveguides and discontinuity problems to equivalent transmission line and network problems, obstacles as matching elements. Multiple waveguide junctions and small aperture coupling. Periodic structures. Electron ballistics and space-charge waves in electron beams. Properties and characteristics of TWT, BOW and cross-field devices. Three hours lecture a week.

Prerequisite: Senior standing.

Three credits



**E.E. 362. Control Systems**

Laplace and transformation theory. Introduction to the analysis and design of linear feedback control systems by means of locus and frequency response methods. Discussion of stability, transient and steady-state errors. Models and response analysis for automatic control purposes. Two hours class and one three-hour demonstration-laboratory a week. Fee: \$20.

Prerequisite: Senior standing.

*Three credits*

**E.E. 381-382. Advanced Engineering Laboratory I, II**

A study of properties and designs of various amplifiers and non-linear circuits. Microwave devices, VHF integrated circuits and the generation and modulation of coherent optical waves. The fabrication of semiconductor devices and integrated circuits. Thin film deposition techniques, solid-state diffusion and photolithographic applications and design and fabrication of integrated capacitor and resistor circuits. One hour lecture-discussion and two three-hour laboratory a week each semester. Fee: \$20.

Prerequisite: Senior standing.

*Three credits each semester.*

**E.E. 390. Topics in Electrical Engineering**

Selected topics in the field of electrical engineering. These may include one or more of the following: information theory, signals and noise, network synthesis, magnetic and non-linear circuits, direct energy conversion systems, cryogenics, electrodynamics, plasma physics, digital circuits and systems. Three hours lecture-discussion a week.

Prerequisite: Senior standing and special permission.

*Three credits*

**E.E. 395-396. Independent Research**

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

Prerequisite: Approval of the department chairman is required.

*One to three credits*

**E.E. 397. Seminar**

Presentations and discussions of selected topics.

Prerequisite: Approval of the department chairman is required.

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

*Materials Engineering***Ma. E. 102. Materials Science**

Introduction to the structure, properties and behavior of solid materials — metals, polymers and ceramics. The ionic, covalent and metallic bond, atomic packing, structure and imperfections. The thermodynamics and mechanical behavior of structures. Three hours class a week.

Prerequisite: Chem. 201.

*Three credits*

**Ma. E. 211. Crystallography**

Repetition theory and translational and rotational symmetry. Derivation of the crystal classes. Combination of symmetry operations involving reflections and inversions. The symmetrical plane and space lattices. The coordinate systems of crystallography and crystal forms. Practical determination of point-group symmetry. The algebra of operations. Space groups. Equivalent positions in space groups. The determination of space groups. Group theory and its application to point symmetries.

*Three credits*

**Ma. E. 212. X-Ray Diffraction**

X-rays and their properties. Directions and intensities of diffracted beams. Laue, Debye-Scherrer, Diffractometer, Rotating, Oscillating, Weissenberg and Precession Methods. Outline of crystal structure analysis. A one hour laboratory a week. Fee: \$20.

Prerequisite: Ma.E. 211.

*Three credits*



**Ma. E. 242. Physical Metallurgy**

Structure and properties of pure metals, constitution, structure, and properties of alloys, mechanical and thermal treatments of metals and alloys. Three hours lecture a week.

Prerequisite: Ma.E. 102.

*Three credits*

**Ma. E. 321. Phase Equilibria**

Thermodynamics approach to phase equilibria, the phase rule, and polymorphism. Theory of alloy phases. Order-disorder phenomena. Binary and ternary phase diagrams and their application to Materials Science. Class, three hours.

Prerequisite: Chem. 342.

*Three credits*

**Ma. E. 322. Crystal Growth and Defects**

A broad look at the important phenomena involved in the growth and perfection of crystalline solids. Vapor, melt, solution and gel growth methods, as well as defect thermodynamics will be studied. Three hours class and one three-hour laboratory a week. Fee: \$20.

Prerequisite: Chem. 342.

*Four credits*

**Ma. E. 331. Crystalline Anisotropy**

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 credits*

**Ma. E. 382. Materials Engineering Instrumentation Laboratory**

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: \$20.

Prerequisite: Chem. 221.

*Three credits*

**Ma. E. 390. Special Topics in Materials Engineering**

Selected topics in the field of materials engineering. These may include one or more of the following: x-ray diffraction, crystal structure analysis, phase equilibria, crystal growth, metallurgy, ceramics, etc. Three hours lecture-discussion a week.

Prerequisite: Senior standing and special permission.

*One to three credits*

**Ma. E. 395-396. Independent Research**

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

Prerequisite: Approval of the department chairman is required.

*One to three credits*

**Ma. E. 397. Seminar**

Presentations and discussions of selected topics.

Prerequisite: Approval of the department chairman is required.

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

*Mechanical Engineering*

**M.E. 111. Manufacturing Processes**

Lectures, demonstrations by trips to industrial plants, instructional movies of the forming of metals and plastics by casting, rolling, pressing. Also methods of machining, and the functions performed by various machine tools on metals and plastics. Class, two hours a week; practicum, three hours a week. Fee: \$20.

*Three credits*

**M.E. 211. Mechanics I. Statics**

Study of force systems in equilibrium: catenary; friction; first and second moments of areas, volumes, masses; centroids. Class, three hours a week.

Prerequisites: Phys. 201, Math 111.

*Three credits*



**M.E. 212. Mechanics II. Dynamics**

Laws of motion, rectilinear and curvilinear, for a particle and a rigid body. Work-energy; impulse-momentum. Class, three hours a week.

Prerequisite: M. E. 211.

*Three credits*

**ENGLISH**

Professor Fiester, chairman; Professor Rizzo; Associate Professor Groh; Assistant Professors Gutin, Kaska, Lord, DeArment, Terry, Mistichelli, F. Allen, Heaman, Swartchild, Stephenson, M. Allen, Boyle, Greenwald, Craddock, Holm, Moran; Instructors Kish, Molley, R. Roberts, Geist, Tyburski, Williams.

**Eng. 101. Composition**

Principles of exposition; collateral reading; writing of themes.

*Three credits*

**Eng. 102. Composition**

Principles of exposition continued; collateral reading; writing of themes; research paper.

Prerequisite: Eng. 101.

*Three credits*

**Eng. 131. Fundamentals of Speech<sup>1</sup>**

A basic course in the preparation and delivery of short speeches.

*Two credits*

**Eng. 132. Argumentation & Debate<sup>1</sup>**

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

*Two credits*

**Eng. 151. Western World Literature**

Survey of western world literature to the beginning of the eighteenth century; lectures, quizzes, conferences.

Prerequisite: Eng. 102, or substitute in composition.

*Four credits*

<sup>1</sup> Credit for only one of the three courses, Eng. 131, Eng. 132, and Th. Arts 131, will be accepted toward graduation requirements in any degree program.

**Eng. 152. Western World Literature**

Continuation of survey, bringing the study of literature down to the present time.

Prerequisite: Eng. 151.

*Four credits*

**Eng. 201. Advanced Exposition**

A study of the various expository types. Readings. Intensive practice in the writing of informative articles.

Prerequisite: Eng. 102.

*Three credits*

**Eng. 203. Creative Writing**

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.

*Three credits*

**Eng. 204. History of the English Language**

Study of the origins of the English language and of the principal phenomena of later development.

Prerequisite: Eng. 152.

*Three credits*

**Eng. 213. Chaucer**

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

Prerequisite: Eng. 152.

*Three credits*

**Eng. 221. Shakespeare**

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

Prerequisite: Eng. 152.

*Three credits*



**Eng. 310. Medieval English Literature**

A study of English literature to 1500, exclusive of Chaucer and the drama.

Prerequisite: Eng. 152.

*Three credits*

**Eng. 320. Tudor Prose and Poetry**

Study of English non-dramatic literature from 1485 to 1603.

Prerequisite: Eng. 152.

*Three credits*

**Eng. 321. Early English Drama**

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.

*Three credits*

**Eng. 330. Milton and the Seventeenth Century**

A study of the non-dramatic literature of the period with special emphasis on the poetry of John Milton.

Prerequisite: Eng. 152.

*Three credits*

**Eng. 341. Restoration & Eighteenth Century Drama**

Study of the drama from 1660 to 1780.

Prerequisite: Eng. 152.

*Three credits*

**Eng. 343. The Eighteenth Century**

The chief poets and essayists of the eighteenth century. Includes Swift, Pope, and Johnson.

Prerequisite: Eng. 152.

*Three credits*

**Eng. 345. Early English Novel**

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

Prerequisite: Eng. 152.

*Three credits*

**Eng. 354. Romantic Prose and Poetry**

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

Prerequisite: Eng. 152.

*Three credits*

**Eng. 360. Victorian Prose and Poetry**

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

Prerequisite: Eng. 152.

*Three credits*

**Eng. 366. Later English Novel**

The major novelists of the nineteenth and early twentieth centuries.

Prerequisite: Eng. 152.

*Three credits*

**Eng. 370. Modern Poetry**

Study of the major English and American poetry of the Twentieth Century.

Prerequisite: Eng. 152.

*Three credits*

**Eng. 372. Modern Novel**

Study of the major English and American novels of the Twentieth Century.

Prerequisite: Eng. 152.

*Three credits*

**Eng. 374. Modern Drama**

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

Prerequisite: Eng. 152.

*Three credits*

**Eng. 381. American Literature I**

A study of American literature to the Civil War.

Prerequisite: Eng. 152.

*Three credits*



**Eng. 382. American Literature II**

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

Prerequisite: Eng. 152.

*Three credits*

**Eng. 395-396. Independent Research**

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

Prerequisite: Approval of the department chairman is required.

*One to three credits*

**Eng. 397. Seminar**

Presentations and discussions of selected topics.

Prerequisite: Approval of the department chairman is required.

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

*Journalism*

**Jour. 101. Journalism I**

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.

*Three credits*

**Jour. 102. Journalism II**

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.

*Three credits*

*Theater Arts*

**Th. Arts 101. Approach to Theater**

Attention will be directed to the importance of the dramatic imagination in reading and viewing plays, with the objective of developing a critical appreciation of the theater. Emphasis will be on forms of the play, structure of the playhouse, type of audience, and influence of society on theater of various ages, from pre-Shakespearean to the present. Lecture-discussion-demonstration.

*Three credits*

**Th. Arts 131. Speech for the Stage**

Students will receive instruction and experience in diction, delivery, interpretation. Classroom exercises will be assigned. This course is designed for those students especially interested in the theater 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.

*Two credits*

**Th. Arts 210. Acting for the Educational Theater**

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.

*Two credits*

**Th. Arts 241. Production**

The student will study the influences of social changes upon methods of staging and will explore the many facets of theatrical production. He will learn to translate the concept of the playwright into physical actuality and will learn to adapt a production to the requirements of a stage. Class and workshop.

*Three credits*

**Th. Arts 250. Stagecraft**

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.

*Three credits*

### **Th. Arts 352. Directing: Fundamentals**

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.

*Three credits*

### **Th. Arts 395-396. Independent Research**

Independent study and research under professional supervision for students interested in educational theater.

*One to three credits each semester*

### **Th. Arts 397. Seminar**

Presentations and discussions of selected topics.

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

## **ENVIRONMENTAL SCIENCE**

Professor Bruch, coordinator; Assistant Professor El Ashry; Instructors Gregory, Mattei.

### **Env. Sci. 101. Introductory Earth Science**

A survey of contemporary research in the earth sciences with special emphasis on the interactions of man and his physical environment. Readings relate to the broad structure of the lecture sequence: 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: \$20.

*Three credits*

### **Env. Sci. 102. Introductory Space Science**

A survey of contemporary knowledge of astronomy from the fringe of earth's atmosphere to the farthest galaxies. Elements of potential theory and rocketry are included to enable the student to evaluate the aims and capabilities of space flight programs. The lecture sequence follows the broad structure: the fringe of space; the solar system; methods of probing outer space; stellar evolution, the galaxy and beyond. 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.

*Three credits*

### **Env. Sci. 103. Geology**

An introductory course dealing with materials and surface features of the earth and the significance to man of the pattern of their distribution and manifestation. Lectures and related laboratory work include the following selected topics: minerals; igneous activity and igneous rocks; weathering processes and soil formation; origin and correlation of sedimentary rocks; erosion by running water, glaciers and wind; oceans and shorelines; deformation of the earth's crust and theories of mountain building; metamorphism and metamorphic rocks; earthquakes and structure of the earth's interior; geologic time and the fossil record. Regional problems of geologic interest will also be considered and field trips to nearby geologic features will be included. Two hours lecture and two hours laboratory. Fee: \$20.

*Three credits*

### **Env. Sci. 232. Hydrology**

The physical and chemical properties of water; precipitation, and factors which determine the distribution and amount on a watershed; drainage systems and the climatic and geologic factors that establish them and modify them; runoff, infiltration, evaporation, and vadose, ground, and lentic water; applications of hydrology and special topics such as rain making, control of evaporation, underground storage and leaching, flood control dams, and water pollution problems. Lecture, two hours and laboratory, two hours. Fee: \$20.

*Three credits*



**Env. Sci. 251. Meteorology**

The physical elements and processes which comprise weather and climate are examined along with their distribution in space and time. Then the relationship between weather, climate and human activity is discussed in specific contexts: climate and water resources; climate and agriculture; weather factors in transportation, communications, and industry; climate and housing; climate and the human body; climatic changes. The fundamentals of weather observations, the analysis of weather maps and charts, and the statistical approach to climatic records for plans and design specifications will be developed in a correlated laboratory program. Two hours lecture and two hours laboratory. Fee: \$20.

*Three credits*

**FINE ARTS**

Associate Professor Colson, chairman; Assistant Professors P. Richards, D'Vorzon, Fuller, Jacobs, Simon.

**FA 101. Experiencing Art I**

Two and three dimensional studio work is planned for exploration of the creative process in a variety of media. Part of the general education program, this course is open to all students; no art experience is necessary. Lecture, three hours.

*Three credits*

**FA 102. Experiencing Art II**

A continuation of FA 101.

Prerequisite: FA 101.

*Three credits*

**FA 201. Color and Design**

A study of color systems which includes their physical, psychological, and sociological properties. Lecture, two hours; studio, two hours.

Prerequisite: FA 102. or equivalent.

*Three credits*

**FA 202. Drawing and Composition**

An introductory course which explores the potential of line, form, space, and texture with a variety of media. Studio problems include figure drawing, landscape, still life, and non-objective organization. Lecture, two hours; studio, two hours.

Prerequisite: FA 201.

*Three credits*

**FA 203. Oil Painting**

An introductory course; no art experience is necessary. Lecture, two hours; studio, two hours.

*Three credits*

**FA 204. Water Color Painting**

A basic course in transparent water color painting. Lecture, two hours; studio, two hours.

Prerequisite: FA 202

*Three credits*

**FA 205. Advanced Painting**

Increased emphasis on development of style and experimentation in contemporary art techniques. Lecture two hours; studio 2 hours.

Prerequisite: FA 203.

*Three credits*

**FA 206. Print Making**

An introduction of relief, intaglio, and planographic techniques including block printing, etching, lithography, and silk screen. Lecture two hours; studio two hours.

Prerequisite: FA 202.

*Three credits*

**FA 210. Sculpture**

The study of traditional and contemporary approaches to sculpture.

Prerequisite: FA 211.

*Three credits*



**FA 211. Modeling & Three Dimensional Construction**

An introductory course in three-dimensional expression; various materials are employed for experimentation with realistic and non-realistic forms. Lecture, two hours; studio, two hours.

Prerequisite: FA 102.

*Three credits*

**FA 212. Ceramics**

Students explore the making of pottery by solid, coil, slab, casting, wheel, and primitive techniques; they experiment with a variety of methods for surface decoration including slip, engobe, graffiti, and underglaze. Lecture, two hours; studio, two hours.

Prerequisite: Permission of instructor.

*Three credits*

**FA 213. Metalwork and Jewelry**

A course in basic metalwork and jewelry techniques and design. Lecture, two hours; studio, two hours.

Prerequisite: Permission of instructor.

*Three credits*

**FA 223. History of Art I**

History of art from the prehistoric period through the Gothic era.

*Three credits*

**FA 224. History of Art II**

History of art from the Renaissance through the nineteenth century.

Prerequisite: FA 223.

*Three credits*

**FA 226. History of Contemporary Art**

A study of twentieth century art forms.

*Three credits*

**FA 231. Contemporary Design**

A study of man's visual expression as conditioned by materials, technology, form, and function.

*Two credits*

**FA 311. Senior Exhibit**

A study of exhibition techniques climaxed by a showing of the student's work. Required of all Fine Arts majors in either the fall or spring semester of their senior year.

Prerequisite: Permission of instructor.

*Two credits*

**FA 332. Studio Problems**

Provides advanced study and research for Fine Arts students. Lecture, two hours.

Prerequisite: Permission of instructor.

*Two credits*

**FA 395-396. Independent Research**

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

Prerequisite: Approval of the department chairman is required.

*One to three credits*

**FA 397. Seminar**

Presentations and discussions of selected topics.

Prerequisite: Approval of the department chairman is required.

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

**FOREIGN LANGUAGES (Modern)**

Assistant Professor A. Belic, acting chairman; Associate Professor Disque; Assistant Professors Ribas, deCubas, Marban, Sweeney; Instructors Serzan, Miller, Lovette, L. Belic, Lekstrom.

*French*

**Fr. 101. Elementary French**

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

*Three credits*



**Fr. 102. Elementary French**

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

Prerequisite: Fr. 101 or the equivalent.

*Three credits*

**Fr. 203. Intermediate French**

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

Prerequisites: Fr. 102 or the equivalent.

*Three credits*

**Fr. 204. Intermediate French**

Introduction to French civilization; practice in oral and written French.

Prerequisite: Fr. 203 or the equivalent.

*Three credits*

**Fr. 205. Technical French**

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

Prerequisite: Fr. 203 or the equivalent.

*Three credits*

**Fr. 206. French Conversation**

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

Prerequisite: Fr. 204 or the equivalent.

*Three credits*

**Fr. 301-302. Survey of French Literature**

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.

*Three credits each semester*

**Fr. 303. French Literature of the Seventeenth Century**

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

Prerequisite: Fr. 301-302 or the equivalent.

*Three credits*

**Fr. 305. French Literature of the Eighteenth Century**

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

Prerequisite: Fr. 301-302 or the equivalent.

*Three credits*

**Fr. 306. Nineteenth Century French Literature**

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.

*Three credits*

**Fr. 307. Nineteenth Century French Literature**

Naturalism and Symbolism: a study of the rise of naturalism and symbolism in the second half of the century with emphasis on Baudelaire, Zola, Flaubert, Leconte de Lisle, Verlaine and Rimbaud.

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

*Three credits*

**Fr. 308. Contemporary French Drama**

The development of modern drama from the latter part of the nineteenth century to the present.

Prerequisite: Fr. 301-302 or the equivalent.

*Three credits*



**Fr. 350. Advanced French Grammar**

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

Prerequisite: Fr. 204 or the equivalent.

*Three credits*

**Fr. 390. Foreign Language Methodology**

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.

*Three credits*

**Fr. 395-396. Independent Research**

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

Prerequisite: Approval of the department chairman is required.

*One to three credits*

**Fr. 397. Seminar**

Presentations and discussions of selected topics.

Prerequisite: Approval of the department chairman is required.

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

*German*

**Ger. 101. Elementary German**

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.

*Three credits*

**Ger. 102. Elementary German**

Continuation of German 101. Reading of easy prose and poetry. Some stress on German culture, life, and customs. Students pre-

sented two or more units from high school in German will not be granted credit for this course.

*Three credits*

**Ger. 203. Intermediate German**

Emphasis on difficult grammatical construction and idioms. Reading of prose; practice in speaking and writing German.

Prerequisite: Ger. 102 or equivalent.

*Three credits*

**Ger. 204. Intermediate German**

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.

*Three credits*

**Ger. 205. Scientific German**

Reading of selections from scientific German.

Prerequisite: Ger. 203 or equivalent.

*Three credits*

**Ger. 206. German Conversation**

Emphasis laid 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.

*Three credits*

**Ger. 301-302. Survey of German Literature**

A survey of the literature of the important periods from the beginning to 1932.

Prerequisite: Ger. 204 or equivalent.

*Three credits each semester*

**Ger. 303. Goethe**

Reading and interpretation of selected works of Goethe. Lectures and individual reports.

Prerequisite: Ger. 301-302 or equivalent.

*Three credits*



**Ger. 304. Schiller**

Poet of German idealism.

Prerequisite: Ger. 301-302 or equivalent.

*Three credits*

**Ger. 305. Nineteenth Century German Drama**

The German drama of the nineteenth century from Ludwig Tieck to Gerhart Hauptmann. Lectures and reports on the literary and cultural history of the times.

Prerequisite: Ger. 301-302 or equivalent.

*Three credits*

**Ger. 306. Modern German Short Story**

The modern German short story from naturalism to the present. Individual reports; lectures on the cultural and literary history of the period.

Prerequisite: Ger. 301-302 or equivalent.

*Three credits*

**Ger. 307. The Age of Enlightenment**

The development of German Literature in the eighteenth century with emphasis on the works and theories of Lessing.

Prerequisite: Ger. 301-302 or app. of the department chairman.

*Three credits*

**Ger. 308. Twentieth Century Literature**

The study of the development of German Literature from the turn of the century until the present.

Prerequisite: Ger. 301-302 or app. of the department chairman.

*Three credits*

**Ger. 350. Advanced German Grammar**

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

Prerequisite: Ger. 204 or the equivalent.

*Three credits*

**Ger. 390. Foreign Language Methodology**

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 the dept. chairman.

**Ger. 395-396. Independent Research**

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

Prerequisite: Approval of the department chairman is required.

*One to three credits*

**Ger. 397. Seminar**

Presentations and discussions of selected topics.

Prerequisite: Approval of the department chairman is required.

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

*Spanish***Sp. 101. Elementary Spanish**

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.

*Three credits*

**Sp. 102. Elementary Spanish**

Continuation of Spanish 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.

*Three credits*

**Sp. 203. Intermediate Spanish**

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

Prerequisite: Sp. 102 or equivalent.

*Three credits*



**Sp. 204. Intermediate Spanish**

Introduction to Spanish civilization; practice in oral and written Spanish.

Prerequisite: Sp. 203 or equivalent.

*Three credits*

**Sp. 205. Commercial Spanish**

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.

*Three credits*

**Sp. 206. Spanish Conversation**

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.

*Three credits*

**Sp. 208. Spanish American Culture**

The cultural, economic, and political development of the Spanish American countries.

Prerequisite: Sp. 203 or equivalent.

*Three credits*

**Sp. 301-302. Survey of Spanish Literature**

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.

*Three credits each semester*

**Sp. 303. The Golden Age of Spanish Literature**

Study of the great authors of the sixteenth and seventeenth centuries.

Prerequisite: Sp. 301-302 or equivalent.

*Three credits*

**Sp. 304. Nineteenth Century Spanish Drama**

Study of representative works of nineteenth century Spanish drama.

Prerequisite: Sp. 301-302 or equivalent.

*Three credits*

**Sp. 305. Nineteenth Century Spanish Novel**

The development of the Spanish novel in the nineteenth century.

Prerequisite: Sp. 301-302 or equivalent.

*Three credits*

**Sp. 306. The Generation of 1898**

A study of the literary renaissance that took place in Spain during the turn of the century.

Prerequisite: Sp. 204 or equivalent.

*Three credits*

**Sp. 307. Cervantes and Don Quixote**

A study of the life and works of Cervantes with special emphasis on *Don Quixote*. Text analysis and interpretation. Later treatments of the Don Quixote theme in European culture. Open to non-majors for whom suitable translations will be suggested.

Prerequisite: Sp. 204 for majors, Eng. 151 for non-majors or permission of instructor.

*Three credits*

**Sp. 308. Survey of Spanish American Literature**

A survey of the evolution of Spanish American literature from the discovery to the present. Reading of representative selections from outstanding writers of different periods and countries.

Prerequisite: Sp. 204 or equivalent.

*Three credits*

**Sp. 350. Advanced Spanish Grammar**

General grammatical review; systematic, in-depth study of points of grammar that generally tend to cause persistent difficulties for the student; intensive reading, writing and oral exercises significantly above intermediate college level language courses.

Prerequisite: Sp. 204.

*Three credits*



**Sp. 390. Foreign Language Methodology**

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 the dept. chairman.

**Sp. 395-396. Independent Research**

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

Prerequisite: Approval of the department chairman is required.  
*One to three credits*

**Sp. 397. Seminar**

Presentations and discussions of selected topics.

Prerequisite: Approval of the department chairman is required.  
*One to three credits. (Maximum of three credits per student.)*

*Russian*

**Rus. 101. Elementary Russian**

Basic systematic introduction to the grammatical essentials of Russian; practice in reading, writing, and speaking the language.

*Three credits*

**Rus. 102. Elementary Russian**

Continuation of Russian 101. Graded elementary readings depicting the culture, life, and customs of the Russian people.

Prerequisite: Rus. 101 or equivalent.

*Three credits*

**Rus. 203. Intermediate Russian**

A review of basic grammar followed by emphasis on advanced grammatical structure. Reading of selected prose, directed standard-situation conversation, and composition of Russian.

Prerequisite: Rus. 102 or equivalent.

*Three credits*

**Rus. 204. Intermediate Russian**

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.

*Three credits*

**HISTORY**

Professor Leach, chairman; Professors Kaslas, Cox; Assistant Professors Berg, Show, White, Meyers, Berlatski, Furlow.

**Hist. 101-102. History of World Civilization**

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.

*Three credits each semester*

**Hist. 107. American and Pennsylvania History to 1865**

A general survey extending from the period of discovery and exploration to the end of the Civil War.

All students will be required to do a certain proportion of their outside reading in the history of Pennsylvania and its relation to the development of the nation.

*Three credits*

**Hist. 108. American History Since 1865**

A general survey covering the period from 1865 to the present.

*Three credits*

**Hist. 209. Ancient History: Near East**

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.

Prerequisite: Hist. 101 and 102.

*Three credits*



**Hist. 210. Ancient History: Classical World**

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.

Prerequisite: Hist. 101 and 102.

*Three credits*

**Hist. 211. Medieval Ages**

Consideration will be given to political, economic, cultural institutions and activities, and intellectual development in Medieval Europe to the early Renaissance.

Prerequisite: Hist. 101 and 102.

*Three credits*

**Hist. 212. The Renaissance and Reformation**

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.

Prerequisite: Hist. 101 and 102.

*Three credits*

**Hist. 221-222. American Social and Intellectual History**

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 influences of industrialization, the rise of nationalism, and the emergence of the United States as a World Power will be emphasized.

Prerequisite: Hist. 107 and 108.

*Three credits each semester*

**Hist. 223. American Constitutional History**

A study of the origins of the American Constitution and the growth of the American constitutional system with special attention to the role of the Supreme Court.

Prerequisite: Hist. 107, 108, and P. S. 102. Restricted to juniors and seniors.

*Three credits*

**Hist. 226. Urban History**

A survey of the origins and development of the modern city. Primary emphasis is given to the evolution of the city in America and its influence on American society and culture. Reference is made to the cities of modern Europe and Asia primarily for comparative purposes.

Prerequisite: Hist. 107 and 108.

*Three credits*

**Hist. 235-236. History of the Far East**

A study of the history of the civilizations developed in India, China, and Japan with emphasis on their inter-relations and distinctive characteristics and on their transformation in response to the penetration of western civilization from the sixteenth century onward. Some attention will be given to similar developments and changes among the countries of Southeast Asia.

Fall semester: to c. 1760. Spring semester: 1760 to the present.

Prerequisite: Hist. 101 and 102.

*Three credits each semester.*

**Hist. 241-242. History of Great Britain and the British Empire and Commonwealth**

A study of British history from the Neolithic period to present times. The first semester will cover social, economic, and political developments to 1783, including expansion overseas. The second semester will cover the consequences of the industrial revolution and the evolution of the Empire into the Commonwealth.

Prerequisite: Hist. 101 and 102.

*Three credits each semester*



**Hist. 327-328. History of the Foreign Policy of the United States**

A study of the evolution of the several policies that give direction to the relations of the United States with other nations.

Prerequisite: Hist. 101, 102, 107, and 108.

*Three credits each semester.*

**Hist. 331. Colonial America**

Discovery, exploration and settlement; development of social, political, religious and intellectual institutions; independence and political reorganization.

Prerequisite: Hist. 107 and 108.

*Three credits*

**Hist. 332. The National Period**

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.

Prerequisite: Hist. 107.

*Three credits*

**Hist. 333. The Age of Big Business, 1865-1914**

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.

Prerequisite: Hist. 107 and 108.

*Three credits*

**Hist. 334. Twentieth Century America**

The emergence of the United States as an industrial, urban world power and the corresponding development of its political, economic, social, religious, and intellectual institutions.

Prerequisite: Hist. 107 and 108.

*Three credits*

**Hist. 353-354. Early Modern Europe 1648-1815**

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.

*Three credits each semester*

**Hist. 355. Europe in the Nineteenth Century**

A study of the political, social, and cultural development of Europe from the Congress of Vienna to World War I.

Prerequisite: Hist. 101 and 102.

*Three credits*

**Hist. 356. Europe in the Twentieth Century**

Against a background of the internal and international developments of the leading powers, the class will study the origins and results of the two World Wars.

Prerequisite: Hist. 101 and 102.

*Three credits*

**Hist. 357. History of Russia to 1815**

A brief review of demographic and geographic factors will be used as background for a study of the political, social, and intellectual history of Russia from early times to 1815.

Prerequisite: Hist. 101 and 102.

*Three credits*

**Hist. 358. History of Modern Russia**

A thorough examination of nineteenth century Imperial Russia will serve as a basis for a detailed study of the development of Russia in the twentieth century. Emphasis will be on the origins and political, social, and cultural evolution of the Soviet State from its inception to the present.

Prerequisite: Hist. 101 and 102.

*Three credits*



**Hist. 371. Historiography**

An introduction to the aims, methods and accomplishments of some of the most renowned historians of Europe and America.

Prerequisite: Consent of head of department.

*One credit*

**Hist. 381. History of Latin America**

A survey of Latin American history from colonial times to the present. Problems discussed include the influence of Spanish colonialism in the area, the problems of independent government and international relations, particularly with the United States.

*Three credits*

**Hist. 395-396. Independent Research**

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

Prerequisite: Approval of the department chairman is required.

*One to three credits*

**Hist. 497. Seminar**

Presentations and discussions of selected topics.

Prerequisite: Approval of the department chairman is required.

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

**MATHEMATICS**

Professor Wong, chairman; Associate Professors T. Richards, Earl, Mitra; Assistant Professors DeCosmo, Salsburg, Torelli, Wilks, J. Wasileski, Tillman; Instructors Kravitz, Sours, Jahr, Como.

**Math. 100. Pre-Calculus Mathematics**

A remedial course in advanced algebra and trigonometry designed to prepare students for calculus. Content of this course should normally be studied in secondary school.

Prerequisite: Two years of secondary school mathematics in algebra and geometry.

*Four credits*

**Math. 101-102. Fundamentals of Mathematics I & II**

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.

*Three credits each semester*

**Math. 103-104. Mathematics for Elementary School Teachers I and II**

A study of the theory of arithmetic, structure of the number systems, geometry, and other topics relevant to the teaching of mathematics in elementary schools. Not open to students with credits in Math. 101-102.

*Three credits each semester*

**Math. 111-112. Analysis I and II**

Calculus or functions of a real variable. Topics include: functions, limits and continuity, differentiation, integration and their applications.

Prerequisite: Math. 100 or fulfillment of the mathematics requirements for entrance into the programs of biology, chemistry, engineering, mathematics, and physics.

*Four credits each semester*

**Math. 211-212. Intermediate Analysis I and II**

Introduction to calculus of functions of several variables, infinite sequences and series, elementary linear algebra, differential equations.

Prerequisite: Math. 112.

*Four credits each semester*

**Math. 222. Set Theory and Logic**

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. 211 or consent of department chairman.

Three credits

**Math. 267. Introduction to Computer Programming I**

Introduction to programming and to computer languages with emphasis on Fortran IV. Students are expected to spend extra time solving problems using the computer. Fee: \$20.

Three credits

**Math. 268. Introduction to Computer Programming II**

A continuation of Math. 267. Devoted primarily to more sophisticated programming geared to the individual interests of the students. Enrollees are expected to spend extra time solving problems using the computer. Fee: \$20.

Prerequisite: Math. 267.

Three credits

**Math. 311-312. Functions of a Real Variable I and II**

Topological preliminaries for analysis, sequences and series of functions, Riemann-Stieltjes integral, introduction to Lebesgue integral, Fourier series.

Prerequisite: Math. 222.

Three credits each semester

**Math. 314. Functions of a Complex Variable**

Complex functions, limit and continuity, analytic functions, Cauchy's integral theorem and formula, power series, Laurent expansion, residues.

Prerequisite: Math. 311 or consent of department chairman.

Three credits

**Math. 331. Introduction to Abstract Algebra I**

A study of elementary number theory, groups, rings, and fields.

Prerequisite: Math. 222.

Three credits

**Math. 334. Linear Algebra**

Vector spaces, linear transformations, matrices, determinants, bilinear and quadratic forms, matrix polynomials.

Prerequisite: Math. 222.

Three credits

**Math. 343. Introduction to Geometry**

A study of selected topics from Euclidean geometry, affine geometry, projective geometry, and convexity.

Prerequisite: Math. 222.

Three credits

**Math. 351-352. Probability and Mathematical Statistics I and II**

Random variables, probability distributions, expectation and limit theorems, estimation, testing statistical hypotheses, confidence intervals.

Prerequisite: Math. 222.

Three credits each semester

**Math. 361-362. Advanced Calculus I and II**

Intended for physical science and engineering students. Topics to be selected from: vector integral and differential calculus, power

series, Fourier series, matrices, determinants, and eigenvalue problems.

Prerequisite: Math. 212.

Three credits each semester. Credit for mathematics majors by permission of department chairman only.

**Math. 364. Numerical Analysis**

Numerical methods of differentiation, integration, solution of equations and of differential equations with emphasis on problems that lend themselves to solution on computers. Knowledge of computer is desirable but not required.

Prerequisite: Math. 212.

Three credits



**Math. 365. Partial Differential Equations**

Linear, second order partial differential equations and boundary value problems, Fourier series and orthogonality, method of separation of variables.

Prerequisite: Math. 212.

Three credits

**Math. 397. Seminar**

Presentation and discussion of selected topics.

Prerequisite: Approval of department chairman.

One to three credits

**Math. 413. Functions of Several Variables**

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.

Three credits

**Math. 432. Introduction to Abstract Algebra II**

A continuation of Math. 331. Polynomial rings, ideals, field extensions and Galois Theory.

Prerequisite: Math. 331.

Three credits

**Math. 441. Introduction to Topology I**

Metric spaces, topological spaces, countability and separation axioms, compactness and connectedness, product spaces.

Prerequisite: Math. 311.

Three credits

**Math. 442. Introduction to Topology II**

A continuation of Math. 341. Hilbert spaces, Banach spaces, and Banach algebras.

Prerequisite: Math. 341.

Three credits

**Math. 470. Reading Course**

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. May be repeated for credit.

Prerequisite: Senior standing and consent of department chairman.

One to three credits

**Math. 480. Topics in Mathematics**

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.

Three credits

**MUSIC<sup>1</sup>**

Associate Professor Gasbarro, chairman; Associate Professor L. Schmidt, Chapline; Assistant Professors Garber, Santos, Fall, Nutaitis, A. Liva; Instructors Probert, Hill, Weber, Balshaw.

**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.

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.

One credit each semester

<sup>1</sup>There is a music fee of \$10 per semester for all Music and Music Education majors.



**Mus. 101. Introduction to the Materials and Literature of Music I**

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.

*Three credits*

**Mus. 102. Introduction to the Materials and Literature of Music II**

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.

*Three credits*

**Mus. 105-106-107-108. Theory of Music**

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 technics.

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.

*Five credits each course*

**Mus. 109. History of Music I**

A detailed study of the history of music from the beginning of civilization to the seventeenth century.

*Three credits*

**Mus. 110. History of Music II**

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.

*Three credits*

**Mus. 111-112. Piano Class 1 and 2**

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 cannot play piano grade 4 or better.

No prerequisite.

*Two credits each semester*

**Mus. 113-114. Piano Class 3 and 4**

Advanced class instruction in piano. This course is a continuation of the required course for all music education majors who cannot play piano grade 4 or better.

Prerequisite: Mus. 112.

*Two credits each semester*

**Mus. 121-122-123-124. Band**

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 majors are required to participate in the band for four years.

*One-half credit each semester*

**Mus. 125-126-127-128. Chorus**

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 majors studying voice or piano are required to participate in the chorus for four years.

*One-half credit each semester*



**Mus. 131-132-133-134. Orchestra**

Participation in the Wilkes-Barre Philharmonic Orchestra gives the student experience in the complete range of symphonic literature. Students desiring to participate in the orchestra should consult with the Director.

*One-half credit each semester*

**Mus. 215. Instrumentation**

The instruments of the modern symphonic orchestra, their capabilities and limitations. The technique of scoring for small instrumental combinations; transposition and clef manipulation.

Prerequisite: Mus. 108 or the approval of the chairman of the Department.

*Two credits*

**Mus. 216. Orchestra and Band Arranging**

Scoring for the large orchestra or the modern symphonic band. The student may select his field of concentration.

Prerequisite: Mus. 215.

*Two credits*

**Mus. 217. Analysis**

The technique of composition as disclosed by melodic, harmonic, and structural analysis of music in varied styles and from diverse periods.

Prerequisite: Mus. 108 or equivalent as demonstrated by an examination.

*Two credits*

**Mus. 218. Counterpoint**

A study of the sixteenth century art of contrapuntal writing as found in the styles of Palestrina, di Lasso, and Ingegneri.

Prerequisite: Mus. 108.

*Three credits*

**Mus. 395-396. Independent Research**

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

Prerequisite: Approval of the department chairman is required.

*One to three credits*

**Mus. 397. Seminar**

Presentations and discussions of selected topics.

Prerequisite: Approval of the department chairman is required.

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

**MUSIC EDUCATION<sup>1</sup>****Mus. Ed. 101-102. Clarinet Class and Methods**

Methods of teaching and instruction in the clarinet.

No prerequisite.

*Two credits each semester*

**Mus. Ed. 103-104. Brass Class and Methods**

Methods of teaching and instruction in the brass field.

No prerequisite.

*Two credits each semester*

**Mus. Ed. 105. Woodwind Class Methods**

A class conducted as an introduction to the teaching of such wood-winds as clarinet, oboe, flute, and bassoon, with demonstrations of the class teaching of those instruments.

No prerequisite.

*Two credits each semester*

**Mus. Ed. 106. Brass Class Methods**

A class in brass is conducted as an introduction to the teaching of brass instruments and as demonstration of class teaching of these instruments. The instruments taught include trumpet, French horn, trombone, baritone, and tuba.

No prerequisite.

*Two credits*

<sup>1</sup>There is a music fee of \$10 per semester for all Music and Music Education majors.



**Mus. Ed. 121. Violin Class and String Methods**

A class in violin playing and in the teaching of string instruments.

No prerequisite.  
*Two credits*

**Mus. Ed. 122. Viola Class and String Methods**

A class in viola playing and in the teaching of string instruments.

No prerequisite.  
*Two credits*

**Mus. Ed. 123. Violoncello and Bass Class and String Methods**

A class in the playing of the violoncello and the bass and in the teaching of string instruments.

No prerequisite.  
*Two credits*

**Mus. Ed. 125. Percussion Class Methods**

A class in the fundamentals of percussion performance and demonstrations of class teaching.

No prerequisite.  
*Two credits*

**Mus. Ed. 127-128. Voice Class and Methods**

A course in the fundamentals of correct 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.  
*Two credits each semester*

**Mus. Ed. 201. Elementary School Music Methods**

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.  
*Two credits*

**Mus. Ed. 202. Secondary School Music Methods**

The course is planned to provide a preparation for teaching the various aspects of music in the secondary school.

Prerequisite: Junior Class standing.  
*Two credits*

**Mus. Ed. 209-210. Conducting and School Music Materials**

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.  
*Two credits each semester*

**Mus. Ed. 340. Professional Semester in Music Education**

Provides classwork and practical experience to prepare for the teaching of music in elementary and secondary schools. Fee: \$20.

To qualify for admission into 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. 200.  
*Eight credits*

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

**Mus. Ed. 343. General Classroom Methods**

A study of various instructional procedures used in public school classrooms.

*One credit*

**Mus. Ed. 344. Multi-Sensory Techniques in the Teaching of Music**

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

*One credit*



**Mus. Ed. 346. Student Teaching in Music**

A course in the observation and student teaching of vocal or instrumental music in elementary and secondary schools.

*Six credits*

**NURSING EDUCATION**

Professor Jessee, chairman; Instructors Bonawitz, Knaub, Porter.

Enrollment in all of the following courses with the exception of N.E. 104 is limited to graduate nurses.

**N.E. 102. Trends in Nursing**

A discussion of present problems in nursing and trends or patterns that emerge in the efforts to solve these problems. (Enrollment limited to students who have had N.E. 101, offered previously.)

*Two credits*

**N.E. 103. History and Trends in Nursing**

A general survey of the history of nursing with emphasis upon the religious, social, and educational factors that have stimulated its development. Discussion of present problems in nursing and trends or patterns that emerge in the efforts to solve these problems.

*Three credits*

**N.E. 104. Community Resources**

A survey of the functions and activities of agencies and organizations contributing to the health and social welfare of the citizens of the community.

*Two credits*

**N.E. 106. Supervision and Administration**

A discussion of the basic principles of supervision and administration with emphasis upon democratic leadership and the development of constructive interpersonal and interdepartmental relationships.

*Two credits*

**N.E. 107. Principles and Methods in Nursing Education**

This course deals with the selection and organization of teaching materials and learning experiences. It includes the appraisal of effective methods of teaching and the evaluation of student progress and achievement.

Prerequisite: Psych. 102 or permission of instructor.

*Two credits*

**N.E. 108. Multi-Sensory Techniques in Nursing Education**

A study of the use of multi-sensory teaching aids in nursing education.

Prerequisite: N. E. 107 (may be taken concurrently).

*One Credit*

**N.E. 112. Field Experience in Supervision or Teaching**

Supervised observation and practice in a hospital.

Prerequisite: Approval of adviser.

*Four credits*

**N.E. 113-114. Medical and Surgical Nursing**

Advanced study of nursing principles and techniques as applied to the expert nursing care of medical and surgical patients. Offered in two semesters.

*Two credits each semester*

**N.E. 209. Psychiatric Nursing**

In the psychiatric setting, skills and understandings pertinent to the nursing care of patients are developed with emphasis on the relationship of the nurse both to the individual patient and to groups of patients. Care of the patient is discussed in the larger context of family and community. Lectures and hospital experience.

Prerequisite: Permission of the instructor.

*Six credits*



**PHILOSOPHY — RELIGION**

Professor S. Vujica, chairman; Associate Professors Kay, Williams; Assistant Professors Belic, Henson, Jardin; Instructor Barras.

*Philosophy***Phil. 101. Introduction to Philosophy**

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.

*Three credits*

**Phil. 102. Logic and Scientific Method**

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.

*Three credits*

**Phil. 210. Ethics**

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.

*Three credits*

**Phil. 220. Philosophy of Religion**

An examination of various problems that arise when religion is made the object of philosophic 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.

*Three credits*

**Phil. 230. Aesthetics**

Analysis of the nature, standards and criteria of value in literature, painting, music, and other forms of arts; the meaning of aesthetic judgments and processes of appreciation. An examination of the objective qualities of those things which are found to be aesthetically effective.

*Three credits*

**Phil. 240. Social and Political Philosophies**

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.

*Three credits*

**Phil. 250. Ancient and Medieval Philosophy**

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.

*Three credits*

**Phil. 260. History of Modern Philosophy**

The major trends in philosophic thought from the Renaissance to the end of the nineteenth century, with special emphasis on: Descartes, Spinoza, Leibnitz, Locke, Berkeley, Hume, Kant, Hegel, Schopenhauer, Comte, Bentham, and Mill.

*Three credits*

**Phil. 270. Contemporary Philosophy**

A review of current schools of philosophy, with special emphasis on: Dialectical Materialism, Pragmatism, Existentialism, British and American Realism, and the various trends in linguistic analysis. Major philosophers to be studied: James, Dewey, Moore, Husser, Russell, Santayana, Heidegger, Sartre, Jaspers, Wittgenstein, and Ayer.

*Three credits*



**Phil. 310. Philosophies of History**

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.

*Three credits*

**Phil. 320. The Philosophy of Science**

A critical examination of the nature of science; meaning, verifiability and experimentation in the sciences; the principle of verifiability in Physics and Psychology; induction and the various interpretations of probability; causality and laws of nature, and the nature of explanation and justification.

*Three credits*

**Phil. 330. Existentialism**

A close examination of the literature of the major existentialist writers, in both its theistic and atheistic phases, together with a consideration of its impact upon philosophy, religion, psychology, and art. Special attention will be given to the thought of Kierkegaard, Nietzsche, Jaspers, Heidegger, Marcel, and Sartre.

Prerequisite: Phil. 101 and instructor's permission.

*Three credits*

**Phil. 395-396. Independent Research**

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

Prerequisite: Approval of the department chairman is required.

*One to three credits*

**Phil. 397. Seminar**

Presentations and discussions of selected topics.

Prerequisite: Approval of the department chairman is required.

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

*Religion*

**Rel. 200. Man's Religions**

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.

*Three credits*

**Rel. 201. The Literature of the Old Testament**

The course aims at giving the student 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.

*Three credits*

**Rel. 202. The Literature of the New Testament**

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.

*Three credits*

**Rel. 212. Contemporary Trends in Religious Thought**

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.

*Three credits*



**PHYSICAL EDUCATION AND HYGIENE**

Associate Professor Reese, chairman; Assistant Professors R. Schmidt, Rainey, Saracino; Instructor Domzalski, Foster.

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 during the freshman and sophomore years.

The College men at the beginning of each year are given a medical and a physical examination. The work in physical education includes soccer, football, basketball, baseball, volley ball, and other competitive games.

The College women also are given a thorough medical and physical examination before entering upon the program of physical education. The work for women consists of such activities as dancing, basketball, and natural gymnastics.

**P.E. 101-102-103-104. Physical Education**

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.

**P.E. 105-106. Hygiene<sup>1</sup>**

A study of present day health problems. The course undertakes to help students enjoy maximum health and happiness through better understanding of nutrition, infection, disease, nervous and mental disorders, and problems of parenthood. One hour each week.

*One credit each semester*

<sup>1</sup> Class instruction in personal hygiene is required of all students, even those excused by physicians from taking physical education.

**PHYSICS**

Professor Bellas, chairman; Professors Donahoe, Holden; Associate Professors Thomas, Nejib, Toole; Assistant Professors Morrow, Hostler, Bailey, Placek.

**Phys. 101-102. Physical Science**

A course for the non-science student to enable him to understand and appreciate 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.

*Three credits each semester*

**Phys. 105-106. Introductory Physics**

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.

*Four credits each semester*

**Phys. 201. General Physics I**

A thorough grounding in the concepts, principles, and physical laws of Mechanics, Thermodynamics, and Acoustics. 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.

*Four credits*

**Phys. 202. General Physics II**

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: \$20.00.  
Prerequisite: Phys. 201.  
*Four credits*

**Phys. 203. General Physics III**

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.  
*Three credits*

**Phys. 230. Optics and Light**

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.  
*Four credits*

**Phys. 231-232. Electronics**

A study of vacuum tubes, transistors, and their application in circuits for rectification, amplification, oscillation, switching, etc. Two hours class and one three-hour laboratory a week. Fee: \$20 each semester.  
Prerequisite: Phys. 202.  
*Three credits each semester*

**Phys. 240. Thermodynamics**

The fundamental concepts of thermodynamics. The first and second laws of thermodynamics, Carnot cycle, entropy, and an introduction to statistical mechanics. Three hours lecture-discussion.  
Prerequisite: Phys. 202.  
*Three credits*

**Phys. 307. Topics in Theoretical Physics**

Selected topics depending upon the interests of the instructor and students. Topics might include advanced mechanics, fluid mechanics, electromagnetic theory, relativity, etc. Class, three hours.  
Prerequisite: Math. 362 or approval of the instructor.  
*Three credits*

**Phys. 311-312. Mechanics**

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 Newtonian motions of particle systems (such as a harmonic oscillator, central force problems, etc.), 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.  
Prerequisites: Phys. 202 and Math. 212.  
*Three credits each semester*

**Phys. 331-332. Electricity and Magnetism**

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.  
Prerequisites: Phys. 202 and Math. 212.  
*Four credits each semester*

**Phys. 351. Quantum Mechanics**

An introduction to the theoretical and mathematical aspects of quantum mechanics. Topics include Schrodinger's equation and its application to the harmonic oscillator, the potential-well, and the hydrogen atom problems; steady-state nondegenerate, degenerate, and time-dependent perturbation theory; angular momentum; identical particles and Pauli's exclusion principle; relativistic wave equation and the origin of electron spin. Three hours lecture-discussion.  
Prerequisites: Phys. 312, Math. 362.  
*Three credits*



**Phys. 361. Atomic Physics**

The structure of the atom, the photo-electric effect, crystal structure, X-rays, spectra, introduction to quantum theory. Class, three hours and one three-hour laboratory a week. Fee: \$20.

Prerequisites: Phys. 203, 311, 331.

*Four credits*

**Phys. 370. Solid State Physics**

Selected topics, depending upon the interests of the instructor and students. For example, theory of electrical and thermal conductivity, semiconductors, bonding in solids, point defects, dislocation, magnetic properties, etc. Class, three hours.

Prerequisites: Phys. 361, Math. 362, or approval of the instructor.

*Three credits*

**Phys. 380. Nuclear Physics**

Special relativity, natural and induced radioactivity, nuclear structure, nuclear reactions, reactors, etc. Class, three hours and one three-hour laboratory a week. Fee: \$20.

Prerequisite: Phys. 361.

*Four credits*

**Phys. 391-392. Advanced Laboratory**

Students desiring to undertake laboratory work in topics of their own choosing should consult the department chairman. Lab fee: \$7 per credit hour.

Prerequisites: Phys. 203, Math. 212.

*One or two credits — Hours to be arranged*

**Phys. 395-396. Independent Research**

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

Prerequisite: Approval of the department chairman is required.

*One to three credits*

**Phys. 397. Seminar**

Presentations and discussions of selected topics.

Prerequisite: Approval of the department chairman is required.

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

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**

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.

*Three credits each semester*

**Phys. 471. Crystallography**

Repetition theory and translational and rotational symmetry. Derivation of the crystal classes. Combination of symmetry operations involving reflections and inversions. The symmetrical plane and space lattices. The coordinate systems of crystallography and crystal forms. Practical determination of point-group symmetry. The algebra of operations. Space groups. Equivalent positions in space groups. The determination of space groups. Group Theory and its application to point symmetries.

*Three credits*

**Phys. 472. X-Ray Diffraction**

X-rays and their properties. Directions and intensities of diffracted beams. Laue, Debye-Scherrer, Diffractometer, Rotating, Oscillating, Weissenberg and Precession Methods. Outline of crystal structure analysis. Laboratory, one period per week. Fee: \$20.

Prerequisite: Phys. 471.

*Three credits*

**Phys. 473. Crystalline Anisotropy**

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.

Prerequisite: Phys. 472.

*Three credits*



### POLITICAL SCIENCE

Professor Mailey, chairman; Associate Professor Sugiyama; Assistant Professors Tuhy, Niehoff.

#### **P.S. 101. Political Science I**

A broad, comprehensive introduction to the great topics which constitute political science, covering the nature and main elements of the modern states, their politics, their institutions, and their relations with one another.

*Three credits*

#### **P.S. 102. Political Science II**

A descriptive and analytical study of the theory and practice of American National Government including its constitutional basis, organization, powers, and functions and services.

*Three credits*

#### **P.S. 201. Constitutional Law I**

A course intended to show the growth of the American Constitution particularly United States governmental structure and relationships with special emphasis on change in the Constitution, the three branches of government, the Federal System, and the powers of the National Government. The case study method is used.

Prerequisite: P. S. 101 and 102.

*Three credits*

#### **P.S. 202. Constitutional Law II**

A course intended to show the growth of the American Constitution particularly the relations between the individual and his government with special emphasis on liberty against government, protection of civil rights, citizenship and its privileges. The case study method is used.

Prerequisite: P. S. 101 and 102.

*Three credits*

#### **P.S. 203. Politics and Political Parties**

A course intended to analyze the movements of political parties, elections, and the various methods used to gain control.

Prerequisite: P. S. 101 and 102.

*Three credits*

#### **P.S. 204. Public Opinion and Propaganda**

A study in the behavior of governance, including the factors which determine attitude, the formation and expression of public opinion, and propaganda as used by pressure groups.

Prerequisite: P. S. 101 and 102 and Soc. 101 and 102.

*Three credits*

#### **P.S. 205. State Government**

A broad, general course covering the structure, powers, and function of state governments in the United States. Special emphasis is placed on the Pennsylvania State Government.

Prerequisite: P. S. 101 and 102.

*Three credits*

#### **P.S. 206. Municipal Government**

A course undertaking the study of the organization, work, and administration of local government. Since the national government has assumed a new significance today, special attention is given to the relationship between local and national government.

Prerequisite: P. S. 101 and 102.

*Three credits*

#### **P.S. 207. Public Administration**

A study of the organization, activity, problems, and the recruitment policy of the public service.

Prerequisite: P. S. 101 and 102.

*Three credits*

#### **P.S. 208. Labor Legislation**

A course dealing with the role of government in the field of labor relations and with the laws affecting the conditions of employment and employee-employer relations. The course stresses the increasing importance of government in a field heretofore free of any regulation.

Prerequisite: P. S. 101 and 102.

*Three credits*



**P.S. 210. Government of Metropolitan Areas**

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.

*Three credits*

**P.S. 211. Intergovernmental Relations**

An analysis of the evolution, growth, present status and characteristics, including problems, posed by the Federal system of grants-in-aid.

Prerequisite: P.S. 101 and 102.

*Three credits*

**P.S. 212. Management of Municipalities**

A study of the underlying issues, problems, and concepts encountered in local government administration affecting urban change.

Prerequisite: P.S. 101 and 102.

*Three credits*

**P.S. 221. International Law**

A study of the development of the body of customs and rules which states have developed to govern their relations, with particular consideration for the responsibility of states for their enforcement.

Prerequisite: P. S. 101 and 102.

Desideratum: United States and European history.

*Three credits*

**P.S. 222. International Relations**

An analysis of the major concepts, principles and factors involved in an understanding of international relations and foreign policies of nations.

Prerequisite: P. S. 101 and 102.

Desideratum: Some knowledge of history, governments, and geography.

*Three credits*

**P.S. 223. Comparative Government**

A comparative study of the various forms and kinds of governments that have developed in the modern world with primary attention directed toward Europe.

Prerequisite: P. S. 101 and 102.

*Three credits*

**P.S. 224. Soviet System of Government**

A course dealing with the structure and functions of the Soviet Government emphasizing the contrasts and similarities in form with governments of the West.

Prerequisite: P. S. 101 and 102.

*Three credits*

**P.S. 225. International Organization**

A study of the growth of cooperative efforts toward international organization; the nature, functions, and problems relating to international organization.

Prerequisites: P.S. 101 and 102.

*Three credits*

**P.S. 226. Government and Politics of Asia**

An analysis of the distinctive institutions, processes, and problems of political development and contemporary government in Asia, with emphasis on the post-independence era, and on Japan and China.

Prerequisites: P.S. 101 and 102.

*Three credits*

**P.S. 251. The Role of Planning in Urban Development**

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.

*Three credits*



**P.S. 252. Fundamentals of Urban Design**

A study of the principles of urban design and the use of space to achieve efficiency with maximum visual amenity.

Prerequisite: P.S. 251.

*Three credits*

**P.S. 253. Land Use Planning Law**

A course dealing in the law of city planning, nuisance, subdivision controls, eminent domain, urban renewal, and public aspects of real estate financing, with special emphasis on the relationship between implementing planning goals and the basic principles of constitutional law.

Prerequisite: P.S. 251.

*Three credits*

**P.S. 395-396. Independent Research**

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

Prerequisite: Approval of the department chairman is required.

*One to three credits*

**P.S. 397. Seminar**

Presentations and discussions of selected topics.

Prerequisite: Approval of the department chairman is required.

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

**PSYCHOLOGY**

Professor Riley, chairman; Assistant Professors Stetten, Schaefer; Instructors Kanner, Pisaneschi, Irzinski.

**Psy. 101-102. General Psychology**

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.

*Three credits each semester*

**Psy. 201. Advanced General Psychology**

A more detailed study of topics treated only superficially in the introductory course. More attention will be given to learning, perception, and the emotions.

Prerequisite: Psy. 101 and 102. Some background in biology or physiology would be desirable.

*Three credits*

**Psy. 203. Psychologic Theory**

A comprehensive survey of classical and contemporary theories and their relationship to empirical research. Special emphasis is placed on attempts to reconcile and translate these theories into operational descriptions.

Prerequisite: Psy. 101 and 102.

*Three credits*

**Psy. 206. Systematic Psychology**

A historical introduction to the various points of view in recent psychology, followed by a study of the theories of such leaders in the field as Watson, Freud, McDougall, Thorndike, and Kohler.

Prerequisite: Psy. 101 and 102 and one other course in psychology.

*Three credits*

**Psy. 211-212. Experimental Psychology**

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 ex-



periments 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. 101 and 102.

*Three credits each semester*

### **Psy. 213. Physiological Psychology**

A systematic study of the physiological mechanisms mediating behavior. Emphasis is on the neuro-physiological bases of sensation, perception, adaptation, motivation, emotion, learning, and memory. Methods and techniques used in the study of the nervous system and sensory and muscular systems will be investigated and demonstrated.

Prerequisites: Psy. 101-102.

*Three credits*

### **Psy. 221. Child Psychology**

The course is designed to present a general view of the development and growth of the child. It is concerned primarily with the heredity and native equipment of the child and the manner in which this equipment is modified during childhood. Emotional development, language development, and social relations are considered.

Prerequisite: Psy. 101 and 102.

*Three credits*

### **Psy. 232. Human Behavior**

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 and 102.

*Three credits*

### **Psy. 242. Psychological Tests**

A survey of the functions measured by psychological tests with emphasis on intelligence and personality. A variety of the group and individual tests which measure these functions are studied. This course is a prerequisite for Psy. 243 and Psy. 245.

*Three credits*

### **Psy. 243. Industrial Psychology**

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. 242.

*Three credits*

### **Psy. 245. Clinical Psychology**

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.

*Three credits*

### **Psy. 331. Abnormal Psychology**

A general survey of the principal forms of mental abnormalities, with emphasis on causes, symptoms, course, and treatment.

Prerequisite: Psy. 221, 232 and permission of head of department.

*Three credits*

### **Psy. 395-396. Independent Research**

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

Prerequisite: Approval of the department chairman is required.

*One to three credits*

### **Psy. 397. Seminar**

Presentations and discussions of selected topics.

Prerequisite: Approval of the department chairman is required.

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



## RETAILING

Professor Rosenberg, chairman; Instructor D'Zurko.

### Ret. 101. Principles of Retailing

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 operating division.

*Three credits*

### Ret. 210. Elements of Merchandise

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.

*Three credits*

### Ret. 211. Merchandise Information

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.

*Three credits*

### Ret. 212. Purchases and Merchandising Control

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. 107 or approval of instructor.

*Three credits*

### Ret. 214. Retail Buying

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.

*Three credits*

### Ret. 220. Organization and Operation of the Small Store

Importance of small business; factors in business success; justification of new businesses; financing; location; policies; management; employee relations; sales promotion; turnover; profit; records; small business and the future.

*Two credits*

### Ret. 224. Recent Trends and Developments in Retailing

Review of fundamentals; trends in retailing; study of developments in cooperation with retail store executives. Laboratory work; reports on trends and developments.

*Three credits*

### Ret. 225. Retail Practice

Required of all retailing majors in the seventh semester. In cooperation with local stores, a program in Retailing Practices has been established. Under this program, students majoring in Retailing must be employed for an average of 25 hours a week during the fall term of the 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.

*Three credits*



## SOCIOLOGY AND ANTHROPOLOGY

Professor Moravec, chairman; Assistant Professor Weinstein;  
Instructors O'Connor, Welliver.

### Soc. 101. Introduction to Sociology and Anthropology I

Man in Society; a systematic view of sociology, providing essentials for an approach to questions about man in society; analysis of social processes, structures, and functions.

*Three credits*

### Soc. 102. Introduction to Sociology and Anthropology II

Man and Culture; a general survey of the field of anthropology stressing its cultural aspects; study of contemporary non-literate societies and their institutions.

*Three credits*

### Soc. 200. The Family

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 102 or permission of instructor.

*Three credits*

### Soc. 215. Sociology of Urban Life

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 102.

*Three credits*

### Soc. 230. Social Problems

A survey of most pressing contemporary social problems and an examination of current theories of social disorganization.

Prerequisite: Soc. 101 and 102.

*Three credits*

### Soc. 235. Crime and Juvenile Delinquency

Evaluation of current theories and research into causative factors and sociological implications of criminal and delinquent behavior.

Examination of problems, programs, and issues in prevention and treatment of deviant behavior.

Prerequisite: Soc. 230, or permission of the instructor.

*Three credits*

### Soc. 240. Medical and Psychiatric Sociology

A general survey of the application of sociology in two fields: (1) medicine — social and cultural factors affecting health and illness, doctor-patient relationships, the role of the patient, the hospital environment; and (2) psychiatry — social factors affecting the diagnosis, etiology, and treatment of mental disorders, the mental hospital as a social system, community psychiatry.

Prerequisites: Soc. 101 and 102, or permission of the instructor.

*Three credits*

### Soc. 251. Fields of Social Work

A survey of the main problems of social work and of agencies and methods that have developed to cope with them. The nature and requirements of the different fields of social work.

Prerequisite: Soc. 101 and 102 and Psy. 101 and 102.

*Three credits*

### Soc. 252. Comparative Social Welfare Systems

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.

Prerequisites: Soc. 101, 102, Psy. 101, 102.

*Three credits*

### Soc. 255. Introduction to Social Psychology

A general survey of the field of social psychology. Social factors in human nature; psychology of individual differences; social inter-



action; collective behavior, psychology of personality; social pathology.

Prerequisite: Soc. 101 and 102 and Psy. 101 and 102.

Three credits

### Soc. 260. Personality and Social Structure

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 102; Soc. 255.

Three credits

### Soc. 265. Sociology of Industry

An analysis of the formal and informal social organization of the work plant and of the relationship between modern industrial organization and the community.

Prerequisite: Soc. 101 and 102 and Ec. 101 and 102, or permission of the instructor.

Three credits

### Soc. 270. Peoples and Cultures of the World

A survey of the non-Western cultures of the world with an emphasis on one of the following areas: The Middle East, The Far East, South-East Asia, Africa, Australasia, Latin America.

Prerequisite: Soc. 101 and 102.

Three credits

### Soc. 275. Sociology of Minorities

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 102 and Psy. 101 and 102.

Three credits

### Soc. 280. Sociological Theory

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 102 and two other courses in sociology or permission of the instructor.

Three credits

### Soc. 395. Methods of Research in Sociology

Introduction to sociological research; selected problems of research in social relations; interviewing techniques; questionnaire design and case studies.

Prerequisite: Approval of department chairman.

Three credits

### Soc. 396. Independent Research

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

Prerequisite: Approval of the department chairman is required.

One to three credits

### Soc. 397. Seminar

Presentations and discussions of selected topics.

Prerequisite: Approval of the department chairman is required.

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



Soc 380 Sociological Theory  
The aim of the course is to provide the student with a background in sociology or to give the student a background in sociology as necessary for understanding of the various levels of sociology as well as for clarification of its distinct social scientific position, and methods.

Prerequisite: Soc 101 and 102 and one other course in sociology or permission of the instructor.

Soc 392 Methods of Research in Sociology  
Introduction to sociological research, selected problems of research in social relations, interview techniques, questionnaires, and case studies.

Prerequisite: Approval of department chairman.  
Three credits.

Soc 395 Independent Research  
Independent study of the student. The student is assigned to the field of the major under the direction of the instructor. A research project is assigned to the student. The student is expected to prepare a paper on the project at the end of the semester. One to three credits.

Soc 397 Seminar  
Seminar in the department of sociology. The student is assigned to the field of the major under the direction of the instructor. A research project is assigned to the student. The student is expected to prepare a paper on the project at the end of the semester. One to three credits.

Soc 398 Sociological Administration  
The student is assigned to the field of the major under the direction of the instructor. A research project is assigned to the student. The student is expected to prepare a paper on the project at the end of the semester. One to three credits.

## Personnel of the College

Commitment  
at  
Wilks

### Board of Trustees

### Administration

### Faculty



**Commitment  
at  
Wilkes**

The political world is metamorphosed; new remedies must henceforth be sought for new disorders. To lay down extensive but distinct and settled limits to the action of the government; to confer certain rights on private persons, and to secure to them the undisputed enjoyment of those rights; to enable individual man to maintain whatever independence, strength, and original power he still possesses; to raise him by the side of society at large, and uphold him in that position; these appear to me the main objects of legislators in the ages upon which we are now entering.

One set of men can perceive nothing in the principle of equality but the anarchical tendencies that it engenders; they dread their own free agency, they fear themselves. Other thinkers, less numerous but more enlightened, take a different view: beside that track which starts from the principle of equality to terminate in anarchy, they have at last discovered the road that seems to lead men to inevitable servitude. They shape their souls beforehand to this necessary condition; and, despairing of remaining free, they already do obeisance in their hearts to the master who is soon to appear. The former abandon freedom because they think it dangerous; the latter, because they hold it to be impossible.

If I had entertained the latter conviction, I should not have written this book, but I should have confined myself to deploring in secret the destiny of mankind.

ALEXIS DE TOCQUEVILLE  
*Democracy in America* (1840)

**Board of Trustees**

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ARNAUD C. MARTS, *Honorary Member*  
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MRS. EBERHARD L. FABER	RICHARD L. PEARSALL
EUGENE S. FARLEY, <i>Chancellor</i>	JOHN A. PERKINS
JOHN B. FARR	HON. FRANK L. PINOLA
ANDREW HOURIGAN, JR.	MAX ROSENN
JOSEPH J. KOCYAN, M.D.	AARON WEISS

TERM OF OFFICE

*Expiring June, 1971*

BEN BADMAN, JR.	JOHN B. FARR
NOEL CAVERLY	THOMAS H. KILEY
FRED R. DAVIS	JOSEPH J. KOCYAN, M.D.
MRS. EBERHARD L. FABER	MISS MARY R. KOONS

*Expiring June, 1972*

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WILLIAM L. CONYNGHAM	JOHN A. PERKINS
MRS. ELY LANDAU	HON. FRANK L. PINOLA
F. ELLSWORTH PARKHURST	AARON WEISS

*Expiring June, 1973*

ALFRED EISENPREIS	KENNETH G. NORTHROP
EUGENE S. FARLEY	MAX ROSENN
ANDREW HOURIGAN, JR.	JOSEPH J. SAVITZ
CHARLES H. MINER, JR.	LOUIS SHAFFER



## Committee Appointments

### Executive

LOUIS SHAFFER, *Chairman*  
 THOMAS H. KILEY, *Vice Chairman*  
 DONALD F. CARPENTER  
 WILLIAM L. CONYNGHAM  
 FRED R. DAVIS  
 FRANCIS J. MICHELINI, *President*  
 CHARLES H. MINER, JR.  
 KENNETH G. NORTHROP  
 RICHARD L. PEARSALL  
 HON. FRANK L. PINOLA  
 JOSEPH J. SAVITZ

### Instruction

WILLIAM L. CONYNGHAM,  
*Chairman*  
 MRS. EBERHARD L. FABER  
 CHARLES H. MINER, JR.  
 KENNETH G. NORTHROP  
 JOSEPH J. SAVITZ

### Nominations

JOHN B. FARR, *Chairman*  
 DONALD F. CARPENTER  
 ALFRED EISENPREIS  
 JOSEPH J. KOCYAN, M.D.

### Finance

NOEL CAVERLY, *Chairman*  
 FRED R. DAVIS  
 ANDREW HOURIGAN, JR.  
 THOMAS H. KILEY  
 AARON WEISS

### Planning and Development

RICHARD L. PEARSALL, *Chairman*  
 WILLIAM L. CONYNGHAM  
 FRED R. DAVIS  
 ALFRED EISENPREIS  
 EUGENE S. FARLEY, *Chancellor*  
 THOMAS H. KILEY  
 CHARLES H. MINER, JR.  
 KENNETH G. NORTHROP  
 JOSEPH J. SAVITZ  
 AARON WEISS

### Faculty-Trustee Committee on Academic Freedom

WILLIAM L. CONYNGHAM  
 THOMAS H. KILEY

Ex Officio on all Committees — LOUIS SHAFFER AND  
 FRANCIS J. MICHELINI

## Officers of Administration

FRANCIS J. MICHELINI (1955)  
 B.S. (Seton Hall)  
 M.S. (Delaware)  
 Ph.D. (Pennsylvania)

*President*

RALPH B. ROZELLE (1962)  
 B.S. (Wilkes)  
 Ph.D. (Alfred)

*Director of Graduate Studies*

GEORGE F. RALSTON (1946)  
 B.A. (North Carolina)  
 M.A. (Columbia)

*Dean of Student Affairs  
 and Dean of Men*

JOHN P. WHITBY (1947)  
 B.S. (Bloomsburg)  
 M.S. (Columbia)

*Dean of Admissions*

WALTER H. R. MOHR (1963)  
 B.S. (Bloomsburg)  
 M.A. (New York)

*Director of Development*

ALEX PAWLENOK (1967)  
 B.S. (Wilkes)

*Comptroller*

CHARLES R. ABATE (1966)  
 B.S. (Wilkes)

*Business Manager*

JOHN J. CHWALEK (1946)  
 B.S. (East Tennessee)  
 M.A. (Columbia)

*Director of Placement*

JANE K. LAMPE (1969)  
 B.A. (Rosary)  
 M.A. (Michigan)  
 M.Ed. (Virginia)

*Dean of Women*

B. HOPKINS MOSES (1967)  
 B.A., M.A. (Syracuse)  
 LL.D. (Parsons)

*Registrar*

THOMAS F. KELLY (1969)  
 B.A. (Wilkes)

*Director of Evening and  
 Summer College*

ARTHUR J. HOOVER (1955)  
 B.S. (Wilkes)  
 M.Ed. (Pennsylvania State)

*Director of Alumni Relations*

LIVINGSTON CLEWELL (1960)  
 B.S. (Dartmouth)

*Director of Public Relations*

Date following name is the year of appointment.



THOMAS J. MORAN (1970) B.S. (Wilkes) M.S. (Columbia)	<i>Public Relations</i>
RICHARD RASPEN (1967) B.S. (Wilkes)	<i>Director of Financial Aid</i>
LINDA HOBROCK (1969) B.S. (Bowling Green) M.Ed. (Lehigh)	<i>Assistant Dean of Women</i>
JOEL I. ROME (1969) B.A. (Dickinson) M.Ed. (Springfield)	<i>Assistant Dean of Men</i>
JAMES A. MOSS (1970) B.A. (Wilkes) B.D. (Colgate) S.T.M. (Union Theological)	<i>Assistant to Dean — Student Affairs</i>
STANLEY J. HOLDEN (1963) B.A. (Brooklyn) Ph.D. (Alfred)	<i>Director of Research Services and Coordinator of Research in the Sciences</i>
HUGO V. MAILEY (1946) B.S. (West Chester) M.A., Ph.D. (Pennsylvania)	<i>Coordinator of Research and Applied Programs in Humanities and Social Sciences</i>

**College Services**

ROBERT M. KERR B.S. (Bucknell) M.D. (Jefferson)	<i>College Physician</i>
JOSEPH H. KANNER B.A. (Bucknell) M.A. (New School for Social Research)	<i>Director of Testing Service</i>
MILDRED GITTINS	<i>Manager of the Bookstore</i>
NELSON F. CARLE	<i>Superintendent of Buildings and Grounds</i>

**Community Services**

HUGO V. MAILEY B.S. (West Chester) M.A., Ph.D. (Pennsylvania)	<i>Director of Institute of Regional Affairs</i>
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Date following name is the year of appointment.

**Faculty**

In alphabetical order, with date of appointment following the name.

FRANCIS J. MICHELINI (1955) B.S. (Seton Hall) M.S. (Delaware) Ph.D. (Pennsylvania)	Administration	<i>President</i>
FRERIC E. BELLAS (1961) B.S., M.S., Ph.D. (Pennsylvania State)	Physics	<i>Professor</i>
ALVAN BRUCH (1962) B.S. (Chicago) M.S., Ph.D. (New York)	Environmental Science	<i>Professor</i>
SHELDON G. COHEN (1951) B.A. (Ohio State) M.D. (New York)	Experimental Biology	<i>Professor</i>
HAROLD E. COX (1963) B.A. (William and Mary) M.A., Ph.D. (Virginia)	History	<i>Professor</i>
FRANCIS J. DONAHOE (1964) B.A. (LaSalle) Ph.D. (Pennsylvania)	Physics	<i>Professor</i>
BENJAMIN F. FIESTER, JR. (1956) B.A. (Wilkes) M.A. (Bucknell) Ph.D. (Pennsylvania State)	English	<i>Professor</i>
EUGENE L. HAMMER (1953) B.S. (Wheaton) M.A. (Northwestern) Ed. D. (Columbia)	Education	<i>Professor</i>
STANLEY J. HOLDEN (1963) B.A. (Brooklyn) Ph.D. (Alfred)	Physics	<i>Professor</i>
RUTH W. JESSEE (1952) B.S., M.A. (Columbia) Ed. D. (Pennsylvania)	Nursing Education	<i>Professor</i>
BRONIS KASLAS (1949) L.L.B. (Kaunas, Lithuania) M.A., Ph.D. (Strasbourg)	History	<i>Professor</i>



FACULTY — Page 222

DAVID M. LEACH (1969) B.A. (Whitman) Ph.D. (Rochester)	History	Professor
HUGO V. MAILEY (1946) B.S. (West Chester) M.A., Ph.D. (Pennsylvania)	Political Science	Professor
FRANCIS J. MICHELINI (1955) B.S. (Seton Hall) M.S. (Delaware) Ph.D. (Pennsylvania)	Biology	Professor
JAROSLAV G. MORAVEC (1963) L.L.D. (Prague, Czechoslovakia) Ph.D. (Boston)	Sociology	Professor
CHARLES B. REIF (1942) B.A., M.A., Ph.D. (Minnesota)	Biology	Professor
ROBERT RILEY (1949) B.A. (Bucknell) Ph.D. (Pennsylvania State)	Psychology	Professor
PHILIP L. RIZZO (1957) B.A., M.A., Ph.D. (Pennsylvania)	English	Professor
SAMUEL A. ROSENBERG (1948) B.A., M.B.A. (Boston) Ph.D. (North Carolina)	Economics	Professor
RALPH B. ROZELLE (1962) B.S. (Wilkes) Ph.D. (Alfred)	Chemistry	Professor
HOWARD A. SWAIN, JR. (1960) B.S. (Grove City) Ph.D. (Pennsylvania)	Chemistry	Professor
STANKO M. VUJICA (1947) B.A. (Zagreb) M.A. (Innsbruck) Ph.D. (Zagreb)	Philosophy and Religion	Professor
ROBERT E. WERNER (1955) B.A. (Roosevelt) M.S., Ph.D. (Wisconsin)	Economics	Professor

Date following name is the year of appointment.

Page 223 — FACULTY

BING K. WONG (1968) B.A. (Kansas State at Pittsburg) M.A., Ph.D. (Illinois)	Mathematics	Professor
JACK ALLEN (1969) B.S. (Southern California) M.A. Education (Columbia) M.A. English (Wyoming) Ph.D. (SUNY, Buffalo)	Education	Associate Professor
JAMES J. BOHNING (1959) B.S. (Valparaiso) M.S. (New York) Ph.D. (Northeastern)	Chemistry	Associate Professor
HARRIE E. CALDWELL (1970) B.S. (Edinboro State) M.S., Ph.D. (Syracuse)	Education	Associate Professor
ROBERT S. CAPIN (1959) B.S. (Wilkes) C.P.A. (State of Pennsylvania) M.B.A. (Lehigh)	Accounting	Associate Professor
RICHARD B. CHAPLINE (1959) B.S., M.S. (Juilliard)	Music	Associate Professor
CHESTER E. COLSON (1958) B.S. (Massachusetts School of Art) M.S. (Columbia)	Fine Arts	Associate Professor
FRANCK G. DARTE, II (1968) B.A. (Yale) M.S., Ed.D. (Pennsylvania)	Education	Associate Professor
ELWOOD DISQUE (1935) B.A. (Dickinson)	Foreign Languages	Associate Professor
BOYD L. EARL (1963) B.S. (Wilkes) M.S. (Bucknell)	Mathematics	Associate Professor
GEORGE F. ELLIOT (1950) B.A. (Montclair State) M.A. (Clark)	Economics	Associate Professor
WELTON G. FARRAR (1948) B.S., M.S. (Pennsylvania)	Economics	Associate Professor

Date following name is the year of appointment.



FACULTY — Page 224

OWEN D. FAUT (1967) B.S. (Muhlenberg) Ph.D. (Massachusetts Institute of Technology)	Chemistry	Associate Professor
WILLIAM R. GASBARRO (1958) B.S. (Juilliard) M.A. (Columbia)	Music Education	Associate Professor
ALFRED S. GROH (1947) B.A. (Syracuse) M.A. (Columbia)	Theater Arts	Associate Professor
LEVERE C. HOSTLER (1967) B.S. (Massachusetts Institute of Technology) M.S., Ph.D. (Stanford)	Physics	Associate Professor
STANLEY B. KAY (1964) B.A. (Western Reserve) M.A. (Michigan) Ph.D. (Ohio)	Philosophy and Religion	Associate Professor
GRACE C. KIMBALL (1963) B.A. (Rochester) Ph.D. (Cornell)	Biology	Associate Professor
JOHN N. LABOWS (1967) B.S. (Lafayette) Ph.D. (Cornell)	Chemistry	Associate Professor
SHASHANKA S. MITRA (1969) B.S., M.S. (Calcutta, India) Ph.D. (Washington)	Mathematics	Associate Professor
THOMAS J. MIZIANTY (1965) B.S. (Scranton) M.S., Ph.D. (Delaware)	Biology	Associate Professor
UMID R. NEJIB (1965) B.S. (Baghdad) M.S., Ph.D. (Carnegie)	Physics and Engineering	Associate Professor
ROBERT E. OGREN (1963) B.A. (Wheaton) M.S. (Northwestern) Ph.D. (Illinois)	Biology	Associate Professor
JOHN G. REESE (1955) B.S., M. Ed. (Pennsylvania State)	Physical Education	Associate Professor

Date following name is the year of appointment.

Page 225 — FACULTY

THOMAS R. RICHARDS (1943) B.S. (Pennsylvania State) M.S. (Bucknell)	Mathematics	Associate Professor
FRANCIS J. SALLEY (1950) B.S. (St. Joseph's) M.S. (Pennsylvania)	Chemistry	Associate Professor
LISELOTTE M. SCHMIDT (1967) B.M. (Converse) M.A. (NYU) M.M. (Manhattan) Ed.D. (Columbia)	Music	Associate Professor
WILLIAM R. STINE (1965) B.S. (Union) Ph.D. (Syracuse)	Chemistry	Associate Professor
YASUSHI SUGIYAMA (1967) B.A., M.A. (Florida) Ph.D. (Maryland)	Political Science	Associate Professor
DONALD W. TAPPA (1965) B.S. (Brooklyn) M.A. (Williams) Ph.D. (Yale)	Biology	Associate Professor
CROMWELL E. THOMAS (1946) B.S. (Washington and Lee)	Engineering	Associate Professor
JAMES M. TOOLE (1968) B.S. (Pennsylvania State) M.S. (Wilkes) Ph.D. (Pennsylvania State)	Physics	Associate Professor
NADA K. VUJICA (1947) B.A., M.A. (Zagreb) M.A. in L.S. (Marywood)	Library	Associate Professor
ROBERT A. WEST (1962) B.A. (Bucknell) M.A. (Columbia)	Education	Associate Professor
ROY E. WILLIAMS (1967) B.A. (Eastern Nazarene) S.T.B. (Temple) Ph.D. (Drew)	Philosophy and Religion	Associate Professor

Date following name is the year of appointment.



FACULTY — Page 226

JOHN A. ANAZA (1970) B.S. (Ibadan, Nigeria) M.A. (Southern Illinois)	Commerce and Finance	Assistant Professor
REED D. ACHESON (1969) B.A. (Monmouth) Ph.D. (Cincinnati)	Biology	Assistant Professor
FRANK C. ALLEN (1969) B.A. (Maryland) M.A. (New York)	English	Assistant Professor
MARGARET V. ALLEN (1969) B.A. (Ursuline) M.A. (Chicago) Ph.D. (Tulane)	English	Assistant Professor
FRANK G. BAILEY (1968) B.S. (Pennsylvania) M.S. (Stevens) M.A. (Columbia) Ph.D. (Polytechnic Institute of Brooklyn)	Physics	Assistant Professor
MICHAEL J. BARONE (1964) B.S. (Wilkes) M.S. (Bucknell)	Education	Assistant Professor
ANGEL BELIC (1968) L.D. (Zagreb) Ph.D. (Rome, Italy)	Foreign Languages	Assistant Professor
JOSEPH T. BELLUCCI (1967) B.S. (Scranton) M.Ed. (Lehigh) Ed.D. (Lehigh)	Education	Assistant Professor
HERMAN P. BENECKE (1970) B.S. (Florida) Ph.D. (Cincinnati)	Chemistry	Assistant Professor
JAMES P. BERG (1965) B.A. (Harvard) B.D. (Lutheran Seminary) M.A. (Pennsylvania)	History	Assistant Professor
JOEL BERLATSKY (1970) B.A. (Carleton) M.A. (Brown) Ph.D. (Northwestern)	History	Assistant Professor

Date following name is the year of appointment.

Page 227 — FACULTY

PATRICIA M. BOYLE (1966) B.A. (Wilkes) M.A. (Pennsylvania)	English	Assistant Professor
DALE ALLAN BUEHLER (1962) B.A. (Franklin and Marshall) M.S. in L.S. (Drexel Institute of Technology)	Library	Assistant Professor
ARTHUR D. CHESLER (1969) B.A., M.A. (Rutgers)	Economics	Assistant Professor
BRUCE CRADDOCK (1970) B.A. (Park) M.A., Ph.D. (Texas)	English	Assistant Professor
E. SHELDON CURTIS (1952) B.S.C. (Washington and Lee)	Accounting	Assistant Professor
WARREN E. DEARMENT (1964) B.A. (Dickinson) M.A. (Pittsburgh)	English	Assistant Professor
JAMES G. DECOSMO (1962) B.S. (West Chester) M.S. (Adelphi)	Mathematics	Assistant Professor
JORGE E. DE CUBAS (1966) B.A., LL.D., P.L.D. (Havana)	Foreign Languages	Assistant Professor
ROBERT DEYOUNG (1960) B.S. (Rhode Island) M.A. (Columbia)	Economics	Assistant Professor
BERENICE D'VORZON (1968) B.F.A. (Cranbrook Academy of Art) M.A. (Columbia)	Fine Arts	Assistant Professor
THEODORE J. ENGEL (1966) B.B.A., M.A. (Miami)	Business Administration	Assistant Professor
MAHMOUD H. FAHMY (1968) B.A. (Alexandria, Egypt) M.A. (Columbia)	Education	Assistant Professor
H. CUTLER FALL (1969) B.A. (Brown University) M.A. (Yale University)	Music	Assistant Professor

Date following name is the year of appointment.



FACULTY — Page 228

RICHARD A. FULLER (1969) B.S. (New York) M.A. (Columbia)	Fine Arts	Assistant Professor
JOHN W. FURLOW, JR. (1970) A.B. (Middlebury) M.A. (Michigan) Ph.D. (North Carolina)	History	Assistant Professor
HERBERT GARBER (1965) B.A. (New York) M.A. (Columbia)	Music	Assistant Professor
GEORGE GERA (1958) B.S. (Bloomsburg) M.A. (Columbia)	Business Education	Assistant Professor
A. MICHAEL GREENWALD (1970) A.B. (Princeton) A.M., LL.B., Ph.D. (Harvard)	English	Assistant Professor
CHARLES S. GURDIN, JR. (1969) B.A. (Michigan) J.D. (Toledo)	Business Administration	Assistant Professor
STANLEY S. GUTIN (1959) B.A., M.A. (Maryland)	English	Assistant Professor
WILBUR F. HAYES (1967) B.A. (Colby) M.S., Ph.D. (Lehigh)	Biology	Assistant Professor
ROBERT J. HEAMAN (1969) B.A. (Detroit) M.A., Ph.D. (Michigan)	English	Assistant Professor
DONALD HENSON (1970) B.A., M.A. (Purdue)	Philosophy	Assistant Professor
KLAUS HOLM (1970) B.S. (New York) M.F.A. (Yale)	Theater Arts	Assistant Professor
ELLEN D. JACOBS (1969) B.A. (Chicago) M.S. (Illinois Institute of Technology)	Fine Arts	Assistant Professor

Date following name is the year of appointment.

Page 229 — FACULTY

JOHN JARDINE (1970) B.A. (Santa Clara) M.A. (Marquette)	Philosophy	Assistant Professor
EDWIN L. JOHNSON (1966) B.A. (Wilkes) M.A. (Bucknell)	Education	Assistant Professor
WALTER KABY (1968) B.S., M.S. (Kharkov Institute of Technology)	Engineering	Assistant Professor
THOMAS KASKA (1966) B.A. (Wilkes) M.A. (Duquesne)	English	Assistant Professor
FREDERICK J. KROHLE (1965) B.A. (Wilkes) M.S. in L.S. (Drexel Institute of Technology)	Library	Assistant Professor
ANNE C. LIVA (1970) (Juilliard)	Piano	Assistant Professor
CHARLOTTE V. LORD (1962) B.S. (New York) M.A. English (Bucknell) M.A. Italian (Middlebury) Ph.D. (Pennsylvania)	English	Assistant Professor
HILDA A. MARBAN (1969) M.A. (Trinity) Ph.D. (Havana)	Foreign Languages	Assistant Professor
JOHN F. MEYERS (1967) B.A. (Minnesota) M.A. (Clark)	History	Assistant Professor
WILLIAM J. MISTICHELLI (1963) B.A. (La Salle) M.A. (Pennsylvania)	English	Assistant Professor
THOMAS J. MORAN (1970) B.S. (Wilkes) M.S. (Columbia)	Journalism	Assistant Professor
LEROY W. MORROW (1967) B.A. (Washington & Jefferson) Ph.D. (Wisconsin)	Physics	Assistant Professor

Date following name is the year of appointment.



FACULTY — Page 230

WALTER H. NIEHOFF (1968) B.A. (Lafayette) M.A. (Pennsylvania State)	Political Science	Assistant Professor
RAYMOND J. NUTAITIS (1969) B.S. (Wilkes) M.M. (Eastman School of Music)	Music	Assistant Professor
RICHARD S. ORLOWSKI (1969) B.A. (Bucknell) M.A. (Delaware)	Economics	Assistant Professor
WALTER A. PLACEK, JR. (1969) B.S. (Wilkes) M.Ed. (Pennsylvania State)	Physics	Assistant Professor
RONALD G. RAINEY (1965) B.S., M.Ed. (Pennsylvania State)	Physical Education	Assistant Professor
JOSE M. RIBAS (1961) B.A., LL.B. (Barcelona) Ph.D. (Madrid)	Foreign Languages	Assistant Professor
J. PHILIP RICHARDS (1962) B.F.A. (Syracuse)	Fine Arts	Assistant Professor
JOSEPH H. SALSBURG (1959) B.A. (Bucknell)	Mathematics	Assistant Professor
ROSENDO E. SANTOS, JR. (1968) B.M. (Philippines) M.M. (Catholic University of America)	Music	Assistant Professor
DORIS B. SARACINO (1960) B.S., M.S. (East Stroudsburg)	Physical Education	Assistant Professor
CARL F. SCHAEFER, JR. (1970) B.A. (St. Michael's) Ph.D. (Rochester)	Psychology	Assistant Professor
ROLAND C. SCHMIDT, JR. (1962) B.S. (Bloomsburg) M.S. (Scranton)	Physical Education	Assistant Professor
KUO-KONG SHOW (1966) B.A. (Taiwan) M.A. (Pennsylvania)	History	Assistant Professor

Date following name is the year of appointment.

Page 231 — FACULTY

J. GEORGE SILES (1963) B.A. (Wilkes) M.S. (Scranton)	Education	Assistant Professor
HERBERT B. SIMON (1969) B.A., M.A. (New York)	Fine Arts	Assistant Professor
RICHARD J. STEPHENSON (1969) B.A. English (Montana) B.A. French (Montana) Ph.D. (SUNY, Buffalo)	English	Assistant Professor
ROBERT D. STETTEN (1968) B.A. (Lehigh) M.A. Psychology (Iowa) M.A. Political Science (Iowa) Ph.D. (Lehigh)	Psychology	Assistant Professor
EDWARD STOCKHAM (1970) B.A., Ph.D. (Pennsylvania)	Chemistry	Assistant Professor
WILLIAM G. SWARTCHILD, III, (1969) B.A. (Harvard) M.A., Ph.D. (Columbia)	English	Assistant Professor
CHARLES H. SWEENEY (1966) B.A. (Mexico City) M.A. (Middlebury)	Foreign Languages	Assistant Professor
WAGHA ABDEL-GAWAD TAYLOR (1969) B.A. (Alexandria) M.A. (Brown) Ph.D. (Clark)	Economics	Assistant Professor
LEE C. TERRY (1968) B.A. (Southern Methodist) Ph.D. (Texas)	English	Assistant Professor
STEPHEN J. TILLMAN (1970) Sc.B., Ph.D. (Brown)	Mathematics	Assistant Professor
PAUL A. TORELLI (1969) B.A. (LaSalle) M.S. (Northwestern)	Mathematics	Assistant Professor
PHILIP R. TUHY (1960) B.A. (Valparaiso) M.G.A. (Pennsylvania)	Political Science	Assistant Professor
JOHN S. WASILESKI (1970) B.A. (Wilkes) M.A., Ph.D. (Pennsylvania State)	Mathematics	Assistant Professor

Date following name is the year of appointment.



MARY LOU LOVETTE (1968) B.S. (SUNY, Cortland) M.A. (SUNY, Binghamton)	Foreign Languages	Instructor
CHARLES M. MATTEI (1970) B.S., M.S. (Notre Dame)	Environmental Science	Instructor
INGER MILLER (1968) Baccalaureate, Aarhus Cathedral School (Denmark) B.A. (Wilkes) M.A. (Pennsylvania State)	Foreign Languages	Instructor
CHESTER N. MOLLEY (1964) B.A. (Wilkes) M.A. (Bucknell)	English	Instructor
LEOTA NEVIL (1968) B.S. in Ed. (Bloomsburg)	Library	Instructor
RAYMOND D. O'CONNOR (1968) B.A. (Iona) M.A. English (Pittsburgh) M.A. Sociology (Duquesne)	Sociology	Instructor
PATRICIA Y. PISANESCHI (1969) B.A. (Wilkes) M.S. (Pennsylvania State)	Psychology	Instructor
RICHARD PROBERT (1968) B.S. (Wilkes) M.M.E. (Indiana)	Music	Instructor
ALBERT W. RINEHIMER (1968) B.A. (Wilkes)	Library	Instructor
RUTH T. ROBERTS (1955) B.A. (Goucher)	English	Instructor
SARAH SCHONWETTER (1962) B.S., M.S. (Temple)	Biology	Instructor
ALBERT C. SERZAN (1967) B.A. (Yale) M.A.T. (Chicago)	Foreign Languages and Mathematics	Instructor
RICHARD E. SOURS (1965) B.S. (Towson) M.S. (Michigan State)	Mathematics	Instructor (on leave)

Date following name is the year of appointment.

FRANK A. SZUMILO (1970) B.S. (Wilkes) M.S. (Lehigh)	Commerce and Finance	Instructor
WILLIAM J. WEBER (1970) B.S. (Maryland) M.M. (Catholic)	Music	Instructor
PAUL P. ZAVADA (1966) B.S. (Wilkes) C.P.A. (State of Pennsylvania)	Accounting	Instructor

Part-Time Faculty

EDWARD AUGUSTINE B.S. (Bloomsburg) M.S. (Scranton)	Business Administration	Instructor
CLIFFORD E. BALSHAW F.A.G.O. (Quilmant Organ School)	Music	Instructor
ABRAHAM D. BARRAS B.A. (Columbia) B.Rel.Ed., MHL., DHL. (Jewish Theological Seminary)	Religion	Instructor
GEORGE BELL, JR. B.S. (Babson)	Business Administration	Instructor
WILLIAM D. CARVER B.S. (Wilkes) C.P.A. (Pennsylvania State)	Accounting	Instructor
MAUREEN CASEY B.S. (Misericordia) M.S. (Scranton)	Business Administration	Instructor
JERRY B. CHARITON B.A. (Johns Hopkins) J.D. (Harvard Law)	Business Administration	Instructor
JOSEPH CHMIOLA B.A. (Wilkes)	Business Administration	Instructor
CAROLYN D'ZURKO B.A. (Wellesley)	Business Administration	Instructor

Date following name is the year of appointment.



FACULTY — Page 236

PAUL IRZINSKI B.S. (Bloomsburg) M.S. (Scranton)	Psychology	<i>Instructor</i>
WILLIAM JOHNS B.S. (Wilkes)	Business Administration	<i>Instructor</i>
JOSEPH KATZ B.A. (Brooklyn) M.A. (Columbia)	Psychology	<i>Instructor</i>
LOIS E. KNAUB B.S., M.S. (Pennsylvania)	Nursing Education	<i>Instructor</i>
FRANCIS MICOCCHI B.A. (King's) M.B.A. (Scranton)	Business Administration	<i>Instructor</i>
ANTHONY PALISCHAK B.A. (King's)	Foreign Languages	<i>Instructor</i>
ANTHONY PERRONE B.A. (King's) M.S.Ed. (Scranton)	Foreign Languages	<i>Instructor</i>
MURRAY POPKY B.S. (Pennsylvania) Traphagen School of Fashion	Theater Arts	<i>Instructor</i>
CORA PORTER B.S. in N.Ed. (Wilkes) M.S. (Scranton)	Nursing Education	<i>Instructor</i>
PAUL M. RODDA B.A., M.F.A. (Princeton)	Political Science	<i>Instructor</i>
ANN ROWLANDS B.S. (Wilkes)	Nursing Education	<i>Instructor</i>
JOSEPH SKOK B.S. (Lock Haven) M.Ed. (Pennsylvania State)	Education	<i>Instructor</i>
CASIMIR TYBURSKI B.A. (Delaware)	English	<i>Instructor</i>
MURRAY UFBERG B.A. (Bucknell) J.D. (Duquesne)	Business Administration	<i>Instructor</i>

Page 237 — FACULTY

SHELDON VALE B.A. (Pennsylvania State)	Business Administration	<i>Instructor</i>
BARBARA WELLIVER B.A. (Susquehanna) M.S.W. (Washington) M.Sc.E. (Temple)	Sociology	<i>Instructor</i>
DAVID WILLIAMS B.S. (Wilkes)	Mathematics	<i>Instructor</i>
MYVANWY WILLIAMS B.A. (New York State) M.A. (Middlebury)	Theater Arts	<i>Instructor</i>
LINDA WILLIAMSON B.S. (Wilkes)	Business Education	<i>Instructor</i>



## Faculty Committees

The following are the faculty committee assignments made for the academic year 1970-1971. The President is *ex-officio* on all committees except committees on Academic Freedom.

*Academic Standing*

Robert S. Capin, *Chairman*  
Benjamin Fiester, Jr.  
Herbert Garber  
Eugene L. Hammer  
Robert Heaman  
Stanley Holden  
Jane K. Lampe  
David M. Leach  
B. Hopkins Moses  
George F. Ralston  
Charles B. Reif  
Joseph Salsburg  
John P. Whitby  
Ralph B. Rozelle

*Admissions*

George Elliot, *Chairman*  
Reed Acheson  
Frank Allen  
Frederic E. Bellas  
John J. Chwalek  
Mahmoud H. Fahmy  
J. Philip Richards  
John P. Whitby

*Athletic*

Cromwell E. Thomas, *Chairman*  
Barbara Buckman  
Boyd Earl  
Welton Farrar  
Arthur J. Hoover  
John G. Reese  
Charles Sweeney  
Donald Tappa  
Stanko Vujica  
Robert West  
John P. Whitby

*Calendar-Faculty Handbook*

Hugo V. Mailey, *Chairman*  
Benjamin Fiester, Jr.  
David M. Leach  
B. Hopkins Moses  
Ralph B. Rozelle

*Curriculum*

Robert C. Riley, *Chairman*  
James DeCosmo  
Francis Donahoe  
William R. Gasbarro  
Arvid Lekstrom  
Hugo V. Mailey  
Robert Ogren  
Samuel A. Rosenberg  
Frank Salley  
J. George Siles  
Lee C. Terry  
Dean White

*Graduate Studies*

Francis Donahoe, *Chairman*  
James Bohning  
Alvan Bruch  
Harold Cox  
Franck G. Dart, II  
Benjamin Fiester, Jr.  
Eugene L. Hammer  
Stanley Holden  
David M. Leach  
Charles B. Reif  
Philip Rizzo  
Samuel A. Rosenberg  
Ralph B. Rozelle  
Donald Tappa  
James M. Toole  
Robert E. Werner  
Charles Wilks  
Bing K. Wong

## Faculty Committees

The President is *ex-officio* on all committees except committees on Academic Freedom.

*Financial Aid*

Michael Barone, *Chairman*  
Margaret V. Allen  
Warren E. DeArment  
Wilbur Hayes  
John F. Meyers  
Umid Nejib  
Raymond Nutaitis  
Richard Raspen

*Library*

Charlotte V. Lord, *Chairman*  
James Berg  
Dale E. Buehler  
Berenice D'Vorzon  
Cutler Fall  
Lever C. Hostler  
Raymond D. O'Connor  
Yasushi Sugiyama  
Howard Swain  
William Swartchild, III  
Paul Torelli  
Nada Vujica

*Research and Service*

Stanley Holden, *Chairman*  
Benjamin Fiester, Jr.  
David M. Leach  
Hugo V. Mailey  
Ralph B. Rozelle  
Francis J. Michelini, *ex-officio*

*Student Life*

George F. Ralston, *Chairman*  
Joseph Bellucci  
Robert S. Capin  
Theodore J. Engel  
Linda Hobrock  
Jane K. Lampe  
William Mistichelli  
James Moss  
Patricia Pisaneschi  
Richard Probert  
Richard Raspen  
Joel Rome  
James M. Toole

*Student Publications*

Stanley B. Kay, *Chairman*  
Joseph Bellucci  
James Berg  
Patricia Boyle  
Chester Colson  
Thomas Moran

*Academic Freedom*

a. MEDIATION  
Samuel A. Rosenberg  
Robert C. Riley  
Benjamin Fiester, Jr.  
Ralph B. Rozelle, *Alternate*

b. FACULTY-TRUSTEE  
Robert E. Werner  
Eugene L. Hammer  
Robert S. Capin, *Alternate*



# Index

Academic Requirements .....	57	Band .....	37, 45
Accounting		Biology	
Degree Program .....	93	B.A. Degree Program .....	79
Description of Courses .....	111	B.S. Degree Program .....	90
Activities, Student .....	45	Description of Courses .....	113
Administration		Graduate Program .....	55
Buildings .....	40	Board of Trustees .....	217
Officers .....	219	Bookstore .....	39
Admission Tests .....	12	Buildings and Plant .....	35
Admissions .....	11	Business Administration	
Evening Division .....	14	Degree Program .....	55, 94
Graduate .....	14	Description of Courses .....	117
Requirements .....	11	Business Education	
Summer .....	14	Major .....	96
Tests .....	12	Description of Courses .....	121
Advanced Course Standing .....	13		
Alumni Office .....	39	Calendar .....	2
Anthropology .....	88, 210	Center for the	
Art .....	38, 82, 158	Performing Arts .....	37, 69
Assistance, Financial .....	19	Change of Program .....	60
Employment .....	23	Chemistry	
Loans .....	22	B.A. Degree Program .....	80
Scholarships .....	19, 21	B.S. Degree Program .....	91
Tuition Stipends .....	46	Description of Courses .....	124
Athletics .....	50	Graduate Program .....	55
Attendance, Class .....	59	Chorus .....	37, 45
Awards		Class Standing .....	58
Senior .....	62	Clubs .....	45, 49
Undergraduate .....	63	College & Community .....	6, 27, 67
		College Commons .....	39
Bachelor of Arts		College Services .....	220
Degree .....	73, 74, 78	College Testing Service .....	38
Required Courses .....	74	Commerce and Finance .....	93
Selection of a major .....	75	Consultation Service .....	44
Bachelor of Science		Counseling .....	43
Degree .....	76, 77	Course Credits .....	57
Selection of a major .....	76		



Courses, Description of

- Accounting ..... 111
- Anthropology ..... 210
- Applied Music ..... 181
- Biology ..... 113
- Business Administration ..... 117
- Business Education ..... 121
- Chemistry ..... 124
- Civil Engineering ..... 141
- Economics ..... 129
- Education ..... 134
- Electrical Engineering ..... 142
- Engineering ..... 141
- English ..... 150
- Environmental Science ..... 156
- Fine Arts ..... 158
- Foreign Languages ..... 161
- French ..... 161
- German ..... 164
- History ..... 171
- Hygiene ..... 194
- Journalism ..... 154
- Materials Engineering ..... 147
- Mathematics ..... 176
- Mechanical Engineering ..... 149
- Music ..... 181
- Music Education ..... 185
- Nursing Education ..... 188
- Philosophy ..... 190
- Physical Education ..... 194
- Physics ..... 195
- Political Science ..... 200
- Psychology ..... 205
- Religion ..... 193
- Retailing ..... 208
- Russian ..... 170
- Sociology ..... 210
- Spanish ..... 167
- Theater Arts ..... 155

- Curricula ..... 55
- Dean's List ..... 60
- Debating ..... 45
- Degree
  - Bachelor of Arts ..... 73, 74, 78
  - Bachelor of Science ..... 76, 77
- Degree Programs ..... 55, 56, 73, 77
- Dormitories ..... 18, 40
- Dramatics ..... 37, 45
- Economics
  - Degree Program ..... 81
  - Description of Courses ..... 129
- Education
  - Elementary ..... 81
  - Secondary ..... 82
  - Business ..... 55, 96
  - Music ..... 104
  - Nursing ..... 105
  - Science ..... 55
  - Description of Courses ..... 134
  - Graduate Programs ..... 55
- Employment ..... 23
- Engineering ..... 97
  - Degree Programs, Common
    - Freshman Year ..... 98
  - Chemical ..... 100
  - Civil ..... 100
  - Electrical ..... 98
  - Materials Science ..... 99
  - Mechanical ..... 100
  - Description of Courses ..... 141
- English
  - Degree Program ..... 82
  - Description of Courses ..... 150
- Entrance Examinations ..... 12
- Environmental Science

- Description of Courses ..... 156
- Evening School ..... 14, 15, 60
- Expenses ..... 15
- Extracurricular Activities ..... 45
- Faculty ..... 221
  - Committees ..... 238
- Fees ..... 15, 16
- Financial Assistance ..... 17, 19
- Fine Arts
  - Degree Program ..... 82
  - Description of Courses ..... 158
- Fine Arts Fiesta ..... 69
- Foreign Languages
  - Degree Program ..... 83
- French
  - Description of Courses ..... 161
- Freshman Orientation ..... 43
- German
  - Description of Courses ..... 164
- Grades ..... 57
- Graduate Curricula ..... 14
  - At Wilkes College ..... 55
  - With Lehigh University ..... 55
  - With Temple University ..... 55
- Graduate Placement ..... 38
- Graduate Programs
  - In Biology ..... 55
  - In Business Administration ..... 55
  - In Chemistry ..... 55
  - In Education ..... 55
  - In Physics ..... 55
- Graduation Fee ..... 16
- Graduation
  - Requirements for ..... 61
- Guidance Center ..... 38
- Gymnasium ..... 38, 49

- History
  - Degree Program ..... 83
  - Description of Courses ..... 171
- Homecoming ..... 48
- Honors ..... 60
- Hygiene ..... 194
- Institute of Regional Affairs ..... 67
- Insurance
  - Accident and Sickness ..... 16
- Inter-Dormitory Council ..... 46, 48
- Interviews ..... 13
- Journalism ..... 154
- Labor-Management
  - Training Program ..... 67
- Liberal Arts
  - Requirements for Major ..... 73
  - Selection of a Major ..... 75
- Library ..... 35
- Load, Student Work ..... 59
- Loans ..... 17, 22
- Madrigal Singers ..... 45
- Male Chorus ..... 45
- Majors
  - Accounting ..... 93
  - Biology ..... 79, 90
  - Business Administration ..... 94
  - Business Education ..... 96
  - Chemistry ..... 80, 91, 92
  - Economics ..... 81
  - Education ..... 81
  - Engineering ..... 97
  - English ..... 82
  - Fine Arts ..... 82
  - Foreign Language ..... 83



History .....	83
Mathematics .....	83, 101
Medical Technology .....	103
Music .....	85, 104
Nursing Education .....	105
Philosophy-Religion .....	86
Physics .....	86, 106
Political Science .....	88
Psychology .....	88
Social Science .....	89
Sociology-Anthropology .....	88
Urban Affairs .....	89
Course Requirements .....	76, 77
Master of Science Degree .....	55
In Biology .....	55
In Business Administration .....	55
In Chemistry .....	55
In Education .....	55
In General Education .....	55
In Physics .....	55
Mathematics .....	
Degree Program .....	83, 101
Description of Courses .....	176
Medical Technology .....	
Degree Program .....	103
Music .....	
Activity .....	37, 45
Auditions .....	13
Degree Program .....	85, 104
Description of Courses .....	181
Music Education .....	
Degree Program .....	104
Description of Courses .....	185
National Defense Student .....	
Loan Program .....	22
Nursing Education .....	
Degree Program .....	105
Description of Courses .....	188
Orientation for Freshmen .....	43
Overload .....	59
Parents' Day .....	47
Payment of Tuition .....	17
Performing Arts Center .....	37, 69
Philosophy .....	
Degree Program .....	86
Description of Courses .....	190
Physical Education and .....	
Hygiene .....	194
Physics .....	
Degree Program .....	86, 106
Description of Courses .....	195
Graduate Program .....	55
Placement Office .....	38
Point Averages .....	58
Political Science .....	
Degree Program .....	88
Description of Courses .....	200
Pre-Professional Degree .....	56
Probation .....	59
Psychology .....	
Degree Program .....	88
Description of Courses .....	205
Publications .....	46
Staff Stipends .....	46
Refunds .....	17
Registration .....	15
Religion .....	
Description of Courses .....	193
Research .....	36, 69
Retailing .....	
Description of Courses .....	208
Russian .....	
Description of Courses .....	170

Scholarships .....	19
Federal .....	21
Founders of .....	24
Pennsylvania State .....	22
Wilkes .....	21
Scholastic Aptitude Tests, .....	
CEEB .....	12
Scholastic Endowments .....	32
Science Facilities .....	36
Social Activities .....	47
Social Science .....	73, 89
Sociology and Anthropology .....	
Degree Program .....	88
Description of Courses .....	210
Spanish .....	
Description of Courses .....	167
Stark Hall of Science .....	36
Student Activities .....	45
Student Advisement .....	44
Student Government .....	45
Student Course Load .....	59
Student Loans .....	22
Student Responsibility .....	51
Academic .....	57
Admissions .....	11
Athletics .....	50
Bachelor of Arts .....	73
Bachelor of Science .....	76
Calendar .....	2
Community .....	6, 7, 67
Counseling .....	43
Dormitories .....	18, 40, 46
Employment .....	23
Expenses .....	15
Extracurricular Activities .....	45
Evening School .....	14, 60
Government .....	45
Grade Averages .....	57, 58
Graduate Study .....	55, 56
Graduation .....	61
Honors .....	60
Loans .....	17, 22
Orientation .....	43
Scholarships .....	19
Social Activities .....	47
Summer School .....	14, 15
Transcripts .....	16
Transfer .....	13, 14, 60
Withdrawals .....	17, 59
Summer School .....	14, 15
Teacher Certification .....	81, 82
Theater Arts .....	155
Town and Gown Concerts .....	37
Transcripts of Academic .....	
Record .....	16
Transfer of Summer Credits .....	60
Transfer Students .....	13
Trustees .....	
Board of .....	217
Committees .....	218
Tuition .....	15, 17
Fees .....	15, 16
Payment of .....	17
Refund of .....	17
Undergraduate Programs .....	56, 73
Wilkes College .....	6
Accreditation .....	7
Wilkes-Barre Philharmonic .....	
Orchestra .....	69
Withdrawals .....	17, 59
Women's Chorus .....	45
Wrestling Tournament .....	48





*Fall Semester 1970-1971*

**EVENING COLLEGE SESSION**

**WILKES  
COLLEGE  
BULLETIN**

WILKES-BARRE, PENNSYLVANIA





**Wilkes College**

*Bulletin*



**EVENING SESSION**

**Fall Semester**

**1970-1971**

**WILKES-BARRE, PENNSYLVANIA**



**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.

**CALENDAR**

Registration for the Evening College is as follows:

Wednesday, September 9 .....9:00 a.m. to 8:00 p.m.

Thursday, September 10 .....9:00 a.m. to 8:00 p.m.

Friday, September 11 .....9:00 a.m. to 8:00 p.m.

Saturday, September 12 .....9:00 a.m. to 12:00 noon

Monday, September 14 .....Classes begin at 6:00 p.m.

Saturday, October 10 .....Report on incomplete grades

Saturday, October 24 .....Progress reports

Thursday, November 19 .....Thanksgiving recess, 10:00 p.m.

Monday, November 30 .....Classes resume, 6:00 p.m.

Thursday, December 17 .....Christmas recess, 10:00 p.m.

Monday, January 4 .....Classes resume, 6:00 p.m.

Thursday, January 7 .....Classes end, 10:00 p.m.

Monday, January 11, through

Thursday, January 14 .....Examination period

For further information write to:

Thomas F. Kelly  
Director of Evening and Summer College  
Wilkes College  
Wilkes-Barre, Pennsylvania 18703  
Phone 824-4651. (After 5:00 p.m., call 824-4656)



## **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 2400 full-time day students and 1000 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 their 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 small 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.



## **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 a 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 a college degree 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-Wednesday or Tuesday-Thursday between the hours of 6:00 p.m. and 10:00 p.m.

The College reserves the right to withdraw any course for which there is insufficient enrollment. Students who have registered for courses that may be cancelled because of insufficient enrollment will be notified as promptly as possible.

#### **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.

The underlying philosophy of the Institute of Regional Affairs is cooperation, rather than reform of partisanship.

#### **FACILITIES**

The College is located in Wilkes-Barre, Pennsylvania, in the heart of the picturesque and historic Wyoming Valley. This ideal 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 will post its Fall schedule at the beginning of the semester.

Evening College students may borrow books from the Library by presenting their I.D. card.

### BOOKSTORE

The Bookstore offers a complete stock of necessary textbooks and supplies. It will be open as follows:

Monday through Friday ..... 9:00 a.m. to 11:45 a.m.  
1:00 p.m. to 4:45 p.m.  
Monday and Tuesday Evenings ..... 6:00 p.m. to 7:45 p.m.  
Saturday ..... 9:00 a.m. to 11:45 a.m.

### EXPENSES

Tuition — \$60 per semester hour credit.

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.

### WITHDRAWAL

A student who withdraws from the evening session or drops courses after the first week must receive approval from the instructor and should give prompt written or verbal notice to the Director of the Evening and Summer College in order that their records may not unjustly show failure in courses.

Students in good standing who withdraw from the College will receive a refund of tuition under the following conditions: during the first six weeks of the evening session one-half of the tuition will be refunded upon request to the Director of Evening and Summer 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.

Occasionally changes in the Evening College Schedule become 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.

## EVENING COLLEGE

### UNDERGRADUATE DIVISION

### FALL SEMESTER—1970-1971

COURSE	DESCRIPTION	DAY & HOURS	ROOM No.	CREDIT HOURS
<b>ACCOUNTING:</b>				
Acct. 101E	Elementary Accounting I	MW 6:30-8:00	Par. 35	3
Acct. 101E-2	Elementary Accounting I	TTh 6:30-8:00	Par. 35	3
Acct. 101E-3	Elementary Accounting I	MW 8:00-9:30	Par. 45	3
Acct. 102E	Elementary Accounting II (Pre: Acct. 101)	MW 8:00-9:30	Par. 35	3
Acct. 111E	Intermediate Accounting I (Pre: Acct. 102)	TTh 6:30-8:00	Par. 25	3
Acct. 201E	Advanced Cost Accounting I (Pre: Acct. 112)	MW 6:30-8:00	Par. 45	3
Acct. 221E	Taxes I (Pre: Acct. 102-202)	TTh 6:30-8:00	Par. 45	3
Acct. 231E	Auditing Practice I (Pre: Acct. 202)	MW 8:00-9:30	Par. 25	3
Acct. 241E	Advanced Accounting I (Pre: Acct. 112)	MW 6:30-8:00	Par. 25	3
<b>BIOLOGY:</b>				
Bio. 101E	Biological Science I	MW 6:30-8:00	Stark 116	3
Bio. 101E-2	Biological Science I	TTh 6:30-8:00	Stark 116	3
<b>BUSINESS ADMINISTRATION:</b>				
B.A. 209E	Correspondence & Reports (Pre: Eng. 102)	TTh 8:00-9:30	Par. 25	3
B.A. 225E	Corporation Finance (Pre: Econ. 102)	TTh 8:00-9:30	Par. 43	3
B.A. 231E	Business Law— Introduction & Contracts (Pre: Econ. 102)	MW 8:00-9:30	Par. 56	3
B.A. 233E	Business Law— Partnerships & Corporations (Pre: B.A. 231)	TTh 8:00-9:30	Par. 56	3
B.A. 241E	Life Insurance (Pre: Approval of instructor)	MW 6:30-8:00	Par. 43	3
B.A. 251E	Principles of Management I	TTh 6:30-8:00	Par. 43	3



COURSE	DESCRIPTION	DAY & HOURS	ROOM No.	CREDIT HOURS
<b>ECONOMICS:</b>				
Econ. 101E	Principles of Economics I	MW 6:30-8:00	Weck. An.	3
Econ. 101E-2	Principles of Economics I	TTh 8:00-9:30	Par. 34	3
Econ. 102E	Principles of Economics II (Pre: Econ. 101)	MW 6:30-8:00	Par. 23	3
Econ. 111E	Economic History	MW 8:00-9:30	Par. 23	3
Econ. 201E	Money & Banking (Pre: Econ. 102)	MW 8:00-9:30	Par. 34	3
Econ. 217E	Economics of Transportation (Pre: Econ. 102)	TTh 6:30-8:00	Par. 34	3
Econ. 223E	Collective Bargaining (Pre: Econ. 102)	MW 6:30-8:00	Par. 34	3
Econ. 225E	International Trade (Pre: Econ. 102)	TTh 8:00-9:30	Par. 45	3
Econ. 227E	Economic Geography of North America (Pre: Econ. 102)	MW 6:30-8:00	Par. 56	3
Econ. 229E	Comparative Economic Systems (Pre: Econ. 102 or approval of instructor)	MW 8:00-9:30	Par. 43	3
Econ. 231E	Applied General Statistics (Pre: Approval of instructor)	TTh 6:30-8:00	Weck. An.	3
Econ. 241E	Economic Analysis (Pre: Econ. 102)	TTh 6:30-8:00	Par. 23	3
Econ. 245E	Consumer Economics (Pre: Econ. 102)	TTh 8:00-9:30	Par. 23	3
<b>EDUCATION:</b>				
Ed. 351	Educational Measurements (Pre: Ed. 202)	Th 3:00-5:00	Kirby 107	3
<b>ENGLISH:</b>				
Eng. 101E	Composition I	MW 6:30-8:00	Bdf. 12	3
Eng. 101E-2	Composition I	MW 8:00-9:30	Bdf. 12	3
Eng. 101E-3	Composition I	TTh 6:30-8:00	Bdf. 12	3
Eng. 102E	Composition II (Pre: Eng. 101)	MW 8:00-9:30	Bdf. 13	3
Eng. 131E	Fundamentals of Speech	Th 6:00-8:00	Bdf. Sem.	2
Eng. 131E-2	Fundamentals of Speech	M 4:00-6:00	Darte 101	2
Eng. 151E	Western World Literature (Pre: Eng. 102)	MW 6:00-8:00	Bdf. 14	4
Eng. 151E-2	Western World Literature (Pre: Eng. 102)	TTh 6:00-8:00	Bdf. 14	4

COURSE	DESCRIPTION	DAY & HOURS	ROOM No.	CREDIT HOURS
<b>ENVIRONMENTAL SCIENCE:</b>				
Env. Sci. 101E	Environmental Science— Introductory Earth Science Lab Fee \$20	MW 8:00-10:00	Stark 109	3
<b>FINE ARTS:</b>				
F.A. 101E	Experiencing Art I	MW 6:30-8:00	Con. An.	3
F.A. 203	Oil Painting I	MW 8:00-9:30	Con. An.	3
<b>HISTORY:</b>				
Hist. 101E	History of Western Civilization	TTh 8:00-9:30	Stark 204	3
Hist. 101E-2	History of Western Civilization	MW 8:00-9:30	Stark 204	3
Hist. 107E	American & Pennsylvania History to 1865	MW 6:30-8:00	Stark 204	3
Hist. 353E	Early Modern Europe	W 5:30-8:30	Fkn. 30	3
Hist. 357E	History of Russia (Pre: Hist. 101 & 102)	M 5:30-8:30	Fkn. 30	3
Hist. 381E	History of Latin America (Pre: Consent of Head of Department)	T 5:30-8:30	Kirby 103	3
Hist. 497	Seminar (Topics in the economic history of the United States)	T 5:30-8:30	Fkn. 30	3
<b>JOURNALISM:</b>				
Jour. 101E	Journalism Fee \$10	TTh 6:30-8:00	Par. 33	3
<b>LANGUAGES:</b>				
Fr. 101E	Elementary French	MW 8:00-9:30	Kirby 103	3
Fr. 203E	Intermediate French (Pre: Fr. 102)	MW 6:30-8:00	Kirby 103	3
Ger. 101E	Elementary German	MW 6:30-8:00	Kirby 303	3
Ger. 203E	Intermediate German (Pre: Ger. 102)	MW 8:00-9:30	Kirby 303	3
Russ. 101A	Elementary Russian	TTh 4:00-5:30	Kirby 108	3
Russ. 203E	Intermediate Russian (Pre: Russ. 102)	TTh 6:30-8:00	Kirby 108	3
Span. 101E	Elementary Spanish	TTh 6:30-8:00	Kirby 203	3
Span. 203E	Intermediate Spanish (Pre: Span. 102)	TTh 8:00-9:30	Kirby 203	3



COURSE	DESCRIPTION	DAY & HOURS	ROOM No.	CREDIT HOURS
<b>MATHEMATICS:</b>				
Math. 100E	Pre-Calculus Mathematics (Pre: two years of high school math)	MW 8:00-10:00	Miner 12	4
Math. 101E	Fundamentals of Mathematics	MW 6:30-8:00	Miner 11	3
Math. 111E	Analysis I (Calculus with Analytic Geometry) (Pre: Math. 105 or both Math 107 & 109, or equivalent)	TTh 6:00-8:00	Miner 21	4
Math. 267E	Introduction to Computer Programming I Fee \$20	TTh 6:30-8:00	Stark 139	3
Math. 311E	Functions of a Real Variable I (Pre: Math. 222)	TTh 4:00-5:30	Miner 22	3
Math. 312E	Functions of a Real Variable II (Pre: Math. 222)	MW 6:00-7:30	Miner 12	3
Math. 331E	Introduction to Abstract Algebra I (Pre: Math. 222)	MW 4:00-5:30	Miner 11	3
Math. 334E	Linear Algebra (Pre: Math. 222)	TTh 6:00-7:30	Miner 11	3
Math. 343E	Introduction to Geometry (Pre: Math. 222)	MWF 4:00-5:00	Miner 20	3
Math. 413E	Functions of Several Variables (Pre: Math. 311 & 334)	MW 4:00-5:30	Miner 21	3
Math. 441E	Introduction to Topology I (Pre: Math. 331)	TTh 4:00-5:30	Miner 20	3
<b>MUSIC:</b>				
Mus. 101E	Introduction to the Materials & Literature of Music I	TTh 6:30-8:00	Darte 202	3
	Applied Music	Hours to be arranged		1
	NOTE: It is important that all students who register for applied music through the evening college be advised to consult with Mr. William Gasbarro, department chairman, before completing their registration.			
<b>NURSING EDUCATION:</b>				
N.E. 102E	Trends in Nursing	M 4:00-6:00	Kirby 107	2
N.E. 106E	Supervision & Administration	T 4:00-6:00	Kirby 107	2
N.E. 112E	Field Experience in Supervising or Teaching	Hours to be arranged		4
N.E. 113E	Medical & Surgical Nursing I	Th 6:00-8:00	Kirby 103	2
N.E. 114E	Medical & Surgical Nursing II	Th 8:00-10:00	Kirby 103	2

COURSE	DESCRIPTION	DAY & HOURS	ROOM No.	CREDIT HOURS
<b>PHILOSOPHY:</b>				
Phil. 101E	Introduction to Philosophy	TTh 6:30-8:00	Fkn. 14	3
Phil. 102E	Logic & Scientific Method	TTh 8:00-9:30	Fkn. 14	3
<b>PHYSICAL EDUCATION:</b>				
P.E. 105E	Hygiene	T 7:00-8:00	Kirby 302	1
<b>PHYSICS:</b>				
Phys. 101E	Physical Science	TTh 6:30-8:00	Stark 109	3
<b>POLITICAL SCIENCE:</b>				
P.S. 101E	Political Science I	TTh 6:30-8:00	Par. 56	3
P.S. 223E	Comparative Government (Pre: P.S. 101, 102)	TTh 8:00-9:30	Par. 35	3
P.S. 251E	The Role of Planning in Urban Development (Pre: P.S. 101, 102)	MW 8:00-9:30	Weck. An.	3
<b>PSYCHOLOGY:</b>				
Psy. 101E	General Psychology I	TTh 6:30-8:00	Kirby 102	3
Psy. 101E-2	General Psychology I	TTh 8:00-9:30	Kirby 102	3
Psy. 221E	Child Psychology (Pre: Psy. 101 & 102)	MW 6:30-8:00	Kirby 208	3
Psy. 232E	Human Behavior (Pre: Psy. 101, 102)	TTh 6:30-8:00	Kirby 303	3
Psy. 242E	Psychological Tests (Pre: Psy. 101 & 102)	MW 8:00-9:30	Kirby 208	3
<b>RETAILING:</b>				
Ret. 101E	Principles of Retailing	TTh 8:00-9:30	Kirby 208	3
Ret. 212E	Elements of Merchandise (Pre: Approval of instructor)	TTh 6:30-8:00	Kirby 208	3
<b>SECRETARIAL STUDIES:</b>				
S.S. 105E	Elementary Shorthand	MW 6:00-8:00	Par. 33	2
S.S. 107E	Elementary Typing Fee \$10	MW 8:00-10:00	Par. 33	2
<b>SOCIOLOGY:</b>				
Soc. 101E	Introduction to Sociology & Anthropology	MW 8:00-9:30	Kirby 302	3
Soc. 252E	Comparative Social Welfare Systems (Pre: Soc. 101, 102, Psy. 101, 102)	MW 6:30-8:00	Kirby 302	3



**GRADUATE DIVISION**  
**FALL SEMESTER—1970-1971**

**WILKES COLLEGE GRADUATE PROGRAM**

The following graduate courses will be offered and may be applied toward the master's degree. Normal scheduling for the classes is in late afternoon or early evening.

**Biology**

- |             |  |
|-------------|--|
| Biology 402 | Cell Biology, Embryogenesis, and Differentiation |
| Biology 460 | Topics in Endocrinology                          |

**Business Administration**

- |                |  |
|----------------|--|
| Bus. Adm. 511  | Modern International Commerce            |
| Bus. Adm. 513  | Human Behavior and the Marketing Process |
| Bus. Adm. 521  | Organizational Theory                    |
| Economics 532  | Wage Determination and Administration    |
| Accounting 542 | Financial and Tax Planning               |

**Chemistry**

- |               |                               |
|---------------|-------------------------------|
| Chemistry 341 | Elementary Physical Chemistry |
| Chemistry 411 | Advanced Inorganic Chemistry  |
| Chemistry 431 | Advanced Organic Chemistry I  |
| Chemistry 541 | Thermodynamics                |

**Education**

- |                |  |
|----------------|--|
| Education 402  | Elementary Classroom Methods                     |
| Education 403  | Intern Teaching                                  |
| Education 510  | Psychological Foundations of Education           |
| Education 513  | Comparative Foundations of Education             |
| Education 520  | Tests and Measurements                           |
| Education 532B | Problems in Elementary Education: Science        |
| Education 532D | Problems in Elementary Education: Social Studies |
| Education 541  | Secondary School Curriculum                      |
| Education 595  | Workshop: Developmental Reading                  |

**English**

- |             |                           |
|-------------|---------------------------|
| English 321 | Early English Drama       |
| English 354 | Romantic Prose and Poetry |

**History**

- |             |  |
|-------------|--|
| History 327 | History of the Foreign Policy of the United States |
| History 331 | Colonial America                                   |
| History 333 | The Age of Big Business                            |
| History 353 | Early Modern Europe 1648-1815                      |
| History 355 | Europe in the Nineteenth Century                   |
| History 357 | History of Russia to 1815                          |
| History 381 | History of Latin America                           |
| History 397 | Seminar in Anthropology                            |
| History 497 | Seminar: Topics in Economic History                |

**Mathematics**

- |                 |   |
|-----------------|---|
| Mathematics 311 | Functions of a Real Variable I            |
| Mathematics 331 | Introduction to Abstract Algebra I        |
| Mathematics 334 | Linear Algebra                            |
| Mathematics 343 | Introduction to Geometry                  |
| Mathematics 351 | Probability and Mathematical Statistics I |
| Mathematics 413 | Functions of Several Variables            |
| Mathematics 441 | Introduction to Topology I                |
| Mathematics 470 | Readings in Mathematics                   |
| Mathematics 480 | Topics in Mathematics                     |

**Physics**

- |             |                                  |
|-------------|----------------------------------|
| Physics 401 | Topics in Mathematical Physics I |
| Physics 471 | Crystallography                  |
| Physics 511 | Analytical Mechanics             |
| Physics 531 | Electricity and Magnetism        |
| Physics 551 | Quantum Mechanics II             |
| Physics 571 | Solid State Theory               |



### TEMPLE UNIVERSITY GRADUATE PROGRAM

Wilkes College cooperates with Temple University in offering a General Education Program for Teachers (G.E.P.T.) leading to the Degree of Master of Science in Education. The program is open to anyone who meets the academic requirements and is interested in exposure to a broad-base general education program. The following course is being offered this semester:

G.E. 411            Social Sciences



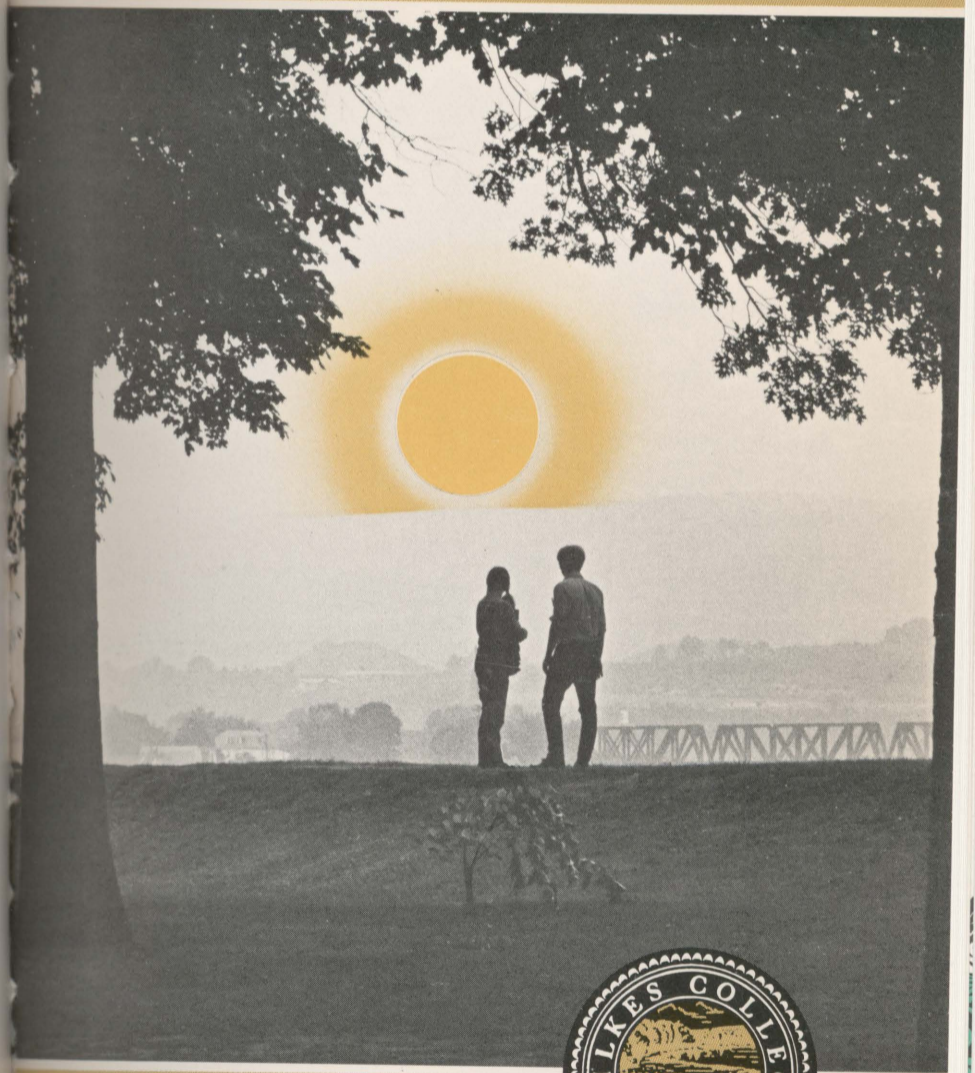
Registration: Thursday, September 10, and Friday, September 11, from 8:30 a.m. to 8:00 p.m.; Saturday, September 12, 9:00 a.m. to 12:00 noon. (Stark Hall 136)



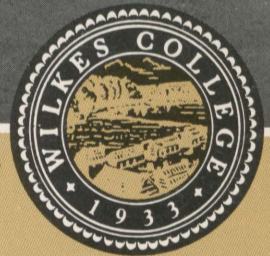
FURTHER INFORMATION ON ALL GRADUATE COURSES CAN BE OBTAINED AT THE GRADUATE SCHOOL OFFICE AT WILKES COLLEGE (824-4651, Ext. 243).



WILKES EVENING COLLEGE  
1971 BULLETIN  
SPRING SEMESTER



WILKES-BARRE,



PENNSYLVANIA



**CALENDAR**

Registration for the Evening College is as follows:

- Wednesday, January 27 .....9:00 a.m. to 8:00 p.m.
- Thursday, January 28 .....9:00 a.m. to 8:00 p.m.
- Friday, January 29 .....2:00 p.m. to 8:00 p.m.
- Saturday, January 30 .....9:00 a.m. to 12 noon
  
- Monday, February 1 .....Classes begin at 6:00 p.m.
- Saturday, February 7 .....Submit incomplete grades
- Saturday, March 13 .....Progress reports
- Thursday, April 1 .....Easter recess begins at 10:00 p.m.
- Wednesday, April 12 .....Easter recess ends at 6:00 p.m.
- Thursday, May 15 .....Classes end at 10:00 p.m.
- Monday, May 17, to Thursday, May 20.....Examination period

For further information write to:

Thomas F. Kelly  
Director of Evening and Summer College  
Wilkes College  
Wilkes-Barre, Pennsylvania 18703  
Phone 824-4651. After 5:00 p.m., call 824-4656

# Wilkes College

## *Bulletin*



## **EVENING SESSION**

**Spring Semester**

**1971**

**WILKES-BARRE, PENNSYLVANIA**



## **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 2400 full-time day students and 1000 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 their 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 small 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.

## **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 a 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 a college degree 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-Wednesday or Tuesday-Thursday between the hours of 6:00 p.m. and 10:00 p.m.



The College reserves the right to withdraw any course for which there is insufficient enrollment. Students who have registered for courses that may be cancelled because of insufficient enrollment will be notified as promptly as possible.

#### 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.

The underlying philosophy of the Institute of Regional Affairs is cooperation, rather than reform of partisanship.

#### FACILITIES

The College is located in Wilkes-Barre, Pennsylvania, in the heart of the picturesque and historic Wyoming Valley. This ideal 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 will post its Fall schedule at the beginning of the semester.

Evening College students may borrow books from the Library by presenting their I.D. card.

#### BOOKSTORE

The Bookstore offers a complete stock of necessary textbooks and supplies. It will be open as follows:

Monday through Friday	9:00 a.m. to 11:45 a.m. 1:00 p.m. to 4:45 p.m.
Monday and Tuesday Evenings	6:00 p.m. to 7:45 p.m.
Saturday	9:00 a.m. to 11:45 a.m.

#### EXPENSES

Tuition — \$60 per semester hour credit.

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.

#### WITHDRAWAL

A student who withdraws from the evening session or drops courses after the first week must receive approval from the instructor and should give prompt written or verbal notice to the Director of the Evening and Summer College in order that their records may not unjustly show failure in courses.

Students in good standing who withdraw from the College will receive a refund of tuition under the following conditions: during the first six weeks of the evening session one-half of the tuition will be refunded upon request to the Director of Evening and Summer 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.

Occasionally changes in the Evening College Schedule become 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                      BANKING MANAGEMENT                    MARKETING

Students of Business Administration, who hold full-time jobs while studying in the evening and summer college, 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 or 44 hours of credit in evening and summer school programs with at least 24 hours in Business Administration and a minimum of 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 Spring Semester — 1971

COURSE	DESCRIPTION	DAY & HOURS	ROOM No.	CR. HRS.
<b>ACCOUNTING:</b>				
Acct. 101E	Elementary Accounting I	MW 8:00-9:30	Par. 35	3
Acct. 101E-2	Elementary Accounting I	TTh 6:30-8:00	Par. 35	3
Acct. 102E	Elementary Accounting II (Pre: Acct. 101)	MW 8:00-9:30	Par. 23	3
Acct. 102E-2	Elementary Accounting II (Pre: Acct. 101)	TTh 6:30-8:00	Par. 45	3
Acct. 111E	Intermediate Accounting I (Pre: Acct. 102)	MW 6:30-8:00	Par. 45	3
Acct. 112E	Intermediate Accounting II (Pre: Acct. 111)	TTh 8:00-9:30	Par. 35	3
Acct. 202E	Cost Accounting II (Pre: Acct. 201)	TTh 6:30-8:00	Par. 25	3
Acct. 222E	Taxes II (Pre: Acct. 221)	MW 8:00-9:30	Par. 45	3
Acct. 232E	Auditing II (Pre: Acct. 231)	MW 8:00-9:30	Par. 25	3
Acct. 242E	Advanced Accounting II (Pre: Acct. 112 and per- mission of instructor)	MW 6:30-8:00	Par. 35	3
<b>BIOLOGY:</b>				
Bio. 102E	Biological Science	MW 6:30-8:00	Stark 116	3
Bio. 102E-2	Biological Science	TTh 6:30-8:00	Stark 116	3
<b>BUSINESS ADMINISTRATION:</b>				
B.A. 114E	Salesmanship (Pre: app. of instructor)	MW 6:30-8:00	Par. 34	3
B.A. 216E	Advertising	MW 8:00-9:30	Par. 43	3
B.A. 220E	Real Estate (Pre: Econ. 102)	TTh 6:30-8:00	Kirby 109	3
B.A. 222E	Marketing (Pre: Econ. 102)	TTh 6:30-8:00	Par. 23	3
B.A. 226E	Investments (Pre: B.A. 225)	TTh 8:00-9:30	Par. 23	3
B.A. 232E	Business Law — Agency and Sales (Pre: B.A. 231)	MW 6:30-8:00	Par. 23	3



COURSE	DESCRIPTION	DAY & HOURS	ROOM No.	CR. HRS.
B.A. 234E	Business Law — Property (Pre: B.A. 231)	MW 8:00-9:30	Par. 34	3
B.A. 240E	Property Insurance (Pre: B.A. 232)	MW 6:30-8:00	Par. 43	3
B.A. 244E	Time and Motion Study	TTh 8:00-9:30	Par. 43	3
B.A. 252E	Principles of Management II (Pre: B.A. 251)	TTh 8:00-9:30	Par. 34	3

#### BUSINESS EDUCATION:

Bus.Ed. 106E	Elementary Shorthand	TTH 6:00-8:00	Par. An.	2
Bus.Ed. 108E	Elementary Typewriting	TTh 8:00-10:00	Par. 33	2

#### ECONOMICS:

Econ. 101E	Principles of Economics I	TTh 6:30-8:00	Par. 34	3
Econ. 102E	Principles of Economics II (Pre: Econ. 101)	MW 6:30-8:00	Par. 56	3
Econ. 102E-2	Principles of Economics II (Pre: Econ. 101)	TTh 6:30-8:00	Weck. An.	3
Econ. 202E	Theory of Money (Pre: Econ. 201)	TTh 8:00-9:30	Par. 25	3
Econ. 212E	Government and Business (Pre: P.S. 101, Econ. 102)	TTh 8:00-9:30	Par. 56	3
Econ. 228E	Economic Geography of Asia, Africa, Latin America (Econ. 227 is <b>not</b> a prerequisite)	TTh 6:30-8:00	Par. 56	3
Econ. 230E	Business Cycles (Pre: Approval of instructor)	MW 8:00-9:30	Par. 56	3
Econ. 232E	Economic Statistics (Pre: Econ. 231)	MW 6:30-8:00	Weck. An.	3
Econ. 236E	Public Finance (Pre: Econ. 102, P.S. 101)	TTh 6:30-8:00	Par. 43	3

#### EDUCATION:

Ed. 201E	Introduction to Education (Pre: Sophomore standing)	MW 6:30-8:00	Chase 209	3
Ed. 351E	Educational Measurements (Pre: Ed. 202)	Th 4:00-6:00	Kirby 107	2

#### ENGLISH:

Eng. 102E	Composition (Pre-Eng. 101)	MW 6:30-8:00	Bdf. 12	3
Eng. 102E-2	Composition (Pre: Eng. 101)	MW 8:00-9:30	Bdf. 12	3
Eng. 102E-3	Composition (Pre: Eng. 101)	TTh 6:30-8:00	Bdf. 12	3
Eng. 131E	Fundamentals of Speech	M 4:00-6:00	Bdf. 13	2

COURSE	DESCRIPTION	DAY & HOURS	ROOM No.	CR. HRS.
Eng. 152E	Western World Literature (Pre: Eng. 151)	MW 6:00-8:00	Bdf. 14	4
Eng. 152E	Western World Literature (Pre: Eng. 151)	TTh 6:00-8:00	Bdf. 14	4

#### ENVIRONMENTAL SCIENCE:

Envi.Sci. 211E	Geology Laboratory Lab Fee \$20	T 8:00-10:00 Th 8:00-10:00	Stark 116 Stark 100	3
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#### FINE ARTS:

F.A. 101E	Experiencing Art I	T 5:00-8:00	Pick. 203	3
F.A. 212C	Ceramics	MW 6:00-8:00	Con. An. 102	3

#### FOREIGN LANGUAGES:

French 102E	Elementary French II (Pre: French 101)	MW 8:00-9:30	Kirby 103	3
French 204E	Intermediate French (Pre: French 203)	MW 6:30-8:00	Kirby 103	3
German 102E	Elementary German (Pre: German 101)	TTh 6:30-8:00	Kirby 303	3
German 204E	Intermediate German (Pre: German 203)	TTh 8:00-9:30	Kirby 303	3
Spanish 102E	Elementary Spanish (Pre: Spanish 101)	TTh 6:30-8:00	Kirby 208	3
Spanish 204E	Intermediate Spanish (Pre: Spanish 203)	TTh 6:30-8:00	Kirby 302	3

#### HISTORY:

Hist. 101E	History of World Civilization	MW 8:00-9:30	Stark 204	3
Hist. 102E	History of World Civilization	TTh 8:00-9:30	Stark 204	3
Hist. 354E	Early Modern Europe	W 5:30-8:30	Fkn. 30	3
Hist. 358E	History of Modern Russia (Pre: Hist. 101, 102)	M 5:30-8:30	Fkn. 30	3
Hist. 371E	Historiography (Pre: Consent of head of department)	T 5:30-8:30	Fkn. 30	1
Hist. 396E	Independent Research (Pre: Approval of the department chairman)	T 5:30-8:30	Fkn. 30	1-3
Hist. 497E	Seminar (Tudor England) (Pre: Approval of the department chairman)	Th 5:30-8:30	Fkn. 30	1-3



COURSE	DESCRIPTION	DAY & HOURS	ROOM No.	CR. HRS.
<b>JOURNALISM:</b>				
Jour. 102E	Journalism II (Pre: Jour. 101 or permission of instructor) Lab Fee \$10	TTh 6:30-8:00	Par. 33	3
<b>MATHEMATICS:</b>				
Math. 100E	Pre-Calculus Mathematics (Pre: Two years of secondary school mathematics in algebra and geometry)	MW 8:00-10:00	Miner 11	4
Math. 101E	Fundamentals of Math I	MW 6:30-8:00	Miner 12	3
Math. 102E	Fundamentals of Math. II (Not open to students with credits in Math. 103, 104)	MW 6:30-8:00	Miner 11	3
Math. 112E	Analysis II: Calculus with Analytic Geometry (Pre: Math. 111)	TTh 6:00-8:00	Miner 11	4
Math. 268E	Introduction to Computer Programming II (Pre: Math. 267)	TTh 6:30-8:00	Stark 233	3
Math. 312E	Functions of a Real Variable I and II (Pre: Math. 222)	*	*	3
Math. 314E	Functions of a Complex Variable (Pre: Math. 311 or consent of department chairman)	*	*	3
Math. 331E	Introduction to Abstract Algebra I (Pre: Math. 222)	*	*	3
Math. 334E	Linear Algebra (Pre: Math. 222, or equivalent, and consent of department chairman)	*	*	3
Math. 432E	Introduction to Abstract Algebra II (Pre: Math. 331)	*	*	3
Math. 442E	Introduction to Topology (Pre: Math. 341)	*	*	3
*Time and place to be arranged. Normally scheduled for late afternoon or evening.				
<b>MUSIC:</b>				
Music 101E	Introduction to the Materials and Literature of Music I	TTh 6:30-8:00	Darte 202	3

COURSE	DESCRIPTION	DAY & HOURS	ROOM No.	CR. HRS.
Applied Music	Please arrange this course with Mr. Gasbarro, chairman, Music Department			1
<b>NURSING EDUCATION:</b>				
N.E. 103E	History and Trends in Nursing	MTh 4:00-5:30	Kirby 108	3
N.E. 107E	Principles and Methods in Nursing Education (Pre: Psy. 102 or permission of instructor)	M 4:00-6:00	Kirby 107	2
N.E. 108E	Multi-Sensory Techniques in Nursing Education (Pre: N.E. 107 — may be taken concurrently)	T 4:00-6:00	Kirby 107	1
N.E. 112E	Field Experience in Supervision or Teaching (Primarily for Seniors) (Pre: Approval of instructor)	Hours to be arranged		4
N.E. 113E	Medical and Surgical Nursing	Th 6:00-8:00	Kirby 107	2
N.E. 114E	Medical and Surgical Nursing (N.E. 113 is <b>not</b> prerequisite)	Th 8:00-10:00	Kirby 107	2
E. 351E	Educational Measurements (Pre: Ed. 202)	Th 4:00-6:00	Kirby 107	2
<b>PHILOSOPHY:</b>				
Phil. 101E	Introduction to Philosophy	MW 6:30-8:00	Fkn. 14	3
Phil. 102E	Logic and Scientific Method	TTh 6:30-8:00	Fkn. 14	3
Religion 200E	Man's Religion	MW 8:00-9:30	Fkn. 14	3
Phil. 220E	Philosophy of Religion	TTh 8:00-9:30	Fkn. 14	3
<b>PHYSICAL EDUCATION:</b>				
P.E. 106E	Hygiene	T 7:00-8:00	Ch. Th.	1
<b>PHYSICS:</b>				
Physics 102E	Physical Science	MW 6:30-8:00	Stark 114	3
<b>POLITICAL SCIENCE:</b>				
P.S. 102E	Political Science II	TTh 6:30-8:00	Kirby 203	3
P.S. 206E	Municipal Government (Pre: P.S. 101, 102)	MW 6:30-8:00	Par. 25	3
P.S. 210E	Government of Metropolitan Areas (Pre: P.S. 101-102)	TTh 8:00-9:30	Par. 45	3
P.S. 222	International Relations (Pre: P.S. 101-102)	MW 6:30-8:00	Kirby 203	3



COURSE	DESCRIPTION	DAY & HOURS	ROOM No.	CR. HRS.
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**PSYCHOLOGY:**

Psy. 102E	General Psychology	TTh 6:30-8:00	Kirby 102	3
Psy. 102E-2	General Psychology	TTh 8:00-9:30	Kirby 102	3
Psy. 242E	Psychological Tests (This course is a prerequisite for Psy. 243, 245)	MW 8:00-9:30	Kirby 107	3
Psy. 331E	Abnormal Psychology (Pre: Psy. 221, 232 and permission of head of dept.)	MW 6:30-8:00	Kirby 107	3

**RETAILING:**

Ret. 224E	Recent Trends and Developments in Retailing (Pre: app. of instructor)	MW 6:30-8:00	Kirby 102	3
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**SECRETARIAL STUDIES:**

(See Business Education)

**SOCIOLOGY AND ANTHROPOLOGY:**

Soc. 102E	Introduction to Sociology and Anthropology	MW 6:30-8:00	Kirby 208	3
Soc. 252E	Comparative Social Welfare Systems (Pre: Soc. 101, 102, Psy. 101, 102)	MW 6:30 8:00	Kirby 302	3

**GRADUATE COURSE OFFERINGS  
Spring Semester 1971**

**Biology**

Biology 302	Cytology
Biology 312	Bacteriology
Biology 322	Ecology
Biology 332	Evolutionary Mechanisms
Biology 397	Seminar
Biology 411	Physiology of Bacteria
Biology 422	Advances in Ecological Research

**Business Administration**

Econ. 501	Managerial Economics
Econ. 505	Managerial Statistics
Bus. Adm. 507	Business and Society
Bus. Adm. 512	Price Policy and Procedure
Bus. Adm. 522	Quantitative Aspects of Management
Accounting 543	Accounting Policies and Practices
Bus. Adm. 554	Managerial Finance Seminar

**Chemistry**

Chemistry 342	Intermediate Physical Chemistry
Chemistry 352	Biochemistry
Chemistry 376	Advanced Analytical Chemistry
Chemistry 432	Advanced Organic Chemistry II
Chemistry 440	Quantum Chemistry
Chemistry 544	Kinetics

**Education**

Education 404	Intern Teaching
Education 514	Historical Foundations of Education
Education 520	Tests and Measurements
Education 533B	Problems in Elementary Education: Science
Education 534	Elementary Curriculum
Education 535	Nongraded Instruction in the Elementary School
Education 540A	Special Methods in Secondary School Instruction: Biology



- Education 540I Special Methods in Secondary School Instruction:  
Social Sciences
- Education 595 Workshop: Developmental Reading
- Education 595 Workshop: Production and Use of Audio-Visual  
Materials

**English**

- English 341 Restoration and Eighteenth-Century Drama
- English 374 Modern Drama

**History**

- History 328 History of the Foreign Policy of the United States
- History 332 The National Period
- History 334 Twentieth Century America
- History 354 Early Modern Europe
- History 356 Europe in the Twentieth Century
- History 358 History of Modern Russia
- History 371 Historiography
- History 396 Independent Research
- History 497 Seminar: Tudor England

**Mathematics**

- Math. 312 Functions of a Real Variable II
- Math. 314 Functions of a Complex Variable
- Math. 331 Introduction to Abstract Algebra I
- Math. 334 Linear Algebra
- Math. 352 Probability and Mathematical Statistics II
- Math. 432 Introduction to Abstract Algebra II
- Math. 442 Introduction to Topology II
- Math. 470 Readings in Mathematics
- Math. 480 Topics in Mathematics

**Physics**

- Physics 402 Topics in Mathematical Physics II
- Physics 472 X-Ray Diffraction
- Physics 531 Electricity and Magnetism II
- Physics 540 Statistical Mechanics
- Physics 550 Quantum Mechanics I

**TEMPLE UNIVERSITY GRADUATE PROGRAM**

Wilkes College cooperates with Temple University in offering a General Education Program for Teachers (G.E.P.T.) leading to the Degree of Master of Science in Education. The program is open to anyone who meets the academic requirements and is interested in exposure to a broad-base general education program. The following course is being offered this semester:

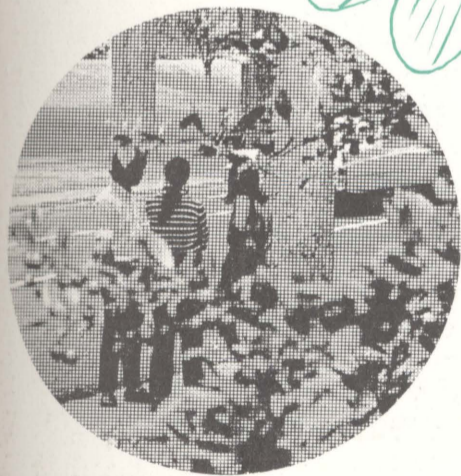
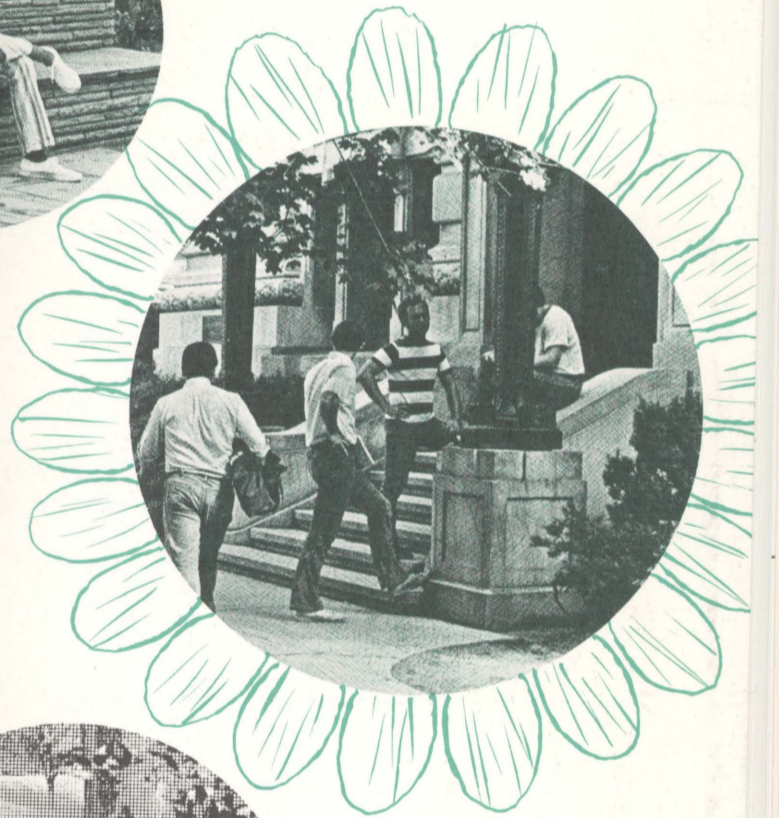
G.E. 412 — Changing Perspectives in the Social Sciences.

FURTHER INFORMATION ON ALL GRADUATE COURSES CAN BE OBTAINED AT THE GRADUATE SCHOOL OFFICE AT WILKES COLLEGE (824-4651, Extension 243).

**REGISTRATION**

Thursday, January 28, and Friday, January 29, from 8:30 a.m. to 8:00 p.m.; Saturday, January 30, from 9:00 a.m. to 12:00 noon. (Stark Hall 136)







## CALENDAR

### DAY SESSIONS—1971

#### FIRST SESSION

REGISTRATION — Monday, June 14, thru Friday, June 18  
Weckesser Hall — 8:30 a.m. to 4:30 p.m.

SESSION BEGINS — Monday, June 21

SESSION ENDS — Thursday, July 22  
(Including Final Examination)

#### SECOND SESSION

REGISTRATION — Thursday, July 22, and Friday, July 23  
Weckesser Hall — 8:30 a.m. to 4:30 p.m.

SESSION BEGINS — Monday, July 26

SESSION ENDS — Wednesday, August 25  
(Including Final Examination)

#### EIGHT - WEEK EVENING SESSION

REGISTRATION — Wednesday, June 16, thru Friday, June 18  
Weckesser Hall — 8:30 a.m. to 8:00 p.m.

SESSION BEGINS — Monday, June 21

SESSION ENDS — Thursday, August 12  
(Including Final Examination)

#### FOR FURTHER INFORMATION WRITE TO:

Director of Evening and Summer College  
Wilkes College  
Wilkes-Barre, Pennsylvania 18703  
Phone: 824-4651 (After 5:00 p.m. — call 824-4656)

In order to minimize the possibility of cancelling courses, the preliminary registration form on the back cover should be completed and forwarded to the Director of Evening and Summer College as soon as possible. The preliminary registration does not obligate the registrant to take the course.

# WILKES COLLEGE Bulletin

## SUMMER SESSIONS

1971



Wilkes-Barre • Pennsylvania



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 2,400 full-time day students and 1,000 adults in the Evening College and special classes.

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 their 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 small 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."

#### 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. 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, the Middle States Association of Colleges and Secondary Schools, Certified Public Accounting Examiners of the State of New York, and the American Chemical Society.

## SUMMER COLLEGE

### *Information*

#### Curricula

##### UNDERGRADUATE PROGRAM

The summer program is designed for men and women interested in accelerating degree work, and for recent high school graduates interested in beginning their college careers. Courses are open to Wilkes College students, students of other colleges, and non-matriculated students.

Course load is limited to six semester hours of credit for each day session. Students are cautioned to exercise judgment and care in scheduling both day and evening courses.

Most classes for courses offered during the day sessions will meet five days per week during the morning hours as follows:

FIRST PERIOD — 8:00 A.M. to 9:50 A.M.

SECOND PERIOD — 10:10 A.M. to 12:00 Noon

Except where designated in the course schedule, classes for courses offered during the eight-week evening session will be scheduled on Monday, Tuesday, and Thursday evenings between the hours of 6:00 P.M. and 10:00 P.M.

The College reserves the right to cancel any course due to insufficient enrollment or any other reason. Students who have registered for courses that are subsequently cancelled because of insufficient enrollment will be notified as promptly as possible.

##### ADMISSION

Admission to the summer program is granted to:

- a) all Wilkes College students currently in good standing;
- b) high school graduates who have been admitted as degree candidates to the Wilkes regular program;
- c) high school graduates who have been admitted as full-time students in the regular program of an accredited college other than Wilkes;



- d) all students in good standing at their respective colleges who furnish official confirmation of that status sent by the dean of their college to the director of the Wilkes summer session;
- e) students who enroll in the summer session upon special invitation by Wilkes Committee on Admissions.

Non-Wilkes summer session students who desire to become degree candidates here will have to qualify for admission or transfer into the college's regular program via the procedures outlined by the Committee on Admissions. Such procedures must be initiated through the office of Mr. John Whitby, Director of Admissions.

#### TRANSFER OF CREDITS

Credits earned in the Wilkes College summer session may be transferred to other institutions. Students may, at the conclusion of the course, request this service by filling out a card indicating to which institution credits earned shall be transferred.

#### WITHDRAWAL

Withdrawal from classes after the first week is inadvisable except in extenuating circumstances.

A student who withdraws from the summer session or drops courses after the first week *must* receive permission from the instructor and the Director of the Evening and Summer College in order that their records may not unjustly show failure in courses.

Students in good standing who withdraw from the College will receive a refund of tuition under the following conditions: During the first week of the day sessions and during the first two weeks of the eight-week evening session one-half of the tuition will be refunded upon written request to the Director of Evening and Summer College, if the withdrawal is made for adequate and satisfactory reasons. After the periods designated 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.

#### Facilities

The College is located in Wilkes-Barre, Pennsylvania, in the heart of the picturesque and historic Wyoming Valley. This ideal 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.

#### DORMITORY AND DINING FACILITIES

Dormitory and dining facilities will be available for both male and female students. The cost for these services may be found under EXPENSES. Arrangements for dormitory accommodations may be made with the Director of Evening and Summer College.

#### THE LIBRARY

The Library will post its Summer schedule at the beginning of the first day session.

#### 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. — 4:30 p.m.

#### Expenses

The student may expect to incur the following expenses for the summer session:

TUITION — \$60 per credit hour.

DORMITORY (Exclusive of meals) — \$75 per day session.

LINEN SERVICE — \$5 per day session (required for dormitory students).

DINING FACILITIES — Dining Hall will be open Monday through Friday. Meals may be taken on a pay-as-you-go basis.

All charges must be paid at the time registration forms are processed. Charges for the second session may be paid no later than July 23, 1971. Books and supplies may be purchased at the bookstore and must be paid for at the time of purchase.



## SUMMER SESSION SCHEDULE OF COURSES

### FIRST SESSION SCHEDULE

June 21 - July 22, 1971 — Monday through Friday

COURSE	DESCRIPTION	ROOM	HOUR	CR.
<b>ACCOUNTING:</b>				
Acct. 101S	Elementary Accounting I	Par. 35	8:00-9:50	3
Acct. 241S	Advanced Accounting I (Pre: Acct. 112)	Par. 8	8:00-9:50	3
<b>BIOLOGY:</b>				
Biol. 101S	Biological Science	St. 343	10:10-12:00	3
<b>BUSINESS ADMINISTRATION:</b>				
B.A. 225S	Corporation Finance (Pre: Ec. 102)	Par. 25	8:00-9:50	3
B.A. 240S	Property Insurance (Pre: B.A. 232 or approval of instructor)	Par. 43	8:00-9:50	3
B.A. 241S	Life Insurance (Approval of instructor)	Par. 43	10:10-12:00	3
B.A. 251S	Principles of Management I	Par. 35	10:10-12:00	3
<b>CHEMISTRY:</b>				
Chem. 201S	Introduction to the Principles of Chemistry Laboratory Breakage Deposit \$10 Fee \$20	St. 204 MTTh	8:00-9:50 11:00-2:00	4
Chem. 232S	Organic Chemistry I (Pre: Chem. 221 or approval of instructor) Laboratory Breakage Deposit \$10 Fee \$20	St. 139 MTW	10:00-11:50 1:00-4:00	4
<b>ECONOMICS:</b>				
Econ. 101S	Principles of Economics I	Par. 23	8:00-9:50	3
Econ. 111S	Economic History	Par. 34	8:00-9:50	3
Econ. 201S	Money and Banking (Pre: Econ. 102)	Kirby 107	8:00-9:50	3
Econ. 217S	Economics of Transportation (Pre: Econ. 102)	Par. 25	10:10-12:00	3

## SCHEDULE OF COURSES — Page 11

COURSE	DESCRIPTION	ROOM	HOUR	CR.
Econ. 222S	The American Labor Movement (Pre: Econ. 102)	Kirby 108	8:00-9:50	3
Econ. 229S	Comparative Economic Systems (Pre: Ec. 102 or approval of instructor)	Kirby 108	10:10-12:00	3
Econ. 231S	Applied General Statistics (Pre: Approval of instructor)	Par. 23	10:10-12:00	3
Econ. 236S	Public Finance (Pre: Econ. 102, P.S. 101)	Kirby 107	10:10-12:00	3
Econ. 241S	Economic Analysis (Pre: Econ. 102)	Par. 34	10:10-12:00	3
<b>EDUCATION:</b>				
Ed. 201S	Introduction to Education (Pre: Sophomore standing)	Ch. 202	10:10-12:00	3
Ed. 202S	Educational Psychology	Ch. 209	8:00-9:50	3
<b>ENGINEERING:</b>				
E.E. 211S	Circuit Theory I (Pre: Math. 112)	Hours to be arranged		3
M.E. 211S	Mechanics I Statics (Pre: Phys. 201, Math. 111)	Hours to be arranged		3
<b>ENGLISH:</b>				
Eng. 99P	Pre-College English	Bdf. Sem.	8:00-9:50	0
Eng. 99P-2	Pre-College English	Bdf. Sem.	10:10-12:00	0
Eng. 101S	Composition	Bdf. 13	8:00-9:50	3
Eng. 151S	Western World Literature (Pre: Eng. 102)	Bdf. 12	8:00-9:50	3
Eng. 151S-2	Western World Literature (Pre: Eng. 102)	Bdf. 14	8:00-9:50	3
Eng. 151S-3	Western World Literature (Pre: Eng. 102)	Bdf. 14	10:10-12:00	3
Eng. 213S	Chaucer (Pre: Eng. 152)	Bdf. 12	10:10-12:00	3
Eng. 470S	Studies in Modern British Literature (Pre: Open to advanced undergraduate students by permission of the Dept. Chairman)	Bdf. 13	10:10-12:00	3



COURSE	DESCRIPTION	ROOM	HOUR	CR.
<b>ENVIRONMENTAL SCIENCE:</b>				
Envi. Sci. 101S	Introductory Earth Science Laboratory Fee \$10	St. 139	8:00-9:50	3
Envi. Sci. 103S	Geology Laboratory Fee \$20	St. 132	10:10-12:00	3
<b>FINE ARTS:</b>				
F.A. 101S	Experiencing Art I	Con. An. 101	8:00-9:50	3
F.A. 102S	Experiencing Art II (Pre: F.A. 101)	Con. An. 101	8:00-9:50	3
F.A. 210S	Sculpture (Pre: F.A. 211)	Harding	8:00-9:50	3
F.A. 211S	Modeling and Three Dimensional Construction (Pre: F.A. 102)	Harding	8:00-9:50	3
F.A. 212S	Ceramics (Pre: Permission of instructor)	Con. An. 101	10:10-12:00	3
F.A. 226S	Modern Art History	Pick. 103	10:10-12:00	3
<b>HISTORY:</b>				
Hist. 101S	History of World Civilization	Fkn. Sem.	10:10-12:00	3
Hist. 497S	Seminar: American Diplomatic Relations with Asia (Pre: Approval of Dept. Chairman)	Fkn. Sem.	8:00-9:50	3
<b>LANGUAGES:</b>				
Fr. 101S	Elementary French	Kirby 103	8:00-9:50	3
Fr. 203S	Intermediate French (Pre: Fr. 102 or equivalent)	Kirby 103	10:10-12:00	3
Gr. 101S	Elementary German	Kirby 303	8:00-9:50	3
Gr. 203S	Intermediate German (Pre: Gr. 102 or equivalent)	Kirby 303	10:10-12:00	3
Span. 101S	Elementary Spanish	Kirby 203	8:00-9:50	3
Span. 203S	Intermediate Spanish (Pre: Span. 102 or equivalent)	Kirby 203	10:10-12:00	3
Russ. 101S	Elementary Russian	Kirby 208	8:00-9:50	3
Russ. 203S	Intermediate Russian (Pre: Russ. 102 or equivalent)	Kirby 208	10:10-12:00	3

COURSE	DESCRIPTION	ROOM	HOUR	CR.
<b>MATHEMATICS:</b>				
Math. 100S	Pre-Calculus Mathematics (Pre: Two years of secondary school mathematics in Algebra and Geometry)	Miner 11	10:10-12:30	4
Math. 101S	Fundamentals of Mathematics	Miner 12	10:10-12:00	3
Math. 103S	Mathematics for Elementary School Teachers I (Not open to students with Math. 101-102)	Miner 12	8:00-9:50	3
Math. 267S	Introduction to Computer Programming I Fee \$20	To be arranged	10:10-12:00	3
Note: A number of advanced undergraduate courses will also be offered. They will be announced later. Please inquire at the Department of Mathematics or consult the Graduate Summer Course list.				
<b>MUSIC:</b>				
Music 101S	Introduction to the Materials and Literature of Music I	Darte 201	10:10-12:00	3
Music 102S	Introduction to the Materials and Literature of Music II	Darte 201	8:00-9:50	3
Applied Music	Please arrange this course with the Department Chairman, Mr. Gasbarro.			1
<b>PHILOSOPHY:</b>				
Phil. 101S	Introduction to Philosophy	Fkn. 14	8:00-9:50	3
Phil. 210S	Ethics	Fkn. 14	10:10-12:00	3
<b>PHYSICS:</b>				
Phys. 101S	Physical Science	St. 112	10:10-12:00	3
Phys. 203S	General Physics III (Pre: Phys. 202)	St. 114	10:10-12:00	3
<b>POLITICAL SCIENCE:</b>				
P.S. 101S	Political Science I	Par. 53	10:10-12:00	3
P.S. 395S	Independent Research (Pre: Approval of Dept. Chairman)	Hours to be arranged		1-3



COURSE	DESCRIPTION	ROOM	HOUR	CR.
<b>PSYCHOLOGY:</b>				
Psy. 101S	General Psychology	Par. 56	8:00-9:50	3
Psy. 221S	Child Psychology	Par. 56	10:10-12:00	3
Psy. 232S	Human Behavior (Pre: Psy. 101-102)	Par. 45	10:10-12:00	3
Psy. 243	Industrial Psychology (Pre: Psy. 242)	Par. 45	8:00-9:50	3
<b>READING:</b>	College Reading & Study Skills (June 21 through July 23)	To be arranged	10:10-12:00	0
<b>SOCIOLOGY:</b>				
Soc. 101S	Introduction to Sociology and Anthropology I	Par. 53	8:00-9:50	3

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SECOND SESSION SCHEDULE

July 26 - August 25, 1971 — Monday through Friday

COURSE	DESCRIPTION	ROOM	HOUR	CR.
<b>ACCOUNTING:</b>				
Acct. 102S	Elementary Accounting II (Pre: Acct. 101)	Par. 45	8:00-9:50	3
Acct. 242S	Advanced Accounting II (Pre: Acct. 112)	Par. 45	10:10-12:00	3
<b>BIOLOGY:</b>				
Biol. 102S	Biological Science	St. 343	10:10-12:00	3
<b>BUSINESS ADMINISTRATION:</b>				
B.A. 216S	Advertising	Par. 34	10:10-12:00	3
B.A. 222S	Marketing (Pre: Econ. 102)	Par. 34	8:00-9:50	3
B.A. 252	Principles of Management II (Pre: B.A. 251)	Par. 35	10:10-12:00	3

COURSE	DESCRIPTION	ROOM	HOUR	CR.
<b>CHEMISTRY:</b>				
Chem. 202S	Chemical Equilibria (Pre: Chem. 201) Laboratory Breakage Deposit \$10 Fee \$20	St. 204	9:00-10:50 MWF 1:00-4:00	4
Chem. 235S	Organic Chemistry IIa (Pre: Chem. 232) Laboratory Breakage Deposit \$10 Fee \$20	St. 306	10:00-11:50 MTW 1:00-4:00	4
<b>ECONOMICS:</b>				
Econ. 102S	Principles of Economics II (Pre: Econ. 101)	Par. 23	8:00-9:50	3
Econ. 232S	Economic Statistics (Pre: Econ. 231)	Par. 23	10:10-12:00	3
<b>EDUCATION:</b>				
Ed. 201S	Introduction to Education (Pre: Sophomore standing)	Chase 209	8:00-9:50	3
Ed. 352	Guidance (Pre: Ed. 202)	Chase 209	10:10-12:00	3
<b>ENGLISH:</b>				
Eng. 101S	Composition	Bdf. 12	8:00-9:50	3
Eng. 102S	Composition (Pre: Eng. 101)	Bdf. 13	8:00-9:50	3
Eng. 152S	Western World Literature (Pre: Eng. 151)	Bdf. 14	8:00-9:50	3
Eng. 152S-2	Western World Literature (Pre: Eng. 151)	Bdf. 12	10:10-12:00	3
Eng. 152S-3	Western World Literature (Pre: Eng. 151)	Bdf. 13	10:10-12:00	3
Eng. 131S	Fundamentals of Speech	Bdf. Sem.	8:00-9:15	2
Eng. 221S	Shakespeare	Bdf. 14	10:10-12:00	3
Eng. 480S	Studies in American Literature (Open to advanced undergraduate students by permission of Dept. Chairman)	Bdf. Sem.	10:10-12:00	3
<b>ENVIRONMENTAL SCIENCE:</b>				
E.S. 223S	Hydrology Fee \$20	St. 139	10:10-12:00	3



COURSE	DESCRIPTION	ROOM	HOUR	CR.
<b>HISTORY:</b>				
Hist. 102S	History of World Civilization	Weck. An.	10:10-12:00	3
<b>LANGUAGES:</b>				
Fr. 102S	Elementary French II (Pre: Fr. 101)	Kirby 103	8:00-9:50	3
Fr. 204S	Intermediate French II (Pre: Fr. 203)	Kirby 103	10:10-12:00	3
Ger. 102S	Elementary German II (Pre: Ger. 101)	Kirby 303	8:00-9:50	3
Ger. 204S	Intermediate German II (Pre: Ger. 203)	Kirby 303	10:10-12:00	3
Russ. 102S	Elementary Russian II (Pre: Russ. 101)	Kirby 208	8:00-9:50	3
Russ. 204S	Intermediate Russian II (Pre: Russ. 203)	Kirby 208	10:10-12:00	3
Span. 102S	Elementary Spanish II (Pre: Span. 101)	Kirby 203	8:00-9:50	3
Span. 204S	Intermediate Spanish II (Pre: Span. 203)	Kirby 203	10:10-12:00	3
<b>MUSIC:</b>				
Music 101S	Introduction to the Materials and Literature of Music I	Darte 201	10:10-12:00	3
Music 102S	Introduction to the Materials and Literature of Music II	Darte 202	10:10-12:00	3
Applied Music	Please arrange this course with Mr. Gasbarro, Chairman, Department of Music.			1
<b>MATHEMATICS:</b>				
Math. 102S	Fundamentals of Mathematics (Pre: Math. 101)	Miner 11	10:10-12:00	3
Math. 104S	Mathematics for Elementary Teachers II (Not open to students with credits in Math. 101-102)	Miner 11	8:00-9:50	3
Note: A number of advanced undergraduate courses will also be offered. They will be announced later. Please inquire at the Department of Mathematics or consult the Graduate Summer Course list.				

COURSE	DESCRIPTION	ROOM	HOUR	CR.
<b>PHILOSOPHY:</b>				
Phil. 102S	Logic & Scientific Methods	Fkn. 14	8:00-9:50	3
Rel. 202S	The Literature of the New Testament	Fkn. 14	10:10-12:00	3
Phil. 240S	Social and Political Philosophies	Fkn. Sem.	10:10-12:00	3
<b>PHYSICS:</b>				
Phys. 102S	Physical Science	St. 112	10:10-12:00	3
<b>POLITICAL SCIENCE:</b>				
P.S. 102S	Political Science II	Par. 53	10:10-12:00	3
P.S. 212	Management of Municipalities (Pre: P.S. 101-102)	Par. 53	8:00-9:50	3
<b>PSYCHOLOGY:</b>				
Psy. 102S	General Psychology	Par. 56	8:00-9:50	3
Psy. 331	Abnormal Psychology (Pre: Psy. 221-232)	Par. 43	10:10-12:00	3
<b>SOCIOLOGY:</b>				
Soc. 102S	Introduction to Sociology and Anthropology II	Par. 43	8:00-9:50	3
▼				
<b>EVENING SESSION SCHEDULE</b>				
June 21 - August 12, 1971 — Monday, Tuesday, Thursday				
COURSE	DESCRIPTION	ROOM	HOUR	CR.
<b>ACCOUNTING:</b>				
Acct. 101E	Elementary Accounting I	Par. 35	6:00-7:45	3
Acct. 102E	Elementary Accounting II (Pre: Acct. 101)	Par. 35	8:00-9:45	3



COURSE	DESCRIPTION	ROOM	HOUR	CR.
<b>BUSINESS ADMINISTRATION:</b>				
B.A. 209E	Business Correspondence and Reports (Pre: Eng. 102)	Par. 43	6:00-7:45	3
B.A. 251E	Principles of Management I	Par. 43	8:00-9:45	3
<b>BUSINESS EDUCATION:</b>				
B.E. 105E	Elementary Shorthand	Par. 33	6:00-7:45	2
B.E. 107E	Elementary Typewriting	Par. 33	8:00-9:45	2
<b>ECONOMICS:</b>				
Econ. 101E	Principles of Economics I	Par. 23	6:00-7:45	3
Econ. 102E	Principles of Economics II (Pre: Econ. 101)	Par. 23	8:00-9:45	3
Econ. 223E	Collective Bargaining (Pre: Econ. 102)	Par. 34	6:00-7:45	3
<b>EDUCATION:</b>				
Ed. 202E	Educational Psychology (Pre: Psy. 102)	Chase 202	6:00-7:45	3
<b>ENGINEERING:</b>				
E.E. 211S	Circuit Theory I (Pre: Math 112)	Hours to be arranged		3
M.E. 211S	Mechanics I Statics (Pre: Phys. 201-Math. 111)	Hours to be arranged		3
<b>ENGLISH:</b>				
Eng. 101E	Composition	Bdf. 12	6:00-7:45	3
Eng. 102E	Composition (Pre: Eng. 101)	Bdf. 13	6:00-7:45	3
Eng. 131E	Fundamentals of Speech	Bdf. 13	8:00-9:45 MTh	2
Eng. 151E	Western World Literature (Pre: Eng. 102)	Bdf. 14	6:00-7:45	3
Eng. 152E	Western World Literature (Pre: Eng. 151)	Bdf. 14	8:00-9:45	3
Eng. 201E	Advanced Exposition (Pre: Eng. 102)	Bdf. 12	8:00-9:45	3
<b>ENVIRONMENTAL SCIENCE:</b>				
E.S. 102	Introductory Space Science Fee \$20	St. 139	8:00-9:45	3

COURSE	DESCRIPTION	ROOM	HOUR	CR.
<b>HISTORY:</b>				
Hist. 102E	History of World Civilization	Fkn. Sem.	8:00-9:45	3
<b>MATHEMATICS:</b>				
Math. 111E	Analysis I (Calculus with Analytic Geometry) (Pre: Math. 100 or equivalent)	Miner 11	6:00-7:45 MTWTh	4
Math. 112E	Analysis II (Calculus with Analytic Geometry) (Pre: Math. 111)	Miner 12	6:00-7:45 MTWTh	4
Note: A number of advanced undergraduate courses will also be offered. They will be announced later. Please inquire at the Department of Mathematics or consult the Graduate Summer Course list.				
<b>MUSIC:</b>				
Music 101E	Introduction to the Materials and Literature of Music I	Darte 201	6:00-7:45	3
Applied Music	Please arrange this course with Mr. Gasbarro, Department Chairman.			1
<b>NURSING EDUCATION:</b>				
N.E. 112E	Field Experience in Supervision or Teaching	Kirby 103 Hours to be arranged		4
<b>PHILOSOPHY:</b>				
Phil. 101E	Introduction to Philosophy	Fkn. 14	6:00-7:45	3
<b>PHYSICAL EDUCATION:</b>				
P.E. 106E	Hygiene	Weck. An. T	6:00-7:30	1
<b>PHYSICS:</b>				
Phys. 391	Advanced Laboratory (Astronomy) Lab. Fee \$7/Credit Hour (Pre: Phys. 203-Math. 212)	St. 112 Hours to be arranged		1-2
<b>POLITICAL SCIENCE:</b>				
P.S. 101E	Political Science I	Par. 53	6:00-7:45	3
P.S. 102E	Political Science II	Par. 53	8:00-9:45	3
P.S. 222E	International Relations (Pre: P.S. 101-102)	Par. 25	8:00-9:45	3



COURSE	DESCRIPTION	ROOM	HOUR	CR.
<b>PSYCHOLOGY:</b>				
Psy. 101E	General Psychology	Par. 56	6:00-7:45	3
Psy. 331E	Abnormal Psychology (Pre: Psy. 221-232)	Kirby 108	6:00-7:45	3
Psy. 242E	Psychological Tests	Par. 25	6:00-7:45	3
<b>SECRETARIAL STUDIES:</b>				
	See Business Education			
<b>SOCIOLOGY:</b>				
Soc. 101E	Introduction to Sociology and Anthropology I	Par. 45	6:00-7:45	3
Soc. 102E	Introduction to Sociology and Anthropology II	Kirby 203	6:00-7:45	3

## Summer Theater Workshop

For High School students preparing for college.

For Graduate students working toward Master's Degree.

Workshop in Educational Theater Program open to teachers who have had courses in theater and/or experience in theater. Major emphasis will be on directing the student performer, interpreting the script, and staging the play. There will be class discussions and workshop sessions on technical theater operations. Teachers will also work with high school juniors and seniors in laboratory productions of scenes and theater projects and will have opportunities to design and/or direct.

*Six credits*

Workshop dates — July 7 through August 20, 1971.

For further information contact:

Dean of Admissions  
 Summer Theater Workshop  
 Wilkes College  
 Wilkes-Barre, Pennsylvania 18703  
 Telephone 824-4651, Ext. 243



GRADUATE COURSE OFFERINGS  
SUMMER 1971

COURSE	DESCRIPTION
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**BIOLOGY:**

Biology 400*	Chemical Physiology
Biology 404*	Faunistic and Floristic Biology

\*Restricted to students in the M.S. in Biology Education program.

**BUSINESS ADMINISTRATION:**

Economics 473	Pro Seminar
Bus. Adm. 502	Management Science
Bus. Adm. 523	Management Seminar
Economics 533	The Labor Market
Accounting 544	Controllership

**EDUCATION:**

Education 400	General Secondary School Methods
Education 401	Elementary Classroom Methods
Education 405	Introduction to Reading Instruction
Education 510	Psychological Foundations of Education
Education 511	Philosophical Foundations of Education
Education 512	Social Foundations of Education
Education 521	Statistics in Education
Education 522	Research in Education
Education 530	Diagnosis and Correction of Reading Difficulties
Education 531	Practicum in Reading Instruction
Education 532B	Problems in Elementary Education: Science
Education 596B	Workshop: Science Education
Education 596E	Workshop: Fine Arts Education
Education 596F	Workshop: Early Childhood Education

COURSE	DESCRIPTION
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**ENGLISH:**

English 470	Studies in Modern British Literature
English 480	Studies in American Literature

**HISTORY:**

History 497	Seminar: U.S.-East Asian Diplomatic Relations in the 20th Century
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**MATHEMATICS:**

Courses to be announced.

For further information contact:

Dr. Ralph Rozelle  
Director of Graduate Studies  
Stark Hall, Wilkes College  
Wilkes-Barre, Pennsylvania 18703  
Telephone 824-4651



PRELIMINARY  
REGISTRATION  
FORM

Completion and filing of this form with the Director of Evening and Summer College, Wilkes College, Wilkes-Barre, Pennsylvania, 18703, will enable the Director to determine course demand. If advance demand does not warrant giving a particular course, the prospective student filing this form will be promptly notified. The completion and filing of this form does not, in any way, obligate the prospective student.

PRE - REGISTRATION

A statement of your academic standing must be submitted by your dean or registrar prior to registration.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

College or University  
now attending \_\_\_\_\_

1st Semester Course No.	2nd Semester Course No.	Evening Course No.

Will you require dormitory accommodations? Yes  No



1970-1971

WILKES COLLEGE

BULLETIN

GRADUATE

DIVISION



PLACE  
STAMP  
HERE

Wilkes College

Summer Sessions

Wilkes-Barre, Penna. 18703



WILKES-BARRE, PENNSYLVANIA



### FALL SEMESTER

Registration	Thursday, September 10, and Friday September 11, from 8:30 a.m. to 8:00 p.m.; Saturday, September 12, from 9:00 a.m. to 12:00 noon (Stark Hall 136).
Classes Begin	Monday, September 14.
Thanksgiving Recess	Saturday, November 21, at 12:00 noon to Monday, November 30, at 8:00 a.m.
Christmas Recess	Saturday, December 19, at 12:00 noon to Monday, January 4, at 8:00 a.m.
Classes End	Saturday, January 9, 12:00 noon.
Examination Period	Monday, January 11, to Wednesday, January 20.

### SPRING SEMESTER

Registration	Thursday, January 28, and Friday, January 29, from 8:30 a.m. to 8:00 p.m.; Saturday, January 30, from 9:00 a.m. to 12:00 noon (Stark Hall 136).
Classes Begin	Monday, February 1.
Easter Recess	Saturday, April 3, at 12:00 noon to Monday, April 12, at 8:00 a.m.
Classes End	Saturday, May 15, 12:00 noon.
Examination Period	Monday, May 17, to Wednesday, May 26.
Baccalaureate	Sunday, June 6, 5:00 p.m.
Commencement	Monday, June 7, 8:00 p.m.



## SUMMER COLLEGE

An extensive program of graduate courses will be offered during the summer of 1971 and will be available in two consecutive 5-week day sessions and one 8-week evening session. Some effort will be made to coordinate the schedule with the public school schedules. The calendar and the specific courses to be offered will be released at a later date.

## The Graduate Division

### General Information

The Graduate Division 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 College Board of Trustees authorized expansion of the Graduate Program into the field of biology in 1966, and education and business administration in 1969.

The graduate programs are approved by the Department of Public Instruction of Pennsylvania.

The graduate programs are designed to provide the opportunity for completion of a Master's Degree in one to 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, classes may meet during the early evening hours. Under these circumstances such courses usually consist of two 1½-hour evening sessions or one 3-hour session per week and carry 3 hours of credit.

### Cooperative Graduate Programs

Wilkes College is cooperating with a number of institutions in the *Lehigh Regional Consortium* for graduate teacher education to provide professional graduate education on the master's level for elementary and secondary classroom teachers.

Wilkes also cooperates with Temple University to offer a master's program for teachers. This program leads to a Master of Science Degree in General Education and is accepted by the Commonwealth for permanent certification of classroom teachers. Candidates may register and take courses at the College with all credits granted by Temple University.



## Admission

As a general rule only well qualified men and women who have completed a normal four-year program leading to the bachelor's degree will be considered for admission to the graduate division. It is expected that candidates for admission shall have above average performance during their undergraduate years and shall show evidence of intellectual and temperamental fitness for graduate study.

It is recommended that applicants take the Graduate Record Examination and forward their scores to the college in support of their applications. If an applicant fails to satisfy the requirement of demonstrated above average performance in his major field, the Graduate Record Examination is mandatory. In the graduate department of biology, the Graduate Record Examination is required of all applicants. Applicants for the M.B.A. 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.

Admission may be granted under the following categories:

1. Regular — 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;
2. Provisional — granted to students who satisfy the general admission requirements but have undergraduate deficiencies. Each department determines its own mechanism for removal of these deficiencies before regular admission is given;
3. Special — granted to non-degree students. Admission is for one year only.

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 a 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.

## Academic Requirements

A total of 30 credits is required for the Master's Degree. These required credits must be obtained within six calendar years preceding the granting of the degree. No more than six graduate credits may be accepted for transfer from another institution.

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 minimum average of 3.0 is required for graduation with the master's degree. A student who is given regular admission and who receives more than 11 credits of 2 or below or who receives more than one grade of 0 in graduate courses shall be ineligible to receive the master's degree.

Departmental requirements in chemistry and physics 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 Department of Biology requires that all candidates present a thesis based on an original research problem.

All graduate students shall select a major adviser under whose direction he wishes to pursue his dissertation research before completing nine hours of graduate study if a dissertation is required. Following acceptance of the candidate, the adviser shall appoint two other members of the Graduate Faculty to serve with him as the student's Advisory Committee.



Students in the programs leading to M.S. in Education or M.B.A. degrees will be assigned advisers immediately upon their acceptance to the Graduate School.

When a dissertation is required, the student, in consultation with his Advisory Committee, shall submit to the Committee on Graduate Studies an outline and a tentative dissertation title, before completing more than 12 semester hours of graduate study.

Part-time students employed in laboratories on a full-time basis may be permitted to conduct their dissertation 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.

### Admission to Candidacy

A student shall automatically be considered a candidate for the degree when he has successfully completed the required courses and has submitted the outline of his graduate program and dissertation title where applicable.

### Degree Requirements

Following are the requirements for the Master of Science Degree:

1. Admission to graduate study.
2. Acceptance by an adviser and an advisory committee where applicable.
3. Submission and acceptance of an outline of the student's program and his tentative dissertation title where applicable. This should be done before the beginning of the third semester.
4. Completion of course requirements.

5. Submission of an acceptable thesis, in an acceptable form and in the required number, not later than May 15 preceding the commencement at which the degree is to be conferred (chemistry, physics and biology only).
6. Completion of arrangements satisfactory to the Advisory Committee for publication of the thesis, if so directed.
7. Satisfaction of all general college requirements for graduation.

### Fees and Financial Assistance

The tuition charge is \$70.00 per credit hour.

A \$20.00 per credit hour scholarship will be granted to those engaged in teaching or who intend to become active in education.

The college has available a 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 graduate school before the preceding February 15. Generally, research assistants will be able to write dissertations based on work done under their assistantships.

A number of counselorships in undergraduate college dormitories are available each year to graduate students. These counselorships usually carry with them remission of room costs.



# Master of Science in Biology

## Admission

An applicant for admission to graduate study in biology must present at least 24 undergraduate credits in biology, regardless of the major in which his Baccalaureate Degree was granted. The candidate must have credits for at least one year in physics and the following courses in chemistry: general chemistry, one semester of analytical chemistry, and organic chemistry. Applicants deficient in any of the above requirements must take the courses for no credit in the undergraduate school.

A working knowledge of calculus is also required.

Students deficient in any of the phases may at the discretion of the Biology Department and the Director of Graduate Studies be granted provisional admission.

## Degree Requirements

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 eighteen 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 either French, German, Italian, or Russian, either through examination or by successful completion of two years of language in undergraduate school.

Following completion of 18 of the 24 required credit hours of course work, a graduate student may make a written request of his adviser to take the 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 24 credit hours of course work, fulfilled the language requirements, has passed the comprehensive written examination, and submitted the outline of his thesis.

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

#### Biology 311 Bacteriology. 3 credits

Biology 311 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 312 Bacteriology. 3 credits

Biology 312 covers the relationship of bacteria to disease, immunity, serology, and the pathogenic organisms. Laboratory work continues with special stains, identification of unknowns, isolation of bacteria from natural sources, and techniques used in applied bacteriology. Class, two hours a week; laboratory, six hours a week. Fee: \$20.

*Prerequisite:* Biology 311.

#### Biology 321 Genetics. 3 credits

Genetics is the study of the inheritance of normal characters and the variation of those characters in plants and animals. The laboratory work concerns primarily studies of inheritance in the fruit fly. Class, two hours a week; laboratory, three hours a week. Fee: \$20.



**Biology 322 Ecology.** 3 credits

Ecology is the study of the relationship between organisms, singly and collectively, and their environments, including the biotic and physical factors of the environments. Class, two hours a week; laboratory and field trips, three hours a week. Fee: \$20.

**Biology 331 Physiology.** 3 credits

Physiology is the study of the physical and chemical activities characteristic of all living organisms. Laboratory work includes experiments involving living forms. Class, two hours a week; laboratory, six hours a week. Fee: \$20.

**Biology 332 Evolutionary Mechanisms.** 3 credits

Evolutionary Mechanisms 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.

*Prerequisite:* Biology 321 or permission of instructor.

**Biology 397 Topics in Biology.** 1 credit each semester

A study of the history of biology is designed as a correlating effort in the field of biology through an historical approach.

**Biology 402 Cell Biology, Embryogenesis, and Differentiation.** 3 credits

Advanced study of current experiments, problems, and concepts in embryonic development with emphasis on the following topics: cytology, gametogenesis, fertilization, cleavage, comparative gastrulation, differentiation, and regeneration. Experimental laboratory work is available under Special Topics.

**Biology 411 Physiology of Bacteria.** 3 credits

This course includes such topics in advanced bacteriology as: cell structure, nutrition, metabolism, and factors which influence the rates of growth, fermentation, and death.

*Prerequisites:* one semester of bacteriology, bio-chemistry.

**Biology 421 Current Concepts in Genetics.** 3 credits

Developments in genetics are studied by means of a review of the current literature. Topics include gene structure and function.

*Prerequisite:* undergraduate genetics.

**Biology 422 Advances in Ecological Research.** 3 credits

This course will consist of a review of selected contemporary ecological topics. Areas to be covered will include: population dynamics, prey-predator relationships, competition, the ecological niche, and human ecology. These areas will be discussed with reference to a review of selected ecosystems.

**Biology 432 Comparative Physiology.** 3 credits

An analysis of life processes in invertebrate and vertebrate animals with readings, discussions, and demonstrations. Nerve excitation, muscle contraction, and humoral mediation of synapses are emphasized.

*Prerequisite:* undergraduate physiology.

**Biology 441 Immunology and Immunochemistry.** 3 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.** 3 credits

The classification and biology of the invertebrate organisms with special emphasis on protozoa, helminths, mollusca, and arthropoda. Parasitic and free living forms will be studied.

*Prerequisite:* undergraduate zoology.

**Biology 460 Selected Topics in Biology.**  
1 to 3 credits each semester

Selected topics in biology which are of special interest to the Staff and are designed to complement research.

**Biology 470 Thesis.** 6 credits

**Course Sequence\***

Fall 1970

Biology 402 — Cell Biology

Biology 460 — Selected Topics — Endocrinology

Spring 1971

Biology 411 — Physiology of Bacteria

Biology 422 — Advances in Ecological Research

Fall 1971

Biology 432 — Comparative Physiology

Biology 451 — Invertebrate Biology

Spring 1972

Biology 421 — Current Concepts in Genetics

Biology 441 — Immunology and Immunochemistry

Biology 460 — Selected Topics in Biology

\*All 300-series courses are offered each year.

## 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 adviser 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 spring semester. Students who are registered for or have completed their final graduate coursework for the Degree of Master of Business Administration 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.

#### **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.

#### **Economics 501 Managerial Economics** 3 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** 3 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** 3 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** 3 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** 3 credits

An introductory graduate course in techniques, limits, and areas of application of statistical techniques.

**Economics 506 Labor-Management Economics** 3 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** 3 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.

**Business Administration 511 Modern International Commerce** 3 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** 3 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** 3 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)** 3 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.

**Business Administration 521 Organizational Theory** 3 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** 3 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** 3 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** 3 credits

This seminar has a research orientation. Research, objectives, techniques, and methodology will be dealt with.

**Economics 531 Industrial Relations and the Law** 3 credits

An in-depth study of labor legislation both federal, state, and local. Emphasis will be placed on recent N.L.R.B. decisions and precedents.

**Economics 532 Wage Determination and Administration** 3 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** 3 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** 3 credits

This seminar deals with current issues and theoretical concepts in industrial relations.

**Accounting 541 Advanced Problems** 3 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** 3 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** 3 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** 3 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** 3 credits

Discussion of current accounting research, literature and theory, consideration of the role of the accountant in management advisory services.

**Business Administration 551 Investment and Portfolio Management** 3 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** 3 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** 3 credits

Problems in managerial finance. Special topics.

**Economics 571 Labor-Management Seminar.** 3 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.

**Business Administration 572 Management Development Seminar.** 3 credits

This seminar area will deal with techniques of management training, problems, pitfalls, objectives, and the current state of the art.

## Master of Science in Chemistry

### 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.

### Degree Requirements

All candidates for the Master of Science Degree in Chemistry are required to complete satisfactorily Chemistry 431, 440 and 411. A minimum of 18 credits in 400-level or 500-level graduate chemistry courses is required, exclusive of dissertation credit. The remainder of the required credits may be obtained in mathematics or physics. Physics 401, 402, Topics in Mathematical Physics is strongly recommended.

### Courses of Instruction

#### CHEMISTRY

**Chemistry 341 Elementary Physical Chemistry.** 3 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.** 3 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 352 Biochemistry.** 3 credits

A study of the nature and metabolism of proteins, carbohydrates, lipids, and other physiological substances. Emphasis is placed on the mechanism of enzymatic catalysis. Class, three hours a week.

*Prerequisite:* Permission of instructor.

**Chemistry 376 Advanced Analytical Chemistry.** 3 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 411 Advanced Inorganic Chemistry.** 3 credits

Systematic chemistry of the elements, introduction to ligand field theory, chemistry of the first transition series and  $\pi$  - acceptor compounds.

**Chemistry 431-432 Advanced Organic Chemistry I and II.** 3 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 440 Quantum Chemistry.** 3 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.

**Chemistry 516 Selected Topics in Inorganic Chemistry.** 3 credits

Topics of interest, probably in theoretical inorganic chemistry or transition-metal chemistry.

**Chemistry 531 Stereochemistry.** 3 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 536 Selected Topics in Organic Chemistry.** 3 credits

Selected topics in organic chemistry which are of special interest to the Staff and are designed to complement research.

**Chemistry 541 Chemical Thermodynamics and Statistical Thermodynamics.** 3 credits

First, Second, and Third Laws of thermodynamics and classical and quantum statistical thermodynamics. Applications to physical chemical processes.

**Chemistry 542 Spectroscopy.** 3 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.** 3 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.** (Offered on demand) 3 credits

Selected topics in physical chemistry which are of special interest to the Staff and are designed to complement research.

**Chemistry 590 Thesis.** 6 credits

**Course Sequence**

Fall 1970

- Chemistry 341 — Elementary Physical Chemistry
- Chemistry 411 — Advanced Inorganic Chemistry
- Chemistry 431 — Advanced Organic Chemistry I
- Chemistry 541 — Thermodynamics

Spring 1971

- Chemistry 342 — Intermediate Physical Chemistry
- Chemistry 352 — Biochemistry
- Chemistry 376 — Advanced Analytical Chemistry
- Chemistry 432 — Advanced Organic Chemistry II
- Chemistry 440 — Quantum Chemistry
- Chemistry 544 — Kinetics

Fall 1971

- Chemistry 341 — Elementary Physical Chemistry
- Chemistry 411 — Advanced Inorganic Chemistry
- Chemistry 440 — Quantum Chemistry
- Chemistry 531 — Stereochemistry

Spring 1972

- Chemistry 342 — Intermediate Physical Chemistry
- Chemistry 352 — Biochemistry
- Chemistry 376 — Advanced Analytical Chemistry
- Chemistry 516 — Topics in Inorganic Chemistry
- Chemistry 536 — Topics in Organic Chemistry
- Chemistry 542 — Spectroscopy

## Master of Science Degree Programs 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.

### 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 secondary education must satisfy academic departmental requirements as well as requirements of the Education Department.

Applicants who wish to pursue master's work in elementary education must present adequate preparation in academic disciplines as well as satisfy requirements of the Education Department.

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.



## Degree Requirements

A candidate for the Master of Science Degree in Secondary Education must complete 30 credits, 18 of which must be taken in his academic major subject field.

A candidate for the Master of Science Degree in Elementary Education must complete 30 credits, at least 12 of which must be in education; the remaining 18 credits may be taken either in academic fields or in education.

Education courses taken to fulfill provisional certification requirements may not be used to fulfill master's degree requirements.

## Program of Study

Each student develops a program of study which will satisfy requirements for the degree he seeks. The 12 credits required in education must be distributed as follows: 6 credits in Area I, 3 credits in Area II, and 3 credits in Area III or IV. The student's program must be approved by his adviser and by the Education Department. To facilitate securing this approval, students in secondary education are assigned a co-adviser in the Education Department.

## Courses of Instruction

### EDUCATION

#### AREA O – CERTIFICATION COURSES

**Education 400 General Secondary School Methods.** 3 credits

An introduction to principles, methods, and materials appropriate for secondary school instruction. Required for interim certification.

**Education 401-02 Elementary Classroom Methods.** 3 credits each semester

An introduction to principles, methods, and materials appropriate for elementary school instruction. Education 401 is prerequisite to 402.

*Prerequisite:* Interim certification.

**Education 403-04 Intern Teaching.** 3 credits each semester

Beginning teachers holding the interim certificate are assigned to supervisors who work with them to facilitate their introduction to classroom teaching.

*Prerequisite:* Interim certification.

Section A Elementary

Section B Secondary

**Education 405 Introduction to Reading Instruction.** 3 credits

A foundations course in reading instruction.

## AREA I – FOUNDATIONS OF EDUCATION

**Education 510 Psychological Foundations of Education.** 3 credits

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

**Education 511 Philosophical Foundations of Education.** 3 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.** 3 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.** 3 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.** 3 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.

**AREA II – PROFESSIONAL SKILLS  
IN EDUCATION**

**Education 520 Tests and Measurements.** 3 credits

Study of characteristics, construction, and use of various standardized and non-standardized measuring instruments; statistics through basic correlation.

**Education 521 Statistics in Education.** 3 credits

Correlation and regression through statistical inference.  
*Prerequisite:* Education 520 or equivalent.

**Education 522 Research in Education** 3 credits

An introduction to research, techniques for gathering and presenting data.  
*Prerequisite:* Education 520 or equivalent.

**AREA III – ELEMENTARY EDUCATION**

**Education 530 Diagnosis and Correction of Reading Difficulties.** 3 credits

A study of methods and materials for detection, analysis, and remediation of reading disabilities.

*Prerequisite:* Permission of the instructor.

**Education 531 Practicum in Reading Instruction.** 3 credits

This course places students in a clinical setting for detection, analysis, and remedial instruction of children with reading disabilities.

*Prerequisite:* Permission of the instructor.

**Education 532-33 Problems in Elementary Education.** 3 credits

Advanced study of materials and methodology appropriate for elementary classroom instruction.

- Section A Mathematics
- B Science
- C Language Arts
- D Social Studies
- E Special Subjects

**Education 534 Elementary School Curriculum.** 3 credits

A study of curricula offered in elementary schools, grade placement of content, articulation of subject matter areas, development of specialized programs.

**Education 535 Nongraded Instruction in the Elementary School.** 3 credits

A study of the rationale for nongrading, the nongraded curriculum, and instructional staffing design.

*Prerequisite:* Permission of the instructor.



**Education 539 Seminar in Elementary Education.** 3 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.

**AREA IV — SECONDARY EDUCATION**

**Education 540 Special Methods in Secondary School Instruction.** 3 credits each semester

- |           |                       |   |                     |
|-----------|-----------------------|---|---------------------|
| Section A | Biology               |   |                     |
| B         | Chemistry             |   |                     |
| C         | Environmental Science |   |                     |
| D         | English               |   |                     |
| E         | History               | H | Reading             |
| F         | Mathematics           | I | Social Sciences     |
| G         | Physics               | J | Educational Theater |

**Education 541 Secondary School Curriculum.** 3 credits

A study of secondary school curricula, traditional programs, recent developments, provisions for innovation and individualization.

**Education 542 Extra-curricular Activities.** 3 credits

A study of the development of extra-curricular activities, organization and administration, the role of the sponsor, recent trends.

**Education 549 Seminar in Secondary Education.** 3 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 instructor.

**AREA IX — ADVANCED GENERAL COURSES**  
**Education 595-96 Workshop** 3 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 597-98 Independent Study** 3 credits each semester

Affords an opportunity for independent study of selected topics under faculty supervision.



## Master of Science Degrees in Biology, Chemistry, and Physics Education

Graduate study in Biology, Chemistry or Physics Education affords teachers and educators an opportunity to strengthen their background in one of the disciplines as well as study in the professional field of education. A minimum of 18 credits related to the subject field is required.

### Admission and Requirements

(See education admission and requirements under Master of Science Degree Programs in Education.)

## Master of Science in English Education

Graduate study in English is offered toward the Degree of Master of Science in English Education. It is designed to offer teachers and educators an opportunity to strengthen their background in English as well as study in the professional field of education. A minimum of 18 credits in courses related to the subject field is required.

### Admission and Requirements

(See education admission and requirements under Master of Science Degree Programs in Education.)

## Courses of Instruction

### ENGLISH

**English 310 Medieval English Literature.** 3 credits  
A study of English literature to 1500, exclusive of Chaucer and the drama.

**English 320 Tudor Prose and Poetry.** 3 credits  
Study of English non-dramatic literature from 1485 to 1603.

**English 321 Early English Drama.** 3 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 Milton and the Seventeenth Century.** 3 credits  
A study of the non-dramatic literature of the period with special emphasis on the poetry of John Milton.

**English 341 Restoration and Eighteenth Century Drama.** 3 credits  
Study of the drama from 1660 to 1780.

**English 343 Eighteenth Century Prose and Poetry.** 3 credits  
The chief poets and essayists of the eighteenth century. Includes Swift, Pope, and Johnson.

**English 345 Early English Novel.** 3 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.** 3 credits

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

**English 360 Victorian Prose and Poetry.** 3 credits

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

**English 366 Later English Novel.** 3 credits

The major novelists of the nineteenth and early twentieth centuries.

**English 370 Modern Poetry.** 3 credits

Study of the major English and American poetry of the twentieth century.

**English 372 Modern Novel.** 3 credits

Study of the major English and American novels of the twentieth century.

**English 374 Modern Drama.** 3 credits

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

**English 400 Introduction to Research.** 3 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.** 3 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.** 3 credits

The study of selected topics in Medieval English literature.

**English 420 Studies in Renaissance Literature.** 3 credits

A study of selected major figures of the English Renaissance.

**English 440 Studies in Restoration and Eighteenth Century Literature.** 3 credits

A study of selected topics in English literature from 1660 to 1800.

**English 450 Studies in Romantic and Victorian Literature.** 3 credits

A study of selected major English prose and poetry of the nineteenth century.

**English 470 Studies in Modern British Literature.** 3 credits

A study of selected major British authors of the twentieth century.

**English 480 Studies in American Literature.** 3 credits

A study of selected major movements and figures in American literature from the Puritans to contemporary authors.

**English 497 Seminar in Special Problems.** 1 to 3 credits

This course is designed for intensive research in any specific area of English or American literature.



### Course Offerings for 1970-1971

Fall 1970

English 321 — Early English Drama

English 354 — Romantic Prose and Poetry

Spring 1971

English 341 — Restoration and Eighteenth Century Drama

English 374 — Modern Drama

Summer 1971

English 405 — Studies in Linguistics

English 470 — Studies in Modern British Literature

English 480 — Studies in American Literature

## Master of Science in History Education

Graduate study in history is offered toward the Degree of Master of Science in History Education. The program is designed to offer teachers and educators an opportunity to strengthen their background in history as well as to study in the professional field of education. A minimum of 18 credits in courses related to the subject field is required.

### Admission and Requirements

(See education admission and requirements under Master of Science Degree Programs in Education.)

### Courses of Instruction

#### HISTORY

**History 321-322 American Social and Intellectual History** 3 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 influences of industrialization, the rise of nationalism, and the emergence of the United States as a World Power will be emphasized. (For graduate students — select problems) *Prerequisites:* History 107 and 108.

**History 327-328 History of the Foreign Policy of the United States.** 3 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. (For graduate students — select problems)

*Prerequisites:* History 101, 102, 107, and 108.



**History 331 Colonial America.** 3 credits

Discovery, exploration, and settlement; development of social, political, religious, and intellectual institutions; independence and political reorganization. (For graduate students — select problems)

*Prerequisites:* History 107 and 108.

**History 332 The National Period (American History)** 3 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. (For graduate students — select problems)

*Prerequisites:* History 107 and 108.

**History 333 The Age of Big Business.** 3 credits

A study of the political and economic history of the United States from 1865-1914. 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. (For graduate students — select problems)

*Prerequisites:* History 107 and 108.

**History 334 Twentieth Century America.** 3 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. (For graduate students — select problems)

*Prerequisites:* History 107 and 108.

**History 353-354 Early Modern Europe  
1648-1815** 3 credits each

Topics include the absolutism of Louis XIV, the growth of Brandenburg-Prussia, the French Revolution and French Empire, the economic forces of mercantilism, and the early Industrial Revolution. The growth of science and the Enlightenment will receive careful attention. (For graduate students — select problems)

**History 355 Europe in the Nineteenth Century.** 3 credits

A study of the political, social, and cultural development of Europe from the Congress of Vienna to World War I. (For graduate students — select problems)

*Prerequisites:* History 101 and 102.

**History 356 Europe in the Twentieth Century.** 3 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. (For graduate students — select problems)

*Prerequisites:* History 101 and 102.

**History 357 History of Russia to 1815.** 3 credits

A brief review of demographic and geographic factors will be used as background for a study of the political, social, and intellectual history of Russia from early times to 1815. (For graduate students — select problems)

*Prerequisites:* History 101 and 102.

**History 358 History of Modern Russia** 3 credits

A thorough examination of nineteenth century Imperial Russia will serve as a basis for a detailed study of the development of Russia in the twentieth century. Emphasis will be on the or-



origins and political, social, and cultural evolution of the Soviet State from its inception to the present. (For graduate students — select problems)

*Prerequisites:* History 101 and 102.

**History 371 Historiography.** 1 to 3 credits

An introduction to the aims, methods, and accomplishments of some of the most renowned historians of Europe and America. (Graduate students must take this course.)

*Prerequisite:* Consent of head of department.

**History 381 History of Latin America** 3 credits

A survey of the colonial period of Latin American history through the achievement of national independence. (For graduate students — select problems)

**History 395-396 Independent Research.** 1 to 3 credits per 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.

*Prerequisite:* Approval of the department chairman.

**Sociology 397 Seminar in Anthropology** 3 credits

Presentation and discussion of selected topics.

**History 497 Seminar in American and/or European History.** 1 to 3 credits per semester

Presentations and discussions of selected topics.

*Prerequisite:* Approval of the department chairman.

**Course Offerings for 1970-1971**

Fall 1970

History 327 — History of the Foreign Policy of the United States I

History 331 — Colonial America

History 333 — The Age of Big Business

History 353 — Early Modern Europe I

History 355 — Europe in the Nineteenth Century

History 357 — History of Russia to 1815

History 381 — History of Latin America

History 497 — Seminar — Topics in Economic History

Spring 1971

History 328 — History of the Foreign Policy of the United States II

History 332 — The National Period

History 334 — Twentieth Century America

History 354 — Early Modern Europe II

History 356 — Europe in the Twentieth Century

History 358 — History of Modern Russia

History 497 — Seminar — British History

Summer 1971

History 371 — Historiography

History 497 — Seminar — Diplomatic Relations of the United States and East Asia, 1898-1971.

History 497 — Seminar — Social Thought in America, 1900-1960



# Master of Science in Mathematics Education

## Admission

(See education admission requirements under Master of Science Degree Programs in Education.)

## Requirements

The requirements for this degree consist of two components: 18 credits in mathematics courses and 12 credits in education courses. The mathematics component must include Mathematics 311-312, 331, and 334 (if these courses or their equivalents have not been completed by the candidate prior to admission) and at least one course numbered above 400. A thesis is not required.

At the time a student is admitted into this program, he will be assigned a faculty adviser who will propose a course of studies for him to follow. The mathematics and education components must be approved by the Chairmen of the Departments of Mathematics and Education, respectively. The entire program and any subsequent changes must also be approved by the Director of Graduate Studies.

## Courses of Instruction

### MATHEMATICS

#### Mathematics 311-312 Functions of a Real Variable I and II 3 credits each

Topological preliminaries for analysis, sequences and series of functions, Riemann-Stieltjes integral, introduction to Lebesgue integral, Fourier series.

#### Mathematics 314 Functions of a Complex Variable 3 credits

Complex functions, limit and continuity, analytic functions, Cauchy's integral theorem and formula, power series, Laurent expansion, residues.

#### Mathematics 331 Introduction to Abstract Algebra I 3 credits

A study of elementary number theory, groups, rings, and fields.

#### Mathematics 334 Linear Algebra 3 credits

Vector spaces, linear transformations, matrices, determinants, bilinear and quadratic forms, matrix polynomials.

#### Mathematics 343 Introduction to Geometry 3 credits

A study of selected topics from Euclidean geometry, affine geometry, projective geometry, and convexity.

#### Mathematics 351-352 Probability and Mathematical Statistics 1 and II 3 credits each

Random variables, probability distributions, expectation and limit theorems, estimation, testing statistical hypotheses, confidence intervals.

#### Mathematics 364 Numerical Analysis 3 credits

Numerical methods of differentiation, integration, solution to equations and of differential equations with emphasis on problems that lend themselves to solution on computers. Knowledge of computers is desirable but not required.



**Mathematics 397 Seminar** 1 to 3 credits per semester

Presentation and discussion of selected topics.  
*Prerequisite:* Approval of department chairman.

**Mathematics 413 Functions of Several Variables** 3 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** 3 credits

A continuation of Mathematics 331. Polynomial rings, ideals, field extensions and Galois Theory.

*Prerequisite:* Mathematics 331.

**Mathematics 441 Introduction to Topology I** 3 credits

Metric spaces, topological spaces, countability and separation axioms, compactness and connectedness, product spaces.

*Prerequisite:* Mathematics 311.

**Mathematics 442 Introduction to Topology II** 3 credits

A continuation of Mathematics 441. Hilbert spaces, Banach spaces, and Banach algebras. *Prerequisite:* Mathematics 441.

**Mathematics 470 Readings in Mathematics** 3 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 coursework in mathematics.

*Prerequisite:* Senior standing and consent of department chairman.

**Mathematics 480 Topics in Mathematics** 3 credits per semester

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.

*Prerequisite:* Consent of instructor.

**Course Offerings for 1970-1971**

Fall 1970

- Mathematics 311 — Functions of a Real Variable I
- Mathematics 331 — Introduction to Abstract Algebra I
- Mathematics 334 — Linear Algebra
- Mathematics 343 — Introduction to Geometry
- Mathematics 351 — Probability and Mathematical Statistics I
- Mathematics 413 — Functions of Several Variables
- Mathematics 441 — Introduction to Topology I
- Mathematics 470 — Readings in Mathematics
- Mathematics 480 — Topics in Mathematics

Spring 1971

- Mathematics 312 — Functions of a Real Variable II
- Mathematics 314 — Functions of a Complex Variable
- Mathematics 334 — Linear Algebra
- Mathematics 352 — Probability and Mathematical Statistics II
- Mathematics 364 — Numerical Analysis
- Mathematics 432 — Introduction to Abstract Algebra II
- Mathematics 442 — Introduction to Topology II
- Mathematics 470 — Readings in Mathematics
- Mathematics 480 — Topics in Mathematics

Summer 1971

- Mathematics 314 — Functions of a Complex Variable
- Mathematics 334 — Linear Algebra
- Mathematics 413 — Functions of Several Variables
- Mathematics 470 — Readings in Mathematics



# Master of Science in Physics

## 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

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

#### Physics 401-402 Topics in Mathematical Physics. 3 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. 3 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 430 Solid State Devices 3 credits

Atomic structure and energy band theory. 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 Crystallography. 3 credits

Repetition theory and translational and rotational symmetry. Derivation of the crystal classes. Combination of symmetry operations involving reflections and inversions. The symmetrical plane and space lattices. The coordinate systems of crystallography and crystal forms. Practical determination of point-group symmetry. The algebra of operations. Space groups. Equivalent positions in space groups. The determination of space groups. Group Theory and its application to point symmetries.

#### Physics 472 X-Ray Diffraction 3 credits

X-rays and their properties. Directions and intensities of diffracted beams. Laue, Debye-Scherrer, Diffractometer, Rotating, Oscillating, Weissenberg and Precession Methods. Outline of crystal structure analysis. Fee: \$20. Laboratory: one period per week.

*Prerequisite:* Physics 471.

#### Physics 473 Crystalline Anisotropy. 3 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.



**Physics 511 Analytical Mechanics.** 3 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.** 3 credits

A detailed analytical study of the laws of electrostatics, magneto-statics and electromagnetism. Topics include Laplace's equation, Poynting's flux, etc.

**Physics 550-551 Quantum Mechanics.** 3 credits each semester

The fundamental principles of quantum mechanics, according to both Schrodinger and Heisenberg formulations. Topics include variational methods, perturbation methods, the uncertainty principle, angular momentum, the hydrogen atom, radiation theory, and collision theory.

*Prerequisites:* Physics 511, Physics 401.

*Corequisite:* Physics 402.

**Physics 540 Statistical Mechanics.** 3 credits

The statistical theory of particles, both classical and quantum. Application to solid state and nuclear physics.

*Corequisite:* Physics 551.

**Physics 571 Solid State Theory.** 3 credits

An introduction to the theory of solids. Topics treated include crystal structure, point and line defects, superconductivity, the band theory of solids, etc.

*Corequisite:* Physics 550.

**Physics 574 Semiconductivity.** 3 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.** 3 credits each semester

An introduction to the theory and practice of nuclear physics. Nuclear reactions, scattering theory, fission, fusion, etc.

*Corequisite:* Physics 551.

**Physics 590 Thesis.** 6 credits

**Course Sequence**

Fall 1970

Physics 401 — Topics in Mathematical Physics I

Physics 471 — Crystallography

Physics 511 — Analytical Mechanics

Physics 551 — Quantum Mechanics II

Spring 1971

Physics 402 — Topics in Mathematical Physics II

Physics 472 — X-Ray Diffraction

Physics 550 — Quantum Mechanics I

Physics 540 — Statistical Mechanics



### Administration of the Graduate Program

Graduate programs at Wilkes College are the administrative responsibility of the Director of Graduate Studies. A Faculty Committee on Graduate Studies acts in an advisory capacity to the Director of Graduate Studies and is listed below.

### Faculty Committee on Graduate Studies

Ralph B. Rozelle	<i>Director of Graduate Studies, Chairman</i> <i>Professor of Chemistry</i> Ph.D. (Alfred)
James J. Bohning	<i>Associate Professor of Chemistry</i> Ph.D. (Northeastern)
Alvan Bruch	<i>Professor of Environmental Science</i> Ph.D. (N.Y.U.)
Harold E. Cox	<i>Associate Professor of History</i> Ph.D. (Virginia)
Franck G. Darte, II	<i>Associate Professor of Education</i> Ed.D. (Pennsylvania)
Francis J. Donahoe	<i>Professor of Physics</i> Ph.D. (Pennsylvania)
Benjamin F. Fiester, Jr.	<i>Professor of English</i> Ph.D. (Pennsylvania State)
Eugene L. Hammer	<i>Professor of Education</i> Ed.D. (Columbia)

David M. Leach	<i>Professor of History</i> Ph.D. (Rochester)
Charles B. Reif	<i>Professor of Biology</i> Ph.D. (Minnesota)
Philip L. Rizzo	<i>Professor of English</i> Ph.D. (Pennsylvania)
Samuel A. Rosenberg	<i>Professor of Economics</i> Ph.D. (North Carolina)
Donald W. Tappa	<i>Associate Professor of Biology</i> Ph.D. (Yale)
James M. Toole	<i>Assistant Professor of Physics</i> Ph.D. (Pennsylvania State)
Robert E. Werner	<i>Professor of Economics</i> Ph.D. (Wisconsin)
Charles E. Wilks	<i>Assistant Professor of Mathematics</i> Ph.D. (Texas)
Bing K. Wong	<i>Professor of Mathematics</i> Ph.D. (Illinois)

Information on the graduate school may be obtained by writing to:

Director of Graduate Studies  
Wilkes College  
Wilkes-Barre, Pennsylvania 18703