

Wilkes College Library

WILKES  
COLLEGE  
*Bulletin*

1963-1964



WILKES-BARRE

PENNSYLVANIA

# WILKES COLLEGE *Bulletin*

1963 - 1964

FALL AND SPRING  
SEMESTERS—1963-64

Vol. XII

## College Calendar

### SUMMER SESSION—1963

- Wednesday, June 12 to Friday, June 14  
*Registration* **ARCHIVES**  
Monday, June 17  
*Classes begin* **LD6051**  
Thursday, July 4  
*Independence Day* **W 226 b**  
Friday, August 9  
*Summer School ends* **1963-64 to 1965-66**

### FIRST SEMESTER—1963

- Monday, September 9 to Friday, September 13  
*Orientation for Freshmen*  
Tuesday, September 10  
*Registration for Freshmen*  
Thursday, September 12  
*Registration for Upperclassmen*  
Monday, September 16  
*Classes begin at 8:00*  
Saturday, October 5  
*Parents' Day, Wilkes vs. Moravian*  
Monday, October 14  
*Student Teaching Begins*  
Saturday, October 26  
*Homecoming, Wilkes vs. Drexel*  
Saturday, October 26  
*Final date to remove incompletes*  
Wednesday, October 30  
*Mid-semester reports*  
Monday, November 4 to Friday, November 8  
*Registration*  
Wednesday, November 27  
*Thanksgiving recess begins at noon*  
Monday, December 2  
*Thanksgiving recess ends at 8 a.m.*  
Wednesday, December 4  
*Student Teaching ends*  
Saturday, December 14  
*Christmas recess begins at noon*  
Monday, January 6, 1964  
*Christmas recess ends at 8:00*  
Wednesday, January 15  
*Classes end*  
Friday, January 17 to Saturday, January 25  
*Examination period*

## College Calendar

### SECOND SEMESTER—1964

- Wednesday, January 29  
*All-College Registration*  
Monday, February 3  
*Classes begin at 8:00 a.m.*  
Monday, March 2  
*Student teaching begins*  
Saturday, March 14  
*Final date to remove incompletes*  
Wednesday, March 18  
*Mid-semester reports*  
Tuesday, March 24  
*Easter recess begins at 5:00 p.m.*  
Wednesday, April 1  
*Easter recess ends at 8:00 a.m.*  
Monday, April 6 to Friday, April 10  
*Registration*  
Friday, April 24  
*Student teaching ends*  
Sunday, May 3  
*Band Concert*  
Saturday, May 23  
*Classes end*  
Monday, May 25 to Wednesday, June 3  
*Examination period*  
Thursday, May 30  
*Memorial Day—No classes*  
Sunday, June 7  
*Baccalaureate*  
Monday, June 8 ✓  
*Commencement*

### SUMMER SESSION—1964

- Wednesday, June 10 to Friday, June 12  
*Registration*  
Monday, June 15  
*Classes begin*  
Friday, August 7  
*Summer School ends*

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## 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.

## 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.*

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

It was inevitable that the new college should be 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.

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.

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.

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.

## College and 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.

### Office of Community Services

In cooperation with the Chamber of Commerce, The Industrial Fund, and other community groups, the College has provided for some years a program designed for the improvement of labor-management relations and for the study of modern practices in local government. These efforts have been maintained on a minimum basis by funds from the College, the Chamber of Commerce, local governments, and other civic groups.

These local efforts have been recently strengthened by a grant of \$150,000 from the Ford Foundation. In consequence, the work in both areas will be enlarged and a new Area Research Center has been established at Wilkes College.

#### AREA RESEARCH CENTER

The Area Research Center provides professional direction and secretarial and research assistance in cooperation with the county and city development agencies, the Economy League, the Industrial Fund, the Committee of 100, the Chamber of Commerce, employers, labor unions, the Planning Council of the United Fund, and other agencies desiring special services.

The purposes of the Center are (1) to coordinate the many studies of community problems and trends so that the results may always be available to interested community groups and to

others; (2) to assure continuity of studies so that long-time trends may be known and their significance in the local and national scene may be understood; (3) to make special studies for public and private groups, including municipalities, the Industrial Fund, corporations, labor organizations, the Economy League, school boards; (4) to cooperate with the Planning Commissions of the City and County, with the United Fund, and with other social agencies and civic organizations.

#### LABOR-MANAGEMENT TRAINING PROGRAM

Because Wilkes serves an area which has been undergoing drastic economic readjustments, it is deemed essential that every effort be made to encourage cooperative planning and action. 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 company. Where several firms are confronted with common problems, special classes are organized to include representation of several companies.

The program designed for members of labor unions is tailored to the particular needs of the group. Broad topics in economics are presented to provide a basis for the discussion of ideas, laws, and practices. All classes are conducted on the College campus where the academic climate induces and stimulates free intellectual inquiry. It has been demonstrated that in this atmosphere the members participate more freely in the discussion and consideration of significant problems.

As an integral part of the three-pronged Labor-Management Training Program, union and management personnel sometimes meet together in an effort to develop that mutual understanding that is essential to constructive action.

#### INSTITUTE OF MUNICIPAL GOVERNMENT

The Institute of Municipal Government, developed from the activities of the Political Science department, offers an educa-

tional program for public officials. By providing training, the Institute informs locally elected or appointed public leaders of modern practices in government. The Institute does not campaign or enter politics. The Institute does cooperate with municipal leagues and associations engaged in consultation and research on the local governmental level.

The Institute publishes a monthly *Newsletter* containing timely articles related to the responsibilities of local officials interested in the rehabilitation of the region.

The Institute has offered courses to magistrates, borough and township secretaries, police, councilmen and commissioners, health officers, and school directors. During the past five years over one hundred merit awards have been presented to outstanding local officials for service to their communities.

#### *WILKES-BARRE PHILHARMONIC ORCHESTRA*

The Wilkes-Barre Philharmonic Orchestra, organized under the ægis of the College in the fall of 1951, presents a series of three symphony concerts annually. A number of the members come from the department of music of the College.

#### *FINE ARTS FIESTA*

The College participates with area-wide cultural groups in the Wyoming Valley Fine Arts Fiesta, a program of music, drama, and the arts presented on the public square each spring.

## Policies and Objectives of the College

### Admissions

### Registration

### Tuition, Fees, and Expenses

### Financial Assistance

## 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.

## Admission Requirements

### HIGH SCHOOL RECORD

Candidates applying for admission to Wilkes should be high school graduates and should offer at least fifteen units of work representing the equivalent of the usual four-year high school or preparatory school course. For entrance into certain departments, specific courses in high school are necessary. An example would be four years of Mathematics for those interested in studying the physical sciences, engineering, or mathematics.

### ENTRANCE EXAMINATIONS

All candidates for admission to the freshman class will be required to take entrance examinations to determine the applicant's readiness for college work. The Admissions Committee considers these test results in relation to the applicant's high

school transcript and the record of performance during the high school years.

### ADMISSIONS COMMITTEE

The Admissions Committee is comprised of the Director of Admissions, Dean of Men, Dean of Women, and three faculty members. This committee acts upon special cases referred to it by the Director of Admissions.

## Admissions Procedure

### APPLICATIONS FOR ADMISSION

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

Applications for admission may be obtained from the Director of Admissions and should be returned to him with a \$5.00 registration fee. Upon receipt of the application, the Director of Admissions will write to the student concerning his high school transcript and recommendations.

### ADMISSION TESTS

The Scholastic Aptitude Test of the College Entrance Examination Board is required of all applicants. The December, January, or February tests are recommended as most suitable. If unusual circumstances prevent the applicant from taking this test, he must notify the Director of Admissions.

For information concerning these tests the student should write to the Educational Testing Service, Box 592, Princeton, New Jersey.

### PERSONAL INTERVIEWS

Although a personal interview with each student is not required, the Admissions Officer reserves the right to request an interview with a candidate for admission. Students and their families are cordially 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.



*ACCEPTANCE OF ADMISSION AND DEPOSIT*

The Admissions Committee meets each week and acts upon all completed applications. Notification of admission is sent immediately and students are required to forward a \$50.00 tuition deposit in order to guarantee their entry into the College. This deposit will be applied toward the tuition charges for the first semester.

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

*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. After the College has made a tentative evaluation of the record of the student, a faculty adviser will counsel him concerning his new schedule. Acceptable credits will be placed on the Wilkes record of the student following a final evaluation.

Faculty 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.

*ADVANCED COURSE STANDING*

Freshmen who are equipped to enter advanced courses in college may enroll in such courses upon passing a placement examination, or upon approval by the department or departments concerned. Although the student will not receive credit for the courses that he has omitted, he will be spared the necessity of repeating work that he has previously covered outside of college.

## Registration

Every student is expected to register at the beginning of each term on 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 \$5.00.

## Expenses

*TUITION*

The flat tuition rate adopted by the College for a student carrying the normal load for his course is \$425.00 per semester. A student who registers for fewer than fifteen hours of work will pay either \$30.00 for each semester hour or the regular tuition fee, whichever amount is lower. A student who elects a heavier schedule than is normal for his course will be charged \$30.00 for each additional hour of credit beyond the normal load.

*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.

The cost of individual instruction in applied music is \$50.00 for full-time students for a series of fifteen half-hour lessons. The College accepts a limited number of special students for individual instruction in applied music for a series of fifteen half-hour lessons at a cost of \$60.00 per semester.

A student activities fee of \$30.00 per year will be charged to those students taking fewer than 15 or more than 9 semester hours or to any special student wishing to participate in activities.

*SPECIAL CHARGES*

Graduation fee .....	\$20.00
Convocation fee (two-year students) .....	\$12.50
Transcript (no charge for the first copy) .....	\$ 1.00

### *EVENING SCHOOL*

Students registered in the Evening School will be charged \$30.00 per semester hour. A fee of \$30.00 is charged for those wishing to participate in student activities. 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 eight-week Summer School session will be charged \$30.00 per semester hour of study payable before registration.

### *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 through the American Casualty Company, Reading, Pennsylvania. Each student will be required to purchase an accident policy at a cost of \$10.00, and dormitory students also are required to accept a health insurance policy costing \$20.00. This health insurance is also available to commuting students but is optional with them. Both policies provide protection for the full College term 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 is available for emergency treatment.

### *PAYMENTS*

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.

1. Wilkes College participates in the National Defense Student Loan Program, and students needing financial assistance may apply to the College for such a loan.

2. If a student does not meet the requirements for a National Defense Student Loan, but wishes to space his payments over the school year, we recommend that he apply for an educational loan at one of the local banks. Information concerning this method of financing an education may be obtained at the College.

3. Grants-in-aid and scholarships will be credited toward the student's bill at the beginning of each term.

### *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 exceptional conditions.

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 number of large mansions that have been given to, or purchased by, the College in recent years. At present there are six men's and six women's dormitories, each of which accommodates from eighteen to twenty-three students and a faculty 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, towels, and linen.

All out-of-town students must reside in the College dormitories on campus. A deposit of \$50.00 is required to reserve a room. The charge for room and board is \$400.00 per student per semester. All dormitory students must purchase accident and health insurance at a cost of \$30.00.

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

#### COLLEGE BOOK STORE

Books, stationery, and supplies may be purchased at the College Book Store, Harding House. The book store is operated on a cash basis. The College also maintains a United States Post Office sub-station in Harding House.

#### COLLEGE COMMONS

The Commons serves as a dining hall for the resident students. It also provides cafeteria service for commuting students.

## 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 scholarships*.

## Scholarships

Scholarships and grants are available to students with good records of achievement and performance in high school or college who cannot fully finance the cost of their college education and who can demonstrate *seriousness of purpose and effort*.

A few honor scholarships are awarded without regard to need to students of outstanding achievement in appreciation of their contribution to the intellectual life of the group. The amount of each grant will be determined by the Scholarship Committee.

#### SCHOLARSHIP REQUIREMENTS

1. Students must be admitted to the College before their applications for scholarships will be considered.
2. All applicants for scholarships must obtain an interview with the Dean.

3. No scholarship will be granted until the student has made every reasonable effort to finance as large a portion as possible of the costs of this education.

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

5. No student may simultaneously hold more than one scholarship granted by the College.

6. Scholarships will be forfeited if the student, at any time, carries fewer hours than are normal for the course.

7. No scholarship is awarded for more than one year, but scholarships 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 own choice.

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

#### INSTRUCTIONS TO THE APPLICANT

1. To establish eligibility for a scholarship, the student must first apply for admission to the College and must be accepted. Application for admission should be made prior to March 1.

2. Students requiring aid shall indicate their need on the application for admission to the College.

3. Students indicating such need shall receive an application for scholarship aid with their notification of admission to the College. This completed application should be submitted to the Director of Admissions before April 1.

## Loans

The College participates in the National Defense Student Loan Program. Complete information concerning this program and applications for financial assistance under this program may be obtained at the College.

#### SPECIAL LOAN FUND

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 also receive needed assistance from this rotating loan fund.

## 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 a semester 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 shall register with the College Placement Office.

#### CAMPUS EMPLOYMENT

The College also offers part-time employment at standard rates in the dining room, offices, laboratories, library, or on the maintenance staff. The holder of these jobs will meet all obligations of his assignments or forfeit all help from the College.

## 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.

*ADOLPH HERSKOWITZ MEMORIAL SCHOLARSHIP FUND.* For a period of years Mr. Ernest Herskowitz is giving funds that will assist a worthy student to gain an education.

*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.

*ANDREW J. SORDONI FOUNDATION SCHOLARSHIP.* This scholarship will be used to assist students of unusual promise and proved ability.

*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.

*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.

*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.

*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.

*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.

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

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

*THE 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.

*HENRY BLACKMAN PLUMB AND EDITH M. 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.

*THE BUSINESS AND PROFESSIONAL WOMEN'S CLUB* of Wilkes-Barre offers to an outstanding woman student of the College a scholarship each year. The education committee of the club in cooperation with the administration choose a young woman who shows promise of making an outstanding contribution in business or professional life following graduation.

*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.

*THE 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.

*THE NATIONAL COUNCIL OF JEWISH WOMEN—THE WILKES-BARRE SECTION*—gives a scholarship annually to a young woman in the field of Education or Sociology. This young woman—a junior or senior—must be a resident of Wyoming Valley.

*THE 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.

*THE METROPOLITAN WIRE GOODS CORPORATION* has created scholarships of \$500, \$300 or \$200 at Wilkes College for the sons or daughters of their employees. To qualify for candidacy, a student must graduate in the upper half of the high school class, must test above 550 on the College Board Examinations, and must demonstrate financial need. The scholarship will be granted through the College to the applicant making the best record in high school and on the College Board Examinations. To retain this scholarship, a student must make a strong academic record, and must exert a constructive influence in the College.

*THE KING FIFTH WHEEL COMPANY* offers each year a scholarship in the physical sciences. This scholarship will be awarded to a student entering the physical sciences who has earned an outstanding record in high school, and whose admission tests indicate the likelihood of superior achievement in the science of his choice.

Ordinarily this scholarship will be in the sum of \$500 for each of the four years of College. Its retention from year to year will depend upon the scholastic record and constructive influence of the recipient.

*THE TERESA S. AND ROY P. WALTER SCHOLARSHIP* will be granted to a student from Forty Fort who has demonstrated ability, ambition, and need. The scholarship will be for four years at \$425 per year.

### Cost of Education Scholarships

A number of local firms make annual gifts to the scholarship fund so that the College may provide needed assistance to able and ambitious students. These grants amount to one-half tuition plus a small amount to cover a portion of the difference between the tuition charges and the cost of education.

*THE LESLIE FAY SCHOLARSHIP* is granted each year to the son or daughter of an employee of the Company whose record in high school and on the admissions tests has been outstanding. A recipient of the scholarship will be selected on a competitive basis by the Scholarship Committee of Wilkes College. The scholarship will be retained by the student for the four years in College, provided his achievement and influence at the College are deemed outstanding by the faculty.

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

## Scholastic Endowments

*THE W. S. CARPENTER MEMORIAL FUND* was established in 1956 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 his daughter Dorothy Dickson Darte to encourage enlightened teaching, extended scholarship, and creative writing in the fields of literature.

## Student Life at the College

### Counseling

### Educational Resources

### Student Activities

### Athletics

### Student Regulations

## 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 and responsibility are 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 take aptitude, interest, foreign language, and English-placement 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 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 extra-curricular 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 clear thinking, 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.

## Educational Resources

### THE LIBRARY

Kirby Hall, the gift of Allen P. Kirby, houses the College library. Students and faculty use the resources of its periodical and reference rooms and depend on the more than 65,000 volumes and some 500 current periodicals and journals for research and reading assignments.

Shelved on open stacks, the 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.

The library is open Monday through Thursday from 8:00 A.M. to 9:30 P.M. and on Friday from 8:00 A.M. to 5:00 P.M.; on Saturday from 1:00 P.M. to 4:00 P.M. During vacation periods the hours are 9:00 A.M. to 5:00 P.M.; during examination periods from 8:00 A.M. to 9:30 P.M. on weekdays, from 8:00 A.M. to 4:00 P.M. on Saturdays.

Students may borrow books from the ten nearby libraries (public and college) through the interlibrary loan system.

### SCIENCE FACILITIES

Stark Hall, named in honor of Admiral Harold R. Stark and completed in 1958, houses the science departments of the college. These facilities include 5 physics laboratories completely equipped for studies in all fields of the physical sciences; 5 chemical laboratories equipped for instruction and research in all fields of chemistry; 5 biology laboratories completely equipped for instruction and research in the biological sciences.

In addition to the completely equipped class laboratories in each department, there are thirteen faculty offices equipped for research, two photographic dark rooms, animal rooms, greenhouse facilities, and student research rooms available for undergraduate studies.

### RESEARCH

Research in the sciences has included such varied work as allergy research sponsored by the National Institutes of Health, Education and Welfare; immunochemical research sponsored by the Pennsylvania Heart Association; basic research on plant development sponsored by the National Science Foundation; and basic research in protozoology sponsored by the National Science Foundation.

## Student Activities

The student activities of the College broaden a student's interests begun in the classroom. The Faculty encourages a program of extra-curricular 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.

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.

The Faculty discourages the formation of campus organizations that are not open to all students, and 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 appropriates funds from the Student Activities budget to all student groups; it supervises the College social calendar; it arranges the program for Homecoming; it establishes social regulations and conduct; and it serves in an advisory capacity to the Director of Student Activities and the Administrative Council.

### 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.

**ASSEMBLY COMMITTEE**

Approximately half of the weekly assembly programs given during the academic year are planned and presented by students. The Assembly Committee, to which freshmen are elected each fall to replace members who have been graduated, assists the administration and student organizations in arranging these programs and awards a trophy to the group that presents the best program of the year.

Each student is required to attend assemblies during each of his four years. He will, however, be allowed the following number of cuts each year:

- Freshman and sophomore year—four cuts.
- Junior year—eight cuts.
- Senior year—fifteen cuts.

These requirements must be satisfied to establish eligibility for graduation.

**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* and the *Amnicola*. Students eligible for these grants should make written application to the faculty director of the publication before April 1.

**Tuition Stipends for the Staffs of the *Amnicola* and *Beacon*  
Based on Years of Service**

POSITION	YEARS OF SERVICE		
	4	3	2
Editors-in-Chief . . . . .	Full Tuition	Three-quarters Tuition	Two-thirds Tuition
Business Managers . . . } Special Editors . . . . . }	Three-quarters Tuition	One-half Tuition	One-third Tuition

## 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 eight varsity sports: football, baseball, basketball, soccer, golf, tennis, swimming, and wrestling. 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 Regulations

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, in the library, or on the first floor of the Commons. Facilities are available in various buildings for students who may wish to smoke during their free periods.
3. The College provides several parking lots for student automobiles. Since facilities are limited, dormitory and commuting students are required to purchase at the Finance Office a permit which entitles them to park their cars in the areas reserved for their use. Cars which do not display appropriate parking stickers will be towed away at the student's expense. Freshmen and sophomore dormitory students are not permitted to maintain cars on campus.
4. Although participation in at least one student activity is encouraged, each student is responsible for planning and utilizing his time effectively.
5. 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.

**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.

Because students benefit from a program and policies to which they subscribe, the College may request students to withdraw when their influence and behavior are deemed detrimental to the best interests of the student body.

# The Academic Program of the College

## Curricula

## Academic Requirements

## Graduation

## Advanced Study

## 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.

Thought has roots in the world of human experience. 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 creative interests.

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 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.

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

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

### Undergraduate Programs

Wilkes is a liberal arts college that offers the degree of Bachelor of Arts in the humanities, the social sciences, and the natural sciences. The College also confers the degree of Bachelor of Science in chemistry and in physics, medical technology, commerce and finance, and elementary, secondary, art, business, music, and nursing education.

#### ENGINEERING

Qualified students may enter the two-year engineering curriculum. Upon the successful completion of the engineering program the student may transfer as a junior to an institution granting degrees in his field.

#### TERMINAL PROGRAMS

Students may earn terminal Certificates in the two-year secretarial and pre-dental curricula, in addition to the three-year pre-dental program.

### Graduate Programs

#### CHEMISTRY AND PHYSICS

To fulfill its objective of service to the community and the nation, Wilkes has 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.

Full details of this program are published in the Bulletin of the Graduate Division.

#### COOPERATIVE GRADUATE PROGRAMS IN EDUCATION

Wilkes is cooperating with two universities, Bucknell and Temple, to bring to the area graduate programs in education.

The Bucknell University program leads to the degree of Master of Science in Education and satisfies the requirements of the Commonwealth in guidance and administration. Courses are offered in the evening.

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 the cooperative program existing between Wilkes and the two universities, all credits are granted by the universities.

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

## 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.

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 Assistant Director of Evening Classes 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 are admitted to all classes which they are qualified to take by reason of their maturity, previous education, and experience. High school training is desirable but not necessary, provided the student is qualified to follow special courses of instruction in which he wishes to register.

The courses offered in the Evening Division are designed for 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 advanced problems and discussion courses offered in various business fields.
5. Individuals wishing to broaden their knowledge or to increase their skill in certain fields for their personal satisfaction and improvement.

Day School students will be allowed to take courses in the Evening Division only after having received written permission from the Deans or the Registrar.

## Summer School

The Faculty offers selected courses during an eight week summer session, which begins in the third week of June.

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.

# 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 and a subscript E for English usage are given for academic work.

<i>Grade</i>	<i>Interpretation</i>
4 .....	Superior
3 .....	Very good
2 .....	Good
1 .....	Passing
0 .....	Failing

An *E subscript* is given with the grade for the course when the written or oral English of the student is below standard. If the student at the end of any term is judged deficient by two or more instructors of subjects other than English, he must complete satisfactorily an additional course in English composition. This course shall be taken during the term immediately following, if possible, but under any circumstance it must be taken during the following year. No student is eligible for graduation unless he is deemed competent in the use of the English language.

*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 sixth 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.

<i>Course</i>	<i>Credit Hrs.</i>		<i>Points</i>	<i>Credit Hrs. Passed</i>
	<i>Carried</i>	<i>Grade</i>		
Bio. 100 .....	3	4	12	3
Eng. 101 .....	3	3	9	3
Fr. 101 .....	3	2	6	3
Hist. 101 .....	3	1	3	3
Mus. 100 .....	3	0	0	0
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 music 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.



**CLASS STANDING**

Marks and averages at the end of each of the four academic years indicate a student's progress. The Faculty expects students to achieve the following averages:

	<i>Average</i>
End of Freshman Year .....	1.4
End of Sophomore Year .....	1.7
End of Junior Year .....	1.85

If these yearly averages are not attained, the student's record is reviewed by the Committee on Academic Standing to determine whether or not he should be allowed to remain in college.

**PROBATION**

Any student failing to meet these grade requirements will be automatically dropped from the College.

Unless special consideration is deemed advisable, a student dropped for academic failure will not be considered for readmission until one year after being dropped.

**ATTENDANCE**

Attendance at all classes is expected, and repeated absence is deemed a sufficient cause for failure.

Five consecutive absences from a class place a student on probation. He 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. The deans will permit an overload only for students with an above average record or special need.

Credits in excess of the normal load are charged at the usual rate per credit, unless it can be shown that a student is compelled to take an overload because of the rotation of courses within a department.

**WITHDRAWALS**

Students may change their courses during the first two weeks 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 two weeks 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 written consent of the Deans 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. 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 Graduation 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.

**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.

### HONORS

The granting of Honors at Commencement is based upon the academic record made by the student during his 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.

## Requirements for Graduation

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 assembly programs and physical education.
6. He must show competency in speaking and writing English.

Students enrolled in terminal programs must complete all course requirements and must earn a cumulative average of 1.7 for all courses.

Engineering students will receive certificates upon completion of 60 credits of required work plus P. E. 101, 102, 103, 104, 105, 106, provided they attain a cumulative average of 1.7 for all courses.

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 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 course.

*THE ENGINEERING AWARD* is given by the faculty of the Department of Engineering to the student whose achievement in the two-year engineering course is most outstanding.

*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 journalism courses.

*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.

## Advanced Study

### ACCREDITATION

Wilkes is accredited by the Department of Public Instruction of the State of Pennsylvania, the Middle States Association of Colleges and Secondary Schools, and the University of the State of New York.

### PREPARATION FOR PROFESSIONS

Students planning to go to graduate school should consult as early as possible with their department chairman. The program at Wilkes has been carefully designed so that students may meet the entrance requirements of graduate and professional schools. Liberal arts preparation provides an excellent background for work in professional schools, such as those of Business Administration, Education, Library, Law or Theology.

### ALUMNI OFFICE

The Alumni Office keeps records of the addresses of all living 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.

### GRADUATE PLACEMENT

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 W. F. DORRIN 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 LESTER AWARD IN JOURNALISM

is given to the graduate who has done the most creditable work in journalism.

## Programs and Courses of the College

### Degree Programs

### Terminal Programs

### Description of Courses

## Degree Programs

### BACHELOR OF ARTS

#### PURPOSE

The liberal arts program is primarily concerned with individual development and with the cultivation of an understanding of our civilization and of the men who have created it and lived in it. Its studies are concerned with men and events, thoughts and institutions, art and science. It creates breadth and perspective as opposed to narrow skills.

#### NATURE OF THE PROGRAM

A liberal program must necessarily include a wide range of subjects if it is to cultivate understanding of the thoughts, ideals, and institutions upon which our civilization is based. For the sake of simplicity, these subjects are classified into three divisions in which the student will carry on his explorations and from which he will select his major study.

#### DIVISIONS

<i>Humanities</i>	<i>Social Sciences</i>	<i>Sciences</i>
English	Economics	Biology
Fine Arts	Education	Chemistry
Foreign Languages	History	Physics
Mathematics	Political Science	Psychology
Music	Sociology	
Philosophy		
Religion		

#### 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, and it is essential that it be elected before the beginning of the junior year. Students who expect to take the Bachelor's degree in biology, mathematics or music choose their major when they enter the College.

A major may be taken in any subject listed in the divisions except chemistry, education, and physics. The requirements for each major are specified in the section headed "Description of Courses" in the catalogue.

A major may also be taken in social science. The social-science major requires a total of thirty-six hours in economics, history, political science, and sociology; eighteen hours must be taken in one of these and at least six hours

in each of the other three. Social science courses required in the first two years shall not count toward this major.

Students preparing to teach in the public schools are required to take eighteen hours in education to obtain certification. It is therefore impossible for the prospective teacher of social studies to satisfy all of the requirements mentioned above. For that reason, a student preparing to teach social studies in the public schools will receive credit toward the social science major for all required courses in economics, history, political science, and sociology.

MINIMUM REQUIREMENTS IN CREDITS  
FOR  
LIBERAL ARTS MAJORS

HUMANITIES

Major Subject	Major	Humanities	Social Sciences	Sciences	Free Elective
English	40	24	15	6	35
Foreign Language	24	31	15	6	45
Music	47	45	15	6	14
Philosophy-Religion	24	37	15	6	38

SOCIAL SCIENCES

Major Subject	Major	Humanities	Social Sciences	Sciences	Free Elective
Economics	24	37	15	6	39
History	24	37	15	6	39
Political Science	24	37	15	6	39
Sociology	24	37	15	6	39
Social Science	36	37	15	6	27

SCIENCES

Major Subject	Major	Humanities	Social Sciences	Sciences	Free Elective
Biology	31	32	15	31	15
Psychology	24	37	15	9	35

BACHELOR OF ARTS

General requirements for all majors other than biology, mathematics, and music

FRESHMAN YEAR

First Semester			Second Semester		
Title	Number	Cr.	Title	Number	Cr.
Biological Science <sup>1</sup>	Bio 100	3	Composition	Eng 102	3
Composition	Eng 101	3	Fundamentals of Speech	Eng 131	2
Foreign Language <sup>2</sup>		3	Foreign Language <sup>2</sup>		3
Hist. of W. Civilization	Hist 101	3	Hist. of W. Civilization	Hist 102	3
Alternates:			Alternates:		
Introduction to Music	Mus 100	3	Introduction to Music	Mus 100	3
Physical Science	Phys 100		Physical Science <sup>1</sup>	Phys 100	
Phys. Ed.	P.E. 101	0	Phys. Ed.	P.E. 102	0
Pers. Hyg.	P.E. 105	1	Pers. Hyg.	P.E. 106	1
Orientation					
		16			15

SOPHOMORE YEAR

Third Semester			Fourth Semester		
Title	Number	Cr.	Title	Number	Cr.
World Literature	Eng 151	4	World Literature	Eng 152	4
Foreign Language <sup>2</sup>		3	Foreign Language <sup>2</sup>		3
Alternates:			Alternates:		
Fundamentals of Math	Math 101	3	Algebra or Trig	Math 107-109	3
History of Religions	Rel 100		Hist. of Religions	Rel 100	
Intro. to Philosophy <sup>3</sup>	Phil 100		Intro. to Philosophy <sup>3</sup>	Phil 100	
Alternates: <sup>4</sup>			Alternates: <sup>4</sup>		
Intro. to Economics	Ec 100	6	Intro. to Economics	Ec 100	6
Intro. to Education	Ed 100		Intro. to Education	Ed 100	
Intro. to Political Science	P.S. 100	6	Intro. to Political Science	P.S. 100	6
General Psychology	Psy 100		General Psychology	Psy 100	
Intro. to Sociology	Soc 100		Elective		
Elective			Phys. Ed.	P.E. 104	0
Phys. Ed.	P.E. 103	0			
		16			16

JUNIOR YEAR

Fifth Semester Sixth Semester  
Major and Electives—30 hours

SENIOR YEAR

Seventh Semester Eighth Semester  
Major and Electives—30 hours

<sup>1</sup> Students may substitute a laboratory course in science for Bio. 100 or Phys. 100.  
<sup>2</sup> The level of the course will depend upon the achievement of the student. Except for foreign language majors, language requirement is through 104 course, or an equivalent course prescribed by his adviser.  
<sup>3</sup> Philosophy is required in either the third or fourth semester.  
<sup>4</sup> During the third and fourth semesters, nine hours must be chosen from the alternates, with only three hours being allowed for electives. In the event that the scheduling of any of the alternates interferes with the necessary sequence of a major, one or more of the alternates may be delayed, with the approval of the adviser, until the junior year.

BACHELOR OF ARTS

Major in Biology

FRESHMAN YEAR

First Semester			Second Semester		
Title	Number	Cr.	Title	Number	Cr.
General Zoology	Bio 101	5	General Zoology	Bio 102	4
Gen. Inorganic Chem.	Chem 101	4	Inorganic Chem. and Qualitative Anal.	Chem 102	6
Composition	Eng 101	3	Composition	Eng 102	3
College Algebra	Math 107	3	Trigonometry	Math 109	3
Basic Physical Problems	Phys 101	1	Phys. Ed.	P.E. 102	0
Phys. Ed.	P.E. 101	0	Pers. Hyg.	P.E. 106	1
Pers. Hyg.	P.E. 105	1	Orientation		
17			17		

SOPHOMORE YEAR

Third Semester			Fourth Semester		
Title	Number	Cr.	Title	Number	Cr.
Comparative Anatomy of the Vertebrates	Bio 201	4	Embryology	Bio 202	4
Inorganic Quantitative Anal.	Chem 121	4	Organic Chem.	Chem 230	4
World Literature	Eng 151	4	World Literature	Eng 152	4
Hist. of W. Civilization	Hist 101	3	Hist. of W. Civilization	Hist 102	3
Phys. Ed.	P.E. 103	0	Phys. Ed.	P.E. 104	0
15			15		

JUNIOR YEAR

Fifth Semester			Sixth Semester		
Title	Number	Cr.	Title	Number	Cr.
Histology	Bio 221	4	Genetics	Bio 222	3
Organic Chem.	Chem 231	5	Foreign Language <sup>1</sup>		3
Foreign Language <sup>1</sup>		3	Introductory Physics	Phys 112	4
Introductory Physics	Phys 111	4	Intro. to Political Science	P.S. 100	3
			Intro. to Sociology	Soc 100	3
16			16		

SENIOR YEAR

Seventh Semester			Eighth Semester		
Title	Number	Cr.	Title	Number	Cr.
Physiology	Bio 231	4	Ecology	Bio 232	3
Introduction to Economics	Ec 100	3	History of Biology	Bio 262	1
Foreign Language <sup>1</sup>		3	Foreign Language <sup>1</sup>		3
Botany, Bio. 111 or Bacteriology, Bio. 211 <sup>2</sup>		3-4	Botany, Bio. 112 or Bacteriology, Bio. 212 <sup>1</sup>		3-4
Electives <sup>3</sup>		3-4	Electives <sup>3</sup>		6-7
16-18			16-18		

<sup>1</sup> The level of the course will depend upon the achievement of the student. The student must take a foreign language through 104 or an equivalent course prescribed by his adviser.

<sup>2</sup> The student must take a full year course in botany or bacteriology in the senior year.

<sup>3</sup> Electives must be selected from the humanities or social sciences.

BACHELOR OF ARTS

Major in Mathematics

Students planning to major in mathematics should take courses in high school that prepare them to start the college mathematics program with the course in Analytic Geometry. However, since not all students are prepared for this course, the program may be started with the course in College Algebra and Trigonometry. Students doing the latter should plan to finish Differential Equations and Infinite Series by the end of the fourth semester. This may be accomplished in several ways:

1. Math. 107 and Math. 109 may be taken in the summer session preceding the freshman year.
2. After completion of Math. 105 and Math. 122 in the freshman year, Math. 125 may be taken in the summer session between the freshman and sophomore years.

FRESHMAN YEAR

First Semester			Second Semester		
Title	Number	Cr.	Title	Number	Cr.
Biological Science	Bio 100	3	Composition	Eng 102	3
Composition	Eng 101	3	Fundamentals of Speech	Eng 131	2
Foreign Language <sup>1</sup>		3	Foreign Language <sup>1</sup>		3
Mathematics	{Math 122} {Math 105}	4-5	Mathematics	{Math 125} {Math 122}	4
Phys. Ed.	P.E. 101	0	Elective		3
Pers. Hyg.	P.E. 105	1	Phys. Ed.	P.E. 102	0
Orientation			Pers. Hyg.	P.E. 106	1
14-15			16		

SOPHOMORE YEAR

Third Semester			Fourth Semester		
Title	Number	Cr.	Title	Number	Cr.
Intro. to Economics	Ec 100	3	World Literature	Eng 152	4
Principles of Economics	Ec 101	3	Foreign Language <sup>1</sup>		3
World Literature	Eng 151	4	Differential Equations and Infinite Series	Math 240	4
Foreign Language <sup>1</sup>		3	General Physics I	Phys 150	4
Calculus II	Math 126	4	Phys. Ed.	P.E. 104	0
General Psychology	Psy 100	3			
Phys. Ed.	P.E. 103	0			
17			15		

JUNIOR YEAR

Fifth Semester			Sixth Semester		
Title	Number	Cr.	Title	Number	Cr.
History of W. Civilization	Hist 101	3	History of W. Civilization	Hist 102	3
Advanced Calculus I	Math 251	3	Advanced Calculus II	Math 252	3
General Physics II	Phys 151	4	Intro. to Philosophy	Phil 100	3
Intro. to Sociology	Soc 100	3	Intro. to Political Science	P.S. 100	3
Elective		3-6	Elective		3-4
16-19			15-16		

SENIOR YEAR

Seventh Semester			Eighth Semester		
Title	Number	Cr.	Title	Number	Cr.
Mathematics Elective <sup>2</sup>		3	Mathematics Elective <sup>2</sup>		3
Intro. to Music	Mus 100	3	Elective		12
Elective		9-12			
15-18			15		

<sup>1</sup> The level of the course will depend upon the achievement of the student. The student must take a foreign language through 104 or an equivalent course prescribed by his adviser.

<sup>2</sup> Math 100, 101, 102, 105, 107, 109, 115, 118 will not count toward a major.

BACHELOR OF ARTS

Major in Music

FRESHMAN YEAR

First Semester			Second Semester		
Title	Number	Cr.	Title	Number	Cr.
Biological Science.....Bio	100	3	Composition.....Eng	102	3
Composition.....Eng	101	3	Foreign Language.....		3
Foreign Language.....		3	Music Theory.....Mus	102	5
Music Theory.....Mus	101	5	Applied Music <sup>1</sup> .....		1
Applied Music <sup>1</sup> .....		1	Physical Science.....Phys	100	3
Phys. Ed.....P.E.	101	0	Phys. Ed.....P.E.	102	0
Pers. Hyg.....P.E.	105	1	Pers. Hyg.....P.E.	106	1
Orientation					
		16			16

SOPHOMORE YEAR

Third Semester			Fourth Semester		
Title	Number	Cr.	Title	Number	Cr.
Foreign Language.....		3	Foreign Language.....		3
Music Theory.....Mus	103	5	Music Theory.....Mus	104	5
Applied Music <sup>1</sup> .....		1	Applied Music <sup>1</sup> .....		1
Electives in Humanities, Soc. Science or Psy.....		6	Electives in Humanities, Soc. Science or Psy.....		6
Phys. Ed.....P.E.	103	0	Phys. Ed.....P.E.	104	0
		15			15

JUNIOR YEAR

Fifth Semester			Sixth Semester		
Title	Number	Cr.	Title	Number	Cr.
Fundamentals of Speech.....Eng	131	2	World Literature.....Eng	152	4
World Literature.....Eng	151	4	Hist. of W. Civilization.....Hist	102	3
Hist. of W. Civilization.....Hist	101	3	History of Music.....Mus	110	3
History of Music.....Mus	109	2	Applied Music <sup>1</sup> .....		2
Applied Music <sup>1</sup> .....		2	Electives in Humanities, Soc. Science or Psy.....		3
Electives in Humanities, Soc. Science or Psy.....		3			
		17			15

SENIOR YEAR

Seventh Semester			Eighth Semester		
Title	Number	Cr.	Title	Number	Cr.
Applied Music <sup>1</sup> .....		2	Applied Music <sup>1</sup> .....		2
Instrumentation.....Mus	215	2	Orchestration.....Mus	216	2
Analysis.....Mus	217	2	Counterpoint.....Mus	218	3
Electives.....		9	Electives.....		9
		15			16

<sup>1</sup> Private instruction.

BACHELOR OF SCIENCE IN 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.

To satisfy the requirements for this degree students must complete one hundred thirty-four credits. These credits include forty-five in chemistry, thirty-two in physics and mathematics, fifteen to twenty-one in the social sciences and psychology, twenty-one to thirty-three in the humanities, and the language requirement.

Students planning to major in Chemistry or Physics should take courses in high school that prepare them to start the college mathematics program with the course in Analytic Geometry. However, since not all students are prepared for this course, the program may be started with the course in College Algebra and Trigonometry. Students doing the latter should plan to finish Differential Equations and Infinite Series by the end of the fourth semester. This may be accomplished in several ways:

1. Math. 107 and Math. 109 may be taken in the summer session preceding the freshman year.
2. After completion of Math. 105 and Math. 122 in the freshman year, Math. 125 may be taken in the summer session between the freshman and sophomore years.

FRESHMAN YEAR

First Semester			Second Semester		
Title	Number	Cr.	Title	Number	Cr.
General Inorganic Chem.....Chem	101	4	Inor. Chem. & Qual. Anal.....Chem	102	6
Composition.....Eng	101	3	Composition.....Eng	102	3
Mathematics..... {Math 122} 4-5 {Math 105}			Mathematics..... {Math 125} 4 {Math 122}		
Intro. to Political Science.....P.S.	100	3	General Physics I.....Phys	150	4
Basic Physical Problems.....Phys	101	1	Phys. Ed.....P.E.	102	0
Phys. Ed.....P.E.	101	0	Pers. Hyg.....P.E.	106	1
Pers. Hyg.....P.E.	105	1	Orientation		
		16-17			18

SOPHOMORE YEAR

Third Semester			Fourth Semester		
Title	Number	Cr.	Title	Number	Cr.
Inor. Quantitative Analysis...Chem	121	4	Organic Chemistry.....Chem	230	4
Hist. of W. Civilization.....Hist	101	3	Hist. of W. Civilization.....Hist	102	3
Calculus II.....Math	126	4	Differential Equations and Infinite Series.....Math	240	4
General Physics II.....Phys	151	4	General Physics III.....Phys	152	4
Phys. Ed.....P.E.	103	0	Elective (optional).....		0-3
			Phys. Ed.....P.E.	104	0
		15			15-18



JUNIOR YEAR

Fifth Semester			Sixth Semester		
Title	Number	Cr.	Title	Number	Cr.
Organic Chemistry.....	Chem 231	5	Physical Chemistry.....	Chem 242	4
Physical Chemistry.....	Chem 241	4	Foreign Language <sup>1</sup> .....	102 or 104	3
Foreign Language <sup>1</sup> .....	101 or 103	3	Chemistry Elective.....		3
Elec. Measurements.....	Phys 251	3	Elective.....		8
Elective.....		3			—
		18			18

SENIOR YEAR

Seventh Semester			Eighth Semester		
Title	Number	Cr.	Title	Number	Cr.
Qualitative Organ. Anal.....	Chem 233	3	Inorg. Quan. Analysis.....	Chem 122	5
History of Chemistry.....	Chem 261	1	West. World Literature.....	Eng. 152	4
West. World Literature.....	Eng. 151	4	Chemical Literature.....	Chem 262	1
Foreign Language <sup>1</sup> .....		3	Foreign Language <sup>1</sup> .....		3
Electives.....		7	Chemistry Elective.....		3
		—	Electives.....		2
		18			18

<sup>1</sup> The level of the course will depend upon the achievement of the student. See page 94. Electives are to be selected with the advice and consent of the faculty adviser as follows: *Humanities*: Nine to eighteen credits may be chosen from the following: Eng. 131, 153, 154; Phil. 101, 102; Mus. 100; Rel. 101. *Social Sciences and Psychology*: Nine to fifteen credits may be chosen from the following: Soc. 100, 107, 205; P. S. 100, 203; Ec. 100, 101, 102; His. 107, 108; Ed. 100, 200, 230; Psy. 100.

BACHELOR OF SCIENCE IN PHYSICS

Beginning with the academic year 1961, a four-year curriculum leading to the Bachelor of Science in Physics was inaugurated. The third year courses were offered for the first time in the fall of 1962; and in the fall of 1963 the fourth year courses will be given.

The physics curriculum 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 either to proceed to graduate study leading to an advanced degree, or to undertake an industrial position.

Students planning to major in physics should seek to complete high school courses in trigonometry, solid geometry, and advanced algebra so that they may begin their college mathematics with the course in analytic geometry. In event of a deficiency in this respect, it must be made up by summer school attendance so that the course in differential equations can be completed before the beginning of the junior year.

FRESHMAN YEAR

First Semester			Second Semester		
Title	Number	Cr.	Title	Number	Cr.
Math.....	(Math 105 Math 122)	4-5	Differential Calculus.....	Math 125	4
Composition.....	Eng 101	3	Composition.....	Eng 102	3
Chemistry.....	Chem 101	4	Chemistry.....	Chem 104	4
Engineering Drawing.....	Engi 105	3	Descriptive Geometry.....	Engi 106	2
Basic Physical Problems.....	Phys 101	1	Physics.....	Phys 150	4
Personal Hygiene.....	P.E. 105	1	Personal Hygiene.....	P.E. 106	1
Phys. Educ.....	P.E. 101	0	Phys. Educ.....	P.E. 102	0
Orientation.....		0			—
		16			18

SOPHOMORE YEAR

Third Semester			Fourth Semester		
Title	Number	Cr.	Title	Number	Cr.
Integral Calculus.....	Math 126	4	Differential Equations.....	Math 240	4
Physics.....	Phys 151	4	Physics.....	Phys 152	4
Statics.....	M.E. 211	3	Dynamics.....	M.E. 212	3
German <sup>1</sup> .....	Ger. 101	3	German <sup>1</sup> .....	Ger. 102	3
Hist. of Western Civ.....	Hist. 101	3	Hist. of Western Civ.....	Hist. 102	3
Phys. Educ.....	P.E. 103	0	Phys. Educ.....	P.E. 104	0
		18			18

JUNIOR YEAR

Fifth Semester			Sixth Semester		
Title	Number	Cr.	Title	Number	Cr.
Advanced Calculus	Math 251	3	Advanced Calculus	Math 252	3
Electricity and Magnetism	Phys 201	4	Electricity and Magnetism	Phys 202	4
Electronics	Phys 221	3	Optics and Light	Phys 211	4
Western World Lit.	Eng 151	4	Western World Lit.	Eng 152	4
German <sup>1</sup>	Ger 103	3	Scientific German <sup>1</sup>	Ger 105	3
17			18		

SENIOR YEAR

Seventh Semester			Eighth Semester		
Title	Number	Cr.	Title	Number	Cr.
Atomic Physics	Phys 261	4	Nuclear Physics	Phys 262	4
Heat and Thermodynamics	Phys 212	3	Advanced Lab.	Phys 242	0-2
Advanced Lab.	Phys 241	0-2	Speech	Eng 134	3
Elective <sup>2</sup>		6-8	Elective <sup>2</sup>		9-11
Topics in Solid State	Phys 282	3			
16-18			16-18		

<sup>1</sup> Students who have completed the equivalent of Ger 102 before entering college (as determined by a placement test) will take Ger 103 and 105 in the Sophomore year. Those students will then be permitted electives in place of the German in the Junior year.  
<sup>2</sup> Elective hours must be chosen with the approval of the student's adviser. The selection will depend upon the student's choice of industry or graduate study.

BACHELOR OF SCIENCE IN MEDICAL TECHNOLOGY

FRESHMAN YEAR

First Semester			Second Semester		
Title	Number	Cr.	Title	Number	Cr.
General Zoology	Bio 101	5	General Zoology	Bio 102	4
General Inorganic Chem.	Chem 101	4	Inor. Chem. & Qual. Anal.	Chem 102	6
Composition	Eng 101	3	Composition	Eng 102	3
College Algebra	Math 107	3	Plane Trigonometry	Math 109	3
Basic Physical Problems	Phys 101	1	Phys. Ed.	P.E. 102	0
Phys. Ed.	P.E. 101	0	Pers. Hyg.	P.E. 106	1
Pers. Hyg.	P.E. 105	1			
17			17		

SOPHOMORE YEAR

Third Semester			Fourth Semester		
Title	Number	Cr.	Title	Number	Cr.
Inor. Quantitative Analysis	Chem 121	4	Microtechnique	Bio 204	2
Fundamentals of Speech	Eng 131	2	Organic Chemistry	Chem 230	4
Hist. of W. Civilization	Hist 101	3	Hist. of W. Civilization	Hist 102	3
Foreign Language <sup>1</sup>		3	Foreign Language <sup>1</sup>		3
Analytic Geometry	Math 122	4	General Psychology	Psy 100	3
Phys. Ed.	P.E. 103	0	Phys. Ed.	P.E. 104	0
16			15		

JUNIOR YEAR

Fifth Semester			Sixth Semester		
Title	Number	Cr.	Title	Number	Cr.
Bacteriology	Bio 211	4	Bacteriology	Bio 212	4
World Literature	Eng 151	4	World Literature	Eng 152	4
Foreign Language <sup>1</sup>		3	Foreign Language <sup>1</sup>		3
Introductory Physics	Phys 111	4	Introductory Physics	Phys 112	4
Elective in the Social Sciences		3	Sociology	Soc 100	3
18			18		

SENIOR YEAR<sup>2</sup>

Seventh Semester		Eighth Semester	
Title	Weeks	Title	Weeks
Clinical Chemistry	13 Weeks	Haematology and Blood Bank	12 Weeks
Microbiology	8 Weeks	Histology	6 Weeks
Urinalysis	4 Weeks	Serology	7 Weeks
25 Weeks		25 Weeks	

Total academic hours during first three years—104

Humanities	38
Sciences	48
Social Sciences	12
Physical Education	6

<sup>1</sup> The level of the course will depend upon the achievement of the student. The student must take a foreign language through 104 or an equivalent course prescribed by his adviser.  
<sup>2</sup> To be taken at a school of medical technology approved by The American Society of Clinical Pathologists.

BACHELOR OF SCIENCE IN COMMERCE AND FINANCE

The commerce and finance curricula provide training for economic and business activities supplemented by a study of the humanities, sciences, and social sciences. Its objectives are to prepare the student for effective personal, social, and economic life in a competitive society, to aid in the development of an appreciation for cultural pursuits, to broaden the viewpoint, to develop sound thinking and intellectual interests, and to provide technical instruction in preparation for business and professional careers and graduate study.

To insure a well-balanced program faculty advisers assist each student in the choice of his major and elective studies.

The commerce and finance curricula include four groups of study to meet the individual needs and purposes of the students. These groups are: Group I, Accounting; Group II, Business Administration; Group III, Retailing; Group IV, Secretarial Studies.

GROUP REQUIREMENTS

Subjects	Group I	Group II	Group III	Group IV
	Accounting	Business Administration	Retailing	Secretarial Studies
	Cr.	Cr.	Cr.	Cr.
Major	36	24-39	24	23
Commerce and Finance <sup>1</sup>	21	6	30-33	15
Electives	9	15	12	38-39
Humanities	28	28	28	28
Science	6	6	6	6
Social Sciences	33	33-48	24-27	15
Physical Education	2	2	2	2
<b>Total</b>	<b>135</b>	<b>129</b>	<b>129</b>	<b>127-128</b>

<sup>1</sup> Does not include major courses.

BACHELOR OF SCIENCE IN COMMERCE AND FINANCE

Major in Accounting

FRESHMAN YEAR<sup>1</sup>

First Semester			Second Semester		
Title	Number	Cr.	Title	Number	Cr.
Elementary Accounting.....Acct	101	3	Principles of Accounting.....Acct	102	3
Economic History.....Ec	238	3	Composition.....Eng	102	3
Biological Science.....Bio	100	3	Hist. of W. Civilization.....Hist	102	3
Composition.....Eng	101	3	Intro. to Political Science.....P.S.	100	3
Hist. of W. Civilization.....Hist	101	3	Physical Science.....Phys	100	3
Phys. Ed.....P.E.	101	0	Phys. Ed.....P.E.	102	0
Pers. Hyg.....P.E.	105	1	Pers. Hyg.....P.E.	106	1
Orientation		16			16

SOPHOMORE YEAR

Third Semester			Fourth Semester		
Title	Number	Cr.	Title	Number	Cr.
Intermediate Accounting.....Acct	111	3	Advanced Accounting.....Acct	112	3
Business Law.....B.A.	231	3	Business Law.....B.A.	232	3
Principles of Economics.....Ec	101	3	Principles of Economics.....Ec	102	3
World Literature.....Eng	151	4	World Literature.....Eng	152	4
Fundamentals of Math.....Math	101	3	Fundamentals of Math.....Math	102	3
Fundamentals of Speech.....Eng	131	2	Mathematics of Finance.....Math	115	3
Phys. Ed.....P.E.	103	0	Phys. Ed.....P.E.	104	0
		18			16

JUNIOR YEAR

Fifth Semester			Sixth Semester		
Title	Number	Cr.	Title	Number	Cr.
Cost Accounting.....Acct	201	3	Advanced Cost Accounting.....Acct	202	3
Business Law.....B.A.	233	3	Accounting Systems.....Acct	220	3
Money and Banking.....Ec	201	3	C.P.A. Problems.....Acct	234	3
Applied General Statistics.....Ec	231	3	Business Law.....B.A.	234	3
Production Management.....B.A.	237	3	Intro. to Philosophy.....Phil	100	3
Intro. to Sociology.....Soc	100	3	History of Religions.....Rel	100	3
		18	Economic Statistics.....Ec	232	3
			Free Elective.....		3
					18

SENIOR YEAR

Seventh Semester			Eighth Semester		
Title	Number	Cr.	Title	Number	Cr.
Tax Accounting.....Acct	221	3	Auditing Practice.....Acct	232	3
Auditing Principles.....Acct	231	3	Theory of Money.....Ec	202	3
Bus. Cor. and Reports.....B.A.	209	3	Public Finance.....Ec	236	3
Corporation Finance.....B.A.	225	3	Economic Geography.....Ec	226	3
Intro. to Music.....Mus	100	3	Accounting Internship.....Acct	252	3
Free Elective <sup>2</sup> .....		3	Free Elective <sup>2</sup> .....		3
		18			15

<sup>1</sup> It is suggested that all students take Typewriting (S.S. 107) during one semester of the freshman year.

<sup>2</sup> Students intending to sit for the New York State C. P. A. examinations should elect humanity subjects.

BACHELOR OF SCIENCE IN COMMERCE AND FINANCE  
Major in Business Administration

FRESHMAN YEAR<sup>1</sup>

First Semester			Second Semester		
Title	Number	Cr.	Title	Number	Cr.
Elementary Accounting.....	Acct 101	3	Principles of Accounting.....	Acct 102	3
Economic History.....	Ec 238	3	Composition.....	Eng 102	3
Biological Science.....	Bio 100	3	Hist. of W. Civilization.....	Hist 102	3
Composition.....	Eng 101	3	Intro. to Political Science.....	P.S. 100	3
Hist. of W. Civilization.....	Hist 101	3	Physical Science.....	Phys 100	3
Phys. Ed.....	P.E. 101	0	Phys. Ed.....	P.E. 102	0
Pers. Hyg.....	P.E. 105	1	Pers. Hyg.....	P.E. 106	1
Orientation					
16			16		

SOPHOMORE YEAR

Third Semester			Fourth Semester		
Title	Number	Cr.	Title	Number	Cr.
Business Law.....	B.A. 231	3	Business Law.....	B.A. 232	3
Principles of Economics.....	Ec 101	3	Principles of Economics.....	Ec 102	3
Fundamentals of Speech.....	Eng 131	2	World Literature.....	Eng 152	4
World Literature.....	Eng 151	4	Alternates:		
Fundamentals of Math.....	Math 101	3	Fundamentals of Math.....	Math 102	3
Phys. Ed.....	P.E. 103	0	Mathematics of Finance.....	Math 115	3
			Intro. to Music.....	Mus 100	3
			Phys. Ed.....	P.E. 104	0
15			16		

JUNIOR YEAR

Fifth Semester			Sixth Semester		
Title	Number	Cr.	Title	Number	Cr.
Money and Banking.....	Ec 201	3	Alternates:		
Applied General Statistics.....	Ec 231	3	Theory of Money.....	Ec 202	3
Production Management.....	B.A. 237	3	Economic Geography.....	Ec 226	3
Intro. to Sociology.....	Soc 100	3	C. & F. Elective.....		
Free Electives.....		6	Economic Statistics.....	Ec 232	3
			Alternates:		
			Intro. to Philosophy.....	Phil 100	3
			History of Religions.....	Rel 100	3
			Marketing.....	B.A. 222	3
			Free Elective.....		3
18			15		

SENIOR YEAR

Seventh Semester			Eighth Semester		
Title	Number	Cr.	Title	Number	Cr.
Bus. Cor. and Reports.....	B.A. 209	3	Bus. Adm. and Ec. Electives <sup>2</sup> ..		12
Bus. Adm. and Ec. Electives <sup>1</sup> ..		9	Free Elective.....		3
Elective in Social Science.....		3			
Free Elective.....		3			
18			15		

<sup>1</sup> See footnote preceding page.  
<sup>2</sup> See footnote next page.

Students who major in business administration will select their electives from the following:

BANKING AND FINANCE<sup>1</sup>

Title	Number	Title	Number
Credits and Collections.....	B.A. 218	Theory of Money.....	Ec 202
Real Estate.....	B.A. 220	Public Finance.....	Ec 236
Corporation Finance.....	B.A. 225	Mathematics of Finance I.....	Math 115
Investments.....	B.A. 226		

ECONOMICS<sup>1</sup>

Title	Number	Title	Number
Government and Business.....	Ec 212	Public Finance.....	Ec 236
Collective Bargaining.....	Ec 223	Economic History.....	Ec 238
International Trade.....	Ec 225	Economic Analysis.....	Ec 241
Economic Geography.....	Ec 226	Consumer Economics.....	Ec 245
Comparative Economic Systems.....	Ec 229	Economic Investigation.....	Ec 246
Business Cycles.....	Ec 230		

MANAGEMENT AND INDUSTRIAL RELATIONS<sup>1</sup>

Title	Number	Title	Number
Personnel Management.....	B.A. 236	Life Insurance.....	B.A. 241
Production Management.....	B.A. 237	Labor Problems.....	Ec 223
Office Management.....	B.A. 238	Applied Psychology.....	Psy 206
Sales Management.....	B.A. 239	Psychological Tests.....	Psy 212
Property Insurance.....	B.A. 240		

MARKETING<sup>1</sup>

Title	Number	Title	Number
Salesmanship.....	B.A. 114	Sales Management.....	B.A. 239
Advertising.....	B.A. 216	Property Insurance.....	B.A. 240
Transportation.....	B.A. 217	International Trade.....	Ec 225
Marketing.....	B.A. 222	Consumer Economics.....	Ec 245
		Principles of Retailing.....	Ret 101

<sup>1</sup> At least six courses in one of these groups are required of students concentrating in this field.

BACHELOR OF SCIENCE IN COMMERCE AND FINANCE

Major in Secretarial Studies

FRESHMAN YEAR

First Semester			Second Semester		
Title	Number	Cr.	Title	Number	Cr.
Intro. to Sociology.....Soc	100	3	Biological Science.....Bio	100	3
Composition.....Eng	101	3	Composition.....Eng	102	3
Hist. of W. Civilization.....Hist	101	3	Hist. of W. Civilization.....Hist	102	3
Fundamentals of Math.....Math	101	3	Fundamentals of Math.....Math	102	2
Elective.....		3-4	Elective.....		3
Phys. Education.....P.E.	101	0	Phys. Education.....P.E.	102	0
Pers. Hyg.....P.E.	101	1	Pers. Hyg.....P.E.	106	1
		16-17			16

SOPHOMORE YEAR

Third Semester			Fourth Semester		
Title	Number	Cr.	Title	Number	Cr.
Elementary Accounting.....Acct	101	3	Principles of Accounting.....Acct	102	3
Advances Exposition.....Eng	105	3	Intro. to Political Science.....P.S.	100	3
Fundamentals of Speech.....Eng	131	2	Physical Science.....Phys	100	3
Intro. to Music.....Mus	100	3	Shorthand and Typewriting.....S.S.106, 108		4
Shorthand and Typewriting.....S.S.105, 107		4	Free Elective.....		3
Phys. Ed.....P.E.	103	0	Phys. Ed.....P.E.	104	0
		15			16

JUNIOR YEAR

Fifth Semester			Sixth Semester		
Title	Number	Cr.	Title	Number	Cr.
Principle of Economics.....Ec	101	3	Principles of Economics.....Ec	102	3
World Literature.....Eng	151	4	World Literature.....Eng	152	4
Advanced Typewriting.....S.S.	201	1	Advanced Typewriting.....S.S.	202	1
Advanced Shorthand.....S.S.	207	3	Advanced Shorthand.....S.S.	208	3
Electives.....		6	Electives.....		6
		17			17

SENIOR YEAR

Seventh Semester			Eighth Semester		
Title	Number	Cr.	Title	Number	Cr.
Bus. Cor. and Reports.....B.A.	209	3	Office Management.....B.A.	238	3
Office Proc. & Machines.....S.S.	205	4	Free Electives.....		15
Electives.....		8-9			18
		15-16			

The candidate for a degree with a major in medical stenography should consult with her adviser before planning a program of study. The following science courses are required: Chem. 101, Bio. 251-252, to provide the necessary background for work in a medical office.

BACHELOR OF SCIENCE IN SECONDARY EDUCATION

The programs outlined below are designed to prepare students for certification in most states. Students are expected to familiarize themselves with specific state requirements.

Students electing this degree curriculum must major in one of the following teaching fields: English, Foreign Language, Mathematics, Science, or Social Studies.

All majors — common requirements:

Bio 100*	P. E. 101, 102, 103, 104, 105, 106
Ec 100*	Phys 100*
Ed 100, 200, 230	P.S. 100
Eng 101, 102, 131, 151, 152	Psy 100, 207
Hist 107, 108	Soc 100
Math 101*, 102*	
Phil 100	(Total—75 credits)

(\*May be replaced by another course in the same department.)

Subject field majors—additional requirements:

ENGLISH: Eng 105, 201, 12 additional credits; Hist 101, 102; Fr, Ger, Sp (12 credits in one language); Electives 15.\* Minimum total 126.

FOREIGN LANGUAGE: Eng 105, 201; Fr, Ger, Sp (24 credits in one language beyond 102); Hist. 101, 102; Electives 15.\* Minimum total 126.)

MATHEMATICS: Chem 101, 104 (or 102); Hist 101, 102; Math 122, 125, 126, 240, 15 additional credits in 200-level courses; Phys 111 and 112 (or 150, 151, and 152); Electives 6.\* Minimum total 125.

SCIENCE: Bio 101, 102; Chem 101, 102; Math 122 plus 3 credits; Phys 101, Phys 111 and 112 (or 150, 151, and 152); Bio 111, 112, 201, and 202 (or Chem 121, 230, Math 125, and 126); Electives 14 to 16\* (minimum of 43 credits in sciences other than Psy). Minimum total 127.

SOCIAL STUDIES: Ec 101, 102, 226; Hist 101, 102, 12 additional credits; P.S. 6 credits; Soc. 6 credits; Electives 15.\* Minimum total 126.

(\*No more than 3 credits in Education.)

CREDITS PER SEMESTER

First Semester.....	16-17	Fifth Semester.....	15-18
Second Semester.....	16-17	Sixth Semester.....	15-18
Third Semester.....	16-17	Seventh Semester.....	15-17
Fourth Semester.....	16-17	Eighth Semester.....	15-17

Semester by semester schedules are available at the Education Department office in Parrish Hall.

BACHELOR OF SCIENCE IN ELEMENTARY EDUCATION

First Semester				Second Semester			
FRESHMAN YEAR							
Title	Number	Cr.		Title	Number	Cr.	
Composition.....Eng	101	3		Composition.....Eng	102	3	
Hist. of W. Civilization.....Hist	101	3		Hist. of W. Civilization.....Hist	102	3	
Physical Science.....Phys	100	3		Biological Science.....Bio	100	3	
Intro. to Music.....Mus	100	3		General Psychology.....Psy	100	3	
Intro. to Political Science.....P.S.	100	3		Intro. to Sociology.....Soc	100	3	
Phys. Ed.....P.E.	101	0		Phys. Ed.....P.E.	102	0	
Pers. Hyg.....P.E.	105	1		Pers. Hyg.....P.E.	106	1	
Orientation							
			16				16

Third Semester				Fourth Semester			
SOPHOMORE YEAR							
Title	Number	Cr.		Title	Number	Cr.	
World Literature.....Eng	151	4		World Literature.....Eng	152	4	
Child Psychology.....Psv	207	3		Human Behavior.....Psy	208	3	
Intro. to Education.....Ed	100	3		Experiencing Art II.....F.A.	102	3	
U.S. History to 1865.....Hist	107	3		U.S. History since 1865.....Hist	108	3	
Experiencing Art I.....F.A.	101	3		Elective other than Education			
Phys. Ed.....P.E.	103	0		Phys. Ed.....P.E.	104	0	
			16				16

Fifth Semester				Sixth Semester			
JUNIOR YEAR							
Title	Number	Cr.		Title	Number	Cr.	
Intro. to Economics.....Ec	100	3		Economic Geography.....Ec	226	3	
Intro. to Philosophy.....Phil	100	3		Fundamentals of Math.....Math	102	3	
Fundamentals of Math.....Math	101	3		Electives other than Education			
Educational Psychology.....Ed	200	3		Principles of Elem. Ed.....Ed	209	2	
Elective other than Education				Fundamentals of Speech.....Eng	131	2	
			15				16

SENIOR YEAR			
Title	Number	Cr.	
Professional Semester in Elementary Education...Ed	210	15	
Electives other than Education.....		15	

BACHELOR OF SCIENCE 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 the business subjects in the public secondary schools or for a career in business. The program that is outlined will meet the requirements of the state of Pennsylvania for certification in bookkeeping, shorthand, typing, office practice, economics, commercial law, business English, commercial arithmetic, and in the social studies if both sociology and political science are elected. Students preferring to be certified in salesmanship or retail selling may modify the course through consultation with their advisers.

FRESHMAN YEAR					
First Semester			Second Semester		
Title	Number	Cr.	Title	Number	Cr.
Intro. to Sociology.....Soc	100	3	Composition.....Eng	102	3
Business Mathematics.....B.A.	107	3	Hist. of W. Civilization.....Hist	102	3
Biological Science.....Bio	100	3	Intro. to Music.....Mus	100	3
Composition.....Eng	101	3	Physical Science.....Phys	100	3
Hist. of W. Civilization.....Hist	101	3	Intro. to Political Science.....P.S.	103	
Phys. Ed.....P.E.	101	0	Phys. Ed.....P.E.	102	0
Pers. Hyg.....P.E.	105	1	Pers. Hyg.....P.E.	106	1
Orientation					
			16		

SOPHOMORE YEAR					
Third Semester			Fourth Semester		
Title	Number	Cr.	Title	Number	Cr.
Elementary Accounting.....Acct	101	3	Principles of Accounting.....Acct	102	3
Principles of Economics.....Econ	101	3	Principles of Economics.....Econ	102	3
Intro. to Education.....Ed	100	3	U. S. Hist. since 1865.....Hist	108	3
U.S. - Pa. History to 1865.....Hist	107	3	General Psychology.....Psy	100	3
Elementary Shorthand.....S.S.	105	2	Elementary Shorthand.....S.S.	106	2
Elementary Typewriting.....S.S.	107	2	Elementary Typewriting.....S.S.	108	2
Phys. Ed.....P.E.	103	0	Phys. Ed.....P.E.	103	0
			16		

JUNIOR YEAR					
Fifth Semester			Sixth Semester		
Title	Number	Cr.	Title	Number	Cr.
Intermediate Accounting.....Acct	111	3	Advanced Accounting.....Acct	112	3
or Elective			or Elective		
Business Law.....B.A.	231	3	Business Law.....B.A.	232	3
Educational Psychology.....Ed	200	3	Office Management.....B.A.	238	3
English Elective.....Eng	151 or 153	4-3	English Elective.....Eng	152 or 154	4-3
Intermediate Stenography.....S.S.	109	4	Advanced Stenography.....S.S.	110	4
or Elective			or Elective		
			17-16		

SENIOR YEAR					
Seventh Semester			Eighth Semester		
Title	Number	Cr.	Title	Number	Cr.
Bus. Corres. and Reports . . . . .	B.A. 209	3	Professional Semester in		
Bus. Education and Methods of Instruction in S.S. . . . .	S.S. 243	3	Sec. Ed. . . . .	Ed 230	12
Intro. to Philosophy . . . . .	Phil 100	3	Elective . . . . .		3
Office Procedures and Machines . . . . .	S.S. 205	4			15
Elective . . . . .		3			
		<u>16</u>			

Provisional College Certificates will be issued by the Commonwealth of Pennsylvania to graduates of the course in business education. Certification will be offered in business subjects only as the following requirements are met:

Bookkeeping . . . . .	12 semester hours
Commercial Law . . . . .	6 semester hours
Commercial Arithmetic . . . . .	3 semester hours
Office Practice . . . . .	3 semester hours
Shorthand . . . . .	9 semester hours
Typewriting . . . . .	6 semester hours
Economics . . . . .	6 semester hours
Business English . . . . .	2 semester hours
plus twelve (12) semester hours in English	

Certificates are valid for teaching only those business subjects which are written on the certificate.

**BACHELOR OF SCIENCE IN MUSIC EDUCATION**

The Bachelor of Science degree with a major in music education is designed for students wishing to teach music in the public schools. Students following the four-year curriculum will have all of the requirements necessary to obtain a teacher certificate in music education in Pennsylvania and in many other states. The curriculum will also enable the student to become a proficient performer through the study of applied music subjects.

**FRESHMAN YEAR**

First Semester			Second Semester		
Title	Number	Cr.	Title	Number	Cr.
Biological Science . . . . .	Bio 100	3	Composition . . . . .	Eng 102	3
Composition . . . . .	Eng 101	3	Music Theory . . . . .	Mus 102	5
Fundamentals of Speech . . . . .	Eng 131	2	Clarinet Class and Methods or . . . . .	Ed 102	2
Music Theory . . . . .	Mus 101	5	Brass Class and Methods . . . . .	Ed 104	2
Clarinet Class and Methods or . . . . .	Ed 101	2			
Brass Class and Methods . . . . .	Mus 103	2	Major Instrument . . . . .	Mus	1
			Band, Orchestra, Chorus . . . . .		1/2
Major Instrument . . . . .	Mus	1	Physical Science . . . . .	Phys 100	3
Band, Orchestra, Chorus . . . . .		1/2	Elective . . . . .		3
Phys. Ed. . . . .	P.E. 101	0	Phys. Ed. . . . .	P.E. 102	0
Pers. Hyg. . . . .	P.E. 105	1	Pers. Hyg. . . . .	P.E. 106	1
Orientation . . . . .					
		<u>17 1/2</u>			<u>18 1/2</u>

SOPHOMORE YEAR					
Third Semester			Fourth Semester		
Title	Number	Cr.	Title	Number	Cr.
World Literature . . . . .	Eng 151	4	World Literature . . . . .	Eng 152	4
Music Theory . . . . .	Mus 103	5	Music Theory . . . . .	Mus 104	5
Music History . . . . .	Mus 109	3	Music History . . . . .	Mus 110	3
Major Instrument . . . . .	Mus	1	Major Instrument . . . . .	Mus	1
Intro. to Education . . . . .	Ed 100	3	Band, Orchestra, Chorus . . . . .		1/2
Band, Orchestra, Chorus . . . . .		1/2	General Psychology . . . . .	Psy 100	3
Phys. Ed. . . . .	P.E. 103	0	Phys. Ed. . . . .	P.E. 104	0
		<u>16 1/2</u>			<u>16 1/2</u>

**JUNIOR YEAR**

Fifth Semester			Sixth Semester		
Title	Number	Cr.	Title	Number	Cr.
Educational Psychology . . . . .	Ed 200	3	U.S. History since 1865 . . . . .	Hist 108	3
U.S. and Pa. Hist. to 1865 . . . . .	Hist 107	3			
Woodwind Class Methods . . . . .	Ed 105	2	Brass Class Methods . . . . .	Ed 106	2
Conducting (Instrumental) . . . . .	Ed 109	2	Conducting (Choral) . . . . .	Ed 110	2
Violin Class and Methods . . . . .	Ed 111	2	Violin Class and Methods . . . . .	Ed 112	2
Major Instrument . . . . .	Mus	1	Major Instrument . . . . .	Mus	1
Band, Orchestra, Chorus . . . . .		1/2	Band, Orchestra, Chorus . . . . .		1/2
Elective . . . . .		3	Elective . . . . .		6
		<u>16 1/2</u>			<u>16 1/2</u>

**SENIOR YEAR**

Seventh Semester			Eighth Semester		
Title	Number	Cr.	Title	Number	Cr.
Instrumentation . . . . .	Mus 215	2	Visual Education . . . . .	Ed 212	1
			Orchestration . . . . .	Mus 216	2
Voice Class and Methods . . . . .	Ed 107	2			
String Instrument Class and Methods . . . . .	Ed 113	2	Voice Class and Methods . . . . .	Ed 108	2
Observation and Practice Teaching . . . . .	Mus 203	4	String Instrument Class and Methods . . . . .	Ed 114	2
			Observation and Practice Teaching . . . . .	Mus 204	4
Major Instrument . . . . .	Mus	1			
Band, Orchestra, Chorus . . . . .		1/2	Major Instrument . . . . .	Mus	1
Elective . . . . .		3	Band, Orchestra, Chorus . . . . .		1/2
		<u>14 1/2</u>	Elective . . . . .		3
					<u>15 1/2</u>





BACHELOR OF SCIENCE IN ENGINEERING

Wilkes College offers the first two years of the engineering curricula. Upon completion of the second year, students making acceptable records may transfer to the junior year of other engineering schools.

In the past, students have transferred to, and successfully completed their work at, such representative colleges as Alabama, Bucknell, Catholic University, Columbia, Cornell, Drexel, Georgia School of Technology, Lafayette, Lehigh, Massachusetts Institute of Technology, New York University, Pennsylvania State University, Purdue, Stevens Institute, Syracuse, and the University of Nebraska.

The engineer's main purpose is to apply scientific knowledge and discoveries to the uses of civilization. The engineer is obliged to specialize because of the vast range of modern engineering techniques. In selecting his particular field, the student should consider his natural interests. The demands of this profession are exacting, but it appeals to those genuinely interested in mathematics, the natural sciences and in their application.

The following general distinctions may be made between the various fields: research appeals most to the imaginative mind; the more practical person may be interested in development and design; others find satisfaction in the tangible results of construction, operation, and production. Technically trained men are always needed to sell applications and equipment. As his experience broadens and his judgment matures, the engineer qualifies for the higher executive and administrative positions.

During the first year the curricula for all engineering courses are the same with the exception of chemical engineering, in which course students must take two additional hours of chemistry in the second semester. For this reason the student should decide by the middle of the first year between chemical engineering and one of the other branches of engineering. The curricula change further at the beginning of the second year. For this reason the student should decide by then whether he will pursue civil, industrial, electrical, or mechanical engineering.

Students planning to major in Engineering should take courses in high school that prepare them to start the college mathematics program with the course in Analytic Geometry. However, since not all students are prepared for this course, the program may be started with the course in College Algebra and Trigonometry. Students doing the latter should plan to finish Differential Equations and Infinite Series by the end of the fourth semester. This may be accomplished in several ways:

1. Math. 107 and Math. 109 may be taken in the summer session preceding the Freshman year.
2. After completion of Math. 105 and Math. 122 in the Freshman year, Math. 125 may be taken in the summer session between the Freshman and Sophomore years.

FRESHMAN YEAR

(COMMON TO ALL ENGINEERING COURSES)

First Semester			Second Semester		
Title	Number	Cr.	Title	Number	Cr.
General Inorganic Chem.....	Chem 101	4	Alternates: <sup>1</sup>		
Engineering and Orientation			Inor. Chem. & Qual. Anal....	Chem 102	4-6
Problems .....	Engi 100	2	General Inorganic Chem....	Chem 104	
Engineering Drawing .....	Engi 105	3	Des. Geometry .....	Engi 106	2
Composition .....	Eng 101	3	Composition .....	Eng 102	3
Mathematics .....	{Math 122 Math 105}	4-5	Mathematics .....	{Math 125 Math 122}	4
Phys. Ed.....	P.E. 101	0	General Physics I.....	Phys 150	4
Pers. Hyg.....	P.E. 105	1	Phys. Ed.....	P.E. 102	0
Orientation			Pers. Hyg.....	P.E. 106	1
		17-18			18-20

AERONAUTICAL ENGINEERING

Mechanical engineering is basic to the study of aeronautical engineering. Therefore, the first two years in mechanical engineering prepare the student for the advanced work offered by several universities.

CHEMICAL ENGINEERING

Chemical engineering is concerned with the broad field of chemical industry in which materials undergo a physical or a chemical change. Such materials include paper, textiles, gasoline, other petroleum products, coke, gas, dyes, electrochemical products, paints, rubber, plastics, ceramics, drugs, heavy chemicals, solvents, and many others. The chemical engineer is one skilled in the design, construction, operation and management of industrial plants in which materials are produced by chemical change. The chemical engineer may be engaged in research or in the development of a process, for he is expert in the application of the fundamental unit-manufacturing processes which underlie all chemical engineering. The equipment of the chemical engineer includes a thorough knowledge of chemistry, physics and mathematics and a sound understanding of such fundamentals of chemical, mechanical, and electrical engineering as will make him a competent development, control or sales engineer.

SOPHOMORE YEAR<sup>2</sup>

Third Semester			Fourth Semester		
Title	Number	Cr.	Title	Number	Cr.
Economics.....	Ec 100 or 101	3	Fund. of Speech.....	Eng 134	3
Integral Calculus .....	Math 126	4	Diff. Equations.....	Math 240	4
Genl. Physics II.....	Phys 151	4	Genl. Physics III.....	Phys 152	4
Statics .....	M.E. 211	3	Stoichiometry .....	Ch. Engi 106	3
Quantitative Anal.....	Chem 121	4	Elective <sup>3</sup> .....		3
Phys. Ed.....	P.E. 103	0	Phys. Ed.....	P.E. 104	0
		18			17

<sup>1</sup> Chemical engineers will register for Chem. 102 (six hours). All other engineering students will register for Chem. 104 (four hours).

<sup>2</sup> For freshman year see above.

<sup>3</sup> E.E. 202 or M.E. 212 is suggested.

CIVIL ENGINEERING

The civil engineer deals with problems in structural, highway, railroad, hydraulic, and sanitary engineering, and also with surveying and geodesy. He specializes in the design, construction and maintenance of bridges, tunnels, dams, and the structural members of buildings. His services are indispensable in the design of river, canal, and harbor improvements; in the development and control of water resources; in the treatment and disposal of sewage and industrial waste; and in the location and construction of all transportation facilities.

SOPHOMORE YEAR<sup>1</sup>

Third Semester			Fourth Semester		
Title	Number	Cr.	Title	Number	Cr.
Plane Surveying	C.E. 103	3	Route Surveying	C.E. 104	4
Principles of Economics	Ec 100 or 101	3	Mathematics	Math 240	4
Statics	M.E. 211	3	Fundamentals of Speech	Eng 134	3
Calculus II	Math 126	4	Dynamics	M.E. 212	3
General Physics II	Phys 151	4	General Physics III	Phys 152	4
Phys. Ed.	P.E. 103	0	Phys. Ed.	P.E. 104	0
		17			18

ELECTRICAL ENGINEERING

Today nearly every activity of civilized life depends upon electricity. The electrical engineer is trained to design, construct, and operate all electrical generating equipment. He must supervise and control the distribution of electricity for driving the machinery in mills, factories, and mines; for electric railways, chemical processing, heating, lighting, and for all electrical devices used in the home.

The communications field, including telegraph, telephone, radio, radar, teletype, transmission of print and pictures, offers numerous opportunities. Development of electronic tubes, transistors, circuits, and equipment for commercial processes offers opportunities in many fields of endeavor.

SOPHOMORE YEAR<sup>1</sup>

Third Semester			Fourth Semester		
Title	Number	Cr.	Title	Number	Cr.
Economics	Ec 100 or 101	3	Fund. of Speech	Eng 134	3
Mathematics	Math 126	4	Diff. Equa.	Math 240	4
General Physics II	Phys 151	4	General Physics III	Phys 152	4
Statics	M.E. 211	3	Dynamics	M.E. 212	3
Mfg. Processes	Engi 111	3	Electric and Magnetic		
Surveying	C.E. 103	3	Circuits	E.E. 202	3
Phys. Ed.	P.E. 103	0	Phys. Ed.	P.E. 104	0
		17			17

<sup>1</sup> For freshman year see page 79.

ENGINEERING PHYSICS

The curriculum in engineering physics is designed to equip men with a flexible background of basic scientific knowledge. The primary emphasis is on the fundamental principles of physics. At the same time the engineering viewpoint is developed so that practical problems can be pushed to completion. The first two years of work, offered at Wilkes, are similar to those of the other engineering curricula. They provide a sound basis for study toward advanced degrees in either physics or specific fields of engineering.

SOPHOMORE YEAR<sup>1</sup>

Third Semester			Fourth Semester		
Title	Number	Cr.	Title	Number	Cr.
Economics	Ec 100 or 101	3	Fund. of Speech	Eng 134	3
Integral Calculus	Math 126	4	Diff. Equa.	Math 240	4
General Physics II	Phys 151	4	General Physics III	Phys 152	4
Statics	M.E. 211	3	Dynamics	M.E. 212	3
Mfg. Processes	M.E. 111	3	Electrical and		
Phys. Ed.	P.E. 103	0	Magnetic Circuits	E.E. 202	3
		17	Phys. Ed.	P.E. 104	0
					17

INDUSTRIAL ENGINEERING

The field of industrial or management engineering has to do with the methods of manufacture and production; the effects thereon of personnel; and design control to meet cost and production requirements. Preparation with a background in science, engineering, economics, business administration, management, and history is necessary. The successful industrial engineer must possess not only technical skill and ability but also economic and humanistic interests, as well as character and personality. He must work with others and enlist their co-operation in the pursuit of a common goal. The industrial engineer deals with people as well as with machines and materials. This curriculum offers the first two years of work for those primarily interested in the administration of technical enterprises.

SOPHOMORE YEAR<sup>1</sup>

Third Semester			Fourth Semester		
Title	Number	Cr.	Title	Number	Cr.
Economics	Ec 101	3	Economics	Ec 102	3
General Physics II	Phys 151	4	General Physics III	Phys 152	4
Statics	M.E. 211	3	Dynamics	M.E. 212	3
Integral Calculus	Math 126	4	Diff. Equa.	Math 240	4
Surveying	C.E. 103	3	Fund. of Speech	Eng 134	3
Mfg. Processes	M.E. 111	3	Phys. Ed.	P.E. 104	0
Phys. Ed.	P.E. 103	0			
		17			17

<sup>1</sup> For freshman year see page 79.

MECHANICAL ENGINEERING

The mechanical engineer is concerned with the design, construction, installation, and operation of machinery necessary for the economical application of mechanical power to industry. He must utilize power from whatever source derived. The generation of power, whether by steam, hydro or internal-combustion engines is of primary concern to the mechanical engineer in the power field. His services are necessary wherever process equipment and machine tools are made or used.

The mechanical engineer must of necessity be broadly trained in the fundamental sciences and in economics and humanities. Ability and skill in the application of the basic sciences are not sufficient. He must have an understanding of the influence of his profession upon our way of life and how its development and expansion affect our future.

SOPHOMORE YEAR<sup>1</sup>

Third Semester			Fourth Semester		
Title	Number	Cr.	Title	Number	Cr.
Economics	Ec 100 or 101	3	Fund. of Speech	Eng 134	3
Integral Calculus	Math 126	4	Diff. Equa.	Math 240	4
General Physics II	Phys 151	4	General Physics III	Phys 152	4
Statics	M.E. 211	3	Dynamics	M.E. 212	3
Mfg Processes	Engi 111	3	Kinematics	M.E. 206	3
Phys. Ed.	P.E. 103	0	Phys. Ed.	P.E. 104	0
		17			17

<sup>1</sup> For freshman year see page 79.

Terminal Programs

PRE-DENTAL

(Two years)

The following pre-dental curricula are recommended as fulfilling the requirements established by the majority of colleges of dentistry. The three-year curriculum is less condensed and permits a more complete preparation in chemistry and biology.

FRESHMAN YEAR

First Semester			Second Semester		
Title	Number	Cr.	Title	Number	Cr.
General Zoology	Bio 101	5	General Zoology	Bio 102	4
General Inorganic Chem.	Chem 101	4	Inorganic Chem. and Qualitative Analysis	Chem 102	6
Composition	Eng 101	3	Composition	Eng 102	3
College Algebra	Math 107	3	Trigonometry	Math 109	3
Basic Physical Problems	Phys 101	1	Phys. Ed.	P.E. 102	0
Phys. Ed.	P.E. 101	0	Pers. Hyg.	P.E. 106	1
Pers. Hyg.	P.E. 105	1			
Orientation					
		16			16

SOPHOMORE YEAR

Third Semester			Fourth Semester		
Title	Number	Cr.	Title	Number	Cr.
Histology	Bio 221	3	Embryology	Bio 202	3
Inorganic Quantitative Anal.	Chem 121	4	Organic Chemistry	Chem 230	4
Introductory Physics	Phys 111	4	Introductory Physics	Phys 112	4
Alternates:			Alternates:		
World Literature	Eng 151	4	World Literature	Eng 152	4
Hist. of West. Civ.	Hist 101	3	Hist. of West. Civ.	Hist 102	3
Phys. Ed.	P.E. 103	0	Phys. Ed.	P.E. 104	0
		14-15			14-15

PRE-DENTAL

(Three years)

FRESHMAN YEAR

First Semester			Second Semester		
Title	Number	Cr.	Title	Number	Cr.
General Zoology	Bio 101	5	General Zoology	Bio 102	4
General Inorganic Chem.	Chem 101	4	Inorganic Chem. and Qualitative Analysis	Chem 102	6
Composition	Eng 101	3	Composition	Eng 102	3
College Algebra	Math 107	3	Trigonometry	Math 109	3
Basic Physical Problems	Phys 101	1	Phys. Ed.	P.E. 102	0
Phys. Ed.	P.E. 101	0	Pers. Hyg.	P.E. 106	1
Pers. Hyg.	P.E. 105	1			
Ori-nation					
		17			17

SOPHOMORE YEAR

Third Semester			Fourth Semester		
Title	Number	Cr.	Title	Number	Cr.
Basic Art	Art 101	3	Basic Art	Art 102	3
Comp. Anatomy of the Vert.	Bio 201	4	Embryology	Bio 202	4
Inorg. Quantitative Anal.	Chem 121	4	Organic Chemistry	Chem 230	4
World Literature	Eng 151	4	World Literature	Eng 152	4
Phys. Ed.	P.E. 103	0	Phys. Ed.	P.E. 104	0
		15			15

JUNIOR YEAR

Fifth Semester			Sixth Semester		
Title	Number	Cr.	Title	Number	Cr.
Bacteriology	Bio 211	4	Bacteriology	Bio 212	4
Histology	Bio 221	3	Genetics	Bio 222	3
Organic Chemistry	Chem 231	5	Chemistry Elective		3
Introductory Physics	Phys 111	4	Introductory Physics	Phys 112	4
		16			14

SECRETARIAL COURSE

The two-year intensive secretarial program has a threefold purpose: to provide a general education; to develop an understanding of business activities; and to give specialized training for secretarial work.

The required courses in this program may be counted toward the degree Bachelor of Science in Commerce and Finance or toward that of Bachelor of Science in Business Education when students desire to continue their education after completing their secretarial training.

FRESHMAN YEAR

First Semester			Second Semester		
Title	Number	Cr.	Title	Number	Cr.
Elementary Accounting	Acct 101	3	Principles of Accounting	Acct 102	3
Composition	Eng 101	3	Composition	Eng 102	3
Hist. of W. Civilization	Hist 101	3	Fundamentals of Speech	Eng 131	2
Elementary Shorthand	S.S. 105	2	Hist. of W. Civilization	Hist 102	3
Elementary Typewriting	S.S. 107	2	Elementary Shorthand	S.S. 106	2
Phys. Ed.	P.E. 101	0	Elementary Typewriting	S.S. 108	2
Pers. Hvg.	P.E. 105	1	Phys. Ed.	P.E. 102	0
Biological Science	Bio 100	3	Pers. Hyg.	P.E. 106	1
		17			16

SOPHOMORE YEAR

Third Semester			Fourth Semester		
Title	Number	Cr.	Title	Number	Cr.
Business Mathematics	B.A. 107	3	Office Management	B.A. 238	3
Business Law	B.A. 231	3	Intro. to Economics	Econ 100	3
Advanced Typewriting	S.S. 201	1	Advanced Typewriting	S.S. 202	1
Advanced Shorthand	S.S. 207	3	Advanced Shorthand	S.S. 208	3
Office Pro. and Machines	S.S. 205	4	General Psychology	Psy 100	3
Bus. Cor. and Reports	B.A. 209	3	Elective		3
Phys. Ed.	P.E. 103	0	Phys. Ed.	P.E. 104	0
		17			16

Students who have had shorthand and typewriting in high school may substitute electives for one or more of the courses in the stenographic skills, provided they demonstrate adequate skill. Placement examinations will be given the first week of the term to determine their levels of attainment.

## Description of Courses

### ACCOUNTING

Professor Rosenberg, chairman; Assistant Professors Curtis, P. Werner; Instructor Capin.

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

ACCT. 102. ELEMENTARY ACCOUNTING II—*Three credits* THE STAFF  
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.

ACCT. 111. INTERMEDIATE ACCOUNTING I—*Three credits* MR. CURTIS  
Intermediate problems involving interpretation and detailed analyses of balance-sheet and profit and loss accounts; analytical processes and miscellaneous statements. Class, two hours a week; laboratory, two hours a week.

Prerequisite: Acct. 102.

ACCT. 112. INTERMEDIATE ACCOUNTING II—*Three credits* MR. CURTIS  
A continuation of accounting 111. Accounting for installment sales, consignments, and branch accounting. Review of partnerships including liquidations. Class, two hours a week; laboratory, two hours a week.

Prerequisite: Acct. 111.

ACCT. 201. COST ACCOUNTING I—*Three credits* P. WERNER  
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.

ACCT. 202. ADVANCED COST ACCOUNTING II—*Three credits* P. WERNER

Establishing the practical use of cost systems through analytical and comparative statements; detailed study of various cost systems; standard

### DESCRIPTION OF COURSES — Page 87

costs; budgets; interpretation of data. Class, two hours a week; laboratory, two hours a week.

Prerequisite: Acct. 201 or approval of instructor.

ACCT. 220. ACCOUNTING SYSTEMS—*Three credits* MR. CAPIN

Analysis of procedures necessary for the establishment of a proper accounting system, and review of specialized systems for mercantile, manufacturing, and service organizations.

Prerequisite: Acct. 112, 202 or approval of instructor.

ACCT. 221. TAXES I—*Three credits* MR. CURTIS

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

Prerequisite: Acct. 112, 202 or approval of instructor.

ACCT. 222. TAXES II—*Three credits* THE STAFF

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

Prerequisite: Acct. 221.

ACCT. 231. AUDITING PRINCIPLES I—*Three credits* MR. CAPIN

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

Prerequisite: Acct. 202.

ACCT. 232. AUDITING PRACTICE II—*Three credits* MR. CAPIN

Advanced application of auditing principles to actual practice; problems of classification and interpretation of accounts; study of methods of internal control; preparation of reports to clients. Class, two hours a week; laboratory, two hours a week.

Prerequisite: Acct. 231.

ACCT. 242. ADVANCED ACCOUNTING—*Three credits* THE STAFF

Problems of consolidation, bankruptcies and insolvencies, and estates and trusts.

Prerequisite: Acct. 112.

ACCT. 252. ACCOUNTING INTERNSHIP—*Six credits*

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

## BIOLOGY

Professor Reif, chairman; Professors Cohen and Michelini; Associate Professor Earl; Assistant Professors Gershenowitz, Leagus; Instructor Schonwetter.

BIO. 100. BIOLOGICAL SCIENCE—*Three credits* MRS. NAMISNIAK

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

BIO. 101-102. GENERAL ZOOLOGY—*Nine credits* MR. REIF

General Zoology surveys the entire animal kingdom, outlines the history of biology, the organization of living matter, the structure of representative animals, and the methods of their classification. It considers the basic principles of physiology, genetics, embryology, evolution, and ecology. Biology 101 has class four hours a week; laboratory, three hours a week. Biology 102 has class three hours a week; laboratory, three hours a week. Biology 102 must be satisfactorily completed before credit will be given for Biology 101. Fee: \$20 each course.

BIO. 111-112. GENERAL BOTANY—*Three credits each semester* MRS. NAMISNIAK

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.

BIO. 113. BOTANICAL TAXONOMY—*Four credits* MR. REIF

Botanical Taxonomy presents a survey of the great divisions of the plant kingdom with special reference to the seed plants. Class, two hours a week; field work, six hours a week. Fee: \$20.

BIO. 121-122. ADVANCED GENERAL BIOLOGY—*Six credits* THE STAFF

Advanced General Biology presents a study of the contemporary flora and fauna of the Eastern United States, emphasizing the classifying, collecting, preserving, culturing, and utilizing of available organisms for biological study. Class two hours a week; laboratory (including field

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

work), four hours a week. Fee: \$20 each course. Prerequisite: Bio. 102 and Bio. 112 or permission of instructor.

BIO. 201. COMPARATIVE ANATOMY OF THE VERTEBRATES—*Four credits* MR. MICHELINI

Comparative Anatomy includes a study of the general morphological characteristics of selected vertebrates emphasizing the structural and embryological relationships of vertebrates generally. The taxonomy of the Phylum Chordata is stressed. Class, two hours a week; laboratory, six hours a week. Fee: \$20. Prerequisite: Bio. 102.

BIO. 202. EMBRYOLOGY—*Four credits* MR. MICHELINI

Embryology is the study of the early development of animals. Growth is traced from the egg to later stages in the frog, chick, and man. Laboratory work includes the technique of making slides. Class, two hours a week; laboratory, six hours a week. Fee: \$20. Prerequisite: Bio. 201, or permission of instructor.

BIO. 204. MICROTECHNIQUE—*Two credits* MISS LEAGUS

Biological technique is a laboratory course involving the preparation of tissues and organs for study. This course is given in conjunction with the laboratory portion of Embryology, Bio. 202, for those students who do not take Embryology. Laboratory, six hours a week. Fee: \$20.

BIO. 211-212. BACTERIOLOGY—*Four credits each semester* MISS LEAGUS

Bio. 211 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. Prerequisite: Bio. 102.

Bio. 212 emphasizes medical and industrial processes such as biological prophylaxis and allergy, diseases and disease transmission, viruses, rickettsias, and pathogenic protozoa. Class, two hours a week; laboratory, six hours a week. Fee: \$20. Prerequisite: Bio. 211.

BIO. 221. HISTOLOGY—*Four credits* MR. REIF

Histology is the study of normal tissues and the arrangement of tissues to form organs and organ systems. Material is restricted to vertebrate tissues. Class two hours a week; laboratory six hours a week. Prerequisite: through Bio. 202 or permission of instructor. Fee: \$20.

BIO. 222. GENETICS—*Three credits* MR. MICHELINI

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. Prerequisite: through Bio. 221 or permission of instructor. Fee: \$20.

BIO. 231. PHYSIOLOGY—*Four credits* MR. MICHELINI

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. Prerequisite: through Bio. 222, Chem. 230, and Phys. 112, or permission of instructor. Fee: \$20.

BIO. 232. ECOLOGY—*Three credits* MR. REIF

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. Prerequisite: through Bio. 231 or permission of instructor. Fee: \$20.

BIO. 262. HISTORY OF BIOLOGY—*One credit* THE STAFF

A study of the history of biology is designed as a correlating effort in the field of biology through an historical approach. It is limited to senior students majoring in biology. Class, one hour a week. Prerequisite: permission of instructor.

BIO. 271. RESEARCH PROJECT—*One credit* THE STAFF

Credit for this may be given only in the eighth semester. Work may begin after satisfactory completion of the fourth semester. Prerequisite: permission of instructor.

#### BUSINESS ADMINISTRATION

Professor Rosenberg, chairman; Associate Professor Chiang; Assistant Professors Elliot, Farrar, Gera, Hoover, R. Werner; Instructors Capin, Casper, Johns, Krohn, Roberts.

B.A. 107. BUSINESS MATHEMATICS—*Three credits* MR. HOOVER

Review of fundamental arithmetic processes; relation of fractions, decimals, and per cent; simple interest; mark-ups, profits and losses; inventory and turnover; depreciation and distribution of overhead; payroll problems including social security and other deductions; sales and property taxes; credit and credit instruments involving interest; bank discounts; compound interest and present value; insurance and annuities; stocks and bonds; graphs and their use in business.

B.A. 114. SALESMANSHIP—*Three credits* MR. HOOVER

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.

B.A. 209. BUSINESS CORRESPONDENCE AND REPORTS—*Three credits*

MR. HOOVER, MRS. ROBERTS

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

Prerequisite: Eng. 102.

B.A. 216. ADVERTISING—*Three credits* THE STAFF

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

B.A. 217. TRANSPORTATION AND TRAFFIC MANAGEMENT—*Three credits* THE STAFF

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.

B.A. 218. CREDIT AND COLLECTIONS—*Three credits* THE STAFF

The fundamentals of credit; investigation, analysis of risks; collection plans and policies. Special attention given to the organization of credit and collection offices.

Prerequisite: Ec. 102, Acct. 102.

B.A. 220. REAL ESTATE—*Three credits* MR. FARRAR

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.

B.A. 222. MARKETING—*Three credits* MR. R. WERNER

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.

B.A. 225. CORPORATION FINANCE—*Three credits* MR. CHIANG

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.

B.A. 226. INVESTMENTS—*Three credits* MR. CHIANG

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.

B.A. 231. BUSINESS LAW—INTRODUCTION AND CONTRACTS  
*Three credits* MR. CASPER, MR. KROHN

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.

B.A. 232. BUSINESS LAW—AGENCY AND SALES—*Three credits*  
MR. CASPER, MR. KROHN

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.

B.A. 233. BUSINESS LAW—PARTNERSHIPS AND CORPORATIONS  
*Three credits* MR. KROHN

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.

B.A. 234. BUSINESS LAW—PROPERTY—*Three credits* MR. KROHN

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.

B.A. 236. PERSONNEL MANAGEMENT—*Three credits* THE STAFF

A study of principles of organization; problems of the interrelationship of the functions operating in the fields of management; principles and modern practices of personnel management; instruments of control; the training and education of the worker; incentives used and special problems encountered.

Prerequisite: Ec. 102 or approval of instructor.

B.A. 237. PRODUCTION MANAGEMENT—*Three credits* THE STAFF

A study of the production problems that confront executives; developing operational plans; handling production problems; appraisal of relative risks.

Prerequisite: Ec. 102 or approval of instructor.

B.A. 238. OFFICE MANAGEMENT—*Three credits* THE STAFF

The organization and management of the office with emphasis on administration and effective control of office activities; work simplification and paperwork cost reduction with output efficiency. Office layout and working conditions; work-flow processes; forms design and control; records administration; systems analysis; scheduling, mechanization, and paperwork production and utilization. Job analysis, specification, motivation, training, job description, evaluation, and salary determination. Emphasis on measurement and control of office work and setting of standards; importance of time and motion study.

Prerequisite: Approval of instructor.



B.A. 239. SALES MANAGEMENT—*Three credits* THE STAFF

The relation of the sales department to all other departments; types of sales organizations; selection, training, compensation, and management of the sales force; sales research and market analysis; determination of price and brand policies; preparation of sales budgets; costs of distribution.

Prerequisite: B.A. 237 or approval of instructor.

B.A. 240. PROPERTY INSURANCE—*Three credits* MR. FARRAR

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

Prerequisite: Business Administration 232 or approval of instructor.

B.A. 241. LIFE INSURANCE—*Three credits* MR. FARRAR

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.

B.A. 244. TIME AND MOTION STUDY—*Three credits* MR. JOHNS

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

## CHEMISTRY

Professor Bastress, chairman; Assistant Professors Bone, Rozelle, Salley, Soeder, Swain; Instructor Meyer.

## LANGUAGE REQUIREMENTS

A reading knowledge of scientific German or of French is required for this degree. The requirement may be satisfied as follows:

1. A student prepared in a language may take a reading-knowledge test.
2. A student who has taken two years or more of German in high school must complete scientific German; if he has taken two years or more of French, he must complete six hours of intermediate or advanced French.
3. Students beginning either language must complete twelve semester hours. Those beginning German must include German 105 in the twelve hours.

CHEM. 101. GENERAL INORGANIC CHEMISTRY—*Four credits*

THE STAFF

An introduction to the fundamental laws and theories of inorganic chemistry. The chemistry of selected non-metallic elements. Class, three hours a week; laboratory, three hours a week. Breakage deposit required. Fee: \$20.

CHEM. 102. INORGANIC CHEMISTRY AND QUALITATIVE ANALYSIS  
*Six credits* MISS BONE, MR. ROZELLE, MR. SALLEY, MR. SOEDER

The reactions of the common metallic elements, the theory and practice of elementary qualitative analysis. Class, four hours a week; laboratory, six hours a week. Breakage deposit required. Fee: \$20.

Prerequisite: Chem. 101.

CHEM. 104. GENERAL INORGANIC CHEMISTRY—*Four credits*

MISS BONE, MR. ROZELLE, MR. SOEDER, MR. SWAIN

A continuation of Chemistry 101. The chemistry of the metals. Laboratory work includes some qualitative analysis. Will not be accepted as a prerequisite for further chemistry courses. Class, three hours a week; laboratory, three hours a week. Breakage deposit required. Fee: \$20.

Prerequisite: Chem. 101.

CHEM. 121. INORGANIC QUANTITATIVE ANALYSIS—*Four credits*

MR. SALLEY

Theory and practice of typical analyses. Class, two hours a week; laboratory, six hours a week. Breakage deposit required. Fee: \$20.

Prerequisite: Chem. 102.

CHEM. 122. INORGANIC QUANTITATIVE ANALYSIS—*Five credits*

MR. SALLEY

A continuation of Chemistry 121. Class, two hours a week; laboratory, nine hours a week. Breakage deposit required. Fee: \$20.

Prerequisite: Chem. 121.

CHEM. 230. ORGANIC CHEMISTRY—*Four credits*

MR. BASTRESS, MR. SOEDER

An introduction to the chemistry of carbon compounds. The preparation and properties of aliphatic compounds. Class, three hours a week; laboratory, three hours a week. Breakage deposit required. Fee: \$20.

Prerequisite: Chem. 121.

CHEM. 231. ORGANIC CHEMISTRY—*Five credits*

MR. BASTRESS, MR. SOEDER

A continuation of Chemistry 230, with special attention to cyclic

compounds. Class, three hours a week; laboratory, six hours a week. Breakage deposit required. Fee: \$20.  
Prerequisite: Chem. 230.

CHEM. 233. QUALITATIVE ORGANIC ANALYSIS—*Three credits*  
MR. BASTRESS, MR. SOEDER

A course designed to give practice in the systematic identification of pure organic compounds and mixtures. Class, one hour a week; laboratory, six hours a week. Breakage deposit required. Fee: \$20.  
Prerequisite: Chem. 231.

CHEM. 234. TOPICS IN ORGANIC CHEMISTRY—*Three credits*  
MR. BASTRESS, MR. SOEDER

Special topics in organic chemistry, including theories of organic reactions. Class, three hours.  
Prerequisite: Chem. 231.

CHEM. 241-242. PHYSICAL CHEMISTRY—*Four credits each semester*  
MR. SWAIN

An introduction to the principles of physical chemistry and the elements of thermodynamics. Class, three hours a week; laboratory, three hours a week. Breakage deposit required. Fee: \$20 each course.  
Prerequisite: Chem. 121, Math. 126, Phys. 152.

CHEM. 243. TOPICS IN PHYSICAL CHEMISTRY—*Three credits*  
MR. ROZELLE, MR. SWAIN

A study of advanced thermodynamics, chemical equilibrium, kinetics, and colloid chemistry. Advanced material is presented concerning the three phases of matter. Class, three hours a week.  
Prerequisite: Chem. 242.

CHEM. 244. TOPICS IN INORGANIC CHEMISTRY—*Three credits*  
MR. ROZELLE, MR. SALLEY

A course designed to introduce the student to the modern theories of inorganic chemistry. Class, three hours.  
Prerequisite: Chem. 121.

CHEM. 251. BIOLOGICAL CHEMISTRY—*Three credits* MR. BASTRESS

The application of chemical and physiochemical principles and methods to chemical constitution, reaction, and products of living matter. Class, two hours a week; laboratory, three hours a week. Breakage deposit required. Fee: \$20.  
Prerequisite: Chem. 121 and 230.

CHEM. 261. HISTORY OF CHEMISTRY—*One credit* MR. BASTRESS

The development of the science in terms of the personalities responsible for the development.  
Prerequisite: completion of twenty chemistry credits.

CHEM. 262. CHEMICAL LITERATURE—*One credit* MR. BASTRESS

An orientation course in foreign and domestic chemical literature.  
Prerequisite: completion of twenty chemistry credits.

CHEM. 271-272. RESEARCH PROJECT—*One to three credits each semester* THE STAFF

Fee: \$7 per credit.

## ECONOMICS

Professor Rosenberg, chairman; Associate Professor Chiang; Assistant Professors DeYoung, Elliot, Farrar, R. Werner.

Students who major in economics in the Bachelor of Arts course are required to complete twenty-four hours of work in economics beyond Ec. 101 and 102. The twenty-four hours in economics which the major must carry include Ec. 201, 202, 231, 232, 241.

EC. 100. INTRODUCTION TO ECONOMICS—*Three credits* THE STAFF

An introductory course in principles of economics designed for students who plan to take *only one* semester of work in this field. Theoretical aspects of capital value, national income, money and banking, and international trade are included.

EC. 101. PRINCIPLES OF ECONOMICS I—*Three credits* THE STAFF

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

EC. 102. PRINCIPLES OF ECONOMICS II—*Three credits* THE STAFF

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.

EC. 201. MONEY AND BANKING—*Three credits* MR. CHIANG

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.

EC. 202. THEORY OF MONEY—*Three credits* MR. CHIANG

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.

EC. 204. CONSUMER CREDIT—*Two credits* MR. ROSENBERG

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.

EC. 212. GOVERNMENT AND BUSINESS—*Three credits* MR. FARRAR

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.

EC. 222. THE AMERICAN LABOR MOVEMENT—*Three credits*

MR. R. WERNER

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.

EC. 223. COLLECTIVE BARGAINING—*Three credits* MR. R. WERNER

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.

EC. 225. INTERNATIONAL TRADE—*Three credits* MR. ELLIOT

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.

EC. 226. ECONOMIC GEOGRAPHY OF THE WORLD—*Three credits*

MR. ELLIOT

A study and analysis of the economic and geographic factors which underlie the national, regional, and international potentials and problems of modern man. The course attempts to give to each student a more basic understanding of causative factors and a better appreciation of the complexities involved in policy formation.

Prerequisite: Ec. 102.

EC. 227. ECONOMIC GEOGRAPHY OF NORTH AMERICA—*Three credits*

MR. ELLIOT

A study and analysis of the North American continent, with special emphasis on the United States. Attention is given to the economic and geographic factors which have contributed to past growth and which are important determinants of future growth. In addition to a study of the nation as a unit, separate regional analyses are made of the component sections.

Prerequisite: Ec. 102.

EC. 229. COMPARATIVE ECONOMIC SYSTEMS—*Three credits*

MR. FARRAR

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.

EC. 230. BUSINESS CYCLES—*Three credits*

MR. FARRAR

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

Prerequisite: approval of instructor.

EC. 231. APPLIED GENERAL STATISTICS I—*Three credits*  
MR. ROSENBERG

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. 3 hours lecture; 2 hours laboratory.

Prerequisite: approval of instructor.

EC. 232. ECONOMIC STATISTICS II—*Three credits* MR. ROSENBERG

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.

Prerequisite: Ec. 231.

EC. 236. PUBLIC FINANCE—*Three credits*  
MR. ROSENBERG, MR. R. WERNER

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.

EC. 238. ECONOMIC HISTORY—*Three credits* MR. DEYOUNG

An advanced course which traces the development of the United States economy, with emphasis on patterns of economic growth.

EC. 241. ECONOMIC ANALYSIS—*Three credits*  
MR. FARRAR, MR. DEYOUNG

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.

EC. 245. CONSUMER ECONOMICS—*Three credits* MR. R. WERNER

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.

EC. 246. ECONOMICS INVESTIGATION—*Three credits* THE STAFF

Each student conducts an investigation in the field of his major interest and constructs a final report. Class instruction includes: (1) the principles of scholarly criticism, (2) compilation and use of bibliographies, and (3) details of good form as to content, table, body, footnotes, and bibliography.

Prerequisite: approval of instructor (for seniors only).

## EDUCATION

Professor Hammer, chairman; Professor Jessee; Associate Professors Colson, Gasbarro, Hulser; Assistant Professors Hoover, West; Instructors Chwalek, Richards, Roderick.

ED. 100. INTRODUCTION TO EDUCATION—*Three credits* MR. HULSER

A study of the historical development of American education, the role of the school in American life, educational philosophies, educational organization and administration, school finance, school curricula, school personnel, and current issues in education.

Prerequisite: Sophomore standing.

ED. 200. EDUCATIONAL PSYCHOLOGY—*Three credits* MR. HAMMER

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

Prerequisite: Psy. 100, Junior standing.

ED. 209. PRINCIPLES OF ELEMENTARY EDUCATION—*Two credits*  
MR. HULSER

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

Prerequisite: Ed. 100, 200.

ED. 210. PROFESSIONAL SEMESTER IN ELEMENTARY EDUCATION  
*Fifteen credits* MISS RODERICK

Provides classwork and practical experience to prepare students for elementary school teaching. Fee \$20.

This is a fulltime program; students will not be able to schedule any other classes during the professional semester.

Prerequisite: permission of the instructor.

For transfer and certification purposes, credit will be assigned as follows:

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ED. 211. THE TEACHING OF READING—*Two credits*

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

ED. 212. METHODS AND MATERIALS IN ELEMENTARY SCHOOL ARITHMETIC—*Two credits*

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

ED. 213. METHODS AND MATERIALS IN ELEMENTARY SCHOOL SCIENCE—*Two credits*

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

ED. 214. METHODS AND MATERIALS IN ELEMENTARY SCHOOL SOCIAL STUDIES—*Two credits*

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

ED. 215. MULTI-SENSORY TECHNIQUES IN ELEMENTARY SCHOOL TEACHING—*One credit*

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

ED. 216. STUDENT TEACHING IN THE ELEMENTARY SCHOOL  
*Six credits*

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

ED. 220. PROFESSIONAL SEMESTER IN FINE ARTS EDUCATION  
*Twelve credits* MR. WEST

Provides classwork and practical experience to prepare students for the teaching of art in elementary and secondary schools. Fee \$20.

This is a fulltime program; students will not be able to schedule any daytime classes during the professional semester.

Prerequisite: permission of the instructor.

For transfer and certification purposes, credit will be assigned as follows:

ED. 221. ART CURRICULUM—*Three credits* MR. RICHARDS

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

ED. 222. THE TEACHING OF ART—*Two credits* MR. RICHARDS

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

ED. 223. MULTI-SENSORY TECHNIQUES IN THE TEACHING OF ART—*One credit*

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

ED. 224. STUDENT TEACHING IN ART—*Six credits*

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

ED. 230. PROFESSIONAL SEMESTER IN SECONDARY EDUCATION  
*Twelve credits* MR. WEST

Provides classwork and practical experience to prepare students for secondary school teaching. Fee \$20.

This is a fulltime program; students will not be able to schedule any daytime classes during the professional semester.

Prerequisite: permission of the instructor.

For transfer and certification purposes, credit will be assigned as follows:

ED. 231. PRINCIPLES OF SECONDARY EDUCATION—*Two credits*  
MR. HAMMER

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

- ED. 232. SECONDARY SCHOOL CURRICULUM—*Two credits*  
MR. HAMMER  
A study of the content and organization of the secondary school curriculum.
- ED. 233. SECONDARY SCHOOL TEACHING METHODS—*One credit*  
A study of various teaching procedures employed in the secondary school classroom.
- ED. 234. MULTI-SENSORY TECHNIQUES IN SECONDARY SCHOOL TEACHING—*One credit*  
A study of the use of multi-sensory teaching aids in the secondary school classroom.
- ED. 235. STUDENT TEACHING IN THE SECONDARY SCHOOL  
*Six credits*  
Students are assigned to work with experienced classroom teachers. They assume classroom responsibility and teach under supervision. Conferences are arranged with co-operating teachers and college supervisors.
- ED. 241. EDUCATIONAL MEASUREMENTS—*Two credits* MISS JESSEE  
A study of the characteristics, construction, and use of various educational measuring instruments commonly available in secondary schools.  
Prerequisite: Ed. 200.
- ED. 242. GUIDANCE—*Two credits* MR. CHWALEK  
An introduction to general principles and the techniques employed in guidance programs in public schools.  
Prerequisite: Ed. 200.
- ED. 243. OCCUPATIONS—*Two credits* MR. CHWALEK  
An introduction to occupational research as a part of the secondary school guidance program.  
Prerequisite: Ed. 200.

- ED. 244. TEACHING SECONDARY SCHOOL ENGLISH—*Three credits*  
THE STAFF  
A study of the organization and presentation of curricular content in secondary school English courses. (Offered summers only)  
Prerequisite: Twenty-four credits in English.
- ED. 245. TEACHING SECONDARY SCHOOL MATHEMATICS—*Three credits*  
MR. WEST  
Same as Math. 127. (See page 123.)  
(Offered summers only)  
Prerequisite: Math. 125.
- ED. 246. TEACHING SECONDARY SCHOOL SCIENCE—*Three credits*  
THE STAFF  
A study of the organization and presentation of curricular content in secondary school science courses. (Offered summers only)  
Prerequisite: Twenty-four credits in sciences other than Psychology.
- ED. 247. TEACHING SECONDARY SCHOOL SOCIAL STUDIES  
*Three credits* MR. HULSER  
A study of the organization and presentation of curricular content in secondary school social studies courses. (Offered summers only)  
Prerequisite: Twenty-four credits in social sciences other than Education.
- ED. 250. INTRODUCTION TO EDUCATIONAL ADMINISTRATION  
*Three credits* THE STAFF  
A survey of the principles of educational administration at the federal, state and local levels. (Offered summers only)  
Prerequisite: Ed. 100.

## ENGINEERING

Professor Hall, chairman; Assistant Professors Heltzel and Thomas; Instructor Koo.

ENGL. 100. ENGINEERING PROBLEMS—*Two credits* THE STAFF

Lectures and discussions to acquaint the student with the aims, purposes and methods of the engineer. An introduction to the proper method of attack upon problems, proper presentation of solutions, both mathematical and graphical, vertical freehand lettering. Instruction in the use of the slide rule necessary to problem solution. Graphs. Lecture, one hour; practicum, three hours a week. Fee: \$5.

ENGL. 101. BASIC DRAWING—*Two credits* THE STAFF

A basic course covering the elements of projection drawing necessary for students of chemistry. It includes use of instruments, sketching, orthographic and isometric drawing and dimensioning. Practicum, six hours a week. Fee: \$10.

ENGL. 105. ENGINEERING DRAWING—*Three credits* MR. HELTZEL

This and the following course bear the same relation to the engineering profession as the subject of English bears to our daily life. Deals with the representation of objects according to engineering conventions. Several systems of representation, such as orthographic, isometric, and oblique, are studied. Use of instruments. Freehand sketching is emphasized. Practicum, seven hours per week. Fee: \$10.

ENGL. 106. DESCRIPTIVE GEOMETRY—*Two credits* MR. HELTZEL

Spatial relationships as represented by points, lines, planes, and other surfaces applied to problems in space. Emphasis is on applications to promote visualization by the solution of practical problems. Practicum, six hours per week. Fee: \$10.

Prerequisite or Co-requisite: Math. 122; Engi. 105 is recommended.

*Chemical Engineering*CH. E. 106. STOICHIOMETRY—*Three credits* MR. SALLEY

A problem course involving the application of basic chemical and physical concepts to the calculation of heat and material balances as they are encountered in the various chemical industrial processes. Fuels and their combustion products, gas producers, furnace and kiln products. Class, three hours a week.

Prerequisite: Chem. 121; Phys. 151.

Co-requisite: Phys. 152.

*Civil Engineering*C.E. 103. PLANE SURVEYING—*Three credits* MR. KOO

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. 105, Math. 105 or 107 and 109.

C.E. 104. ROUTE SURVEYING—*Four credits* MR. KOO

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.

*Electrical Engineering*E.E. 202. ELECTRIC AND MAGNETIC CIRCUITS—*Three credits*

MR. THOMAS

An introduction to Electrical Engineering. Sources of electrical energy. Basic treatment of electric and magnetic circuits. Steady state network theorems. Class three hours per week.

Prerequisites: Phys. 151 and co-requisite Math. 126.

*Mechanical Engineering*M.E. 111. MANUFACTURING PROCESSES—*Three credits* MR. THOMAS

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: \$15.

M.E. 206. KINEMATICS—*Three credits* MR. HELTZEL

Analytical and graphical studies of displacement, velocity and acceleration for rigid bodies in plane motion. Study of kinematic pairs

and trains involving linkages, pulleys, gears and cams: instant centers, gear-tooth outlines and their application, epicyclic gear trains. Class, two hours a week; practicum, three hours a week. Fee: \$5.

Prerequisite: Engi. 106, Math. 122, Phys. 150.

M.E. 211. MECHANICS I. STATICS—*Three credits* MR. KOO

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

Prerequisite: Phys. 150, Math. 125.

Co-requisite: Math. 126.

M.E. 212. MECHANICS II. DYNAMICS—*Three credits* MR. KOO

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.

#### ENGLISH

Professor Edgerton, Chairman; Professor Davies; Associate Professor Rizzo; Assistant Professors Groh, Gutin, Lord; Instructors Fiester, Kish, Miller, G. Roberts, R. Roberts, Schwartz, Schwarzschild, Tyburski.

Students majoring in English take English 101 and 102 in the Freshman year; 105, 131, 151, and 152 in the Sophomore year; and 24 hours, including 201, 205, 215, and 290, in the Junior and Senior years. Students with at least a B average in 101, 102, and 151, may take an advanced English course simultaneously with 152.

Courses numbered with odd numbers (101, 105, 237, etc.) will be offered during the Fall term; courses numbered with even numbers (102, 152, 212, etc.) will be offered during the Spring term; and courses ending with zero may be offered either term.

#### Composition

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

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

ENG. 105. ADVANCED EXPOSITION—*Three credits* THE STAFF  
A study of the various expository types. Readings. Intensive practice in the writing of informative articles.

Prerequisite: Eng. 101 and 102. In exceptional cases this requirement may be waived.

#### Language and Literature

ENG. 150. AMERICAN LITERATURE—*Three credits* THE STAFF

A study of significant literature from the Age of Franklin to 1900. (Offered 1963-64 and alternate years)

Prerequisite: Eng. 152.

ENG. 151. WESTERN WORLD LITERATURE—*Four credits* THE STAFF

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

Prerequisite: Eng. 102, or substitute in composition.

ENG. 152. WESTERN WORLD LITERATURE—*Four credits* THE STAFF

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

Prerequisite: Eng. 151.

ENG. 200. HISTORY OF THE ENGLISH LANGUAGE—*Three credits*

MR. RIZZO

Study of the origins of the English language and of the principal phenomena of later development. (Offered 1964-65 and alternate years)

Prerequisite: Eng. 152.

ENG. 205. CHAUCER—*Three credits*

MR. EDGERTON

Study of Chaucer's life and major works, including *The Canterbury Tales* and *Troilus and Criseyde*. (Offered 1964-65 and alternate years)

Prerequisite: Eng. 152.

ENG. 211. EARLY ENGLISH DRAMA—*Three credits*

THE STAFF

Study of the drama as a literary type and its history from the earliest times to 1642; reading of plays by pre-Elizabethan and Elizabethan dramatists exclusive of Shakespeare. (Offered 1963-64 and alternate years)

Prerequisite: Eng. 152 and permission of instructor.



ENG. 212. LATER ENGLISH DRAMA—*Three credits* THE STAFF

Study of the drama from 1660 to the present. (Offered 1963-64 and alternate years)

Prerequisite: Eng. 152 and permission of instructor.

ENG. 214. RENAISSANCE PROSE AND POETRY—*Three credits*

MR. EDGERTON

Study of English non-dramatic literature from 1485 to 1640. (Offered 1963-64 and alternate years)

Prerequisite: Eng. 152.

ENG. 215. SHAKESPEARE—*Three credits*

MR. EDGERTON

A study of selected plays; written reports on others not studied in class. (Offered 1963-64 and alternate years)

Prerequisite: Eng. 152.

ENG. 216. MILTON AND THE SEVENTEENTH CENTURY—*Three credits*

THE STAFF

A study of the non-dramatic literature of the period with special emphasis on the poetry of John Milton. (Offered 1964-65 and alternate years)

Prerequisite: Eng. 152.

## ENG. 220. RESTORATION AND THE EIGHTEENTH CENTURY

*Three credits*

THE STAFF

Restoration dramatists and the chief poets and essayists of the eighteenth century. Includes Swift, Pope, and Johnson. (Offered 1963-64 and alternate years)

Prerequisite: Eng. 152.

ENG. 237. EARLY ENGLISH NOVEL—*Three credits*

THE STAFF

English prose fiction of the sixteenth and seventeenth centuries; rise of the novel to the close of the eighteenth century. (Offered 1964-65 and alternate years)

Prerequisite: Eng. 152.

ENG. 238. LATER ENGLISH NOVEL—*Three credits*

THE STAFF

The major novelists of the nineteenth and early twentieth centuries. (Offered 1964-65 and alternate years)

Prerequisite: Eng. 152.

ENG. 240. ROMANTIC PROSE AND POETRY—*Three credits*

THE STAFF

Study of Wordsworth, Coleridge, Shelley, Keats and Byron, with related prose writers of the Romantic Period. (Offered 1963-64 and alternate years)

Prerequisite: Eng. 152.

ENG. 250. VICTORIAN PROSE AND POETRY—*Three credits*

MR. DAVIES

Readings in Tennyson, Browning, Arnold, and other significant writers of the Victorian Age. (Offered 1964-65 and alternate years)

Prerequisite: Eng. 152.

ENG. 290. SENIOR SEMINAR—*Three credits*

MR. EDGERTON

Designed to cover periods and figures not studied in course work; special emphasis on the research paper. (Offered 1963-64 and annually thereafter)

ENG. 291. MODERN POETRY—*Three credits*

THE STAFF

Study of the major English and American poetry of the Twentieth Century. (Offered 1964-65 and every third year thereafter)

Prerequisite: Senior Standing.

ENG. 294. MODERN NOVEL—*Three credits*

THE STAFF

Study of the major English and American novels of the Twentieth Century. (Offered 1963-64 and every third year thereafter)

Prerequisite: Senior Standing.

ENG. 296. MODERN DRAMA—*Three credits*

THE STAFF

Study of important dramatists, European and American, from the time of Ibsen. (Offered 1964-65 and every third year thereafter)

Prerequisite: Senior Standing

*Speech*ENG. 131. FUNDAMENTALS OF SPEECH—*Two credits*

THE STAFF

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

ENG. 134. FUNDAMENTALS OF SPEECH FOR TECHNICAL STUDENTS  
*Three credits* THE STAFF

Similar to Eng. 131, but with an extra hour of work required for engineering students.

## FINE ARTS AND FINE ARTS EDUCATION

Associate Professor Colson, chairman; Instructor Richards.

FA 101. EXPERIENCING ART I—*Three credits* MR. COLSON

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, two hours; studio, two hours.

FA 102. EXPERIENCING ART II—*Three credits* MR. COLSON

A continuation of FA 101.

Prerequisite: FA 101.

FA 103. COLOR AND DESIGN—*Three credits* MR. COLSON

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

Prerequisite: FA 102 or equivalent.

FA 104. DRAWING AND COMPOSITION—*Three credits* MR. COLSON

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 103.

FA 105. OIL PAINTING—*Three credits* THE STAFF

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

FA 106. WATER COLOR PAINTING—*Three credits* THE STAFF

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

Prerequisite: FA 104.

FA 121. MODELING AND THREE DIMENSIONAL CONSTRUCTION—  
*Three credits* THE STAFF

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.

FA 122. CERAMICS—*Three credits* THE STAFF

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, sgraffito, and underglaze. Lecture, two hours; studio, two hours.

Prerequisite: Permission of instructor.

FA 125. METALWORK AND JEWELRY—*Three credits* THE STAFF

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

Prerequisite: Permission of instructor.

FA 126. GRAPHICS—*Three credits* THE STAFF

A study of graphic expression including silkscreen, linoleum block, and wood block printing; etching; and lithography. Lecture, two hours; studio, two hours.

Prerequisite: Permission of instructor.

FA 201. HISTORY OF ART I—*Two credits* THE STAFF

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

FA 202. HISTORY OF ART II—*Two credits* THE STAFF

History of art from the Renaissance through the nineteenth century.

Prerequisite: FA 201.

FA 203. HISTORY OF MODERN ART—*Two credits* THE STAFF

A study of twentieth century art forms.

FA 205. CONTEMPORARY DESIGN—*Two credits* THE STAFF

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

FA 220. STUDIO PROBLEMS—*Two credits* MR. COLSON

Provides advanced study and research for Fine Arts Education students. Lecture, 2 hours.

Prerequisite: Permission of instructor.

- FA 291. SENIOR EXHIBIT—*One credit* MR. COLSON  
A study of exhibition techniques; each senior exhibits his work at the College. Studio, two hours.  
Prerequisite: Permission of instructor.
- FA 292. SENIOR EXHIBIT—*One credit* MR. COLSON  
A continuation of FA 291.  
Prerequisite: FA 291.

## MODERN FOREIGN LANGUAGES

Associate Professor Disque, chairman; Associate Professor Dworski and Frijters; Instructor Mansilla.

*French*

A major in French consists of twenty-four hours beyond Fr. 102.

- FR. 101. ELEMENTARY FRENCH—*Three credits* THE STAFF  
Introduction to French grammar; practice in reading, writing, and speaking the language.
- FR. 102. ELEMENTARY FRENCH—*Three credits* THE STAFF  
Continuation of Fr. 101.  
Prerequisite: Fr. 101 or the equivalent.
- FR. 103. INTERMEDIATE FRENCH—*Three credits* MISS DWORSKI  
Review of grammar; practice in oral and written French; selected readings of modern French prose.  
Prerequisite: Fr. 102 or the equivalent.
- FR. 104. INTERMEDIATE FRENCH—*Three credits* MISS DWORSKI  
Introduction to French civilization; practice in oral and written French.  
Prerequisite: Fr. 103 or the equivalent.
- FR. 105. TECHNICAL FRENCH—*Three credits* MISS DWORSKI  
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. 103 or the equivalent.

- FR. 106. FRENCH CONVERSATION—*Three credits* MISS DWORSKI  
Intensive practice in the spoken language, with emphasis on idiomatic usage. Use of records to acquire fluency in speaking French.  
Prerequisite: Fr. 104 or the equivalent.
- FR. 107. FRENCH COMPOSITION—*Three credits* MISS DWORSKI  
Study of grammar and idiomatic usage in modern French, applied to composition exercises and free composition.  
Prerequisite: Fr. 104 or the equivalent.
- FR. 201-202. SURVEY OF FRENCH LITERATURE—*Three credits each semester* MISS DWORSKI  
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. 104 or the equivalent.
- FR. 203. FRENCH LITERATURE OF THE SEVENTEENTH CENTURY  
*Three credits* MISS DWORSKI  
Study of classicism and the outstanding writers of the seventeenth century.  
Prerequisite: Fr. 201-202 or the equivalent.
- FR. 205. FRENCH LITERATURE OF THE EIGHTEENTH CENTURY  
*Three credits* MISS DWORSKI  
Study of the literature and thought in the eighteenth century, with special emphasis on Montesquieu, Diderot, Voltaire, and Rousseau.  
Prerequisite: Fr. 201-202 or the equivalent.
- FR. 206. FRENCH LITERATURE OF THE NINETEENTH CENTURY  
*Three credits* MISS DWORSKI  
Study of Romanticism, Realism, Naturalism, the Parnassian poets, and Symbolism.  
Prerequisite: Fr. 201-202 or the equivalent.
- FR. 208. CONTEMPORARY FRENCH DRAMA—*Three credits* MISS DWORSKI  
The development of modern drama from the latter half of the nineteenth century to the present.  
Prerequisite: Fr. 201-202 or the equivalent.

*German*

A major in German consists of twenty-four hours beyond Ger. 102.

GER. 101. ELEMENTARY GERMAN—*Three credits* THE STAFF  
Introduction to German grammar; practice in reading, writing, and speaking the language.

GER. 102. ELEMENTARY GERMAN—*Three credits* THE STAFF  
Continuation of German 101. Reading of easy prose and poetry. Some stress on German culture, life, and customs.  
Prerequisite: Ger. 101 or equivalent.

GER. 103. INTERMEDIATE GERMAN—*Three credits* MR. DISQUE  
Emphasis on difficult grammatical construction and idioms. Reading of prose; practice in speaking and writing German.  
Prerequisite: Ger. 102 or equivalent.

GER. 104. INTERMEDIATE GERMAN—*Three credits* MR. DISQUE  
Continuation of Ger. 103. Rapid reading of German works representative of German life and history; practice in writing and speaking German.  
Prerequisite: Ger. 103 or equivalent.

GER. 105. SCIENTIFIC GERMAN—*Three credits* MR. DISQUE  
Reading of selections from scientific German.  
Prerequisite: Ger. 103 or equivalent.

GER. 106. GERMAN CONVERSATION—*Three credits* MR. DISQUE  
Emphasis laid on speaking, with drill in the colloquial vocabulary.  
Prerequisite: Ger. 104 or equivalent.

GER. 107. GERMAN COMPOSITION—*Three credits* MR. DISQUE  
Idiomatic usage in modern German. To develop the ability to write free compositions.  
Prerequisite: Ger. 104 or equivalent.

GER. 201-202. SURVEY OF GERMAN LITERATURE  
*Three credits each semester* MR. DISQUE  
A survey of the literature of the important periods from the beginning to 1932.  
Prerequisite: Ger. 104 or equivalent.

GER. 203. GOETHE—*Three credits* MR. DISQUE  
Reading and interpretation of selected works of Goethe. Lectures and individual reports.  
Prerequisite: Ger. 201-202 or equivalent.

GER. 204. SCHILLER—*Three credits* MR. DISQUE  
Poet of German idealism.  
Prerequisite: Ger. 201-202 or equivalent.

GER. 205. NINETEENTH CENTURY GERMAN DRAMA—*Three credits* MR. DISQUE  
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. 201-202 or equivalent.

GER. 206. MODERN GERMAN SHORT STORY—*Three credits* MR. DISQUE  
The modern German short story from naturalism to the present. Individual reports; lectures on the cultural and literary history of the period.  
Prerequisite: Ger. 201-202 or equivalent.

*Spanish*

A major in Spanish consists of twenty-four hours beyond Sp. 102.

SP. 101. ELEMENTARY SPANISH—*Three credits* THE STAFF  
Introduction to Spanish grammar; practice in reading, writing, and speaking the language.

SP. 102. ELEMENTARY SPANISH—*Three credits* THE STAFF  
Continuation of Spanish 101.  
Prerequisite: Sp. 101 or equivalent.

SP. 103. INTERMEDIATE SPANISH—*Three credits* MISS MANSILLA  
Review of grammar; practice in oral and written Spanish; selected readings from modern Spanish prose.  
Prerequisite: Sp. 102 or equivalent.

- SP. 104. INTERMEDIATE SPANISH—*Three credits* MISS MANSILLA  
Introduction to Spanish civilization; practice in oral and written Spanish.  
Prerequisite: Sp. 103 or equivalent.
- SP. 105. COMMERCIAL SPANISH—*Three credits* MISS MANSILLA  
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. 103 or equivalent.
- SP. 106. SPANISH CONVERSATION—*Three credits* MISS MANSILLA  
Intensive practice in the spoken language, with emphasis on idiomatic usage. Use of records to acquire fluency in speaking Spanish.  
Prerequisite: Sp. 104 or equivalent.
- SP. 107. SPANISH COMPOSITION—*Three credits* MISS MANSILLA  
Study of grammar and idiomatic usage in modern Spanish, applied to composition exercises and free composition.  
Prerequisite: Sp. 104 or equivalent.
- SP. 108. SPANISH AMERICAN CULTURE—*Three credits* MISS MANSILLA  
The cultural, economic, and political development of the Spanish American countries.  
Prerequisite: Sp. 103 or equivalent.
- SP. 201-202. SURVEY OF SPANISH LITERATURE  
*Three credits each semester* MISS MANSILLA  
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. 104 or equivalent.
- SP. 203. THE GOLDEN AGE OF SPANISH LITERATURE—*Three credits* MISS MANSILLA  
Study of the great authors of the sixteenth and seventeenth centuries, with special emphasis on Cervantes, Lope de Vega, Tirso de Molina, Alarcón, and Calderón.  
Prerequisite: Sp. 201-202 or equivalent.

- SP. 204. NINETEENTH CENTURY SPANISH DRAMA—*Three credits* MISS MANSILLA  
Study of representative works of nineteenth century Spanish drama.  
Prerequisite: Sp. 201-202 or equivalent.
- SP. 205. NINETEENTH CENTURY SPANISH NOVEL—*Three credits* MISS MANSILLA  
The development of the Spanish novel in the nineteenth century.  
Prerequisite: Sp. 201-202 or equivalent.

## GENERAL SCIENCE

BIO. 100. See page 88.

- GEOL. 100. GENERAL GEOLOGY—*Two credits* MR. REIF  
General geology deals with the probable formation of the planet Earth, the establishment of its crust, and subsequent movements of the crust. The chief approach of the course is through a consideration of the paleontological, physical, and economic evidence in Earth's rocks.

PHYS. 100. See page 134.

## HISTORY

Professor Thatcher, chairman; Associate Professors Mui and Kaslas; Assistant Professor Connolly; Instructor Hughes.

A major in history consists of twenty-four hours, of which twelve are in courses numbered 200 or above. Majors in history are required to take Hist. 101, 102, 107, and 108; Hist. 101 and 102, however, may not count toward the twenty-four hours constituting a major.

- HIST. 101-102. HISTORY OF WESTERN CIVILIZATION THE STAFF  
*Three credits each semester.*

A chronological survey of the civilization of the western world from the earliest times to the present. Emphasis is placed on general trends and on concepts that have influenced the modern world. Due attention is given to the part played by America in world history, especially during the expansion of Europe and in the twentieth century.

HIST. 107. AMERICAN AND PENNSYLVANIA HISTORY TO 1865  
*Three credits* MR. THATCHER

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.

HIST. 108. AMERICAN HISTORY SINCE 1865—*Three credits*  
 MR. THATCHER

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

HIST. 223-224. AMERICAN CONSTITUTIONAL HISTORY  
*Three credits each semester* MR. THATCHER

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. 100. Restricted to juniors and seniors. Hist. 223 is a prerequisite for Hist. 224.

HIST. 225. HISTORY OF THE AMERICAN FRONTIER—*Three credits*  
 MR. THATCHER

A study of the westward movement in American history.

Prerequisite: Hist. 107 and 108.

HIST. 228. HISTORY OF THE FOREIGN POLICY OF THE UNITED STATES  
*Three credits* MR. THATCHER

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

Prerequisite: Hist. 107, 108, and P.S. 100. Restricted to juniors and seniors.

HIST. 235-236. HISTORY OF THE FAR EAST—*Three credits each semester*  
 MR. MUI

A study of the history of the civilizations developed in India, China, and Japan with emphasis on their inter-relations and distinctive charac-

teristics 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.

Winter semester: to c. 1760.

Spring semester: 1760 to the present.

Prerequisite: Hist. 101 and 102.

HIST. 241-242. HISTORY OF GREAT BRITAIN AND THE BRITISH EMPIRE  
 AND COMMONWEALTH—*Three credits each semester*

MR. MUI

A study of British history from the Roman occupation to recent times. During the first semester emphasis is placed on the relations and contrasts between British and continental developments and the rise of the British nation and its expansion overseas. During the second semester emphasis is placed on the transition from a constitutional monarchy to a mature democracy, from an essentially agricultural to an industrial economy, and from the mercantilist empire to the Commonwealth of Nations. Intellectual and artistic developments will be touched upon insofar as they are related to the above changes.

Prerequisite: Hist. 101 and 102.

HIST. 255. EUROPE IN THE NINETEENTH CENTURY—*Three credits*  
 MR. KASLAS

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.

HIST. 256. EUROPE IN THE TWENTIETH CENTURY—*Three credits*  
 MR. KASLAS

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.

HIST. 257. HISTORY OF RUSSIA IN THE TWENTIETH CENTURY—  
*Three credits* MR. KASLAS

A brief examination of nineteenth-century Russia, as well as an outline of demographic and geographic factors, will be used as a background for a detailed study of the development of Russia in the twentieth century. Emphasis will be placed on the origins and political, social, and cultural evolution of the Soviet State from its inception to the present.

Prerequisite: Hist. 101 and 102.

### MATHEMATICS

Associate Professor T. R. Richards, chairman; Assistant Professors De Cosmo and Wasileski; Instructors May, Morgan, Salsburg.

The major in mathematics is outlined on page 59.

MATH. 99. ALGEBRA REVIEW—*No credit* THE STAFF  
Secondary algebra, extending through simultaneous quadratic equations.

Three hours a week.

MATH. 100. SAME AS PHYS. 101—See page 134.

MATH. 101. FUNDAMENTALS OF MATHEMATICS—*Three credits* THE STAFF

A course designed for those who want a general background in mathematical concepts without specialization in techniques. Students taking Math. 105, 107, or 109 will not be granted credit for Math. 101 or 102.

MATH. 102. FUNDAMENTALS OF MATHEMATICS—*Three credits* THE STAFF

A continuation of Math. 101.

MATH. 105. COLLEGE ALGEBRA AND TRIGONOMETRY—*Five credits* THE STAFF

A combination of Math. 107 and 109.

Prerequisite Math. 99 or its equivalent.

MATH. 107. COLLEGE ALGEBRA—*Three credits* THE STAFF

Proportion, progressions, inequalities, mathematical induction, binomial theorem, complex numbers, roots of equations, permutations and combinations, probability, determinants, partial fractions.

Prerequisite: Math. 99 or its equivalent.

MATH. 109. PLANE TRIGONOMETRY—*Three credits* THE STAFF

Trigonometric functions, solutions of triangles, trigonometric identities, inverse functions, trigonometric equations.

Prerequisite: Math. 99 or its equivalent.

MATH. 115. MATHEMATICS OF FINANCE—*Three credits* THE STAFF

Progressions, binomial theorem, logarithms, simple interest, compound interest, equations of value, annuities, sinking funds, amortization, depreciation, capitalized cost.

Prerequisite: Math. 99 or its equivalent.

MATH. 118. INTRODUCTION TO STATISTICS—*Three credits* THE STAFF

Frequency distributions and their graphical representation, measures of central tendency, dispersion, skewness, kurtosis, correlation, elementary curve fitting, use of tables of areas under normal curve.

Prerequisite: Math. 99 or its equivalent.

MATH. 122. ANALYTIC GEOMETRY—*Four credits* THE STAFF

Study of geometric figures by means of coordinate systems, including the general problem of the equation of a locus, straight lines, circles, conic sections, transformation of coordinates, polar coordinates, parametric equations, families of curves, introduction to solid analytic geometry.

Prerequisite: Math. 105, or both Math. 107 and Math. 109.

MATH. 125. CALCULUS I—*Four credits* THE STAFF

Limits, derivatives and differentials, indefinite and definite integrals, differentiation and integration of algebraic functions, applications.

Prerequisite: Math. 122.

MATH. 126. CALCULUS II—*Four credits* THE STAFF

Differentiation and integration of transcendental functions, applications, improper integrals, indeterminate forms, partial derivatives, multiple integrals.

Prerequisite: Math. 125.

MATH 127. TEACHING OF MATHEMATICS IN SECONDARY SCHOOLS  
*Three credits* MR. WASILESKI

Building of a program in secondary mathematics, materials of instruction, aids in teaching, maintenance of interest, testing, informal practice in teaching arithmetic, algebra, plane and solid geometry, trigonometry, and logarithms.

Prerequisite: Math. 125.

MATH. 213. HIGHER ALGEBRA—*Three credits* MR. SALSBURG

Sets, mappings, operations, relations, groups, integral domains, fields; particular illustration of the foregoing by an axiomatic development of the real and complex number systems.

Prerequisite: Math. 125, or permission of instructor.

MATH. 214. LINEAR ALGEBRA—*Three credits* MR. SALSBURG

Vector spaces, linear independence, linear transformations, matrices, determinants, systems of linear equations.

Prerequisite: Math. 213 or permission of instructor.

MATH. 220. COLLEGE GEOMETRY—*Three credits* MR. WASILESKI

Similar figures, systems of circles, circular inversion, triangles, Ptolemy's theorem, circles of antisimilitude, poles and polars, medians, orthocenters, nine-point circle, Desargues' theorem, Pascal's theorem, theorem of Pappus.

Prerequisite: plane geometry.

MATH. 228. MATHEMATICAL STATISTICS I—*Three credits*

MR. WASILESKI

Probability, frequency functions, empirical distributions of one variable, moment generating functions, binomial and Poisson distributions, normal distribution, the null hypothesis, elementary sampling theory.

Prerequisite: Math. 126.

MATH. 229. MATHEMATICAL STATISTICS II—*Three credits*

MR. WASILESKI

Correlation and regression, theoretical distributions of more than one variable, normal surface, goodness of fit, chi-square distribution, testing hypotheses, estimation of parameters, confidence intervals, small samples, student's t-distribution, testing for randomness.

Prerequisite: Math. 228.

MATH. 235. VECTOR ANALYSIS—*Three credits* MR. RICHARDS

Vector algebra, differentiation of vectors, divergence and curl, the operator  $\text{del}$ , curvilinear coordinates, vector fields, applications.

Prerequisite: Math. 126.

## MATH. 240. DIFFERENTIAL EQUATIONS AND INFINITE

SERIES—*Four credits*

THE STAFF

First order equations, linear equations, applications, solution by successive approximation, systems of differential equations, infinite series, power series solution of differential equations.

Prerequisite: Math. 126.

MATH. 251. ADVANCED CALCULUS I—*Three credits*

MR. RICHARDS

Introduction to the theory of functions of real variables. The emphasis in this course and the following one is on proof, by the delta-epsilon technique, of theorems concerning sequences and other functions of one variable. Some time is spent on functions of more than one variable.

Prerequisite: Math. 126.

MATH. 252. ADVANCED CALCULUS II—*Three credits*

MR. RICHARDS

A continuation of Math. 251.

Prerequisite: Math. 251.

MATH. 255. INTRODUCTION TO FUNCTIONS OF A COMPLEX VARIABLE—*Three credits*

THE STAFF

The complex numbers and complex plane. The elementary functions. Continuity and differentiability, the Cauchy-Riemann equations. Cauchy's integral theorem and formulas. Power series.

Prerequisite: Math. 252.

## MUSIC

Professor Lovett, chairman; Associate Professor Gasbarro; Assistant Professors Chapline and Friedmann; Instructors Balshaw, Casselberry, A. Liva, Marcuse.

Liberal Arts students wishing to major in music will follow the program outlined on page 60.

## APPLIED MUSIC

Individual and group instruction is offered at all levels of difficulty to students in piano, pipe organ, voice, and orchestral and band instruments. A series of fifteen lessons a semester and a practical demonstration (examination) before the music faculty are 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 examination is necessary if credit is not desired by the student.

The ability, interest, and progress of students intending to major in music will be evaluated at the end of the sophomore year by the music faculty. Students will be advised before the opening of the following semester if the faculty does not recommend a continuation of the music major.



MUS. 100. INTRODUCTION TO MUSIC—*Three hours*

THE STAFF

An elementary course in the art of enjoying and listening to music. Non-technical, it covers briefly the entire range of music in various forms, styles, and media. Emphasis is placed upon enlarging the musical horizon through the use of a considerable number of illustrations.

MUS. 101-102-103-104. THEORY OF MUSIC—*Five credits each course*

MR. MARCASE

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 are divided between ear training, two hours; solfeggio, two hours; harmony, one hour. The third and fourth semesters are divided between ear training, one hour; solfeggio, one hour; harmony, three hours.

The concentration of all theory into these four courses is in accordance with the method now employed in many of our leading schools of music.

There is no prerequisite for Mus. 101. Students may be admitted to Mus. 102, 103, and 104 by examination.

MUS. 109. HISTORY OF MUSIC—*Three credits*

MR. FRIEDMANN

A detailed study of the history of music from the beginning of civilization to the seventeenth century.

MUS. 110. HISTORY OF MUSIC—*Three credits*

MR. FRIEDMANN

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.

MUSIC 111-112. PIANO CLASS 1 AND 2—*Two credits each semester*

MRS. CASSELBERRY

Class instruction in secondary 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.

MUSIC 113-114. PIANO CLASS 3 AND 4—*Two credits each semester*

MRS. CASSELBERRY

Class instruction in secondary piano in advance of Music 112. 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.

MUS. 121-122-123-124. BAND—*One-half credit each semester*

MR. MARCASE

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.

MUS. 125-126-127-128. CHORUS—*One-half credit each semester*

MR. CHAPLINE

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 vocal and piano music education majors are required to participate in the chorus for four years.

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

MR. GASBARRO

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.

MUSIC 215. INSTRUMENTATION—*Two credits*

MR. GASBARRO

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. 102 or the approval of the Chairman of the Department.

MUSIC 216. ORCHESTRA AND BAND ARRANGING—*Two credits*

MR. GASBARRO

Scoring for the large orchestra or the modern symphonic band. The student may select his field of concentration.

Prerequisite: Mus. 215.

MUS. 217. ANALYSIS—*Two credits* MR. MARCASE

The technique of composition as disclosed by melodic, harmonic, and structural analysis of music in varied styles and from diverse periods.

Prerequisite: Mus. 102 or equivalent as demonstrated by an examination.

MUS. 218. COUNTERPOINT—*Three credits* MR. MARCASE

A study of the sixteenth century art of contrapuntal writing as found in the styles of Palestrina, di Lasso, and Ingegneri.

Prerequisite: Mus. 102.

*Music Education*<sup>1</sup>MUS. ED. 101-102. CLARINET CLASS AND METHODS—*Two credits per semester* MR. GASBARRO

Methods of teaching and instruction in the clarinet for those in the public school music course.

No prerequisite.

MUS. ED. 103-104. BRASS CLASS AND METHODS—*Two credits per semester* MR. MARCASE

A course, usually in trumpet, for students not majoring in the brass field.

No prerequisite.

MUS. ED. 105. WOODWIND CLASS METHODS—*Two credits per semester* MR. GASBARRO

A class conducted as an introduction to the teaching of such woodwinds as clarinet, oboe, flute, and bassoon, with demonstrations of the class teaching of those instruments.

Prerequisite: Mus. Ed. 102.

MUS. ED. 106. BRASS CLASS METHODS—*Two credits* MR. MARCASE

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.

Prerequisite Mus. Ed. 104.

MUS. ED. 107-108. VOICE CLASS AND METHODS—*Two credits per semester* MR. CHAPLINE

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.

<sup>1</sup> There is an instrument rental fee of \$10.00 per semester for music education students.

MUS. ED. 109-110. CONDUCTING AND SCHOOL MUSIC MATERIALS—*Two credits per semester* MR. GASBARRO

The development of an adequate baton technique and the presentation of various kinds of school music material, stressing particularly elementary and high school instrumental materials the first semester and high school choral materials the second semester.

No prerequisite.

MUS. ED. 111-112. VIOLIN CLASS AND METHODS—*Two credits per semester* MR. FRIEDMANN

A class in elementary violin playing as a practical introduction to the technical problems involved in the playing of stringed instruments.

No prerequisite.

MUS. ED. 113-114. STRING INSTRUMENT CLASS METHODS—*Two credits per semester* MR. FRIEDMANN

A class in the playing of the viola, violoncello, and bass as an introduction to the teaching of these instruments and as a demonstration of class teaching.

Prerequisite: Mus. Ed. 112.

MUS. ED. 201. ELEMENTARY SCHOOL MUSIC METHODS—*Two credits* THE STAFF

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.

No prerequisite.

MUS. ED. 202. HIGH SCHOOL MUSIC METHODS—*Two credits* THE STAFF

The course is planned to provide a preparation for teaching the various aspects of music in the high school.

No prerequisite.

MUS. ED. 203-204. OBSERVATION AND PRACTICE TEACHING—*Four credits per semester* THE STAFF

A course in the observation and practice teaching of vocal or instrumental music in the elementary or high schools. Fee: \$10.00 each semester.

MUS. ED. 205. MULTI-SENSORY TECHNIQUES IN THE TEACHING OF MUSIC—*One credit* MR. WEST

A study of the use of multi-sensory aids in the teaching of music in elementary and secondary schools. (Offered in conjunction with Mus. Ed. 203-204.)

## NURSING EDUCATION

Professor Jessee, chairman; Instructors Jackson, Janjigian, Klein, Liggett, M. Riley, Seeherman.

Enrollment in all of the following courses, with the exceptions of N.E. 102 and 104 is limited to graduate nurses.

N.E. 101. FOUNDATIONS OF NURSING—*Two credits* MISS JESSEE  
A general survey of the history of nursing with emphasis upon the religious, social, and educational factors that have stimulated its development.

N.E. 102. TRENDS IN NURSING—*Two credits* MISS JESSEE  
A discussion of present problems in nursing and trends or patterns that emerge in the efforts to solve these problems.

N.E. 104. COMMUNITY RESOURCES—*Two credits* MISS JESSEE  
A survey of the functions and activities of agencies and organizations contributing to the health and social welfare of the citizens of the community.

N.E. 106. SUPERVISION AND ADMINISTRATION—*Two credits* MISS JESSEE  
A discussion of the basic principles of supervision and administration with emphasis upon democratic leadership and the development of constructive interpersonal and interdepartmental relationships.

N.E. 107. PRINCIPLES AND METHODS IN NURSING EDUCATION  
*Two credits* MISS JESSEE  
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: Ed. Psychology.

N.E. 108. MULTI-SENSORY TECHNIQUES IN NURSING EDUCATION  
*One credit* MISS JESSEE  
A study of the use of multi-sensory teaching aids in nursing education.  
Prerequisite: N.E. 107 (may be taken concurrently).

N.E. 112. FIELD EXPERIENCE IN SUPERVISION OR TEACHING  
*Four credits* MISS JESSEE  
Supervised observation and practice in a hospital.  
Prerequisite: Approval of adviser.

N.E. 113 & 114. MEDICAL AND SURGICAL NURSING—*Two credits each semester* MISS LIGGETT  
Advanced study of nursing principles and techniques as applied to the expert nursing care of medical and surgical patients. Offered in two semesters.

N.E. 115. OBSTETRIC NURSING—*Two credits* MRS. SEEHERMAN  
Advanced study of nursing principles and procedures as applied to expert care of the obstetric patient.

N.E. 116. PEDIATRIC NURSING—*Two credits* DR. KLEIN  
Advanced study of nursing principles and procedures as they apply to the effective care of children.

N.E. 117. PSYCHIATRIC NURSING—*Two credits* DR. JANJIGIAN  
Advanced study of nursing principles and procedures as utilized in providing expert care for psychiatric patients.

N.E. 118. PUBLIC HEALTH NURSING—*Two credits* MISS JACKSON  
An introduction to the field of public health nursing, including historical development, organization, functions, and trends.

N.E. 119. PUBLIC SCHOOL NURSING—*Two credits* MISS JACKSON  
A study of the public school health program and the functions of the nurse as an integral part of the health team.

N. E. 120. PROBLEMS OF SCHOOL NURSING—*Two credits* MISS JACKSON  
The identification and discussion of the problems involved in the administration of school health programs.

#### PHILOSOPHY—RELIGION

Professor Vujica, chairman; Instructors Barras, Gilmore, Jacobson.

A major in the combined fields of philosophy and religion consists of twenty-four hours in philosophy and religion. Phil. 100 and Rel. 100 will not count toward the major. Prerequisites are determined by the Chairman on an individual basis.

#### *Philosophy*

PHIL. 100. INTRODUCTION TO PHILOSOPHY—*Three credits* THE STAFF  
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 the existence of God.

PHIL. 103. LOGIC—*Three credits* MR. VUJICA  
Elementary principles and techniques of clear and sound thinking. General rules of inductive and deductive reasoning; recognition of fallacies; the nature of scientific knowledge, its methods, its aims, its presuppositions.

PHIL. 105. ETHICS—*Three credits* THE STAFF

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

PHIL. 204. PHILOSOPHY OF RELIGION—*Three credits* MR. VUJICA

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.

PHIL. 205. AESTHETICS—*Three credits* THE STAFF

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.

PHIL. 206. SOCIAL AND POLITICAL PHILOSOPHIES—*Three credits* THE STAFF

Social and political institutions as seen by such classical critics as Plato, Aristotle, Hobbes, Hume, Burke, Bentham and others. Special attention to analysis of the problems of censorship, relation of church and state, prejudice, aims and methods of democratic institutions.

PHIL. 207. PHILOSOPHIES OF HISTORY—*Three credits* MR. VUJICA

A study of the various interpretations of history. The views of Augustine, Vico, Rousseau, Kant, Hegel, Marx, Comte, Spengler, Schweitzer, Toynbee, Sorokin, Niebuhr and others on the meaning of historical events.

PHIL. 208. THE HISTORY OF PHILOSOPHY—*Three credits* MR. VUJICA

A brief survey of the major historical divisions; a systematic analysis of some of the major figures and a consideration of their relevance to present problems.

*Religion*REL. 100. MAN'S RELIGION—*Three credits* THE STAFF

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.

REL. 201. THE LITERATURE OF THE OLD TESTAMENT—*Three credits* MR. VUJICA

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.

REL. 204. THE LITERATURE OF THE NEW TESTAMENT—*Three credits* MR. VUJICA

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.

## PHYSICAL EDUCATION AND HYGIENE

Associate Professor Reese, chairman; Instructors Saraceno, Schmidt.

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. PHYSICAL EDUCATION<sup>1</sup> THE STAFF

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. 103-104. PHYSICAL EDUCATION THE STAFF

This course is a continuation of P.E. 101 and 102.

P.E. 105-106. PERSONAL HYGIENE—*One credit each semester* THE STAFF

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.

<sup>1</sup>Class instruction in personal hygiene is required of all students, even those excused by physicians from taking physical education.

## PHYSICS

Professor Detwiler, chairman; Professor Hall; Associate Professors Bellas, Ripley; Assistant Professors Bruch, Thomas.

PHYS. 100. PHYSICAL SCIENCE—*Three credits* MR. RIPLEY

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.

PHYS. 101. BASIC PHYSICAL PROBLEMS—*One credit* THE STAFF

An introduction to the proper procedure for problem solution, both mathematical and graphical. Slide rule practice, graphs, and lettering. Practicum 3 hours a week. Fee: \$5.

PHYS. 111-112. INTRODUCTORY PHYSICS—*Four credits each semester* THE STAFF

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.

Prerequisite: Math. 105, or Math. 107, 109, or permission of instructor.

PHYS. 150. GENERAL PHYSICS I—*Four credits* THE STAFF

A thorough grounding in the physical laws of nature. Mechanics. Instruction by demonstration lecture, recitation, and experimental work. Class three hours a week and laboratory three hours a week. Fee \$20.

Prerequisite: Math. 105, or Math. 107, 109.

PHYS. 151. GENERAL PHYSICS I —*Four credits* THE STAFF

Continuation of Phys. 150. Electricity and modern physics. Class three hours a week and laboratory three hours a week. Fee: \$20.

Prerequisite: Phys. 150.

PHYS. 152. GENERAL PHYSICS III—*Four credits* THE STAFF

Continuation of Phys. 150 and 151. Sound, heat, and light. Class three hours a week and laboratory three hours a week. Fee: \$20.

Prerequisite: Phys. 150.

PHYS. 201-202. ELECTRICITY AND MAGNETISM—

*Four credits each semester*

Static and dynamic electricity, magnetism, electromagnetism, thermo-electricity, 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. 151, Math. 240.

PHYS. 211. OPTICS AND LIGHT—*Four credits*

The principles of geometrical and physical optics are considered in considerably greater detail than in the introductory course. Image formation, refraction, diffraction, origin of spectra, polarized light, optical activity, etc. Three hours class and one three-hour laboratory a week. Fee: \$20.

Prerequisites: Phys. 152, Math. 240.

PHYS. 212. THERMODYNAMICS—*Three credits*

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.

Prerequisites: Phys. 151, 152, Math. 252, Math. 240.

PHYS. 221-222 ELECTRONICS—*Three credits each semester*

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.

Prerequisites: Phys. 152, Math. 240.

PHYS. 241-242. ADVANCED LABORATORY—*One or two credits*

Hours to be arranged

Students desiring to undertake laboratory work in topics of their own choosing should consult the department chairman. Lab fee: \$7 per credit hour.

Prerequisites: Phys. 152, Math. 240.

PHYS. 251. ELECTRICAL MEASUREMENTS—*Three credits*

MR. DETWILER

Precision measurement of electrical quantities and their application to the field of chemistry; includes thermal electromotive force, resistance thermometers, photo electromotive force, elementary electronic circuits and their application. Class two hours a week and laboratory three hours a week. Fee: \$20.

Prerequisite: Phys. 151, Math. 126.

PHYS. 261. ATOMIC PHYSICS—*Four credits*

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. 202, Math. 240.

PHYS. 262. NUCLEAR PHYSICS—*Four credits*

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. 261.

PHYS. 271. MODERN PHYSICS—*Three credits*

A further study of the modern concepts of atomic and nuclear physics. Spectra: radioactivity, photo-electricity, X-rays, solids. Intended for students not majoring in physics. Class three hours.

Prerequisite: Phys. 151, 152, and Math. 240.

PHYS. 281. TOPICS IN THEORETICAL PHYSICS—*Three credits*

Selected topics depending upon the interests of the instructor and students. Topics might include advanced mechanics, quantum mechanics, electromagnetic theory, relativity, etc. Class three hours.

Prerequisites: Math. 240, Math. 252.

Corequisites: Atomic Physics 261 or approval of the instructor.

PHYS. 282. TOPICS IN SOLID STATE PHYSICS—*Three credits*

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: Math. 240, Math. 252, and Phys. 261, or approval of the instructor.

## POLITICAL SCIENCE

Professor Mailey, chairman; Associate Professor Kaslas; Instructor Tuhy.

A major in political science consists of twenty-four hours. All courses except P.S. 100 are acceptable toward the major.

P.S. 100. INTRODUCTION TO POLITICAL SCIENCE—*Three credits*

THE STAFF

This course is a broad, comprehensive introduction to political science. All the subdivisions of political science are presented simply and

clearly and the interrelationships of these subdivisions are shown. These commonly recognized fields of political science are covered: Political theory, American government, comparative governments, public administration, political parties, pressure groups, public opinion, propaganda, international politics, international law, legal systems.

## P.S. 200. AMERICAN NATIONAL GOVERNMENT STAFF

A Study of the National Government of the United States presenting the historical background for each major policy area, the broad outlines of existing programs, the interest groups and organizations most immediately concerned, the values that are in conflict, and the interrelations between process and policy.

Prerequisite: P.S. 100.

## P.S. 201. CONSTITUTIONAL LAW MR. TUHY

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. 100.

## P.S. 202. CONSTITUTIONAL LAW MR. MAILEY

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. 100.

P.S. 203. POLITICS AND POLITICAL PARTIES—*Three credits* MR. MAILEY

A course intended to analyze the movements of political parties, elections, and the various methods used to gain control.

Prerequisite: P.S. 100.

P.S. 204. PUBLIC OPINION AND PROPAGANDA—*Three credits*

MR. MAILEY

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. 100 and Soc. 100.

P.S. 205. STATE GOVERNMENT—*Three credits* MR. TUHY

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. 100.

P.S. 206. MUNICIPAL GOVERNMENT—*Three credits* MR. MAILEY

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. 100.

P.S. 207. PUBLIC ADMINISTRATION—*Three credits* MR. TUHY

A study of the organization, activity, problems, and the recruitment policy of the public service.

Prerequisite: P.S. 100.

P.S. 208. LABOR LEGISLATION—*Three credits* MR. MAILEY

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. 100.

P.S. 209. SOCIAL LEGISLATION—*Three credits* MR. MAILEY

A course dealing with the broad, humanitarian, social legislation of recent years which is generally labeled social insurance: unemployment compensation, workmen's compensation, and social security.

Prerequisite: P.S. 100.

P.S. 221. INTERNATIONAL LAW—*Three credits* MR. KASLAS

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. 100.

Desideratum: United States and European history.

P.S. 222. INTERNATIONAL POLITICS—*Three credits* MR. KASLAS

A broad, general course which aims to present many of the factors that condition the foreign policies of nations.

Prerequisite: P.S. 100.

Desideratum: Some knowledge of history, governments, and geography.

P.S. 223. CABINET SYSTEMS OF GOVERNMENT—*Three credits*

MR. KASLAS

A study of the European versions of democratic government beginning with Great Britain and considering the variations from the British system of government found on the continent.

Prerequisite: P.S. 100.

P.S. 224. SOVIET SYSTEM OF GOVERNMENT—*Three credits*

MR. KASLAS

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. 100.

## PSYCHOLOGY

Professor R. Riley, chairman; Assistant Professor Zellner; Instructors Kanner, Krasno.

A major in psychology consists of twenty-four hours. Psychology 100 is not accepted toward a major; Sociology 255 is accepted.

The Department requires that psychology majors take one year of a laboratory science; they may elect biology, chemistry, or physics and substitute this for either Biology 100 or Physics 100. Students planning to take graduate work in psychology should study either French or German in order to meet graduate school requirements.

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.

PSY. 100. GENERAL PSYCHOLOGY—*Three credits* THE STAFF

An introduction to the study of human behavior. The emphasis is on the study of the individual and his reactions to other individuals and to his environment. An attempt is made to equip the student with certain general psychological principles and to encourage the acquisition of a technical vocabulary.

PSY. 201. ADVANCED GENERAL PSYCHOLOGY—*Three credits* THE STAFF

A more detailed study of some of the topics treated only superficially in the introductory course. More attention is given to such subjects as

learning, perception, emotions, etc. (Offered in alternate years.)

Prerequisite: Psy. 100.

PSY. 203-204. EXPERIMENTAL PSYCHOLOGY—*Three credits each semester* THE STAFF

A lecture and laboratory course designed to familiarize the student with the methods and the results of modern psychological research. The course includes a study of several of the famous experiments in the field of psychology. Also included is practice with the older as well as the more recent methods of experimental research. (Offered in alternate years.)

Prerequisite: Psy. 100.

PSY. 206. APPLIED PSYCHOLOGY—*Three credits* THE STAFF

A survey of significant contributions to individual differences. Methods of evaluating and measuring these differences; their significance to the individual, the home, the school, and to vocational and community life.

Prerequisite: Psy. 100.

PSY. 207. CHILD PSYCHOLOGY—*Three credits* THE STAFF

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. 100.

PSY. 208. HUMAN BEHAVIOR—*Three credits* THE STAFF

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. 100.

PSY. 212. PSYCHOLOGICAL TESTS—*Three credits* THE STAFF

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. 251 and Psy. 255.

Prerequisite: Psy. 100.

PSY. 251. INDUSTRIAL PSYCHOLOGY—*Three credits* THE STAFF

An introduction to the industrial application of psychology in the selection, classification, and training of employees; reduction of monot-

ony and fatigue; the maladjusted worker; accident prevention; work conditions; and employee motivation and morale.

Prerequisite: Psy. 212.

PSY. 254. SYSTEMATIC PSYCHOLOGY—*Three credits* THE STAFF

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. (Offered in alternate years.)

Prerequisite: Psy. 100 and one other course in psychology.

PSY. 255. CLINICAL PSYCHOLOGY—*Three credits* THE STAFF

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. (Offered in alternate years.)

Prerequisite: Psy. 212.

PSY. 257. ABNORMAL PSYCHOLOGY—*Three credits* THE STAFF

A general survey of the principal forms of mental abnormalities, with emphasis on causes, symptoms, course, and treatment. (Offered in alternate years.)

Prerequisite: Psy. 207, 208 and permission of head of department.

PSY. 271-272. RESEARCH IN PSYCHOLOGY—*Three credits each semester.*

THE STAFF

An opportunity to conduct individual research projects under supervision. (*Open to psychology majors only.*)

Prerequisite: permission of head of department.

### RETAILING

Professor Rosenberg, chairman; Instructor A. Miller.

RET. 101. PRINCIPLES OF RETAILING—*Three credits* THE STAFF

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.

RET. 210. ELEMENTS OF MERCHANDISE—*Three credits* THE STAFF

Merchandise information; fibers and fabrics; history, production, manufacturing process from fiber to finished fabric; textile terminology, trade names. Identification, testing of fibers; care of fabrics; new developments. Study of natural, industrial and synthetic materials.



RET. 211. MERCHANDISE INFORMATION—*Three credits* THE STAFF

Materials, other than textiles, used in the creation of merchandise are covered through the study of raw materials. Categories of merchandise covered include: leather goods, such as shoes, gloves, handbags, and luggage; floor coverings; glass, pottery, and china; and furniture.

RET. 212. PURCHASES AND MERCHANDISING CONTROL—*Three credits*  
THE STAFF

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.

RET. 214. RETAIL BUYING—*Three credits* THE STAFF

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

Prerequisite: approval of instructor.

RET. 220. ORGANIZATION AND OPERATION OF THE SMALL STORE  
*Two credits* THE STAFF

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.

RET. 224. RECENT TRENDS AND DEVELOPMENTS IN RETAILING  
*Three credits* THE STAFF

Review of fundamentals; trends in retailing; study of developments in cooperation with retail store executives. Laboratory work; reports on trends and developments.

RET. 225. RETAIL PRACTICE—*Three credits* THE STAFF

Required of all retailing majors in the seventh semester. In co-operation 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.

## SECRETARIAL STUDIES

Professor Rosenberg, chairman; Assistant Professors Gera, Hoover.

Students majoring in secretarial studies are required to take a sequence of twenty-four credits outside the Department of Secretarial Studies. It is advisable to decide upon this sequence not later than the sophomore year. The remainder of the electives may be divided between commerce and finance and liberal arts courses according to the interests and vocational objectives of each student.

S.S. 105-106. ELEMENTARY SHORTHAND—*Two credits each semester*  
MR. GERA, MR. HOOVER

Development of reading and writing skill in basic Gregg Shorthand Simplified and review of simple English essentials that are necessary in transcription; completion of basic theory.

Second semester: Review of Gregg Shorthand Simplified with emphasis on fluency and legibility; development of speed and accuracy in the application of shorthand; pre-transcription training; development of desirable traits and work habits. Four hours each week. One hour lecture, three hours laboratory.

S.S. 107-108. ELEMENTARY TYPEWRITING—*Two credits each semester*  
MR. GERA, MR. HOOVER

Presentation and mastery of the keyboard and operating parts of the typewriter; stroking techniques and control emphasized. Development of skill in typewriting; application of skill to letter writing, envelopes and cards, tabulation problems, copying from rough draft, manuscript writing; study of form and style.

Four hours each week. One hour lecture and three hours laboratory. Required laboratory fee: \$10 each course. Minimum passing requirement: 50 words net per minute.

S.S. 201-202. ADVANCED TYPEWRITING—*One credit each semester*

MR. GERA

Development of greater speed and accuracy in typewriting; review of form and style in typewritten material; advanced application of typewriting skills; production typing; accuracy, speed and job techniques emphasized; development of desirable work habits and attitudes. Three hours laboratory.

Required laboratory fee: \$10 each course.

Prerequisite: S.S. 108 or equivalent and net typing rate of 50 words per minute.

S.S. 205. OFFICE PROCEDURES AND MACHINES—*Four credits*

MR. GERA

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, namely, adding, calculating, dictating and transcribing, duplicating, photocopying, accounting, integrated data processing. Eight hours each week. Two hours lecture, six hours laboratory.

Required laboratory fee: \$10.

Prerequisite: approval of instructor.

S.S. 207-208. ADVANCED SHORTHAND—*Three credits each semester*

MR. GERA

Review and strengthen knowledge of the principles of Gregg Shorthand Simplified; build shorthand—writing skill and speed in taking dictation with great emphasis placed on the development of transcription skill; development of desirable work habits and attitudes. Five hours each week. Two hours lecture, three hours laboratory.

Required laboratory fee: \$10 for each course.

Prerequisite: S.S. 106 or equivalent and net typing of 50 words a minute.

## S.S. 243. PRINCIPLES AND METHODS OF BUSINESS EDUCATION—

*Three Credits*

MR. HOOVER

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.

## SOCIOLOGY AND ANTHROPOLOGY

Professor Mailey, acting chairman; Instructors Bloomburg, L. Mui.

A major in sociology consists of twenty-four hours. Although Soc. 100 is prerequisite to all the courses in sociology, it is not accepted toward a major in sociology. P.S. 204 and Phil. 206 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 should ordinarily include the following four courses: Soc. 230, 255, 265, and 280. With the approval of the Department Chairman, however, other courses may in some instances be substituted.

SOC. 100. INTRODUCTION TO SOCIOLOGY—*Three credits* THE STAFF

A systematic view of sociology, providing essentials for an intelligent approach to questions about man in society and for specialized study of sociological problems.

SOC. 200. MARRIAGE AND THE FAMILY—*Three credits* THE STAFF

The development of marriage and the family in ethnological and historical perspective. Family disorganization and problems of adjustment to modern conditions. Psychological aspects of marriage. Factors responsible for marital success or failure.

Prerequisite: Soc. 100 or permission of the instructor.

SOC. 212. SOCIOLOGY OF INDUSTRY—*Three credits* MRS. MUI

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. 100 and Ec. 100, or permission of the instructor.

SOC. 215. SOCIOLOGY OF URBAN LIFE—*Three credits* MRS. MUI

The development of modern cities; effects of urban life upon social organization and personality patterns; major social problems of the cities.

Prerequisite: Soc. 100.

SOC. 230 SOCIAL PROBLEMS—*Three credits* MRS. MUI

A survey of most pressing contemporary social problems and an examination of current theories of social disorganization.

Prerequisite: Soc. 100.

SOC. 235. CRIMINOLOGY—*Three credits* MRS. MUI

Crime and the criminal are considered with reference to individual and environmental factors in crime causation. An analysis of theories of crime and punishment; statistics on crime; police methods; prisons; scientific objectives of the new penology.

Prerequisite: Soc. 230, or permission of the instructor.

SOC. 245. FIELDS OF SOCIAL WORK—*Three credits* THE STAFF

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. 100 and Psy. 100.

SOC. 255. INTRODUCTION TO SOCIAL PSYCHOLOGY—*Three credits* MRS. MUI

A general survey of the field of social psychology. Social factors in human nature; psychology of individual differences; social interaction; collective behavior, psychology of personality; social pathology.

Prerequisite: Soc. 100 and Psy. 100.

SOC. 260. CULTURE, SOCIETY, AND PERSONALITY—*Three credits* THE STAFF

A study of the influences on personality that derive from group and cultural sources. Comparative study of personality formation under different cultural conditions. Analysis of social factors related to personality disorganization and reorganization.

Prerequisite: Soc. 255 or Soc. 265.

SOC. 265. INTRODUCTION TO ANTHROPOLOGY—*Three credits* THE STAFF

A general survey of the field of anthropology stressing its cultural aspects. Human origins and evolution; the modern races; culture: its development, nature and characteristics, contemporary non-literature societies and their institutions.

Prerequisite: Soc. 100.

SOC. 270. PEOPLES AND CULTURES OF THE WORLD—*Three credits* THE STAFF

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. 100.

SOC. 275. GROUP RELATIONS IN THE MODERN WORLD—*Three credits* THE STAFF

A theoretical analysis of inter-group tensions and processes of adjustment with special reference to modern racial, national, and religious conflicts.

Prerequisite: Soc. 100 and Psy. 100.

SOC. 280. MODERN SOCIOLOGY AND ITS HISTORICAL BACKGROUND—*Three credits* MRS. MUI

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. 100 and two other courses in sociology or permission of the instructor.

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The Department of Chemistry is one of the oldest and largest departments in the college. It is equipped with a complete laboratory and a well-stocked library. The department is headed by Professor J. H. ...

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ALICE PHILIPP	<i>Secretary to the Director of Evening Division</i>
MILDRED MARINI	<i>Secretary to the Director of Placement</i>
JOAN DARLING	<i>Secretary to the Director of Development</i>
BARBARA FRITZ	<i>Secretary to the Director of Public Relations</i>
JOHANNA BOROWSKI	<i>Secretary to Assistant to Dean of Men</i>
JUDITH JONES	<i>Secretary to the Registrar</i>
JOAN THOMAS	<i>Cashier</i>
JULE COOK	<i>Accounts Payable Bookkeeper</i>
HILMA NORDSTROM	<i>Accounts Receivable Bookkeeper</i>
MARGARET BARTECK	<i>Switchboard Operator</i>
RUTHELLEN HAMMOND	<i>Assistant Recorder</i>
ETHEL PETERS	<i>Registrar's Office</i>
FELICIA PERLICK	<i>Secretary, Alumni Office</i>
HELEN MORGAN	<i>Admissions Secretary</i>
MILDRED GITTINS	<i>Manager of the Bookstore</i>
WILLIAM JERVIS	<i>Superintendent of Buildings and Grounds</i>

JANET L. LANGDON, *Head Resident, Catlin Hall*  
 ETHEL STARK, *Head Resident, Chapman Hall*  
 FANNIE F. KEITHAN, *Head Resident, McClintock Hall*  
 EDITH ROBINSON, *Head Resident, Slocum Hall*  
 MARY CRAWFORD, *Head Resident, Sterling Hall*  
 AGNES SILVANY, *Head Resident, Sturdevant Hall*  
 HELEN O'BRIEN, *Head Resident, Weckesser Hall*  
 HARRIET THOMAS, *Head Resident, Weiss Hall*

## Faculty

Name	Department	Position
EUGENE S. FARLEY B.S. (Pennsylvania State) M.A., Ph.D. (Pennsylvania)	Administration	President
ALFRED W. BASTRESS B.S., M.S. (Pennsylvania State) Ph.D. (Yale)	Chemistry	Professor
CHARLES B. REIF B.A., M.A., Ph.D. (Minnesota)	Biology	Professor
HAROLD W. THATCHER B.A., M.A., (Columbia) Ph.D. (Chicago)	History	Professor
SAMUEL A. ROSENBERG B.A., M.B.A. (Boston University) Ph.D. (North Carolina)	Economics	Professor
HUGO V. MAILEY B.S. (West Chester State) M.A., Ph.D. (Pennsylvania)	Political Science	Professor
EUGENE L. HAMMER B.S. (Wheaton) M.A. (Northwestern) Ed. D. (Columbia)	Education	Professor
FRANK J. J. DAVIES B.A., M.A., Ph.D. (Yale)	English	Professor
VORIS B. HALL B.S., M.S. (Bucknell) M.A. (Columbia)	Physics and Engineering	Professor
STANKO M. VUJICA B.S. (Zagreb) M.A. (Innsbruck) Ph.D. (Zagreb)	Philosophy and Religion	Professor
RUTH W. JESSEE B.S., M.A. (Columbia) Ed. D. (Pennsylvania)	Nursing Education	Professor
DANIEL P. DETWILER B.A. (Swarthmore) M.S., Ph.D. (Yale)	Physics	Professor
WILLIAM L. EDGERTON B.A., M.A., Ph.D. (Pennsylvania)	English	Professor

## FACULTY — Page 155

ROBERT E. LOVETT B.S. (Ithaca) M.S. (Columbia)	Music	Professor
FRANCIS J. MICHELINI B.A. (Seton Hall) M.S. (Delaware) Ph.D. (Pennsylvania)	Biology	Professor
ROBERT C. RILEY B.A. (Bucknell) Ph.D. (Pennsylvania State)	Psychology	Professor
SHELDON G. COHEN B.A. (Ohio State) M.D. (New York)	Biological Research	Professor
ELWOOD DISQUE B.A. (Dickinson)	Foreign Language	Associate Professor
HOH-CHEUNG MUI B.A. (Lingnan) M.A., Ph.D. (Columbia)	History	Associate Professor
SYLVIA DWORSKI B.A. (Connecticut College) M.A., Ph.D. (Yale)	Foreign Language	Associate Professor
THOMAS R. RICHARDS B.S. (Pennsylvania State) M.S. (Bucknell)	Mathematics	Associate Professor
NADA K. VUJICA B.A., M.A. (Zagreb) M.A. in L.S. (Marywood)	Library	Associate Professor
BRONIS KASLAS LL.B. (Kaunas, Lithuania) M.A., Ph.D. (Strasbourg)	History	Associate Professor
YOU-KENG CHIANG B.A. (Central) M.A., Ph.D. (Chicago)	Economics	Associate Professor
PHILIP L. RIZZO B.A., M.A., Ph.D. (Pennsylvania)	English	Associate Professor
JULIEN A. RIPLEY B.A. (Yale) M.A. (Harvard) Ph.D. (Virginia)	Physics	Associate Professor
FREDERIC E. BELLAS B.S., M.S., Ph.D. (Pennsylvania State)	Physics	Associate Professor

CEES J. FRIJTERS Drs. L.G. (Nijmegen, Holland)	Foreign Language	Associate Professor
JOHN V. HULSER B.S. (New Haven) M.A. (Yale-New Haven Plan) Ph.D. (Connecticut)	Education	Associate Professor
JOHN G. REESE B.S., M.Ed. (Pennsylvania State)	Physical Education	Associate Professor
BOYD L. EARL B.S. (Wilkes) M.S. (Bucknell)	Mathematics	Associate Professor
CHESTER E. COLSON B.S. (Massachusetts School of Art) M.A. (Columbia)	Art Education	Associate Professor
WILLIAM R. GASBARRO B.S. (Juilliard) M.A. (Columbia)	Music Education	Associate Professor
CATHERINE H. BONE B.S., M.S. (Pennsylvania State)	Chemistry	Assistant Professor
STANLEY H. WASILESKI B.S. (Pittsburgh) M.S. (Bucknell)	Mathematics	Assistant Professor
EDWARD N. HELTZEL B.S. (Gettysburg) M.S. (Bucknell)	Engineering	Assistant Professor
WELTON G. FARRAR B.S., M.S. (Pennsylvania)	Economics	Assistant Professor
GEORGE F. ELLIOT B.A. (Montclair State) M.A. (Clark)	Economics	Assistant Professor
FRANCIS J. SALLEY B.S. (St. Joseph's) M.S. (Pennsylvania)	Chemistry	Assistant Professor
ALFRED S. GROH B.A. (Syracuse) M.A. (Columbia)	English	Assistant Professor
ROBERT E. WERNER B.A. (Roosevelt) M.S. (Wisconsin)	Economics	Assistant Professor
E. SHELDON CURTIS B.S.C. (Washington and Lee)	Accounting	Assistant Professor

CROMWELL E. THOMAS B.S. (Washington and Lee)	Engineering	Assistant Professor
PAUL R. WERNER B.S. (Susquehanna) M.A. (New York)	Accounting	Assistant Professor
GEORGE F. ERMEL B.A. (Wilkes) M.S. in L.S. (Syracuse)	Library	Assistant Professor
T. LEONARD CONNOLLY B.A. (Pennsylvania) M.A. (New York)	History	Assistant Professor
ARTHUR J. HOOVER B.S. (Wilkes) M. Ed. (Pennsylvania State)	Business Education	Assistant Professor
GEORGE GERA B.S. (Bloomsburg) M.A. (Columbia)	Business Education	Assistant Professor
HOWARD A. SWAIN, JR. B.S. (Grove City) Ph.D. (Pennsylvania)	Chemistry	Assistant Professor
BERNICE LEAGUS B.S. (Bucknell) M.S., Ph.D. (Pennsylvania State)	Biology	Assistant Professor
ROBERT DEYOUNG B.S. (Rhode Island) M.A. (Columbia)	Economics	Assistant Professor
ROBERT S. CAPIN B.S. (Wilkes) C.P.A. (Pennsylvania)	Accounting	Assistant Professor
RALPH B. ROZELLE B.S. (Wilkes) Ph.D. (Alfred)	Chemistry	Assistant Professor
ALVAN BRUCH B.S. (Chicago) M.S., Ph.D. (New York)	Physics	Assistant Professor
ROBERT W. SOEDER B.S. (Ursinus) M.S., Ph.D. (Delaware)	Chemistry	Assistant Professor
CHARLOTTE V. LORD B.S. (New York) M.A. English (Bucknell) M.A. Italian (Middlebury)	English	Assistant Professor



ROBERT A. WEST B.A. (Bucknell) M.A. (Columbia)	Education	Assistant Professor
HARRY GERSHENOWITZ B.A., M.S. (Long Island) B.S. in Pharmacy (St. John's)	Biology	Assistant Professor
JAMES G. DECOSMO B.S. (West Chester) M.S. (Adelphi)	Mathematics	Assistant Professor
DONALD K. ZELLNER B.A. (Hamilton)	Psychology	Assistant Professor
DONALD E. MARCASE B.M., M.M. (Cincinnati Conservatory of Music)	Music	Assistant Professor
MARTIN FRIEDMANN B.S., M.S. (Juilliard)	Music	Assistant Professor
RICHARD B. CHAPLINE B.S., M.S. (Juilliard)	Music	Assistant Professor
STANLEY S. GUTIN B.A., M.A. (Maryland)	English	Assistant Professor
JOSEPH H. KANNER B.A. (Bucknell) M.A. (New School for Social Research)	Psychology	Instructor
LORNA HOLBROOK MUI B.A., M.A. (Columbia)	Sociology	Instructor
RUTH T. ROBERTS B.A. (Goucher)	English	Instructor
BENJAMIN F. FIESTER, JR. B.A. (Wilkes) M.A. (Bucknell)	English	Instructor
THEODORE L. KROHN B.A. (Wilkes) LL.B. (Dickinson)	Business Admin.	Instructor
ROBERT J. MILLER B.A. (Wilkes) M.A. (Columbia)	English	Instructor
JOSEPH H. SALSBERG B.A. (Bucknell) M.A. (Columbia)	Mathematics	Instructor
YOUNSU KOO B.S. (Swarthmore) M.S. in C.E. (Illinois)	Engineering	Instructor

ANNE V. KISH B.A. (Wilkes)	English	Instructor
DORIS B. SARACINO B.S. (Stroudsburg)	Physical Education	Instructor
PHILIP TUHY B.A. (Valparaiso) M.G.A. (Pennsylvania)	Political Science	Instructor
DORIS SCHWARZCHILD B.A. (Connecticut)	English	Instructor
DALE ALLAN BUEHLER B.A. (Franklin and Marshall) M.S. in L.S. (Drexel Institute of Technology)	Library	Instructor
ROLAND C. SCHMIDT, JR. B.S. (Bloomsburg) M.S. (Scranton)	Physical Education	Instructor
DOROTHY MALLOY B.A. (Misericordia) M.S. in L.S. (Marywood)	Library	Instructor
J. PHILIP RICHARDS B.F.A. (Syracuse)	Art Education	Instructor
MATILDE MANSILLA Doctorado (Madrid)	Foreign Language	Instructor
GORDON E. ROBERTS B.A. (Wilkes)	English	Instructor
STEPHEN W. SCHWARTZ B.A. (Wilkes)	English	Instructor

## Part-Time Faculty

CLIFFORD E. BALSHAW F.A.G.O. (Guilmant Organ School)	Music	Instructor
ABRAHAM D. BARRAS B.A. (Columbia) B. Rel. Ed., M.H.L., D.H.L. (Jewish Theo. Seminary)	Religion	Instructor
CLAYTON A. BLOOMBURG B.A. (Bucknell)	Sociology	Instructor

JOSEPH CARDONE B.S. (Wilkes)	Secretarial Studies	<i>Instructor</i>
CHARLES L. CASPER Ph.B. (Yale) LL.B. (Harvard)	Business Admin.	<i>Instructor</i>
MARJORIE CASSELBERRY B.M. (Yale Univ. School of Music)	Music	<i>Instructor</i>
THEODORE EVANS A.B., LL.B. (Pennsylvania)	Political Science	<i>Instructor</i>
JOHN GILMORE B.A. (Temple) B.D. (Theological Seminary of Reformed Episcopal Church)	Religion	<i>Instructor</i>
EDGAR W. HUGHES, JR. B.A. (Lafayette) M.A. (Scranton)	History	<i>Instructor</i>
BENJAMIN JACOBSON B.A. (Augustana) B.D. (Union Theo. Sem.)	Religion	<i>Instructor</i>
MARY KERR B.A. (Wellesley) M.A. (Rochester)	English	<i>Instructor</i>
PAUL KLEIN B.S. (Wilkes)	Mathematics	<i>Instructor</i>
ISIDORE KRASNO B.S., M.S. (Rutgers) Ph.D. (Pennsylvania)	Psychology	<i>Instructor</i>
LUCY LIGGETT B.S. (Wilkes)	Nursing Ed.	<i>Instructor</i>
ANNE C. LIVA (Juilliard School of Music)	Music	<i>Instructor</i>
CLINTON LONG B.S. (Pennsylvania)	Retail Mdse.	<i>Instructor</i>
BETTY B. MAY B.S., M.E. (Purdue)	Mathematics	<i>Instructor</i>
GOLDYE MEYER B.S. (Wilkes)	Chemistry	<i>Instructor</i>
HAROLD MILLER B.S. (Scranton)	Retail Mdse.	<i>Instructor</i>

ABRAM P. MORGAN B.S. (East Stroudsburg) M.S. (Bucknell)	Mathematics	<i>Instructor</i>
MARITA S. RILEY B.A. (Wilkes)	Nursing Ed.	<i>Instructor</i>
SARAH SCHONWETTER B.S. (Temple)	Biology	<i>Instructor</i>
ROBERT SLATER B.B.A. (Long Island) LL.B. (New York)	Business Admin.	<i>Instructor</i>
ALLAN STRASSMAN B.S. (Wilkes) C.P.A. (Pennsylvania)	Accounting	<i>Instructor</i>
CASIMIR TYBURSKI B.A. (Delaware)	English	<i>Instructor</i>
HARRY F. WELSH B.S. (Wilkes)	Political Science	<i>Instructor</i>

## Faculty Committees

The following are the Faculty Committee assignments made for the academic year 1963-1964:

### Academic Standing Committee

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FRANCIS J. MICHELINI  
CHARLES B. REIF  
JOHN P. WHITBY

GEORGE F. RALSTON, *Chairman*  
MARGARET M. AHLBORN  
ROBERT S. CAPIN  
STANLEY S. GUTIN  
EUGENE L. HAMMER  
FRANCIS J. MICHELINI  
STANKO VUJICA

### Library Committee

ROBERT E. WERNER, *Chairman*  
FREDERIC E. BELLAS  
CHESTER COLSON  
ELWOOD DISQUE  
ROBERT E. LOVETT  
JULIEN A. RIPLEY  
PHILIP L. RIZZO  
NADA VUJICA

### Admissions Committee

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MARGARET M. AHLBORN  
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WELTON G. FARRAR  
GEORGE F. RALSTON  
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### Scholarship Committee

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ARTHUR J. HOOVER  
GEORGE F. RALSTON

### Athletic Committee

HAROLD W. THATCHER, *Chairman*  
EUGENE L. HAMMER  
ARTHUR J. HOOVER  
GEORGE F. RALSTON  
JOHN G. REESE  
THOMAS R. RICHARDS

### Calendar Committee

HUGO V. MAILEY, *Chairman*  
FRANCIS J. MICHELINI  
JOHN P. WHITBY

### Curriculum Committee

ROBERT C. RILEY, *Chairman*  
ALFRED W. BASTRESS  
DANIEL P. DETWILER  
WILLIAM R. GASBARRO  
EUGENE L. HAMMER  
HUGO V. MAILEY  
FRANCIS J. MICHELINI, *Ex-officio*  
CHARLES B. REIF  
SAMUEL A. ROSENBERG  
BRONIS J. KASLAS  
STANKO VUJICA  
STANLEY H. WASILESKI

### Graduation Committee

GEORGE F. RALSTON, *Chairman*  
MARGARET M. AHLBORN  
ELWOOD DISQUE

### Student Activities and Planning

ARTHUR J. HOOVER, *Chairman*  
MARGARET M. AHLBORN  
WILLIAM R. GASBARRO  
GEORGE F. RALSTON  
JOHN G. REESE

### Student Publications Committee

ALFRED S. GROH, *Chairman*  
PHILIP L. RIZZO  
GORDON ROBERTS  
FRANCIS J. SALLEY

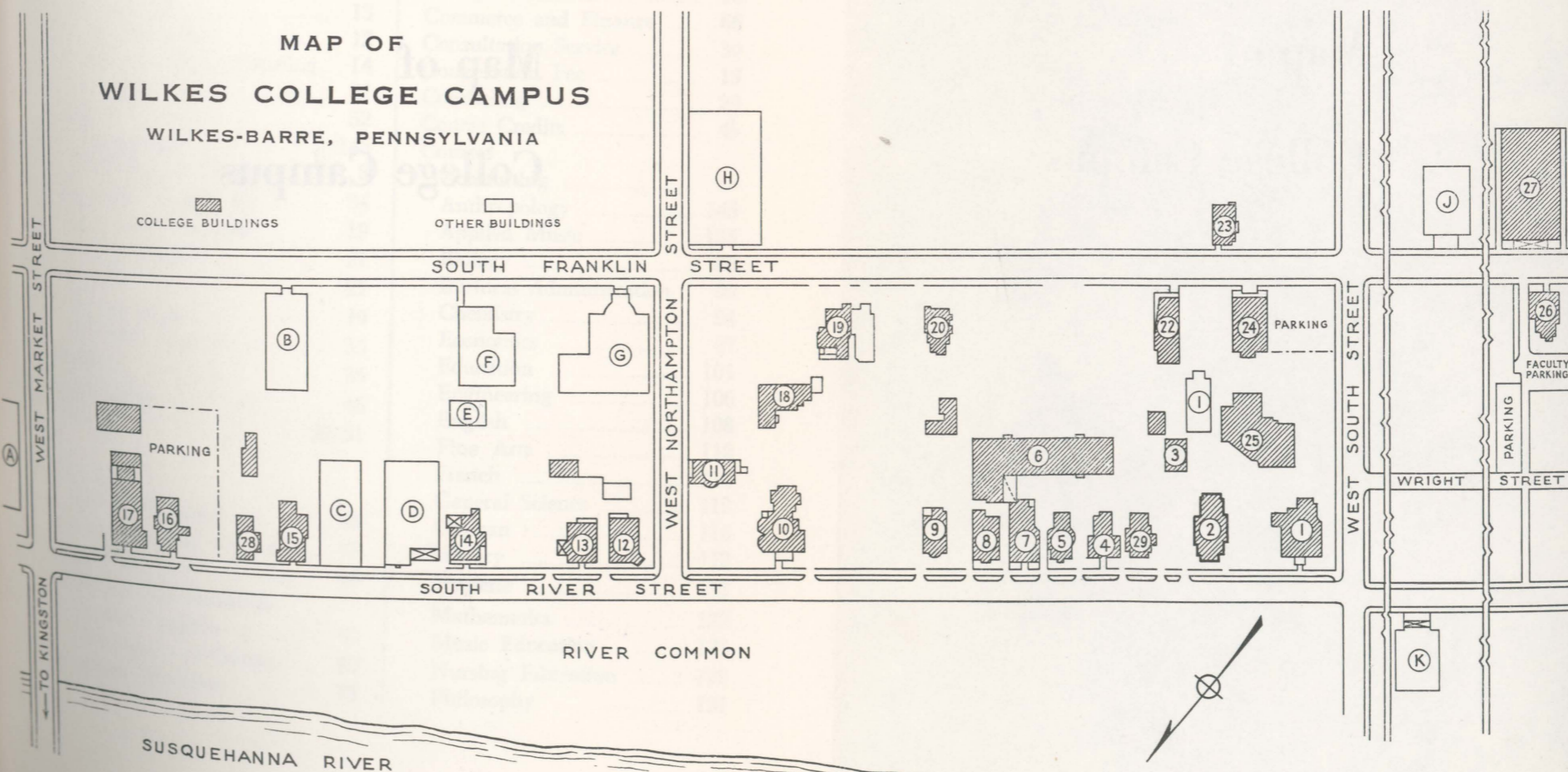
### Faculty-Trustee Committee on Academic Freedom

FRANK J. J. DAVIES  
EUGENE L. HAMMER

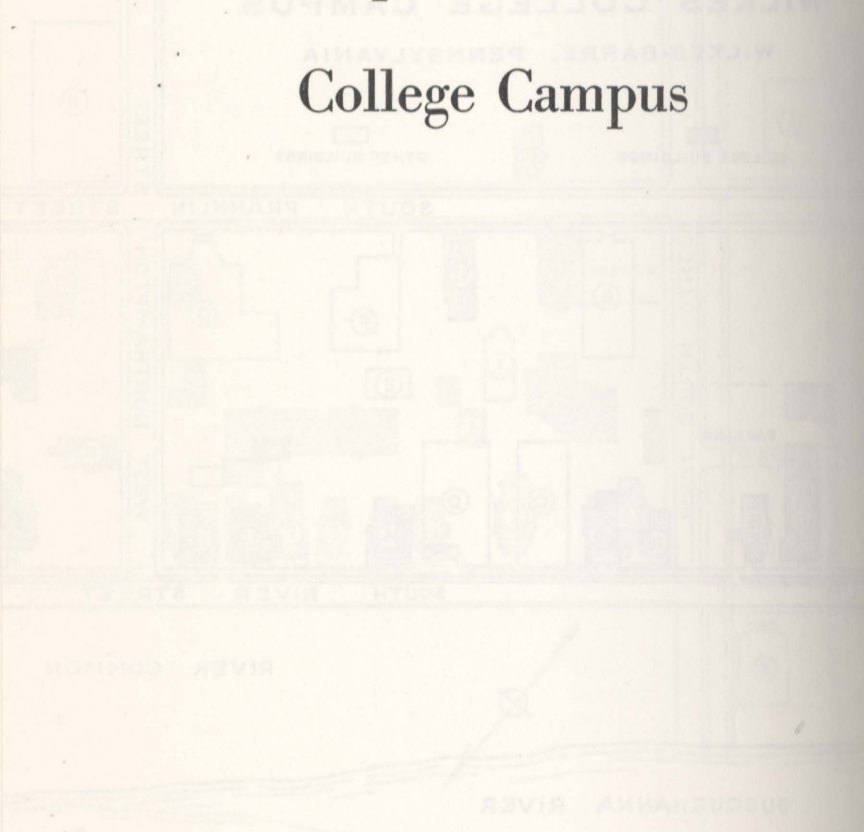
*Ex Officio* on all Committees except committees on academic freedom—EUGENE S. FARLEY

## Key to Campus Buildings

- |                              |                          |                       |                                   |
|------------------------------|--------------------------|-----------------------|-----------------------------------|
| 1. Kirby Hall—Library        | 11. Weckesser Hall       | 22. Pickering Hall    | A. Hotel Sterling                 |
| 2. Chase Hall—Administration | 12. Weiss Hall           | 23. Hollenback Hall   | B. St. Stephen's Episcopal Church |
| 3. Chase Theater             | 13. George Catlin Hall   | 24. Gies Hall         | C. First Baptist Church           |
| 4. Warner Hall               | 14. Sterling Hall        | 25. College Commons   | D. Jewish Community Center        |
| 5. Ashley Hall               | 15. McClintock Hall      | 26. Obadiah Gore Hall | E. Historical Society             |
| 6. Stark Hall                | 16. Isaac Chapman Hall   | 27. Gymnasium         | F. Osterhout Library              |
| 7. Butler Hall               | 17. Charles Parrish Hall | 28. Guidance Center   | G. First Presbyterian Church      |
| 8. Barre Hall                | 18. Conyngham Annex—Art  | 29. 180 South River   | H. Central Y. M. C. A.            |
| 9. President's House         | 19. Sturdevant Hall      |                       | I. Christian Science Church       |
| 10. Conyngham Hall           | 20. Harding Hall         |                       | J. Ohav Zedek                     |
|                              |                          |                       | K. Temple Israel                  |



## Map of College Campus



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Wilkes College Library

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