# Ursinus College Catalogue for the One Hundred and Third Academic Year, 1972-1973 

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# ursinus college 



## bulletin

catalog volume 70 - number 1

Ursinus College is located in Collegeville, a borough in Montgomery County, Pennsylvania, twenty-five miles northwest of Philadelphia and just a few miles from the Norristown and Valley Forge exits of the Pennsylvania Turnpike. U.S. Route 422 and Pennsylvania State Highway 29 intersect at Collegeville.

Vol. LXX
No. 1

## URSINUS COLLEGE BULLETIN

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# THE <br> URSINUS COLLEGE BULLETIN 

## 1972-1973

CATALOG
NUMBER
For The
ONE HUNDRED AND THIRD
ACADEMIC
YEAR
1972-1973

COLLEGEVILLE
PENNSYLVANIA
19426
JANUARY 1972

## CORRESPONDENCE WITH URSINUS COLLEGE

Communications with the College should be addressed to the appropriate administrative officer.

## GENERAL COLLEGE MATTERS

The President

## DEVELOPMENT

Vice President for Administrative Affairs, Director of Development

## PUBLICITY, PUBLICATIONS

Director of Alumni Affairs
ACADEMIC STANDING OF STUDENTS AND REQUESTS FOR TRANSCRIPTS The Dean of the College

## ADMISSIONS

The Dean of Admissions

## FINANCIAL AID

The Financial Aid Officer

## EVENING SCHOOL, SUMMER SCHOOL

The Director of the Evening School, Summer School

## PAYMENT OF BILLS

The Treasurer's Office

## STUDENT EMPLOYMENT

The Financial Aid Officer

## PLACEMENT OF GRADUATES

The Director of Placement
SOCIAL REGULATIONS AND DORMITORIES FOR MEN
The Dean of Men
SOCIAL REGULATIONS AND DORMITORIES FOR WOMEN
The Dean of Women

## ALUMNI AFFAIRS

Director of Alumni Affairs

The Post Office address is Collegeville, Pennsylvania 19426
The College telephone number is 489-4111 (Area Code 215)
Visitors to the College are welcome. Student guides are available when the College is in session. The offices of the College are open Monday through Friday 9-12 and 1-5. The Office of Admissions, located in the Administration Building, is open on Saturdays 9-12, but closed on Saturdays from June 15 to Labor Day. Applicants for admission are expected to write for an appointment.

Information regarding highway routes to Collegeville will be found elsewhere in the Catalog.

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## THIS IS URSINUS

## THE COLLEGE IN BRIEF

Ursinus College is an independent, four-year liberal arts college with a tradition of academic excellence reaching back 100 years. It has more than eleven hundred students, sixty per cent of whom are men. About nine hundred students are residents in College dormitories. The others live at home and commute from surrounding areas.

Majors are offered in fourteen departments, ranging from the classics to sciences. Under a curricular program called The Ursinus Plan, students are given the opportunity to attain academic breadth and still concentrate upon a major.

Half of the members of the Faculty hold doctoral degrees. Faculty members, who engage in research, are committed first to teaching. Learning takes place in a friendly but challenging environment.

The campus of some 115 acres lies beyond the metropolitan area and is less than an hour from central Philadelphia by high-speed expressway.

In the past few years the physical facilities have undergone a dramatic improvement with the addition of a men's dormitory, library, life science building and administration building.

Seven out of ten students of the College enter graduate schools. Graduates are leaders in civic and cultural life, and they are found in key positions in industry and the professions. Wherever they are, they bring a special attitude toward life, at once critical and creative, that marks them as Ursinus men and women.

## HOW URSINUS BEGAN

The beginning of educational work on what is now the campus of Ursinus College dates back to the construction of a primitive schoolhouse built of logs two centuries ago. The ancient building was razed in 1832 when Todd's School was built in the town of Perkiomen Bridge now Collegeville. In 1848 Freeland Seminary was opened on a tract adjacent to Todd's School. During the following two decades many hundreds of young men were educated here.

In 1967 a group of men, members of the German Reformed Church,

## URSINUS COLLEGE BULLETIN

actuated by a desire to serve the interests of higher education and of evangelical Christian religion, laid plans to establish a college where, to quote their words, young men could be "liberally educated under the benign influence of Christianity." They chose as the name of the College that of the distinguished sixteenth-century scholar and reformer, Zacharias Ursinus of the University of Heidelberg. In 1869 the charter was granted by the Legislature of Pennsylvania. The buildings of Freeland Seminary were bought, and instruction was begun on September 6, 1870. Women were admitted to the college for the first time in 1881.
Coincident with the founding of the College was the establishment of a preparatory department as a successor to Freeland Seminary. The preparatory school was called Ursinus Academy and was operated as such until 1910, when it was discontinued.

## COLLEGE PRINCIPLES

Ursinus College is a Christian, coeducational, liberal arts college which seeks to help the student to understand and to emulate excellence in scholarship and in conduct. Although in recent decades the College has extended its work to include the preparation of men and women for a variety of professions, the College continues to emphasize the fact that however varied and specialized the changing needs of the day, the fundamental needs of man remain constant. Each student, whatever his field of specialization, is required to study those subjects which are the core of our cultural heritage.

Ursinus recognizes its duty to preserve the cultural and spiritual tradition which this generation has inherited and to transmit a sense of that duty to succeeding generations.
The College seeks to help the students to develop those qualities which will fit them for the extraordinary responsibilities of educated men and women. The purposes of the College are achieved through its curriculum, through the many extra-curricular activities, and through the pattern of campus life.
The whole educational program serves to cultivate a particular set of qualities in the students:
(1) An active intellectual curiosity and a desire to learn
(2) A knowledge of the techniques of sound scholarship
(3) An ability to think logically and critically
(4) A mature understanding of one's self, of others, and of society
(5) An insight into our natural environment, and a knowledge of the laws governing it
(6) An appreciation of our cultural inheritance
(7) A sense of responsibility
(8) Attitudes consonant with the Christian ideal of morality and service

The Constitution of Ursinus College makes it clear that no student who is willing to comply with the rules and regulations of the College shall be excluded from its privileges on account of his race or his religion.

Students at Ursinus share the freedom of inquiry and the respect for the individual which are at the heart of a good liberal education. They also share the responsibility for maintaining the order and civility needed for learning and for personal growth. The College expects that when a student decides to enroll, he will abide by all the rules of the College. Should a student find that he cannot willingly obey the rules, the College expects that he will wish to withdraw. The Dean's Office will assist any such student in good standing to transfer to a college of his choosing.

## CULTURAL ENVIRONMENT

Students at Ursinus have the advantages of living in the country, and at the same time they are close enough to New York and Philadelphia to have access to such additional opportunities for culture as the symphony orchestra, grand opera, legitimate theatres, museums, lectures, and exhibitis.

Ursinus is located in the heart of a region which is rich in historical tradition. In Colonial days this region was the center of the cultural and political development of America.

## ACCREDITATION

Ursinus is a member of the Association of American Colleges and is on the approved list of the Middle States Association of Colleges and Secondary Schools, the American Association of University Women, the American Chemical Society, and has been given program approval by the Department of Education of the Commonwealth of Pennsylvania for the certification of teachers.

## DEVELOPMENT

Ursinus is engaged in a ten-year development program (1967-1977) aimed at wide-ranging advancement of the institution in both physical facilities and the academic processes. The first step (1967-1970) gave priority to the raising of funds for urgently needed buildings. In the second step (1970-1975), the CENTURY II Program for Academic Advancement is seeking \$5,450,000 for enrichment of faculty salaries and student aid, for encouragement of faculty scholarship, for additions to the library collection and for ongoing physical renovations.


## STUDENT LIFE ON CAMPUS

Student life on campus is a kaleidoscope of activities, some formally planned by the many student organizations, others generated by individual students with common interests. Conversion of the old library into a College Union, started during the fall 1971 semester, will further enrich life on campus.

## ROOMS AND MEALS

Ursinus College is a community and pleasant community life is emphasized. Students who are not living in their own homes are required to room at the College and to take their meals in the College dining rooms.

Each resident student supplies his own towels, pillow, two pairs of sheets for a single bed, mattress protector, a pair of pillow cases ( $38^{\prime \prime} \times 45^{\prime \prime}$ ), a pair of blankets, and a bedspread. Linen rental service is available.

First-year students, except those whose presence is needed for service, are required to vacate their rooms immediately following the second-term examinations.

## PUBLIC WORSHIP

Voluntary worship services and other religious programs are held on the campus under the direction of the Chaplain of the College.

Students are encouraged to attend services on Sunday in the church of their own choice.

## MEDICAL SERVICE

Resident students are entitled to ordinary medical care for minor accidents and ailments contracted while enrolled at the College. All care for the sick is under the direction of the College physicians and their decisions concerning the disposition of cases are final. The College reserves the right to enforce quarantine, and to require the removal from the campus of students who require extraordinary care. Transportation to home or hospital is at the student's expense.

College physicians will consult with students in the College Dispensary during regular office hours and will visit patients regularly who are confined to the infirmary where bed care is provided for up to six days per semester. Bed care in excess of six days in a semester will be charged for at the rate of $\$ 15.00$ per day.

A charge of $\$ 0.50$ will be made for each allergy injection administered by infirmary personnel. Only medication prescribed by licensed physicians will be administered.

During the regular college sessions the nurses are on duty 24 hours a day. Except for extreme emergencies the student seeking medical attention is responsible for reporting to the infirmary for treatment. When emergency treatment is required, the College will make every effort to provide it. The cost of treatment by physicians and nurses not on the College staff is to be borne by the student.

## ACCIDENT AND HEALTH INSURANCE

A student accident and health insurance program is available. Details are available in the Office of the Treasurer. See under Financial Information.

## ATHLETICS

Ursinus recognizes the physical, social, and moral benefit derived from athletic activity and accordingly offers a well-balanced sports program open to all. Men's intercollegiate competition takes place in football, basketball (varsity and junior varsity), soccer, wrestling, cross country, golf, baseball, track and tennis. In addition to this intercollegiate program, intramural games are played. Intramural athletics for men include touch football, basketball, volleyball, wrestling, a free-throw contest, softbali, track, tennis, and interfraternity competition.

For women students, the College supports intercollegiate competition in hockey (varsity, junior varsity, third, and fourth teams), basketball (varsity, junior varsity, third and fourth teams), softball, tennis (varsity and junior varsity), swimming (varsity and junior varsity), lacrosse (varsity and junior varsity), and badminton (varsity and junior varsitv). The intramural program provides recreational opportunities in hockey, basketball, tennis, softball, and inter-dorm competition in volleyball and table tennis.

## ORGANIZATIONS

Students find many opportunities for education and enjoyment through a large number of organizations. All are approved by the Faculty and are supervised by the Committee on Student Activities or the Dean of Men and Dean of Women. In addition, members of the Faculty serve these groups as advisers. Student life on campus is governed by the Ursinus Student Government Association under the direction of the Dean of Men and the Dean of Women. Members of the student governing organization are elected by the student body.

Among the most active organizations is the Young Men's and Young Women's Christian Association. Numerous religious and social activities are planned and sponsored by this group in collaboration with other campus
groups. An active " $Y$ " cabinet post for Christian outreach is the evangelical, interdenominational Ursinus Christian Fellowship. The Sunday Seminar, led by the College Chaplain, and the Chi Alpha Society offer additional religious perspectives to students.

Other organizations stimulate the interest of students in particular areas of study or in future occupations. Among them are the Brownback-Anders Pre-Medical Society, the Beardwood Chemical Society, the English Club, the Spanish Club, the Pre-Legal Society, the Student National and Pennsylvania State Education Associations, Socratic Club and the Economics Club. Interest in athletics and campus spirit is fostered by the Women's Athletic Association, the Varsity Club, and the Spirit Committee. Psi Chi, the national honor society in psychology, and an affiliate of the American Psychological Association and the Association of College Honor Societies, honors psychology majors whose record is outstanding. Outstanding junior men may be elected to Cub and Key and junior women to the Whitians. Campus Gold is made up of a group of women who work on service projects on the campus and in the community.

A large and varied program of dramatics is sponsored and carried out by Protheatre, which presents two major productions a year in addition to various group productions. There is an Ursinus chapter of Alpha Psi Omega, a national honorary dramatics fraternity.

Music plays a large part in the life at Ursinus. Choral music is represented by the Meistersingers, which offers concerts on and off campus, including a one-week tour in the spring; the Messiah Oratorio Chorus whose presentation of Handel's Messiah during the Christmas season is one of the outstanding musical events of the year. Instrumental music is offered by the Concert and Marching Bands. There is a chapter of Pi Nu Epsilon, the national honorary musical fraternity.

There are eleven local social organizations on the Ursinus campus. The fraternities are Sigma Rho Lambda, Zeta Chi, Alpha Phi Epsilon, Delta Mu Sigma, Beta Sigma Lambda, Delta Pi Sigma, and Alpha Phi Omega, the national service fraternity. The sororities are Omega Chi, Alpha Sigma Nu, Kappa Delta Kappa, Phi Alpha Psi, and Tau Sigma Gamma.

## PUBLICATIONS AND RADIO

The Ursinus Weekly is the Ursinus newspaper. It is managed by a Board of Control consisting of student and faculty representatives and is edited and written entirely by the students. The Editor-in-Chief, the associate editors, and the Business Manager are elected by the board on the basis of merit and the staff is selected by the editors on the same basis. The paper is of interest to students and alumni as a record of life at Ursinus.

The Lantern serves as an outlet for those interested in creative writing and art. It is written and edited by an all-student staff under the direction of a member of the Faculty Committee on Student Publications. It is published twice a year.

The Ruby, the Ursinus yearbook, is published by the Senior Class each year. It is a volume presenting an intimate pictorial account of the year's activities, not only of the Class, but of the entire College

The Ursinus Bulletin, official publication of the College, appears seven times a year. In addition to the Catalog you are reading, it takes the form of the Ursinus Magazine, the Reports of Officers and the Ursinus Newsletter.

WRUC, the campus radio station, presents each day to Ursinus students a varied agenda of music, from classical to rock, and campus and world news. Special sports events and notable occurrences are broadcast live at certain times during the year. The station is completely student operated.

## THE CAMPUS SETTING

Student life at Ursinus takes place in a setting where the new blends with the old, and the practical with the picturesque.

Wismer Hall, completed in 1965, is one of the chief points of activity on campus. It contains the student dining hall, a lounge, lecture hall and little theatre, language laboratory, and a number of classrooms and seminar rooms. The building led in 1966 to a citation for excellence from the Pennsylvania Society of the American Institute of Architects. It is named for the late Ralph F. Wismer, '05, former Treasurer of the College and member of the Board of Directors.

Bomberger Memorial Hall, built in 1891, provides classrooms for many courses in the humanities, languages and social sciences. It also houses the College chapel, study and recreation areas. This Romanesque hall, made of Pennsylvania blue marble, is named for the first President of Ursinus, Dr. J. H. A. Bomberger. The building was made possible by the benefactions of Robert Patterson.

Pfahler Hall of Science, built in 1932, is named in honor of Dr. George E. Pfahler, famed radiologist. It houses classrooms and laboratories for work in chemistry, physics, mathematics and geology. The building is equipped with the Elihu Thomson Memorial Telescope for astronomical observation. The development plan of the College brought extensive renovation of the building in 1971, and the expansion of Chemistry, Mathematics and Physics Departments into areas formerly occupied by Psychology and Biology, now located in the Life Science Building.

The Life Science Building opened for use in September 1970. Along with the Myrin Library and the physical education building, to be completed in 1972, it was financed by a special All-Ursinus Anniversary Drive that co-
incided with the College's 100th year. As the new home of the Psychology Department and of the Biology Department, it complements Pfahler Hall of Science. Both departments have been enabled to improve laboratory work in regular courses and to offer better opportunities for independent student research. It is the new home of the following endowed laboratories: Levi Jay Hammond Laboratory of Comparative Anatomy, the W. Wayne Babcock Laboratory of General Biology, the Anna Heinly Schellhamer Laboratory.

The Myrin Library, completed and occupied in 1970, has study facilities for 500 persons and a capacity of over 300,000 volumes. The collection numbers about 102,000 volumes, not counting government documents and pamphlets. The Library receives over 800 periodicals, newspapers and serials. The location of Ursinus College in the Philadelphia area makes available for special studies the vast bibliographic holdings of this area through personal consultation or inter-library loan.

In 1964 the Library began acquiring the Early American Imprints, now nearing completion, which comprise every title printed in America up to 1820. These imprints, together with files of periodicals and newspapers, constitute the nucleus of the micro-form collections of the Library, which now contains 75,000 units.
The Administration Building was dedicated in the spring of 1970. Located near the main entrance to the campus, it houses the Admissions Office, where candidates for entrance to the College make application. The main administrative offices are found here, in addition to a classroom and offices for some sixteen faculty members.

Much of Ursinus's campus is given over to athletics and physical education. There is Patterson Field, named for the College's first benefactor, Robert Patterson, where varsity football is played and track and field meets are held. There is Price Field, made up of the soccer field, the baseball diamond, several softball diamonds and football practice ground. The field is named for Dr. John Price, '05, one of the great athletes in Ursinus history. There are the Tennis Courts, located at the rear of Curtis Dormitory. And there is the Effie Byrant Evans Hockey Field at the east end of campus near Stauffer Hall.
The two facilities in use for physical education during the 1971-72 academic year are: Thompson-Gay and the College Gymnasiums. Thompson-Gay was built in 1927 and doubles as a playing area and theatre, with completely equipped stage. Portable seats are used for theatrical performances. The building is a memorial to Robert W. Thompson, '12, and George H. Gay, '13, noted Ursinus athletes, both of whom died in their senior year at the College. The College Gymnasium, erected in 1947, located near Thompson-Gay Gym, seats 800 and is the scene of Ursinus's intercollegiate basketball games. It will be demolished when the new physical education facility becomes available for use during 1972.

The new physical education building for both men and women will consist of three full-size basketball courts, one of them serving as a multipurpose area; locker rooms and team rooms; wrestling room; dance studio; classrooms; and a regulation collegiate-sized swimming pool. Most outdoor playing fields have been relocated and completely remade. An all-weather track has been installed around Patterson Field.

The College Store and Snack Center, open from early in the morning to late at night, is a crossroad for student social life. Also in the building is the College Post Office, maintained on campus for the convenience of students.

Other structures on campus include Super House, a residence on Main Street opposite the campus, bequeathed to the College by the late Henry W. Super, D.D., L.L.D., Vice-President and Professor of Mathematics, 1870-1891, and President, 1892-1893; Sprankle Hall, on the east campus fronting Fifth Avenue, the infirmary; The Eger Gateway, erected through the generosity of George P. Eger, of Reading, Pennsylvania, at the entrance of the walk leading from Main Street to Myrin Library, and The Power Plant, a strikingly modern building put into operation in 1963.

## DORMITORIES FOR MEN

The Brodbeck and Curtis Dormitories for Men are buildings in English Colonial style. Each building has four floors. They bear the names of esteemed benefactors of the College, Andrew R. Brodbeck and Cyrus H. K. Curtis.

Wilkinson Hall, which connects Brodbeck and Curtis Dormitories, provides a lounge for men as well as additional rooms for men.

Maples, 512 Main Street; Omwake Hall, 701 Main Street; and Isenberg Hall, 801 Main Street are all residence halls for men.

Fircroft, 930 Main Street, a residence for men students, was presented to the College by Miss Sara E. Ermold as a memorial to her mother, Ella N. Ermold.

The Men's Dormitory Complex at the north end of campus, completed in 1968, houses 252 men. The main building is Reimert Hall, named in honor of the late Dr. William D. Reimert, '24, President of the Board of Directors of the College from 1961 until his death in 1969.

## DORMITORIES FOR WOMEN

Paisley Hall, Stauffer Hall and Beardwood Hall are three dormitories for women. The buildings house 243 women and are located on the east campus.

Hobson House is located at Sixth Avenue and Main Street. It is used as a residence for twenty-four women.

Shreiner Hall, fronting on Main Street and facing the College campus, is a residence hall for thirty-two women.

Duryea Hall, 612 Main Street, is a residence hall for fifteen women.
Clamer Hall, Main Street, the gift of Dr. Guilliam H. Clamer, is a residence hall for twenty-five women.

777 Main Street, 942 Main Street and 944 Main Street are residence halls for nine, fifteen and sixteen women, respectively.

Keigwin Hall is a residence for ten women.
Olevian Hall, 640 Main Street, is a residence hall for ten women.
Schaff Hall, 646 Main Street, is a residence hall for ten women.
South Hall, Sixth Avenue, is a residence hall for ten women.
Todd Hall, 724 Main Street, is a residence hall for seventeen women.

## SHIPMENT OF BELONGINGS

The Maintenance Department will accept Railway Express shipments at the Maintenance Department between the hours of 8 A.M. and 4.30 P.M., Monday through Friday, providing:

1. the maintenance Department has been notified in writing when to expect the shipment and from whom;
2. the shipment arrives prepaid.

The Maintenance Department can accept no responsibility for the condition of the shipment.


## ADMISSION

The first step in seeking admission to Ursinus College is to file an application. A form for this purpose may be obtained from the Office of Admissions. After the completed form has been returned to the College, accompanied by the fifteen-dollar application fee, the Dean of Admissions will request the applicant's school principal or headmaster to send an official transcript of the school record. At the same time, inquiry is made concerning the character of the candidate and his ability to do college work.

All applicants must arrange for a personal interview on campus, unless, of course, the distance makes such a visit impracticable. This requirement must be completed before the application is presented to the Committee on Admissions.

Applications for financial aid should be filed at the time the candidate applies for admission. Forms are available through the Office of Admissions.

It is the responsibility of the candidate to make arrangements to take the Scholastic Aptitude Tests and the Scholastic Achievement Tests of the College Entrance Examination Board and to have the test results sent to the Dean of Admissions.

## TESTS

Candidates for admission to the Freshman Class are required to take the Scholastic Aptitude Tests and three Achievement Tests of the College Entrance Examination Board. Foreign students must, in addition, take the TOEFL test. It is recommended that applicants take the November or December Scholastic Aptitude Tests and three Achievement Tests in December or January of the senior year. One of the achievement tests must be in English Composition, and one must be in the foreign language which the candidate is presenting for admission purposes. A third achievement test should be in mathematics or science for science majors and in history or social studies for non-science majors. Full information concerning the dates of administering these tests can be obtained by writing directly to the College Entrance Examination Board, P.O. Box 592, Princeton, New Jersey 08540.

## PREPARATION

A candidate for admission to the Freshman Class must be a graduate of an approved secondary school.

If the applicant is a graduate of a four-year high school he should offer for admission at least fifteen units which are to be distributed as follows:

BASIC ACADEMIC CREDITS (9 units)
English, Four years, Earning Three Units
Elementary Mathematics (Algebra and/or Geometry) Two Units
Science, One Unit
Social Studies, One Unit
Foreign Language, Two Units in One Language
ADDITIONAL ACADEMIC CREDITS (at least $21 / 2$ Units)
Advanced Mathematics
Solid Geometry
Plane Trigonometry
Science
Social Studies
Foreign Language
ELECTIVES (Maximum $3 ½$ Units)
Not more than one unit will be granted for any single elective.
Bookkeeping
Drawing (Mechanical, Prepared Course)
Geology
Stenography
Junior Business Training
Music and Art (History or Appreciation)
Commercial Law
Commercial Geography
If the candidate is a graduate of a three-year high school, he should offer at least twelve units, which should include the basic credits above. Not more than one unit may be presented from the group designated as electives.
Applicants whose preparation does not coincide precisely with the foregoing outline may in exceptional cases be admitted to the College if, in the judgment of the Committee on Admissions, they are qualified to do college work satisfactorily.

## EARLY DECISION

Outstanding juniors may apply for admission in the late spring or during the summer preceding the senior year. The College will then write for the high school record, and the applicant should have junior year Scholastic Aptitude Test scores sent and arrange for an interview, preferably prior to October 1. The student should also take achievement tests of the College Board in the

Spring or Summer before the beginning of the senior year. Early decisions will be made and students notified in the late summer and early fall.

## ENGINEERING PROGRAM

Arrangements have been made with the Engineering Schools of the University of Pennsylvania and the University of Southern California to which a student may transfer after completing three years of prescribed work toward the B.A. degree at Ursinus College.

Ursinus College will grant the B.A. degree after the student has satisfied the requirements for that degree. The engineering school will grant the engineering degree on satisfactory completion of the fifth year. For the outline of the program see Departmental Requirements.

The candidate for the Engineering program must present $31 / 2$ years of entrance credit in Mathematics.

His background in foreign language must be such that he will be capable of entering the second year of language in college. If he is not so prepared he must make up the deficiency in foreign language in summer school.

## PLACEMENT IN FOREIGN LANGUAGES

If an entering student wishes to study in college the same language he studied in high school, the following conditions apply:

1. If a student has taken two or three years of a foreign language in high school and achieves a minimum College Board score of 450 in that language, he must enroll in the intermediate level of that language in college. If he scores below 450, he may take the intermediate course or he may elect the elementary course and take it without credit toward graduation. If he is unable to master the work at the intermediate level, he may drop back to the elementary level, but he will receive no credit for graduation for successful work in the elementary course.
2 If a student has studied a language for two, three or four years in high school and achieves a minimum College Board score of 550 in the language, he must take an advanced language course beyond the intermediate level. If he is unable to do the work of the advanced language course, he may drop back to the intermediate level, in which case the successful completion of the intermediate course would fulfill the college language requirement and give credit toward graduation.
2. In the case of a late application or of the unavoidable absence of College Board Achievement test results, placement will be determined by the number of years a student studied a language in high school and by the number of years that may have elapsed since the student last studied a language in high school. In such a case, the language departments will
give a proficiency test. The conditions stated in paragraph one governing credit toward graduation apply in these cases.

## ADVANCED PLACEMENT

Students who wish to be considered for advanced courses upon admission may submit the results of the Advanced Placement Examinations as given by the College Board. If the scores are satisfactory, the student may be advanced beyond the basic course, but no credit will be given toward the degree. Certain courses offer no advanced placement; therefore it is suggested that a candidate consult the Dean of Admissions if any question arises. After acceptance for degree standing, a student must receive written permission from the Dean of the College or the Dean of Admissions to take a course at another college.

## SPECIAL STUDENTS

A limited number of applicants who are not candidates for degrees may be admitted as special students, providing that they have satisfactory preparation for the college courses which they wish to pursue. Special students who reside at the College must register for at least twelve hours of work in each semester. They are subject to the same regulations as other students.

## TRANSFER STUDENTS

To enter the Sophomore or Junior Class at Ursinus College, an applicant must support his application by requesting each institution he has attended subsequent to graduation from secondary school to send to the Dean of Admissions a transcript of his record at the institution of higher learning and a letter from the Dean of Men or Women indicating that the applicant is entitled to honorable dismissal insofar as character and personality are concerned. It will be helpful if the candidate will send a catalog of the college he has been attending, marked to indicate the course he has taken. There will be no credit for grades below C .
Not more than sixty hours of work taken elsewhere will be credited to students transferring to Ursinus College.

## PART-TIME STUDENTS

Non-resident students who are candidates for a degree and who wish to pursue fewer than twelve hours of work may be classified as part-time students upon the written approval of the Dean of the College.

## NOTIFICATION OF ADMISSION

When a candidate for admission is notified of his acceptance by the College, he must make an advance payment of one hundred dollars in accordance with the provisions of the letter of acceptance. This payment is credited on his bill for the first term. If he fails to complete his matriculation, the payment is forfeited.

## THE SUMMER SCHOOL

The Curriculum of the summer school is announced in the Spring, and information concerning course offerings is released after April 15. Courses are offered over a period of 12 weeks. A student carries only one course at a time, but may enroll for a full program. The plan permits the completion of a three semester-hour course in three weeks, two three semester-hour courses in six weeks, four three semester-hour courses in twelve weeks and two four semester-hour courses in eight weeks. It is possible to carry two years of work in a language in twelve weeks for twelve semester credits.

Ursinus College Summer School (day or evening) is open to candidates who may be classified in the categories below upon approval of the administrative officer in charge.

1. College Graduate (two-year and four-year)
2. Degree Candidates (Bachelor and Associate)

From any Institution of higher education, the applicants must have written permission from their respective institutions indicating that they will be given transfer credit for successful work in specific courses.
3. Evening School students at Ursinus or elsewhere, with a high school diploma and with a minimum of 15 semester hours of work successfully completed (equivalent of 70 average).
Applications of those whose qualifications do not fit the above categories must be acted upon by the Committee on Admissions.

Ursinus College Summer School (day or evening) is not open to the following:

1. Students who were not graduated from approved secondary schools.
2. Students who have been dismissed or suspended from any academic institution during the previous academic year.
Admission to the Summer School does not carry with it an assurance of transfer to degree standing at Ursinus College. For information and application forms, address the Director of the Evening School.

## THE EVENING SCHOOL

The Evening School is organized to make college work available to men and women employed in business, in industry and teaching, and to others who
may be interested. The program emphasizes courses in business administration and in fields closely allied to business administration, such as economics, political science, history, English composition, public speaking and certain foreign languages.

For information, catalog, and application forms, for both Summer and Evening Schools, address The Director, Evening School, Ursinus College, Collegeville, Pa.

## CAREER OPPORTUNITIES

Ursinus is a college of liberal arts and sciences and emphasizes a broad, general education regardless of the career for which a student plans to prepare. At the same time, it is possible at Ursinus to prepare for specific careers in the fields listed below. A placement service maintained by the College helps the student to find a position in the field of his choice.

BUSINESS. Graduates in Economics and other departments are employed by many types of industrial concerns, banking institutions, public utilities, transportation companies, department stores, chain stores, etc. By electing languages, students majoring in economics may prepare for the growing opportunities in world trade.

CHEMICAL RESEARCH: INDUSTRIAL CHEMISTRY. The College provides opportunities for students desiring to major in Chemistry with a view to devoting their lives to some type of chemical research. Graduates find employment in the chemical industry doing pioneer work in the field of chemical research and development.

DENTISTRY. The Council on Dental Education of the American Dental Association fixes as the minimum basis for admission to an approved dental school the successful completion of two full years of academic work in an accredited college of liberal arts and science. This college work must include courses in English, biology, physics, inorganic and organic chemistry.

EDUCATIONAL ADMINISTRATION. Basic courses in Education are provided which are prerequisite to the professional courses in Educational Administration offered in graduate schools of education of leading universities.

ENGINEERING. Students who wish to study Chemical, Civil, Electrical, Mechanical or Metallurgical Engineering may avail themselves of a program which is being offered at Ursinus College in cooperation with engineering schools. A student at Ursinus College may transfer to an engineering school after completing three years of prescribed work toward the B.A. degree at Ursinus.

Ursinus College will grant the B.A. degree after the student has satisfied the requirements for that degree. The engineering school will grant the engineering degree upon completion of the fifth year.

FOREIGN SERVICE. The American foreign service presents attractive opportunities to a limited number of young people who are willing to prepare themselves adequately for service abroad. The history and social science courses, together with offerings available in the modern languages, provide preparation for the examinations required of applicants for positions in foreign service. Upon graduation students are urged to pursue additional work at a recognized graduate school.

GRADUATE STUDY. One purpose of the curriculum of the modern liberal arts college is to prepare students for advanced study in various fields of knowledge. Preliminary study is done by the student at the undergraduate level in his chosen major field. Those intending to enter graduate schools should have a thorough grounding in their chosen field. As a reading knowledge of French and German is essential for most higher degrees, this knowledge should be acquired in the undergraduate school.

HEALTH AND PHYSICAL EDUCATION. It is possible to specialize in health and physical education and at the same time obtain a general cultural education. Health and physical education graduates meet the requirements for certification to teach in this field in Pennsylvania and other states.

JOURNALISM. A student interested in journalism should enroll in the departments of history, political science, or English and elect widely in other fields. A year at a professional school of journalism is recommended.

LAW. As a general rule leading law schools require a baccalaureate degree as one of the conditions for acceptance of candidates. A broad, cultural education is considered the best preparation for legal study. A major in such departments as history, psychology, or political science is recommended.

MEDICINE. Concentration in biology or chemistry is recommended in order to prepare students who are interested in the various aspects of medicine. Preparation for schools of osteopathy and of veterinary medicine, as well as for the regular medical schools, is provided. Students should also investigate the opportunities in the allied medical fields, such as occupational and physical therapy, in which many opportunities are being offered.

MUSIC. Although a considerable number of courses in music are available at Ursinus, no major in music is offered. Those who wish to follow music as a career should plan to attend graduate school after completing their work at Ursinus.

NURSING. Students who plan to enter the profession of nursing should register for courses in biology, chemistry, and liberal arts in order to qualify
for consideration by schools of nursing. Ursinus does not give a degree in nursing but recommends transfer, after two years, to a university school of nursing.

PHYSICAL RESEARCH. A program of concentration in physics and mathematics is offered to students interested in physics as a career.

PSYCHOLOGY. Undergraduate work in psychology is designed for those who seek admission to graduate schools or who wish to enter personnel work in industry. Undergraduate study in psychology is of assistance in the fields of teaching, guidance, law, clinical psychology, personnel and social work, nursing, and preparation for medicine.

SOCIAL WORK. A professional career in social work requires two years of graduate education in one of the approved schools of social work associated with a number of universities. There are, however, many opportunities for the untrained person holding a baccalaureate degree to find employment in both public welfare, and voluntary social agencies; the former is entered through civil service examination. Positions are open in work with individuals and with groups. Many of these situations offer funded plans for graduate study upon satisfactory completion of a year of employment.

TEACHING. Secondary school teaching preparation which meets the requirements of the State Department of Education in Pennsylvania and of many other states is offered to those who look forward to a career in education. Programs for certification in the academic subjects of the secondary field are offered. The State of Pennsylvania certifies Social Studies teachers through a comprehensive Social Studies Program; certification in the separate social sciences has been discontinued in Pennsylvania. Available at Ursinus are concentrations in History, Government, Economics and Psychology. Advisers should be consulted in each of these areas. A program for physical education teachers covers certification for the teaching of health and physical education in both elementary and secondary schools. Students should follow the curricula which have been approved by the Pennsylvania Department of Education, a copy of which is in the hands of the advisers.

CHURCH VOCATIONS. Most leading theological schools have as a requirement for consideration for admission a degree in liberal arts. Students who are preparing for church vocations should plan a broad course of study which will include history, languages, literature, religion, and philosophy.

## PLACEMENT BUREAU

Ursinus College conducts a placement bureau to assist students and graduates in finding positions for which they qualify. Its function is to serve as a point of contact for seniors and alumni with educational institutions, business, and industry. Detailed personal and scholastic records of seniors and alumni are compiled and are available for all prospective employers.

Alumni Placement-The Placement Bureau cooperates with the Alumni Office in the placement of alumni who are seekıng new positions in business and industry. The GRAD system, which is a service of the College Placement Council, has been operating in this area for the past few years.

Alumni who are teachers and who wish to seek employment or new positions are also served by the Placement Bureau.

## THE COLLEGE YEAR

The College year at present consists of two semesters of sixteen weeks each and a Summer session of twelve weeks. Students are admitted to the college at the beginning of either semester or at the beginning of the Summer session. Those who wish to accelerate their college program may attend the Summer session in addition to the Fall and Spring semesters. The Summer session is available to all students who wish to take advantage of it.


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## FINANCIAL INFORMATON

## TUITION, BOARD, FEES

## STUDENT CHARGES PER YEAR

Tuition ..... \$2050
Room and Board ..... \$1100
Activities fee ..... \$ 20
College Union fee ..... \$ 25
PAYMENTS ARE TO BE MADE AS FOLLOWS:
New Students
Advance Payment-as requested ..... \$ 100
Breakage Deposit-As indicated on bill ..... \$ 50
Old Students
Advance Payment-July 15 ..... \$ 100
All StudentsSeptember-One-half annual charges, lesscredit for Advance Payment.One-half Activities and College Union Fees.
January -One-half annual charges.One-half Activities and College Union Fees.

Charges quoted are made on an annual basis. Billings are presented semi-annually and are due for payment in September and January, no later than the date indicated on the billing. A $\$ 10$ fee is charged for late payment.

When the student is a recipient of an Ursinus College scholarship award, credit will be applied in the amount of one-half the value of the annual award to each semester bill. THE COLLEGE HAS NO PLAN FOR INSTALLMENT PAYMENTS.

For those who prefer to pay tuition in monthly installments, the College offers special arrangements made with the Girard Trust Bank of Philadelphia, and/or the Insured Tuition Payment Plan of Boston. These arrangements should be made early enough to assure payment of bills no later than the date indicated on the billing.

Checks should be made payable to URSINUS COLLEGE.

## EXPLANATION OF CHARGES

APPLICATION FEE. A fee of $\$ 15$ is paid by the candidate at the time he files his application. This fee is not refundable and is not applied toward the student's bill.
Special and Part-Time Students are charged at the rate of $\$ 68.00$ per semester hour. If registered for twelve or more hours, full tuition will be charged.

ADVANCE PAYMENT. (a) Upon his acceptance by the College an applicant must make an advance payment of $\$ 100$. This payment is credited on his bill for the first term. If he fails to complete his matriculation, this payment is forfeited. (b) All regularly enrolled students must make an advance payment of $\$ 100$ at such time as may be designated by the College. This payment is forfeited if the student fails to complete his registration.

FEE FOR TUITION covers classroom instruction, use of libraries, gymnasium, and the infirmary; ordinary medical attention; care by the resident nurse. Room and Board charges cover lodging for school year, exclusive of Thanksgiving, Christmas and Spring recesses.

The College reserves the right to make reasonable adjustments in the comprehensive fee at the beginning of any term to cover possible unforeseen costs.

ACTIVITIES FEE covers subscription to the Ursinus Weekly, intercollegiate debating, the Christian Associations, the Ursinus College Forum, admission without charge to all athletic contests at the College and to College dances.

COLLEGE UNION FEE. All students enrolled in the College pay a fee of $\$ 12.50$ per semester which supports the operation of the College Union program and the maintenance of the College Union Building, and includes membership in the College Union for the period covered by the fee.

STUDENTS' MEDICAL INSURANCE PLAN. A twelve-month medical coverage for accident and sickness is available at nominal cost and is charged in September. This coverage may be waived by deducting amount from the bill when payment is made. The charge will be cancelled by the Treasurer's Office.

ROOM DRAWING. A previously enrolled student must pay $\$ 10$ in order to qualify for drawing a room. Credit for this amount will be applied to the charge for Room and Board for the following term.

PRIVATE MUSICAL INSTRUCTION. A fee of $\$ 150$ is charged for any students wishing private individual instruction in voice or on the piano, organ or other orchestra or band instrument. This charge is for one half-hour lesson each week during the regular college year and is payable as billed.

SCIENCE FEE. A fee of $\$ 25$ per semester is charged to students majoring in Biology, Chemistry, Pre-engineering, Physics, and Freshmen who are enrolled in Undesignated Natural Science. A fee of $\$ 25$ is charged to students majoring in Psychology during their Sophomore, Junior, and Senior years.

FINE ARTS FEE. A fee of $\$ 15$ per semester is charged for students enrolled in Fine Arts 3 \& 4.

BREAKAGE DEPOSIT. A deposit of $\$ 50$ is required of each new student to defray expense incurred by damage to College property. This is included in the bill for the first term. Billings are rendered as assessments are made against the deposit balance. Any unexpended balance is returned upon graduation or withdrawal from the College.

STUDENT TEACHING. An additional fee of $\$ 75$ is required of each student engaged in student teaching. This is payable upon presentation of the bill.

GRADUATION FEE. A graduation fee of $\$ 25$ is charged each student on the last bill of his senior year. An additional deposit of $\$ 25$ will be required for the use of cap, gown, and hood. This deposit will be refunded upon return of the equipment.

TRANSCRIPT FEE. A charge of $\$ 1$ is made for each transcript of a student's record after the first. Requests for transcripts should be made to the Office of the Dean.

SPECIAL EXAM FEE. A fee of $\$ 10$ is charged students who take an exam on days other than when scheduled.

ID CARD FEE. A charge of $\$ 1.00$ is made for the issuance of an ID card. If the card is lost a charge of $\$ 5.00$ will be made for its replacement.

CHANGE OF STATUS FEE. When a student changes his status from day to resident a new ID card must be issued, for which there is a $\$ 5.00$ charge.

## REGULATIONS

Bills for student fees are issued approximately thirty days before the beginning of each term. A student's bill must be settled no later than the date indicated on the statement.

No student who is indebted to the College or to any of its departments or agencies will be permitted to register at the beginning of any term, and all items due the College from a candidate for graduation must be paid before the candidate may be presented for a degree.

A student who is absent from College because of sickness and retains his place in class pays student fees in full during his absence, except when the absence is continuous over a period exceeding four weeks, in which case resident students are allowed a rebate of $\$ 10$ for each full week on account of table board.

No refund is allowed because of a student's dismissal or withdrawal from the College during a term, except when the student enters the armed services.

A student who voluntarily withdraws from College must notify the Dean of the College in writing and settle all bills within thirty days or be liable to dishonorable dismissal.

The possession or use of alcoholic beverages, illegal drugs or firearms on the campus is forbidden.

Students who have attained an 80 cumulative average in the preceding year may operate a motor vehicle or maintain one on campus or in the College vicinity while in attendance at College. A vehicle may not be operated or maintained by students who hold financial grants or positions under the Bureau of Student Employment.

A woman student who marries must notify the College of her change in status.
The College reserves the right to exclude at any time students whose conduct or academic standing renders them undesirable members of the college community, and in such cases the fees due or paid in advance to the College will not be refunded in whole or in part.

## SCHOLARSHIPS AND FINANCIAL AID

## FINANCIAL AID OFFICE

The Financial Aid Office, in cooperation with the Office of Admissions, administers financial assistance to students. The sources of Ursinus College aid funds are permanent scholarship funds, current operating income, Federal student aid programs, state aid programs, as well as other corporate and private sources.

## HONORS UPON ENTRANCE

Honors upon entrance are conferred by the President of Ursinus College upon those incoming Freshmen who present outstanding academic entrance credentials. These awards carry no stipend.

## CENTENNIAL SCHOLARSHIPS

In honor of the thousands who have worked for and served her so faithfully during her first century, Ursinus College each year grants Centennial Scholarships, in amounts which vary according to need, to those freshmen whose records and scores clearly indicate that they are outstanding students.

These scholarships are subject to yearly review and may be renewed if the holder's scholastic work and conduct remain satistactory and finanacial need continues.

## PRESIDENTIAL SCHOLARSHIPS

The President of Ursinus College may confer scholarships each year on those students who have demonstrated outstanding leadership, service, and ability during their secondary school or college years. These awards may be granted to incoming freshmen or upperclassmen and may be renewed for continued service to Ursinus College.

## FINANCIAL GRANTS

Financial grants are awarded for one year on the basis of financial need. Ursinus College participates in the College Scholarship Service (CSS) of the College Entrance Examination Board. Participants in CSS subscribe to the principle that the amount of financial aid granted a student should be based upon financial need. The CSS assists colleges and universities and other agencies in determining the student's need for assistance.
Applications for scholarships and grants must be filed by February 1, on forms available from the Office of Admissions.

Entering students seeking financial assistance are required to submit a copy of the Parents' Confidential Statement (PCS) by February 1 to the College Scholarship Service, designating Ursinus College as a recipient. The PCS may be obtained from the secondary school or the College Scholarship Service, P. O. Box 176, Princeton, New Jersey 08540, or P. O. Box 1025, Berkeley, California 94704.
All financial grants are reviewed annually. Eligibility for renewal is based upon relative need, satisfactory conduct, and the maintenance of the required scholastic average.
Upperclass students wishing assistance or the renewal of an existing grant are required to submit a new Parents' Confidential Statement (PCS) to the College Scholarship Service. A PCS may be obtained from the Financial Aid Office and should be filed by February 1.
Students receiving aid from sources outside the College are required to report the amount to the Financial Aid Office. The College reserves the right to adjust grants and awards accordingly.

## PERMANENT SCHOLARSHIP FUNDS

The College possesses a number of permanent scholarship funds. The income of each fund is assigned annually to a student designated by the College.

## STUDENT EMPLOYMENT AND COLLEGE WORK-STUDY PROGRAM

The Bureau of Student Employment, conducted by the College, provides opportunity for a student to earn a part of his expenses by working as a
waiter, laboratory assistant, library assistant, typist, or clerk in the College Store. These positions are standardized so as not to overburden the student or to interfere with his studies. Positions accepted under the Bureau of Student Employment must, however, always take precedence over any other extra-curricular activities. A standard position, such as that of waiter in the dining room, pays approximately four hundred dollars per year. Approximately two hundred positions, representing varying amounts of compensation and types of work, are now open to students.
Students may be employed on a contractual basis, with credit for work performed applied directly to their account. Under special circumstances, a student may request permission to be paid on a bi-weekly payroll.
Letters of application, as well as those requesting information, should be addressed to the Director of Financial Aid.

## FEDERAL EDUCATIONAL OPPORTUNITY GRANTS

Federal Educational Opportunity Grants range from $\$ 200$ to $\$ 1000$ per academic year and are based upon extreme need as supported by the College Scholarship Service Parents' Confidential Statement.

## STATE SCHOLARSHIPS

All students in need of financial assistance are urged to consult their guidance counselors for information about state scholarships, and to be sure to make application for state scholarship help.

## NATIONAL MERIT SCHOLARSHIPS

Ursinus College sponsors four National Merit Scholarships each year. These scholarships are awarded through the National Merit Scholarship Corporation and are open to any National Merit Finalist who has selected Ursinus College as his first choice. The awards do not limit in any way the number of finalists who may be sponsored by other contributing organizations. Application should be made to the National Merit Scholarship Corporation through the secondary school.

## STUDENT LOANS

National Defense Student Loan Program: Loans up to $\$ 1000$ per year not to exceed $\$ 5000$ for undergraduate study are available. Need for the loan must be substantiated by a Parents' Confidential Statement. Application forms are available from the Financial Aid Office.
Guaranteed Loan Program: This program is administered by the Pennsylvania Higher Education Assistance Agency in Pennsylvania and by similar state agencies or the United Student Aid Funds, Inc. in other states. The maximum loan ranges from $\$ 1000$ to $\$ 1500$ per year depending upon the state and the student's year in college. Total loans for undergraduate work
may not exceed $\$ 7500$. Federal interest subsidy is available to families with a gross annual income below $\$ 15,000$. Application forms should be available at your local bank or state agency.

## TUITION EXCHANGE PROGRAM

Ursinus College is a member of the Tuition Exchange. Requests of children of Faculty members of other member institutions for tuition remission will be considered upon application. Because of the necessity for maintaining a balance of imports and exports, it may not always be possible to honor such requests. Applications for tuition remission should be made through the liaison officer of the institution with which the applicant's parent is associated. Those who receive aid through the Tuition Exchange Program are not eligible for additional grants.


## EDUCATIONAL PROGRAM

The departmental system is employed in the organization and administration of instruction. By this system, the courses of instruction are offered in fourteen departments: Biology, Chemistry, Classics, Economics, English, German, Health and Physical Education, History, Mathematics, Philosophy and Religion, Physics, Political Science, Psychology, Romance Languages. The adviser is the medium of communication between the Faculty and students of his department. The approval of the adviser is necessary before a student may register for or enter upon any course of study, or discontinue any work.

A student, at matriculation, chooses the subject of major concentration he wants to pursue, and with the advice and consent of the adviser selects his studies for the year and reports his selection to the Dean on a blank provided for the purpose. A student who is uncertain as to his future plans, and therefore undecided as to his major field, may choose to be registered in an "Undesignated major" for the first year; but he must designate the broad choice of Humanities, Social Sciences, or Natural and Physical Sciences.

It has become necessary to limit the number of students in scientific programs. In order to follow a curriculum in Science, a candidate must indicate his intention to do so upon application for admission to the College. If the student applies for and is admitted to a program in the Humanities, Social Sciences, or in Languages he may subsequently transfer to a program in the Sciences only upon approval of the Committee on Admission and Standing. Request for change in Major should be addressed to the Dean of the College.

## SUMMER READING PROGRAM

In order to stress the importance of good reading and to develop the student's appreciation of good writing, the Faculty has approved the Program in Summer Reading which is recommended for all students. It begins with the summer preceding the freshman year and continues through succeeding summers. The paper-bound volumes assigned for reading are mailed to the student upon his request. These books are discussed formally and informally during the early weeks of the first semester.

## CHOICE OF STUDIES

The work of every student is composed of three parts: (1) courses which are in the judgment of the Faculty, essential to a liberal education and are required of all students before graduation; (2) courses required by the department in which the student is registered, and which comprise his major field of concentration; (3) elective courses chosen by the student as a means of further individualizing his course of study, and adapting it to his own intellectual tastes and future purposes. (See Ursinus Plan.)

## REGISTRATION

All students must register at the beginning of the Fall Term for the work of the Fall and Spring Terms. Changes in course of study may be made during the first week of a term with the written approval of the adviser. After the first week, courses may be added or dropped only by joint permission of the Dean, the adviser, and the instructors involved. A student who withdraws from a course without such permission will receive the grade of $F$. A fee is charged for the adding or dropping of courses on days other than those appointed in the College Calendar.
In registering, the student must present to his department adviser his complete list of studies, both prescribed and elective, for the whole year. Courses prescribed as degree or departmental requirements or to satisfy conditions must take precedence over and be scheduled before elective courses. When a student changes to another department, he must fulfill the requirements of that department in order to be graduated.

## REQUIREMENTS FOR GRADUATION

The requirement for the degree of Bachelor of Arts or Bachelor of Science is the completion of one hundred and twenty semester hours which must include all the courses required by the Faculty of all students for graduation and the courses required by the department to which the student belongs. At least sixty semester hours of this work must be completed at Ursinus, College, and this must include the work of the senior year.
A regular student may not take in any one term fewer than twelve semester hours of work. The normal maximum for a term is five courses or fifteen semester hours. Two semester hours above the normal maximum may be scheduled with the approval of the adviser. Three semester hours above the normal maximum may be scheduled with the approval of the adviser, provided the student's average for the preceding term is eighty-five or higher (Exception: Engineering and Physical Education majors are permitted to schedule in each term three hours more than the normal maximum).
All fourth-year students shall enroll as full-time students. They must carry a minimum of fourteen (14) semester hours in each of the last two semesters.

All requirements for graduation must be satisfied before the end of the last day of examination week preceding commencement. Each student must bear responsibility for fulfilling his requirements for graduation.

## USE OF LANGUAGE LABORATORIES

The language laboratory is used regularly in either or both of the first two years in languages according to a schedule posted early in each academic year. The laboratory hours are required in addition to the regularly-scheduled class meetings. There is no semester-hour credit for language laboratory.

## CLASS ATTENDANCE

Ursinus College is committed to the principle that class attendance is a vital part of its academic program, making possible that dialogue between student and teacher which is the foundation of the educational process. Students should therefore recognize that absence from class denies them access to the full measure of college education. While urging regular class attendance, the College at the same time wishes to allow students an opportunity to develop a personal responsibility toward academic work. In keeping with these convictions, the following policies govern class attendance:
Each student is expected to exercise reasonable judgment regarding class attendance. Every student is accountable for all work missed because of class absence. Instructors, however, are under no obligation to make special arrangements for students who are absent. A student for whom an academic warning is issued in a course must limit his future absences in that course to the number of times that the course meets per week. If the student then exceeds the allowed number of absences, he will be dropped from the course and be assigned a grade of $F$ unless the Dean, after consultation with the instructor, permits the student to be reinstated. A reinstatement fee of $\$ 10.00$ will be charged.

## GRADES OF SCHOLARSHIP

When a course has been completed, the standing of the student is expressed, according to his proficiency, by one of five grades: A, B, C, D, or F. Letter A denotes grades between $100 \%$ and $90 \%$, B between $90 \%$ and $80 \%$, C between $80 \%$ and $70 \%$, D between $70 \%$ and $60 \%$, and F denotes $45 \%$. Any grade of less than $60 \%$ denotes a failure in the course. Students who have received passing grades are not permitted to take re-examinations for the purpose of raising their grades.
The mark I, which may be given only with the written permission of the Dean, is reserved for cases of incomplete work or of failure under extenuating circumstances. When the removal of the mark I requires an examination, a fee of ten dollars ( $\$ 10.00$ ) will be charged. If the mark of $I$ is not
removed within one month after the beginning of the following regular term, the grade F will be assigned for the course.

A student is required to have an average of $70 \%$ at the end of each term in College. A student who fails to do so may be restricted in his extracurricular activities, and will be reported to the Faculty.

A student whose average at the end of the first term or second term is below $65 \%$, whose cumulative average is below $65 \%$ at the end of the first year, or whose cumulative average is below $70 \%$ at the end of the third term or thereafter will be dropped from the College unless, as a result of mitigating circumstances, the Faculty votes that he be permitted to continue. The action of the Faculty in all such cases is final.

Employment under the Bureau of Student Employment is not allowed to a student whose average for the preceding term is below $70 \%$. A student under discipline may be barred by the Committee on Discipline from all extra-curricular activities.

A permanent record is kept of each student's work, a copy of which is sent to his parent or guardian at the close of each term. The standing of first-year students is reported also at mid-term. Through correspondence and conferences, the cooperation of parents is sought in the endeavor to obtain the best possible results in the work of students.

Any student may be dismissed from the College for cause by the Faculty, regardless of the student's academic average.

## DEGREES

Ursinus College confers three degrees in course: Bachelor of Arts, Bachelor of Science, and Bachelor of Business Administration (Evening School only). For specific requirements of the curricula leading to each of these degrees, see Departmental Requirements and the catalog of the Evening School. Degrees are conferred only at convocations and candidates must present themselves in person.

The College may confer the honorary degrees of Doctor of Divinity, Doctor of Humane Letters, Doctor of Pedagogy, Doctor of Science, Doctor of Letters, and Doctor of Laws on persons whose distinguished ability and service have been deemed worthy of such recognition by the Faculty and the Board of Directors.

## HONORS

## COMMENCEMENT

Two Commencement honors are assigned: one, the Valedictory, to the person attaining the highest standing in the graduating class; the other, the Salutatory, to the person attaining the next highest standing.

## URSINUS COLLEGE BULLETIN

## GRADUATION WITH DISTINCTION

Members of the graduating class who have shown great proficiency in their entire course may be graduated with distinction if, in the opinion of the Faculty, their attainments warrant such honors. These distinctions, Summa Cum Laude, a cumulative average of 94.50 or above; Magna Cum Laude, 92.50 to 94.49 ; and Cum Laude, 89.50 to 92.49, are given only for unusual excellence in all the subjects pursued by the candidate.

## DEAN'S HONOR LIST

All regular, or full-time students achieving an average of 87.50 for a semester are announced at the end of that semester as members of the Dean's Honor List. It is an Ursinus tradition for the Dean of the College to read at the Founders' Day Convocation in November the names of those students who have been carried on the Dean's Honor List for the preceding two semesters.

## THE CHAPTER

The Chapter, a society of faculty members with Phi Beta Kappa membership, is especially concerned with cultivating the arts and sciences at Ursinus College.
Each year The Chapter designates certain seniors as "Chapter Scholars" on the basis of the quality and range of their intellectual interests and attainments.

## SOCIETY OF THE SIGMA XI

The Society of the Sigma Xi, national honorary fraternity for the recognition and encouragement of scientific research, was founded at Cornell University in 1886. The Society was incorporated in 1942. The Ursinus College Sigma Xi Club was installed on October 27, 1966. Election to the Club is based on achievement in original research, and limited to Juniors, Seniors, and Faculty. Election is held once a year, the nominations coming from faculty members.

## PI GAMMA MU

Pi Gamma Mu, the national Social Science Honorary Society for the recognition of scholarship in the social sciences, was iounded in 1924. It is affiliated with the American Association for the Advancement of Science. The Ursinus Chapter, Pennsylvania Sigma, was installed January 1, 1950. Election to the society is based on academic achievement in the social sciences. Election of eligible Juniors and Seniors is held once a year, the nominations coming from faculty members.

## JUNIOR YEAR ABROAD

An Ursinus College Student may spend the Junior Year at a foreign university, provided that he has maintained a B average at Ursinus College and,
in the opinion of the Dean and the Faculty, will be a worthy representative of his country. The course of study abroad must be approved at the time that permission is given. An examination covering the year's work may be required by the department chairman upon the student's return.

Ursinus College is a member of the United Colleges for Foreign Study and Exchange. This organization is committed to a multilateral sponsoring of study opportunities at foreign institutions and aims to maintain academic standards which are comparable to those in effect on the local campus. At present the agency makes possible the participation of Ursinus students in programs in England, France, Germany and Mexico. In addition, a consultative service is provided, which furnishes information regarding foreign study opportunities in various other countries of the world. Detailed information concerning the opportunities afforded and the qualifications for participation may be obtained from the Dean.

## FOREIGN STUDENTS

A Foreign Student, under guidance of the Foreign Student Adviser, is usually classified by the College as a Special Student, at least for his first year. He may then be admitted to degree candidacy for subsequent years. Although facility in understanding spoken English will be a requisite for admission, a foreign student would do well to arrive in the United States before the opening of the college year in order to become familiar with American English. A "homestay" of one month as arranged through the Experiment in International Living, Putney, Vermont, U.S.A., is highly recommended to anyone whose native tongue is not English. Further information can be obtained directly from the organization.

A foreign student should make sure that his visa is valid for more than a single entry into the United States, since on vacation trips he may wish to cross the borders into Canada or Mexico.

All foreign students who wish to apply to Ursinus College are required to take the Test of English as a Foreign Language (TOEFL). For information, write to TOEFL, Box 899, Princeton, New Jersey, USA, 08540.
No foreign student should arrive at the Ursinus campus until all credentials are complete and he has received a formal letter of acceptance.

Dormitories and dining halls are not in operation during college holidays.
Transportation should be arranged via Philadelphia to Collegeville. Foreign students may telephone the Foreign Student Adviser at 215-489-4111 if they need assistance.


## THE URSINUS PLAN

A Pivotal, Radial, and Complementary Program of Liberal Education<br>in a World Setting<br>at a Four-Year College

I. Curricular Program
A. Divisional Groupings of Course Offerings

Language Division
Humanities Division
Social Science Division
Science and Mathematics Division

1. Pivotal Courses: Breadth in Liberal Education. Selection of required representative courses from each Division.
2. Radial Courses. Further breadth in Liberal Education. Selection of Elective courses assuring distribution among Divisions not related to the Student's Major.
3. Departmental Courses and Departmental Honors. Depth in Specialty.
B. Senior Symposium and College Honors.
4. Symposium. Open to all Seniors. Students are enabled to integrate their particular departmental interests collectively in dealing with current issues.
5. College Honors. Open to exceptional Students. Guided independent study.
II. Complementary Program
A. Cultural Activities
B. Student Activities
C. Physical Activities

In the fall of 1966 , the students at Ursinus College began their participation in the URSINUS PLAN, subtitled "A Pivotal, Radial, and Complementary Program of Liberal Education." The College has always placed emphasis upon a broad liberal arts background, and the new URSINUS PLAN provides even greater breadth, depth and freedom of choice. Learning takes place beyond the classroom, the lecture hall, and the laboratory; challenging and varied perspectives on learning itself are revealed by new groupings of related disciplines and course offerings.

Implicit in the URSINUS PLAN are four divisions, all of which are vital to

## URSINUS COLLEGE BULLETIN

the Liberal Arts student, who must learn the importance of pursuing and discerning truth through several methods of inquiry. These divisions are Language, Humanities, Social Science, and Science and Mathematics. Thus, all students at Ursinus College select certain Pivotal Courses, at least one from each division. These Pivotal Courses introduce the student to the characteristic subject matter and intellectual viewpoint of the particular division. In addition, each student elects a minimum of twelve credit hours of Radial Courses, chosen from a division or divisions outside the area of his departmental major. These Radial Courses add further breadth to the understanding gained from the Pivotal Courses.

All students are also encouraged to participate in complementary activities, which, while not required, are nonetheless understood to be an integral part of the learning process. These activities provide many opportunities for social, educational, and cultural enrichment.

Finally, under the URSINUS PLAN all students may participate in the Senior Symposium, which provides them with an opportunity to integrate their various departmental specializations into the context of the world into which they are to be graduated, a world in which no one perspective on truth can be said to deal adequately with all the issues which they will encounter in these complex times. The Senior Symposium, with its unique emphasis upon guided independent study and interdisciplinary analyses of problems, heightens the perspectives of all who participate.

Exceptional students are given a further opportunity to pursue special interests in depth through the present program of Departmental Honors, as well as through the College Scholars' Program, which is open to Sophomores, Juniors, Seniors, and qualified Freshmen in their second term.

Thus, in various ways and at several levels, the URSINUS PLAN provides the industrious and the gifted student alike with a course of study in which will be found all kinds of learning, general and specialized, required and elective, theoretical and practical. The Plan opens the way to an education which is truly liberal and establishes a firm basis for continuing intellectual growth.

## PIVOTAL COURSES

Each student, regardless of his choice of major and of his Department Requirements, is required to take the following Pivotal Courses:

## LANGUAGE DIVISION:

Unless exempt in the manner prescribed, every student is required to take ENGLISH COMPOSITION 001, 002, and TWO FULL YEARS OF A FOREIGN LANGUAGE (to the 003, 004 level or one full year beyond 004). FOREIGN LANGUAGE choices include courses in Classical Languages, Germanic and Slavic Languages, and Romance Languages.

Exemption from either English Composition or two years of a foreign language will be granted to those students who give evidence of having achieved proficiency in English Composition or in a foreign language comparable to that expected of students engaged in the same studies at Ursinus College. Proficiency will be measured by scores attained in Advanced Placement Examinations or the appropriate Achievement Test of the College Entrance Examination Board, or by an examination devised by the departments concerned. Each department will determine the level of proficiency required.

## HUMANITIES DIVISION:

Every student is required to take one of the following full-year sequences of courses: HISTORY 001, 002; PHILOSOPHY 101, 102; WORLD LITERATURE; or COMPARATIVE WORLD CULTURES*.

## SOCIAL SCIENCE DIVISION:

Every student is required to take one of the following full-year sequences of courses: PSYCHOLOGY 001, 008; ECONOMICS 003, 004; POLITICAL SCIENCE 001, 002; SOCIOLOGY 001, 002; or an INTEGRATED SEQUENCE OF COURSES IN THE SOCIAL SCIENCES*.

## SCIENCE AND MATHEMATICS DIVISION:

Science Majors are required to take the INTEGRATED PHYSICAL SCIENCE COURSE, CMP267-1, 2\%, Mathematics Majors may elect to take CMP267. Non-Science Majors (and Mathematics Majors who do not elect CMP267) are required to take one of the following full-year sequences of courses: BIOLOGY 001, 002; CHEMISTRY 001, 002; PHYSICS 001, 002; GEOLOGY 001, 002; or an INTEGRATED SCIENCE COURSE FOR NON-SCIENCE MAJORS*.
the course is the result of one year of planning followed by a one-year pilot course and two years of an experiment during which the course was open to the full complement of students. Approval has been given by the Faculty for inclusion in the URSINUS PLAN. See description on page 179.

## RADIAL COURSES IN NON-MAJOR DISCIPLINES

Every student shall elect twelve (12) credit hours of Radial Courses offered by one or more Departments in one or more Divisions in which his own

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departmental major is NOT found. Election of Radial credit hours can be made from the following courses:

Language Division:<br>Advanced English Composition<br>Classical Languages<br>Dramatic Arts*<br>Germanic and Slavic Languages<br>Public Speaking<br>Romance Languages<br>Humanities Division:<br>English Literature<br>Fine Arts<br>Foreign Literature<br>History<br>Music<br>Philosophy-Religion<br>Social Science Division:<br>Anthropology<br>Economics<br>Education 2, 44<br>Geography<br>Political Science<br>Psychology<br>Sociology<br>Science and Mathematics Division:<br>Biology<br>Chemistry<br>Geology<br>Health \& Phys. Ed. 32m 32w<br>Mathematics<br>Physics

*Here and elsewhere courses marked (*) have been recommended by the Faculty of Ursinus College, but may not be offered in 1972-1973.

## DEPARTMENTAL COURSES

(See Departmental Requirements for each major)

## COLLEGE SCHOLARS' PROGRAM

Qualified Freshmen in their second term, Sophomores, Juniors and Seniors may earn up to nine credits (not more than three per semester) by pursuing guided independent research as Research Scholars or by working in subjects not in the regular college curriculum as Independent Students.

1. To qualify for either section of the College Scholars' Program the candidate must have achieved a semester average of 85 during the semester immediately preceding.
2. A student may in this way fulfill his requirements for three credit hours of Pivotal or up to nine credit hours of Radial courses. Each semester of passing work in the programs will carry three semester credits.
3. A student may work for no more than one semester in the Department of his Academic Major.
4. The Divisions of the Program are: Natural Sciences, Languages, Social Sciences, and Humanities.
5. In the Research Scholars' Program, the candidate must prepare a brief prospectus outlining his research project which meets the approval of his Academic Adviser and of the College Scholars' Committee of the faculty. He must then prepare his research paper under the supervision of a Tutor and must participate in two seminar meetings per semester, designed to bring him into contact with the other Scholars working in the same Division of the Program. His work will be graded by the College Scholars' Committee, which will assess the merits of his research paper and his performance at
an oral examination, which will be attended by his Tutor and when feasible by an outside authority in the student's field. His Academic Adviser will also be invited to attend.
6. In the Independent Study Program, the candidate must prepare a prospectus stating what subject he wishes to study and what materials he hopes to use. This prospectus must be approved by his Academic Adviser and by the College Scholars' Committee of the faculty, which may consult the head of any Department logically concerned. The student must submit to the College Scholars' Committee a course outline approved by his Tutor before the end of the second full week of the semester. The student, his Tutor, and the Committee will then meet to determine an appropriate format for his final report and examination. Independent Students will also be required to participate in the seminar meetings of the Program. The Independent Student will be graded by the Committee on the basis of the course plan agreed upon at the outset, with the Tutor devising and administering the final examination, oral or written, as in any regular course.

## DEPARTMENTAL HONORS

Students may be graduated with special honors in departments of study in which they have shown exceptional proficiency, subject to the following regulations:

1. To be admitted to candidacy for Departmental Honors, a student must have the endorsement of the Chairman of the Department in which he wishes to pursue the program, file the written approval in the Dean's Office, and register during the Spring pre-registration period of his Junior year.
2. A candidate must have a minimum cumulative average of $B-$ in all courses taken throughout the first three years of college, and a minimum average of $B+$ in all courses taken in the department in which he seeks honors.
3. Upon consent of the adviser a candidate may be exempt from a threehour course in his own department.
4. The Project Adviser will assign a grade for the project and may recommend Departmental Honors. If the candidate receives a passing grade, he will earn three semester credits toward graduation, even though his work may not be recommended for Departmental Honors.
5. In order that the Faculty may consider the awarding of Honors, the candidate shall deposit his completed thesis, together with a written recommendation from his adviser, in the Office of the Dean by May 1 preceding the Convocation at which the Departmental Honors are to be awarded.

## SENIOR SYMPOSIUM

The Senior Symposium is a cooperative teaching enterprise with an emphasis on discussion and dialogue among students, faculty, and visiting specialists from different disciplines.

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The first semester's work consists entirely of independent reading and periodic conferences with a Tutor. Selected readings, conference discussions, and an oral examination comprise the first semester. The second semester's work concentrates on the major issues confronting Americans today. The Symposium meets twice a week for one and one-half hours. Approximately one-half of this time is devoted to lectures, panels, and question periods, followed by discussions to further the student's inquiry into the issues at hand.

## COMPLEMENTARY PROGRAM

## COMPLEMENTARY CULTURAL ACTIVITIES

Every student is encouraged to participate in cultural activities at Ursinus College. The activities are planned in a four-year cycle of emphasis. They include the FORUM series, the SUMMER READING program, academic CONVOCATIONS, and related activities such as FIELD TRIPS to museums, and other complementary activities.

## COMPLEMENTARY STUDENT ACTIVITIES

Every student is encouraged to participate in those student activities which provide opportunities for integrating perspectives and content of several disciplines and courses within the four divisions. While students are not restricted to participation in activities related to their divisional or departmental fields, the following listing will assist students in seeing those relationships:

```
Language Division:
    French Club
    German Club
    Spanish Club
    Debating Team
Humanities Division:
    English Club
    YM-YWCA
    Meistersingers
    Messiah Chorus
    Ursinus College Band
    Protheatre
    Ursinus Weekly Staff
    Lantern Staff
    Ruby Staff
```


## Social Science Division:

Economics Club
International Relations Club Intercollegiate Conference on Government
Psychology Club
Pennsylvania State Education Association
Ursinus Student Government Association

Science and Mathematics Division:
Beardwood Chemical Society Brownback-Anders Pre-Medical Society
Mathematics Club

## COMPLEMENTARY PHYSICAL ACTIVITIES

Every student is required to take PHYSICAL EDUCATION 101, 102, unless he is a Physical Education Major or is otherwise excused. In addition, every student is encouraged to participate in the activities of organizations such as the Outing Club, and to engage in intramural as well as varsity sports.

## COURSES OF INSTRUCTION

In designating courses of study, odd numerals are employed to indicate the courses offered during the Fall Term and even numerals the work of the Spring Term. Exceptions to this regulation are noted. Summer Term offerings are not announced in this catalog, but so far as possible, courses will be offered to meet the needs of students who register for the Summer Term.
The credit value of each course, expressed in semester hours, is printed in italics. The hours per week are given in the definition of the course.

## 003-ANTHROPOLOGY

MRS. KERAWALLA
003-001 INTRODUCTION TO ANTHROPOLOGY
STAFF
Archaeology, physical anthropology, and the nature of culture. Three hours per week. Three semester hours.

003-002 INTRODUCTION TO ANTHROPOLOGY
STAFF
Continuation of course 001. Three hours per week. Three semester hours.

## 005-BIOLOGY

## ASSISTANT PROFESSOR ALLEN <br> ASSISTANT PROFESSOR MAHONEY ASSOCIATE PROFESSOR HOWARD MRS. SHINEHOUSE

This Department aims, through the study of a number of fundamental aspects of Biology as a science, to foster the scientific attitude in its students, and to provide for its majors a background for graduate work in Biology and for professional preparation in the several fields of human, veterinary medicine and other health services. The Department also participates in a program leading to Teacher Certification in secondary schools, as described below.

Students majoring in Biology must take a minimum of 28 semester hours in Biology, including Biology 011, 012; 014; 019; 021 and 031. Additional electives are to be selected from Biology 015; 016; 017, 018; 020; 022; 023, 024; 025; 026; 032; 133, 134; 233, 234; 333,334. CMP 267-001, 002 is required as a pivotal course for all science majors. This department also requires its majors who are not in the Teaching Program (see below) to take Chemistry 007, 008. Those planning to pursue graduate studies in Biology are advised to elect Mathematics 031 and/or Mathematics 013, 014 and/or Mathematics 041.

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## Teaching Program (Major in Science, concentration in Biology)

This program is designed for prospective secondary school teachers whose principal interest is Biology and who wish to be certified in Biological Science.

The following courses are prescribed by the Department of Biology: CMP 267001, 002. Biology 011, 012; 015; 017, 018; 021; 022; 014 or 019.

The curriculum of students beyond the first year must be arranged in consultation with the Chairman of the Department of Education. For sequence of courses, see Concentration in Biology at the back of the catalog.
NOTE: Students who complete the integrated course in General Chemistry, General Physics, and Mathematics (CMP 267-001, 002) will satisfy the requirements for the following combination of courses: Physics 001, 002; Mathematics 029, 030; and 8 semester hours of Ceneral College Chemistry.

005-001 GENERAL BIOLOGY (ZOOLOGY)
DR. HOWARD
Introduction to principles of structure, function, and development of living things as revealed in a study of selected animal types. Two hours of lecture; one two-hour laboratory period per week. Three semester hours.

005-002 CENERAL BIOLOGY (BOTANY)
DR. HOWARD
Introduction to principles of structure, function, and development of living things as revealed in a study of selected plant material. Two hours of lecture; one two-hour laboratory period per week. Three semester hours.
Courses 005-001 and 005-002 of General Biology are not open to Biology majors but may be taken by other students to satisfy the college requirements for graduation.

## 005-011 GENERAL BIOLOGY

DR. ALLEN
A consideration of the general principles operative in the natural world through the study of representative types of organisms and the medium of experimentation. General topics include the metabolism, genetics, development and structure of living systems. Prerequisite, CMP 267-001, 002. Two hours of lecture; two two-hour laboratory periods per week. Four semester hours.

005-012 GENERAL BIOLOGY
DR. ALLEN
A continuation of Biology 011. General topics include the physiology, ecology and evolution of living organisms. Prerequisite, Biology 011. Two hours of lecture; two two-hour laboratory periods per week. Four semester hours.

Courses 005-011 and 005-012 are the basic introductory courses prescribed for all Biology majors and for any others who are planning to meet the various preprofessional requirements in Biology.

## 005-014 COMPARATIVE ANATOMY

DR. HOWARD
Comparative anatomy and phylogeny of the chordates, with emphasis on the vertebrates. Comparative laboratory dissections of shark, amphibian and mammal. Prerequisite, Biology 012. One hour of lecture; two three-hour laboratory periods per week. Four semester hours.

Studies of the interrelationships among organisms and their environment, with emphasis on field investigations. The following principles and concepts are stressed: adaptation, parasitism, population dynamics, the community, succession and energy relations. Prerequisite, Biology 002 or Biology 012. Two hours of lecture, one threehour laboratory period per week. Three semester hours.

005-016 ADVANCED BOTANY
A phylogenetic study of vascular and nonvascular plants, stressing the principles of taxonomy, morphology, ecology and physiology. Laboratory and field investigations center upon elements of the local flora. Prerequisite, Biology 002 or Biology 012. Two hours of lecture, one three-hour laboratory period per week. Three semester hours.

Biology 005-016 is required for those who intend to apply for certification in Pennsylvania as teachers of Comprehensive Science and is strongly urged for students in a preveterinary program.

005-017 HUMAN ANATOMY AND PHYSIOLOGY
MRS. SHINEHOUSE
A study of the characteristics of cells and tissues and of the muscular, skeletal and nervous systems. Emphasis is placed on the integration of structure and function. Prerequisite, Biology 001 or Biology 011; or permission of the instructor. One hour of lecture; one two-hour laboratory period per week. Two semester hours.

005-018 HUMAN ANATOMY AND PHYSIOLOGY
MRS. SHINEHOUSE
A study of the structure and function of the sense organs and of the circulatory, respiratory, urinary, digestive, endocrine and reproductive systems. Prerequisite, Biology 017; or permission of the instructor. One hour of lecture; one two-hour laboratory period per week. Two semester hours.

005-019 VERTEBRATE EMBRYOLOGY
DR. ALLEN
The origin, morphogenesis and early development of vertebrate tissues, organs and organ systems. The physical and chemical aspects of cell and tissue differentiation. Prerequisite, Biology 012. One hour of lecture; two three-hour laboratory periods per week. Four semester hours.

005-020 HISTOLOGY
DR. ALLEN
A study of the structure of vertebrate tissues and their integration into organs and organ systems. An introduction to histological technique. Prerequisite, Biology 012; or permission of the instructor. One hour of lecture; two three-hour laboratory periods per week. Four semester hours.

## 005-021 GENETICS

DR. MAHONEY
Lectures and discussions dealing with the principles of plant and animal genetics, and the consideration of factors pertaining to human inheritance. Prerequisites, Biology 001, 002 or Biology 011, 012. Three hours per week. Three semester hours.

## 005-022 EVOLUTION

DR. MAHONEY
Lectures and discussions explaining the history of living things in space and time. Assigned readings and papers. Open to all students. Two hours per week. Two semester hours.

005-023 SEMINAR
STAFF
Papers, reports and/or independent research concerned with selected phases of biological knowledge. Topics to be chosen by the instructor in charge. Prerequisites, Senior standing; Biology 014 or 019, Biology 021; Chemistry 008; or permission of the instructor. One hour per week. One semester hour.

005-024 SEMINAR
STAFF
Comparable to Biology 023, but using different material. Prerequisites, Senior standing; Biology 014 or 019, Biology 021; Chemistry 008; or permission of the instructor. One hour per week. One semester hour.

## 005-025 CELLULAR PHYSIOLOGY

DR. KRUSE
A study of the phenomena involved in cell growth, maintenance, self-regulation and in the general behavior of protoplasm. Prerequisites, Biology 012; Chemistry 008. Two hours of lecture; one four-hour laboratory period per week. Four semester hours.

005-026 VERTEBRATE PHYSIOLOGY
DR. KRUSE
A study of the general principles of the functional mechanisms that underlie the life processes of vertebrates. Prerequisites, Biology 012; Chemistry 008. Two hours of lecture; one four-hour laboratory period per week. Four semester hours.

Enrollment in Biology 025 and 026 is limited to 15 students each term. A minimum of 6 students is required for each course to be offered.

005-031 MICROBIOLOGY
DR. KRUSE
The structural, cultural and physiological characteristics of microorganisms and their role in the economy of nature. The principles of immunity, serology and virology are also considered. Prerequisite, Biology 012; or permission of the instructor. Two hours of lecture; two hours of laboratory per week. Three semester hours.

005-032 BIOCHEMISTRY
DR. KRUSE
Chemistry and intermediate metabolism of proteins, lipids, carbohydrates and nucleic acids; energetics of biological compounds; chemistry of photosynthesis, digestion, absorption, assimilation and excretion. Prerequisite, Chemistry 008. Two hours of lecture; two hours of laboratory per week. Three semester hours.

Scientific literature research with the preparation of a final report concerning some biological phenomenon of interest to the student. Prerequisites, Biology 012 and consent of a staff member to serve as advisor. One semester hour.

005-134 RESEARCH
STAFF
Content and prerequisites as in Biology 133, but offered in the spring term. One semester hour.

005-233 RESEARCH
STAFF
Scientific literature research with the preparation of a final report including an original analysis or project design. Prerequisites, Biology 012 and consent of a staff member to serve as advisor. Two semester hours.

005-234 RESEARCH
STAFF
Content and prerequisites as in Biology 233, but offered in the spring term. Two semester hours.

005-333 RESEARCH
STAFF
Library and laboratory research with the preparation of a final thesis. An original laboratory analysis of some biological phenomenon and presentation of results in a student-staff seminar. Prerequisites, Biology 012 and consent of a staff member to serve as advisor. Three semester hours.

005-334 RESEARCH
STAFF
Content and prerequisites as in Biology 333, but offered in the spring term. Three semester hours.

NOTE: A normal maximum of three semester hours of credit will be applied to any combination of research courses. Students who wish to add one additional hour of research credit by a combination of Biology 133 or 134 with Biology 333 or 334 must obtain special permission from the Chairman of the Department.

## 010-CHEMISTRY

## PROFESSOR STAIGER ASSOCIATE PROFESSOR SCHULTZ ASSOCIATE PROFESSOR KRUSE ASSISTANT PROFESSOR BARTH

## ASSISTANT PROFESSOR HESS MRS. BICKING VISITING PROFESSOR LEVESQUE

The courses of study offered by the Chemistry Department are (1) to provide a course in general chemistry which will satisfy the requirements of the College for a laboratory science; (2) to provide training in chemistry for students planning to teach; (3) to provide more than the minimum training for students planning to become technicians in medical laboratories, and for pre-dental and pre-medical students; (4) to offer sufficient specialized training in chemistry beyond the basic courses that

## URSINUS COLLEGE BULLETIN

will enable a graduate to enter a career as a professional chemist; and (5) to prepare students for graduate training.
Students whose principal interest is Chemistry will select a degree of concentration consistent with their vocational objective.
One of the following programs must be selected.

## I. Chemistry Major

All students planning to become professional chemists should enroll in the following program, which is approved by the American Chemical Society for undergraduate professional training in Chemistry.
The following courses are prescribed. CMP267-001, 002; Chemistry 003, 004, 006, 007, 008, 009, 010, 011; Mathematics 031, 032; Physics 004 or Biology 003, 004; German 003, 004; German 011, 012. The following are recommended as electives: Chemistry 005, 012, 021, 030; Physics 007, 008.

## II. Healing Arts

This program is designed for degree-seeking students planning for admission to professional schools in the healing arts (medicine, dentistry, osteopathy, veterinary medicine, etc.) who are specializing in Chemistry in college. Another language may be substituted for the German required in Program I.
The following courses are prescribed: CMP267-001, 002; Chemistry 003, 007, 008, 009, 010; Biology 011, 012; Mathematics 031.

## III. Teaching

This program (major in Science, concentration in Chemistry) is designed for prospective secondary school teachers whose principa! interest is Chemistry. The following courses are prescribed by the Department of Chemistry: CMP267-001, 002; Chemistry 003, 007, 008. Chemistry electives 6 credits: Biology 001, 002; Physics 011, 012; 004. A student presenting six credits in general chemistry may satisfy the prerequisite for an advanced course by passing a written examination set by the faculty of the Department.
NOTE: Students who complete the integrated course in General Chemistry, General Physics and Mathematics (CMP267-001, 002) will satisfy the requirements for the following combination of courses: Physics 001,002; Mathematics 029, 030; and 8 semester hours of General College Chemistry.

## 010-001. GENERAL CHEMISTRY

## DR. LEVESQUE

A development of the facts, theories, and methods of chemistry as applied to solids, liquids, gases and solutions. Related laboratory work is given. Chemistry 001 does not satisfy the prerequisite requirements for advanced chemistry courses. Two hours of lecture and three hours of laboratory per week. Three semester hours.

010-002. GENERAL CHEMISTRY-A terminal course
DR. LEVESQUE
A continuation of Chemistry 001. Prerequisite, Chemistry 001. A study of the properties and reactions of the elements. A study of descriptive inorganic and organic chemistry
based on the principles of equilibrium and structure. Chemistry 002 does not satisfy the prerequisite for advanced chemistry courses. Two hours of lecture and three hours of laboratory per week. Three semester hours.

010-003. QUANTITATIVE ANALYSIS
DR. SCHULTZ
A study of commonly used methods of gravimetric and volumetric analysis. Emphasis is placed on the theory of equilibrium developed in CMP267-001, 002. Three hours lecture and three hours of laboratory per week. Four semester hours.

010-004. INORGANIC CHEMISTRY
MISS BARTH
Selected topics in the descriptive chemistry of the elements in terms of modern bonding theory. The laboratory work involves the application of special techniques to the synthesis of representative inorganic compounds. Three hours of lecture and three hours of laboratory per week. Prerequisite, Chemistry 009. Four semester hours.

## 010-005. ANALYTICAL CHEMISTRY

MISS BARTH
An advanced course in quantitative analysis. Topics covered are non-aqueous and complexometric titrimetry, analytical separations, quantitative organic analysis and electrochemistry. Prerequisites, Chemistry 003 and 010. Two hours of lecture and three hours of laboratory per week. Three semester hours.

## 010-006. INSTRUMENTAL ANALYSIS

MISS BARTH
A study of the principles and applications of modern instrumental analysis with particular emphasis on the chemical principles on which the methods of measurement are based. Prerequisites, Chemistry 003 and 009. Two hours of lecture and three hours of laboratory per week. Three semester hours.

010-007. ORGANIC CHEMISTRY
DR. HESS
The study of the properties, synthesis, and the structure of the most important classes of the carbon compounds. Prerequisites, CMP267-001, 002 or equivalent. Three hours of lecture and three hours of laboratory per week. Four semester hours.

010-008. ORGANIC CHEMISTRY
DR. HESS
A continuation of Chemistry 007. Prerequisite, Chemistry 007. Three hours of lecture and three hours of laboratory per week. Four semester hours.

010-009. PHYSICAL CHEMISTRY
DR. SCHULTZ
The principles of thermodynamics and quantum chemistry are used in studying the states and structure of matter. Kinetics and mechanism, equilibrium, electrochemistry, surface chemistry, solutions, and phase rule are also studied. Related laboratory work is provided. Prerequisites, CMP267-002 or equivalent, Chemistry 003, and Mathematics 031. Mathematics 032 is recommended. Three hours of lecture and three hours of laboratory work per week. Four semester hours.

010-010. PHYSICAL CHEMISTRY
DR. SCHULTZ
A continuation of Chemistry 009. Prerequisite, Chemistry 009. Three hours of lecture and three hours of laboratory work per week. Four semester hours.

## 010-011. THE IDENTIFICATION OF ORGANIC COMPOUNDS

DR. HESS
The classification and identification of organic compounds based on physical and chemical properties; the chemical analysis of organic functional groups and the preparation of characteristic derivatives. Two hours of lecture and six hours of laboratory per week. Prerequisite, Chemistry 008. Four semester hours.

010-012. ADVANCED ORGANIC CHEMISTRY
DR. HESS
A study of the structures of organic molecules and their relation to the mechanism of organic reactions. Prerequisite, Chemistry 010 and 011. Three hours of lecture per week. Three semester hours.

010-013. POLYMER CHEMISTRY
DR. SCHULTZ
A study of the synthesis, structure and properties of polymers. Topics include molecular weight determination and distribution, crystallinity, solution properties, and mechanical behavior. Prerequisites, Chemistry 008 and 010. Two hours of lecture and three hours of laboratory per week. Three semester hours.

010-021. THE LITERATURE OF CHEMISTRY
MISS BARTH
The use of books, journals, and reports in the field of chemistry. Open to third and fourth year students. Prerequisites, Chemistry 008, German 004. One hour per week. One semester hour.

010-022. SEMINAR
STAFF
One hour per week. Prerequisite, Chemistry 008. One semester hour.

010-023. SEMINAR
STAFF
One hour per week. Prerequisite, Chemistry 008. One semester hour.
010-030. RESEARCH
STAFF
Laboratory and library work with a final report. Students who have been admitted to the course and who have fulfilled its requirements may be awarded Departmental Honors, but no additional semester hours of credit, if they have qualified in other ways for admission to the honor program. Three semester hours.

## 010-032. BIOCHEMISTRY

DR. KRUSE
Chemistry and intermediate metabolism of proteins, lipids, carbohydrates, and nucleic acids; energetics of biological compounds; chemistry of photosynthesis, digestion, absorption, assimilation, and excretion. Prerequisites, Chemistry 007, 008. Two hours of lecture per week, two hours of laboratory. Three semester hours.

## COURSES OF INSTRUCTION

## CLASSICAL LANGUAGES

## PROFESSOR DONALD BAKER

The chief objective of the Classics Department is to develop in the student accuracy in thought and verbal expression. Other objectives are to enlarge the student's perspective by introducing him to a civilization other than his own; to increase his knowledge and understanding of the literature and institutions of England and America by studying the Greek and Roman sources from which they came; to encourage in the student a mastery of two languages which are important tools in many fields.
Students majoring in Classical Languages are required to take at least 12 semester hours of Greek and 12 semester hours of Latin beyond Latin 002. In the first half of his senior year, each student must take the Seminar in Classical Studies, Greek 007. In the examination at the close of this course, he will be expected to show a satisfactory general knowledge of Greek and Roman literature, language, art, history, geography, mythology, religion, and private life. For this examination the student is expected to prepare himself (with the advice and help of the instructor) throughout his previous three years both by courses and by outside reading.

## 016-Greek

016-001. BEGINNING GREEK
STAFF
Greek 001 may be elected by students in any major field.
Three hours per week. Three semester hours.

016-002. INTERMEDIATE GREEK
STAFF
Prerequisite, Greek 001 or its equivalent.
Three hours per week. Three semester hours.
016-003, 004, 005, 006. ADVANCED GREEK STAFF
Readings from Homer, Thucydides, Aristophanes, and other authors depending on the preferences and capacities of those electing the course. Only one of these courses will be given in any one semester. Three semester hours.

016-007. SEMINAR IN CLASSICAL STUDIES
STAFF
A study of selected topics dealing with the Greco-Roman world. Knowledge of Greek and Latin is a prerequisite. Three hours per week. Three semester hours.

016-008. NEW TESTAMENT GREEK
STAFF
Prerequisite, Greek 002.
Three hours per week. Three semester hours.

## 017-Latin

017-001. ELEMENTARY LATIN
STAFF
A study of the grammar, syntax, and vocabulary, with emphasis upon the Latin elements in English words. Reading of passages from various authors. Three hours per week. Three semester hours.

## URSINUS COLLEGE BULLETIN

017-002. ELEMENTARY LATIN continued
STAFF
Three semester hours.

017-033, 004. OVID, VIRGIL
STAFF
Prerequisite, Latin 002 or its equivalent.
Each three semester hours.

017-005, 006, 007, 008, 009, 010, 011, 012. ADVANCED LATIN
STAFF
The instructor will arrange with students electing these courses to read authors of one period or literary type, or authors whose works may be correlated with other fields of study, e.g., philosophy, history, law. Not more than two of these courses will be given in any one semester. Prerequisite, Latin 004 or its equivalent. Each of them carries three semester hours credit.

## 018 -DRAFTING AND DESCRIPTIVE GEOMETRY

PROFESSOR MARSTELLER
018-001. DRAFTING
STAFF
Freehand lettering, use of instruments, geometric construction, freehand sketching, orthographic projection including auxiliary views, sectioning, axonometric projection, oblique projection, intersections, developments, fasteners, dimensioning, working drawings, shop processes, reproduction methods, graphs. Six hours laboratory per week. Three semester hours.

018-002. DESCRIPTIVE GEOMETRY
STAFF
Principles of projection, problems involving the essential relations of points, lines and planes, surfaces of revolution, warped surfaces, intersections, developments. Prerequisite, Drafting 001. Six hours laboratory per week. Three semester hours.

## 020-ECONOMICS

PROFESSOR HUNTER
ASSOCIATE PROFESSOR SYMONS
ASSISTANT PROFESSOR MEYER

ASSISTANT PROFESSOR PETRAKIS
MR. McCARTHY

The work in the Economics Department is designed to give (1) a knowledge of the structure and functioning of our economy for effective citizenship; (2) a knowledge of the philosophy and methods of economics as a policy science; (3) a suitable background in economics for those who wish to enter business, law, government, or graduate school.

Students majoring in the department must take a minimum of thirty semester hours of work in the department including Courses 003, 004, 026, 027, and at least one seminar in Economics. In addition, they must take Mathematics 001, 002, 013, 014; and
one pivotal series other than Economics 003, 004 from the Social Science Division. Mathematics 001, 002 may be waived upon the basis of adequate previous preparation.

020-003. ECONOMIC PRINCIPLES
STAFF
Basic economic concepts, national income and its fluctuations, the money and banking system, and the role of government. Three hours per week. Three semester hours.

020-004. ECONOMIC PRINCIPLES
STAFF
Price theory, income distribution, international trade, and current economic problems. Prerequisite, Economics 003. Three hours per week. Three semester hours.

## **020-006. CORPORATION FINANCE

DR. PETRAKIS
Basic principles underlying the financing of the corporate structure. Short and longterm financing instruments. Expansion, failure, and reorganization of the corporation. Prerequisite, Economics 003. Three hours per week. Three semester hours.

020-007. MARKETING
MR. SYMONS
Basic principles and practices involved in the physical distribution of goods and services between producers and consumers. Methods used to create place, time, and possession utility. Three hours per week. Three semester hours.
***020-008. INTERNATIONAL ECONOMICS
MR. SYMONS
International trade theory involving classical and neoclassical concepts. Present institutional arrangements. Foreign exchange rates, balance of payments, tariffs. Prerequisite, Economics 003, 004. Three hours per week. Three semester hours.

020-011. ACCOUNTING PRINCIPLES
DR. PETRAKIS
Introduction to principles and procedures underlying the periodic determination of income and financial positions; emphasis is directed toward the interrelationship between statements and their use in decision making. A business simulation is used. Three hours per week. Three semester hours.

020-012. ACCOUNTING PRINCIPLES
DR. PETRAKIS
Partnership, corporate, manufacturing cost, and departmental accounting. Analysis of financial statements and the impact of accounting methods and policies on financial reports. A business simulation is used. Prerequisite, Economics 011. Three hours per week. Three semester hours.

020-013. PUBLIC FINANCE AND TAXATION
MR. SYMONS
Principles of public expenditures, public revenues, public indebtedness, and financial administration. Principles and workings of the Federal Income Tax Law. Class assign-

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## URSINUS COLLEGE BULLETIN

ments in solving income tax problems. Prerequisite, Economics 003, 004. Three hours per week. Three semester hours.

020-015. BUSINESS L.AW
MR. MCCARTHY
Fundamental procedures governing contracts, sales, agency, bailments and negotiable instruments with emphasis on the analysis of cases. Three hours per week. Three semester hours.

020-016. MONEY AND BANKING
MR. SYMONS
Monetary theory and practice with reference to commercial banking in the United States. Governmental monetary and fiscal policies. International balance of payments. Prerequisites, Economics 003, 004. Three hours per week. Three semester hours.

020-017. GOVERNMENT AND BUSINESS
DR. HUNTER
Public policy toward business in the United States. Economic and legal aspects of regulation. Anti-trust and public utility regulation emphasized. Prerequisites, Economics 003, 004. Three hours per week. Three semester hours.

020-018 ECONOMICS OF MANAGEMENT AND LABOR
MR. MEYER
Theory and practice in the organization and management of the firm for effective use of capital and labor. Three hours per week. Three semester hours.

## 020-021. HISTORY OF ECONOMIC THOUGHT

MR. MEYER
An examination of the development of systematic economic thought from ancient to modern times. Ideas are considered in the light of their initial and continuing relevance. Three hours per week. Three semester hours.

020-026. MICRO-ECONOMICS
DR. HUNTER
Advanced study of price theory and income distribution. Prerequisite, Economics 003, 004. Three hours per week. Three semester hours.

020-027. MACRO-ECONOMICS
DR. HUNTER
Measurement of economic fluctuations, their causes, governmental policies of stabilization and growth, and forecasting. Prerequisite, Economics 003, 004. Three hours per week. Three semester hours.

020-028. COMPARATIVE ECONOMIC SYSTEMS
MR. MEYER
Analysis of National economic systems in theory and practice. The development of economic policy and of problems are discussed and compared. Two year cycle of topics; each topic may be elected for credit. Prerequisite, Economics 003, 004.
*020-028a. ECONOMIC SYSTEMS IN DEVELOPED COUNTRIES
Three hours per week. Three semester hours.

[^1]**020-028b. ECONOMIC SYSTEMS IN UNDERDEVELOPED COUNTRIES Three hours per week. Three semester hours.

## 020-034. ECONOMIC DEVELOPMENT

STAFF
Examination of the theories of economic growth, and of the social, economic and political factors that seem to affect the rate of growth. Two year cycle of topics; each topic may be elected for credit. Prerequisite, Economics 003, 004.

## *020-034a. PROCESS AND PROBLEMS OF DEVELOPMENT IN THE MODERN WORLD

Three hours per week. Three semester hours.
**020-034b. PROCESS AND PROBLEMS OF ECONOMIC DEVELOPMENT IN EUROPE AND THE U.S.
Three hours per week. Three semester hours.
020-035. SEMINAR IN ECONOMETRICS
STAFF
Review of empirical work by contemporary economists in a quantitative mathematical setting. Construction of economic models. Development and presentation of research papers. Prerequisites: Mathematics 001, 002, 013, and 014. Three hours per week. Three semester hours.

020-036. SEMINAR IN CURRENT ECONOMICS PROBLEMS
STAFF
Review of contemporary economic problems in a setting of policy actions and theoretical analysis. Preparation and discussion of research papers. Open to senıor economics majors or to others with permission of instructor. Three hours per week. Three semester hours.
*This course is not offered in 1973-1974; offered in 1972-1973.
**This course is offered in 1973-1974; not offered in 1972-1973.

## 025-Education

## VISITING PROFESSOR WESSEI. <br> ASSOCIATE PROFESSOR LANDES PROFESSOR FLETCHER ASSISTANT PROFESSOR SHARP VISITING PROFESSOR LISSFELT VISITING PROFESSOR SELTZER ASSISTANT PROFESSOR FAGO

The Department of Education aims (1) to increase the students' awareness of the function of the school in modern society; (2) to understand forces which cause change in society and to develop a philosophy of education which will be suitable to these changes; (3) to increase the students' understanding of the nature of growth and the development of individuals; (4) to acquaint the students with modern theories of learning; (5) to provide opportunities for future teachers to become acquainted with acceptable practices in the schools; (6) to develop the skills necessary for beginning teachers. The preparation of teachers is a function of the college as a whole.

## URSINUS COLLEGE BULLETIN

The Department of Education provides the professional courses required for certification of secondary school teachers in Pennsylvania, New Jersey, Delaware and Maryland. In Pennsylvania approval for certification has been granted in nearly all the subject areas of the curriculum. Copies of these approved programs are in the hands of the departmental advisors and should be referred to when planning your yearly registration. Students preparing for requirements of other states should consult the Chairman of the Department for Information concerning specific requirements of those states. Students preparing for teaching must complete Psychology 001 prior to taking courses in Education. As a prerequisite to student teaching, third-year students in areas other than Physical Education are required to observe classes in secondary schools for fifteen hours. For Physical Education majors at least seven hours of observation should be in elementary schools. The remainder of the fifteen hours of observation will be in the secondary schools. Information regarding this observation can be obtained in the office of the Department.

Those students who elect student teaching in the fall semester of the senior year have a full semester of professional courses. The following courses will be given in that semester: Education 041, 043, 005, 044.

The following program of studies is required by all students seeking certification in secondary school teaching:

Second year, 2nd semester, Education 002; Third year, Education 031, 032; Fourth year, 1st semester, Education 041; Education 043; Education 005; Education 044.

Education 043 will be satisfied for students who major in Health and Physical Education upon the successful completion of Physical Education 055 and 056.

## 025-002. INTRODUCTION TO SECONDARY SCHOOL TEACHING

 MR. LANDES, MR. LISSFELTAn introductory course for those who plan to enter teaching. It deals with the organization, personnel, agencies and characteristics of the American school system, and sketches briefly the characteristics of teaching as a profession and the details of a teacher's responsibility in the classroom and in the school. Open only to sophomores and juniors, not to seniors. Three hours per week. Three semester hours.

025-005. STUDENT TEACHING AND PRACTICUM
DR. WESSEL MR. LANDES, MR. LISSFELT, MR. SELTZER
A laboratory course consisting of observation and student teaching. Supervision is provided by the Department of Education in cooperation with cooperating teachers from the selected schools. Where possible, supervision will also be provided by members of the college faculty whose interests are those of the subjects which the students teach. Conferences and critiques are held between the college supervisors and student teachers. A practicum is held bi-weekly while the student teaching program is in progress, dealing with the analysis of classroom instructional practice and the responsibilities of a beginning teacher. This course is open only to fourth-year students who meet personality and academic requirements. Fall semester. Prerequisites, Education 002,031, 032, 041, 043. Eight semester hours.

075-009. EDUCATIONAL AND PSYCHOLOGIC.AL TESTS AND MEASUREMENTS

DR. FLETCHER

An introductory survey of the field of measurement in psychology and education; main features of the techniques of testing and test construction; types of tests and scales; evaluation; interpretation; use. (The same course as 009 under Psychology.) Prerequisites, Psychology 001, 031, 032. Two hours of lecture. Two hours of laboratory. Three semester hours.

## 025-031. EDUCATIONAL PSYCHOLOGY - GROWTH AND DEVELOPMENT DR. FLETCHER, DR. SHARP, DR. FAGO

The nature and development of the psychological processes from the prenatal period through adolescence. (The same course as 031 under Psychology.) Prerequisite, Psychology 001. Three hours per week. Three semester hours.

## 025-032. EDUCATIONAL PSYCHOLOCY - LEARNING

DR. FLETCHER, DR. SHARP, DR. FAGO
Contemporary learning theory for teachers. Topics include schedules of reinforcement, operant theory and methodology for the classroom, token economies, and programmed learning techniques and their application. (The same course as 032 under Psychology.) Prerequisite, Psychology 001. Three hours per week. Three semester hours.

025-034. SEMINAR IN SECONDARY EDUCATION
MR. LANDES
A study of selected topics, drawn from curriculum, which are relevant to secondary education. Two hours per week. Two semester hours.

025-041. ORIENTATION TO EDUCATIONAL PRACTICE AND METHODOLOGY
MR. LANDES, DR. WESSEL
Principles of secondary school teaching; general methods of instruction; problems of the beginning teacher; instruction and practice in the utilization of audiovisual methods and materials. Two hours per week. Two semester hours.

## 025-043. SPECIAL METHODS OF TEACHING IN THE SECONDARY SCHOOL

STAFF
Instruction in the techniques appropriate to the teaching of secondary school subjects; units on reading where appropriate. Sections will be formed in the following areas and noted with the designated suffixes on the college records:
(C)-Classical Languages
(E) -English
(G)-Germanic and Slavic Languages
(M) -Mathematics
(R)-Romance Languages
(S)-Science
(X)-Social Science

Requisite, Education 041. One hour per week. One semester hour.

025-044. FOUNDATIONS OF EDUCATION
MR. LANDES, MR. SELTZER
A study of the philosophical and historical foundations of education and the problems of contemporary education, emphasizing the potential implications not only for the secondary school teacher, but for society in general. A requirement for those preparing to teach, it attempts to synthesize all their preliminary study and practice in their teacher education. It can be a valuable liberalizing course for those who do not prepare for teaching. Three hours a week. Three semester hours.

## ENGLISH

PROFESSOR YOST PROFESSOR STOREY PROFESSOR DONALD BAKFR ADJUNCT PROFESSOR WILLIAMS ASSOCIATE PROFESSOR DOLMAN ASSOCIATE PROFESSOR JONES

ASSOCIATE PROFESSOR BOZORTH ASSISTANT PROFESSOR BYERLY ASSISTANT PROFESSOR De CATUR MR. RICHTER
MR. EHRLICH
MR. WILSON

Majors must take at least thirty semester hours in English beyond Composition 001, 002. To complete departmental requirements, in their senior year majors must pass a comprehensive examination in English and American Literature. Most students majoring in English will be strongly urged to take the following courses: History 001, 002; History 009, 010 or 011, 012; Literature 003, 004; and Literature 019, 020. Students preparing for graduate study in English should elect French and German as their modern languages. Study in classical languages is also recommended for such students as is Literature 013. Students preparing to teach should take Literature 014.
Students will be guided in selecting courses that will help prepare them for the comprehensive examination as well as for their careers.

## 031-Composition

031-001. FIRST-YEAR COMPOSITION
DR. STOREY AND STAFF
The fundamental grammar of English; the study and writing of expository prose. Three hours per week. Three semester hours.

031-002. FIRST-YEAR COMPOSITION
DR. STOREY AND STAFF
Continuation of Composition 001; training in the critical reading of prose and verse. Prerequisite, Composition 001. Three hours per week. Three semester hours.

031-005. ADVANCED COMPOSITION
MR. DOLMAN
Discussion of and practice in current types of fictional writing, with emphasis on the short story. Prerequisite, Composition 001, 002. Two hours per week. Two semester hours.

031-006. ADVANCED COMPOSITION
MR. DOLMAN
Discussion of and practice in non-fictional writing with an introduction to basic forms of journalism. Prerequisite, Composition 001, 002. Two hours per week. Two semester hours.

A conference course in creative writing offering the student opportunity to practice his favorite type of composition. Enrollment is limited to twelve qualified students by arrangement with the instructor. Prerequisite, Composition 001, 002. Individually scheduled. Two semester hours.

## 032-Literature

032-033. SURVEY OF ENGLISH LITERATURE STAFF

The history of English Literature from the beginning to the end of the neoclassical era. Special attention is given to the social background. Three hours per week. Three semester hours.

032-004. SURVEY OF ENGLISH LITERATURE
STAFF
A continuation of course 003 to the present. Three hours per week. Three semester hours.

032-005. ENGLISH LITERATURE FROM 1660 TO 1740
DR. STOREY
The literature of the Restoration and the early decades of the eighteenth century. Three hours per week. Three semester hours.
Literature 005 is elective for third-year and fourth-year students.

032-006. ENGLISH LITERATURE FROM 1740 TO 1795
DR. STOREY
The literature of the neo-classical age and of pre-romanticism. Three hours per week. Three semester hours.
Literature 006 is elective for third-year and fourth-year students.

032-007. ENCLISH POETRY, 1790-1824
DR. YOST
A study of English poetry from 1790 to the death of Byron. Three hours per week. Three semester hours.
Literature 007 is elective for third-year and fourth-year students.

032-008. ENGLISH POETRY, 1824-1890
MR. JONES
A study of the poetry of Tennyson and his contemporaries. Three hours per week. Three semester hours.
Literature 008 is elective for third-year and fourth-year students.

032-009. SHAKESPEARE
DR. DeCATUR
The reading of Shakespeare's principal plays and the study of their background. Three hours per week. Three semester hours.

032-010. SHAKESPEARE
DR. DeCATUR
Continuation of Literature 009. Literature 009 is not a prerequisite for Literature 010. Three hours per week. Three semester hours.
Literature 009 and 010 are elective for second-year, third-year and fourth-year students.

## URSINUS COLLEGE BULLETIN

032-013. HISTORY OF THE ENGLISH LANGUAGE
DR. STOREY
A survey of the development of the English language from Old English to modern American and British English. Close analysis of samples of English in at least three stages of its history. Three hours per week. Three semester hours.

## 032-014. LINGUISTICS AND MODERN GRAMMAR

DR. BYERLY
This course prepares future teachers to utilize a variety of current approaches to English grammar. Although transformational-generative theory is emphasized, traditional and structural grammars are also discussed. Three hours per week. Three semester hours.

032-015. TWENTIETH CENTURY POETRY
MR. WILSON
A study of modern poetry written before the second World War. Three hours per week. Three semester hours.
*032-016. TWENTIETH CENTURY POETRY
MR. WILSON
A study of poetry written after the second World War. Three hours per week. Three semester hours.
Literature 015 alternates with Literature 016.
032-019. AMERICAN LITERATURE
DR. YOST
A survey of American literature from its beginning to the Civil War. Three hours per week. Three semester hours.

## 032-020. AMERICAN LITERATURE <br> DR. YOST

American literature from the Civil War to the present. Prerequisite, Literature 019. Three hours per week. Three semester hours.
Literature 019 and 020 are elective for second-year, third-year and fourth-year students.
*032-021. CLASSICS IN TRANSLATION
STAFF
A study of Homer and Greek and Roman comedy. Two hours per week. Two semester hours.

032-024. SEMINAR
DR. YOST
The reading and interpretation of English and American poetry. Prerequisite, Literature 003,004 . Three hours per week. Three semester hours.
Literature 024 is elective for fourth-year students. Enrollment is limited to twelve qualified students.

032-027. CRITICAL THEORY AND PRACTICE
DR. BYERLY
A survey of critical approaches to literature from Sir Philip Sidney's The Defense of Poesy to the present, emphasizing the practical application of critical principles in the student's own writing. Three hours per week. Three semester hours.

[^2]*032-029. CHAUCER
DR. BYERLY
A study of Chaucer's poetry in its historical context, including Troilus and Criseyde, The Canterbury Tales, and some of the short poems. Three hours per week. Three semester hours.

032-030. ENGLISH NON-DRAMATIC LITERATURE, 1485-1660 DR. De CATUR A study of the non-dramatic poetry and prose of the English Renaissance, with concentration upon the works of the Oxford humanists, Spenser, the metaphysical poets, and Milton. Prerequisite, Literature 003 or History 004. Three hours per week. Three semester hours.
Literature 030 alternates with Literature 037.
*032-031. ENGLISH DRAMA, BEGINNINGS TO 1642
DR. De CATUR
A study of the development of English drama (excluding Shakespeare) through the Medieval and Renaissance periods up to the closing of the theaters. Prerequisites, Literature 003 and Literature 009 or 010. Three hours per week. Three semester hours. Literature 031 alternates with Literature 030.

032-032. MILTON
DR. STOREY
The reading of Milton's poetry and most important prose works and the study of their background. Prerequisite, Literature 003 or History 004. Three hours per week. Three semester hours.

## 032-033. THE NOVEL IN ENGLAND AND AMERICA BEFORE THE TWENTIETH CENTURY

MR. JONES
A study of the origins and development of the novel in England and America from the seventeenth through the nineteenth centuries. Prerequisite, English Composition 001. Three hours per week. Three semester hours.

032-034. THE NOVEL IN ENCLAND AND AMERICA SINCE THE BEGINNING OF THE TWENTIETH CENTURY

DR. BOZORTH
A study of the development of the novel in England and America during the twentieth century. Prerequisite, English Composition 001. Three hours per week. Three semester hours.
Literature 033 and 034 need not be taken consecutively.

032-035. MODERN DRAMA
MR. EHRLICH
A reading and discussion course in significant European and American dramatists, movements, and genres from Buechner to Brecht, with emphasis on influences of earlier playwrights on modern writers. Prerequisite, English Composition 001. Three hours per week. Three semester hours.

[^3]
## URSINUS COLLEGE BULLETIN

032-036. CONTEMPORARY DRAMA
MR. EHRLICH
A reading and discussion course in significant contemporary European dramatists, movements, and genres from Pirandello through the Theatre of Revolt. Prerequisite, English Composition 001. Three hours per week. Three semester hours.

032-040. SENIOR SEMINAR
DR. BYERLY
A study of key works and major trends in English and American literature. Open only to senior English majors. Three hours per week. Three semester hours.
*032-041. SEMINAR IN ADVANCED STUDIES IN LITERATURE
STAFF
A study of genre. Prerequisite, junior or senior standing. Three hours per week. Three semester hours.

032-042. SEMINAR IN ADVANCED STUDIES IN LITERATURE STAFF
A study of a major author. Prerequisite, junior or senior standing. Three hours per week. Three semester hours.

## 080 - FINE ARTS

DOUGLAS A. DAWSON
080-001. APPRECIATION OF THE FINE ARTS
MR. DAWSON
An integrated study of the visual, audio and performing arts. Three hours per week. Three semester hours. Enrollment limited to 60.

080-002. APPRECIATION OF THE FINE ARTS
MR. DAWSON
A continuation of Fine Arts 001. Prerequisite, Fine Arts 001. Three hours per week. Three semester hours. Enrollment limited to 60 .

080-003. PAINTING AND THE PLASTIC ARTS
MR. DAWSON
Theory of painting and the plastic arts. Three hours per week. Three semester hours. Enrollment limited to 18 per section.

## 080-004. PAINTING AND THE PLASTIC ARTS

MR. DAWSON
A continuation of Fine Arts 003. Prerequisite, Fine Arts 003. Three hours per week. Three semester hours. Enrollment limited to 18 per section.
See also History 027, 028.

## 034-GEOGRAPHY

034-002. GEOGRAPHY
MR. DAVIS
Extensive study of the major regions of the world. The purpose is to analyze each from the standpoint of climate, natural resources, and economic problems, and to give the student a fairly detailed knowledge of the physical geography of the regions. Three hours per week. Three semester hours.

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## 033-GEOLOGY

## VISITING PROFESSOR BOGERT

The science of geology presents to the student the fundamental concepts of the earth and its relationship to the economic and cultural worlds of man.

033-001. PHYSICAL CEOLOGY
MR. BOGERT
The analysis of earth materials, structures, and processes that form the earth's surface. two hours of lecture and two hours of laboratory works per week. Three semester hours.

033-002. HISTORICAL CEOLOGY
MR. BOGERT
A systematic study of the earth's historic events as recorded by geologic processes and organic evolution. Two hours of lecture and two hours of laboratory work per week. Three semester hours.

## GERMANIC AND SLAVIC LANGUAGES

## PROFESSOR HARTZELL <br> PROFESSOR RICE

MR. GEIGER
DR. CAFFREY
The Department of Germanic and Slavic Languages strives to encourage the student to make active use of the languages studied, and the reading material is chosen with the principles of the College in mind.

## 035-German

Students majoring in German must take as many of the following courses as their schedules permit: German 005, 006, 007,008, 009, 010; 013, 014 and 015, 016. Twelve (12) semester hours study in another language.

035-001. ELEMENTARY GERMAN
DR. RICE
Complete coverage of grammar and practice in using the language. Three hours per week. Three semester hours.

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035-002. ELEMENTARY GERMAN
DR. RICE
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Continuation of German 001. Should not be taken separately. Three hours per week. Three semester hours.

035-003. INTERMEDIATE GERMAN
DR. HARTZELL, MR. GEIGER
Grammar review. Composition and conversation, together with reading of more difficult prose and poetry. Practice in laboratory. Three hours per week in class. One hour per week in the language laboratory. Three semester hours.

035-004. INTERMEDIATE GERMAN
Continuation of German 003. The student is encouraged to develop facility in reading, writing and speaking German. Readings in Scientific German are included. Practice in

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the language laboratory is continued. Three hours per week in class. One hour per week in the language laboratory. Three semester hours.

035-005. ADVANCED GERMAN READING
DR. HARTZELL
Reading of material which will give background for the understanding of Goethe's Faust. Three hours per week. Three semester hours.

035-006. COETHE'S FAUST
DR. HARTZELL
A careful study of the text of Goethe's Faust I and parts of Faust II and the Urfaust. Three hours per week. Three semester hours.
*035-007. SEMINAR IN LITERATURE OF THE EIGHTEENTH CENTURY DR. HARTZELL
The works of Klopstock and Lessing and the music of the 18th Century are studied. Three hours per week. Three semester hours.
*035-008. SEMINAR IN LITERATURE OF THE EICHTEENTH CENTURY
DR. HARTZELL
The works of Goethe and Schiller are studied. Three hours per week. Three semester hours.
*035-009. SEMINAR IN LITERATURE OF THE NINETEENTH CENTURY
DR. HARTZELL
Authors studied include Kleist, Hebbel, Grillparzer and the music of the 19th Century. Three hours per week. Three semester hours.
*035-010. SEMINAR IN LITERATURE OF THE TWENTIETH CENTURY
DR. HARTZELL
A careful reading of representative works of the Twentieth Century, including those of Gerhart Hauptmann, Kafka, Wedekind, Brecht, Durrenmatt. Three hours per week. Three semester hours.

035-011. SCIENTIFIC GERMAN
DR. RICE
Reading of texts in scientific fields. Special attention is given to techniques of translation. Prerequisite: German 004. Three hours per week. Three semester hours.

035-012. SCIENTIFIC CERMAN
DR. RICE
Continuation of German 011. Readings in scientific journals, or original scientific works. Individual consultations. Three hours per week. Three semester hours.
*035-013. WRITING AND SPEAKING GERMAN
MR. GEIGER
Practice in oral elements of the language; written composition. Three hours per week, plus three periods per week of laboratory. Three semester hours.

[^5]Continuation of German 013. Increased emphasis upon speaking German. Three hours per week, plus three periods per week of laboratory. Three semester hours.

035-015. THE GERMAN NOVELLE
DR. HARTZELL
Theory and development of the Noveile from its beginning in the eighteenth century to the present. Selected works by Goethe, Kleist, Keller, Mann and Kafka. Three hours per week. Three semester hours.

035-016. CONTEMPORARY GERMANY, LIFE AND LITERATURE DR. HARTZELL A course designed to present a background of the social and literary life of contemporary Germany. This includes an exposure to the periodical literature and newspapers. Three hours per week. Three semester hours.

## 036-Swedish

Study of Swedish will not fulfill the College general requirement of language for graduation.
*036-001. SWEDISH FOR BEGINNERS
DR. RICE
Grammar, easy reading and composition. Lectures on cultural background. Three hours per week. Three semester hours.
*036-002. INTERMEDIATE SWEDISH
DR. RICE
Reading and composition. Students completing this course will be able to read Danish and Norwegian as well as Swedish. Three hours per week. Three semester hours.

036-003. ADVANCED SWEDISH
DR. RICE
Readings in Swedish literature, including selections from Danish and Norwegian. Three hours per week. Three semester hours.

036-004. ADVANCED SWEDISH
DR. RICE
Continuation of Swedish 003. Three hours per week. Three semester hours.

## 089-Russian

089-001. ELEMENTARY RUSSIAN
DR. CAFFREY
Grammar, conversation, reading. Three hours per week. Three semester hours.
089-002. ELEMENTARY RUSSIAN
DR, CAFFREY
Continuation of Russian 001. Emphasis upon reading and conversation. Three hours per week. Three semester hours.
*This course is not offered in 1972-1973.

Continuation of Russian 003. Emphasis upon reading and conversation. Three hours per week. Three semester hours.

## GREEK

See under Classical Languages

## 040-HEALTH AND PHYSICAL EDUCATION

PROFESSOR BAILEY
VISITING PROFESSOR SNELL ASSOCIATE PROFESSOR GURZYNSKI ASSISTANT PROFESSOR WHATLEY

ASSISTANT PROFESSOR BOYD ASSISTANT PROFESSOR FERRELL MR. VIDEON
MRS. POLEY

The Health and Physical Education Department serves dual functions: (1) to provide for all students a diversified Service Program of activities, and (2) to offer to those students interested in majoring in the field, a comprehensive Professional Program in Health and Physical Education leading to teaching certification in these areas.
Included in the Service Program are the required two-hour freshman classes in basic activities, the optional organized intramural programs for men and women, and the provision of recreational facilities for use of all students in their leisure time.
The Professional Program is a four-year course, offering, within the framework of a broad Liberal Arts education, the opportunity to receive specific training in the field of Health and Physical Education. Implicit in its objectives are the development of the total individual in knowledge, skills, habits and attitudes, the development of social and professional competencies, the growth of insight, independent thought, initiative and leadership, and the evolution of a dynamic ethical philosophy.
Stucients majoring in Health and Physical Education must take the following courses: Physical Education 031, 032 (m) or 032 (w), 043, 044, 051, 052, 054, 055, 056, 057, 058, 061, 062, 064; 301, 302, 303, 304, 305, 306, 307, 308; Biology 001, 002, 017, 018; Psychology 001, 008. Students preparing for teaching also must take prescribed education courses.

## Required Activities Courses

MR. WHATLEY, MISS BOYD, MISS FERRELL, MR. VIDEON, MRS. POLEY
$040-101,102$. These basic courses offering a variety of seasonal games and skills, aim to develop basic skills, improve physical fitness, provide enjoyment and relaxation and to develop recreational and social competence through participation in stimulating activities. These courses are required for graduation for all students except those majoring in physical education and must be completed in the first year. Two hours per week. Not for credit.

## Professional Courses

Health and Physical Education

## 040-031. PRINCIPLES AND HISTORY OF PHYSICAL EDUCATION MISS FERRELL

An orientation course designed to give the student an understanding of the meaning, basic philosophies, principles, and problems of physical education; an analysis of its historical background from the era of primitive man to modern times. Three hours per week. Three semester hours.

040-032m. PERSONAL AND COMMUNITY HEALTH (Men students only)

MR. GURZYNSKI
A study of factors affecting the physical, mental, and social well-being of the individual and of the community. Major emphasis is placed upon problems of personal health including disease prevention and the understanding of the functioning of the human body. Three hours per week. Three semester hours.

040-032w. PERSONAL AND COMMUNITY HEALTH
(Women students only)
MISS BOYD
Subject matter and presentation as for Physical Education 032m. Three hours per week. Three semester hours.

040-043. COMMUNITY RECREATION PROGRAMS
MR. BAILEY
A comprehensive analysis of the leisure-time problem. An examination of the nature, scope, need, and function of community recreation programs, and of the social and economic forces affecting them. Three hours per week. Three semester hours.

040-044. PROBLEMS AND MATERIALS OF HEALTH AND SAFETY EDUCATION IN SCHOOL PROGRAMS

MISS BOYD
The scope, responsibilty, and function of the health education program in the school with particular stress upon the phases of healthful school living, health service, and safety education. Resource materials are studied and compiled. Two hours per week. Two semester hours.

## 040-051. KINESIOLOGY

MR. GURZYNSKI
An anatomical analysis of the mechanics of body movement and position. A study of the fundamental anatomical concepts in relation to the development of phyiscal education skills. Prerequisite, Biology 017, 018. Two hours per week. Two semester hours.

040-052. PHYSIOLOGY OF ACTIVITY
MR. GURZYNSKI
The physiological phenomena underlying physical activity. The anticipatory, immediate, and after effects of exercise on the different organs and the organism as a whole. Class discussion and laboratory demonstration. Prerequisite, Biology 017, 018. Two hours per week. Two semester hours.

## URSINUS COLLEGE BULLETIN

## 040-054. FIRST AID CARE AND PREVENTION OF ATHLETIC INJURIES <br> MR. VIDEON

This course deals with the causes, preventive procedures and emergency treatment for all types of common injuries and with those injuries specifically incident to athletic competition. Conditioning exercises, diet and various therapeutic aids are studied. Laboratory practice includes bandaging, taping, massage, and the clinical use of physical therapy equipment. This work meets the requirements for the Red Cross Standard First Aid certificate. Two hours per week. Two semester hours.

040-055. METHODS OF HEALTH INSTRUCTION
MISS BOYD
Analysis of the principles, materials, and methods involved in the teaching of health at different age levels. Lesson plans and units construction. Open only to physical education majors or students who have completed six hours in Education. Two hours per week. Two semester hours.

## 040-056. PRINCIPLES AND METHODS OF TEACHING PHYSICAL EDUCATION MISS FERRELL

Principles, methods, and problems of teaching physical educational activities at the elementary and secondary school levels, lesson planning, unit and curriculum construction. Open only to physical education majors or students who have completed six hours in Education. Two hours per week. Two semester hours.

040-057. PRINCIPLES AND METHODS OF COACHING AND OFFICIATING MISS SNELL, MR. GURZYNSKI, AND STAFF
This course is designed with particular reference to the needs of prospective coaches and officials. Opportunities are given for practice in officiating. Two hours per week. Two semester hours.

040-058. PRINCIPLES AND METHODS OF COACHING AND OFFICIATING MISS SNELL, MR. WHATLEY, AND STAFF
Continuation of Physical Education 057. Two hours per week. Two semester hours.

040-061. TESTS AND MEASUREMENTS IN PHYSICAL EDUCATION MISS FERRELL
This course aims to familiarize the student with the nature, function and history of measurement in the field of physical education and to give him working knowledge and practical experience in the use of testing procedures. Three hours per week. Three semester hours.

040-062. ADMINISTRATION OF HEALTH, PHYSICAL EDUCATION, AND RECREATION

MR. BAILEY
A study of the administrative problems in health education and physical education. Two hours per week. Two semester hours.

## COURSES OF INSTRUCTION

040-064. CORRECTIVE AND ADAPTIVE PHYSICAL EDUCATION MISS FERRELL
An analysis of conditions affecting the development of atypical children; methods for selecting and classifying such individuals, with particular attention to the adaption of activities to meet their needs. Three hours per week. Three semester hours.

## 040-004. LEADERSHIP IN CAMP AND CLUB ACTIVITIES

MR. WHATLEY
Discussion of the principles, characteristics, and processes of leadership in light of their significance to directors of camp and club activities. Three hours per week. Three semester hours.

## Activities Courses

040-301, 302. FIRST YEAR ACTIVITIES
STAFF
Physical Education activities of a seasonal nature comprise the major content of this
course with greatest stress laid on team sports. All activities are analyzed from the teaching standpoint. Students are given opportunities for self evaluation and for creative and teaching experiences. Six hours per week. Four semester hours.
MEN: Football, soccer, tennis, basketball, baseball, track and field, volleyball, marching tactics, tumbling, calısthenics, apparatus, square, folk and social dancing, and body mechanics.
WOMEN: Hockey, soccer, speedball, lacrosse, tennis, volleyball, basketball, softball, track and field, marching tactics, tumbling, calisthenics, rhythmics, square, folk and social dancing, and body mechanics.

040-303, 304. SECOND YEAR ACTIVITIES
STAFF
A continuation of H \& PE 301 and 302 with some additional activities. More stress is placed on teaching and on the development of advanced skills and team strategies. Six hours per week. Four semester hours.
MEN: Football, soccer, speedball, tennis, volleyball, baseball, track and field, boxing, wrestling, marching tactics, tumbling, calisthenics, apparatus, tap dancing.
WOMEN: Hockey, soccer, speedball, lacrosse, tennis, volleyball, basketball, softball, track and field, archery, campcraft, canoeing, low organized games, rhythmics, calisthenics, tumbling, apparatus, tap dancing. Consideration is given to the role of rhythmical activities in the program and to the selection and sources of dance materials.

040-305, 306. THIRD YEAR ACTIVITIES
STAFF
More time is devoted to individual sports with continuing emphasis upon the teaching and analysis of skills and strategies, and upon the role of these activities in the physical education program. Opportunity is given in modern dance for original composition. Six hours per week. Four semester hours.
MEN: Archery, golf, tennis, lacrosse, canoeing, badminton, boxing, wrestling, swimming, apparatus.
WOMEN: Archery, golf, tennis, lacrosse, canoeing, badminton, swimming, modern dance, apparatus.

040-307, 308. FOURTH YEAR ACTIVITIES
A continuation of Course 305 and 306 at a more advanced level. Bowling and lifesaving and for women synchronized swimming are offered as additional activities. Three hours per week. Two semester hours.
Professional courses offered by the Department of Health and Physical Education are designed for students majoring in Health and Physical Education. Students in other majors may elect such courses but, except for H \& PE 032 m or 032 w , academic credit will be withheld until the student has completed the general college requirements, his departmental requirements, and has earned a total of one hundred twenty semester hours credit. An exception will be made in the case of a student who wishes to have Health or Physical Education written upon his teaching certificate in addition to another subject matter certification. In such a case, academic credit will be given within the one hundred twenty hour limit. Students should consult the Education Department to learn the exact certification requirements of a particular state.

## 045-HISTORY

## PROFESSOR DAVIS <br> PROFESSOR DONALD BAKER PROFESSOR E. H. MILLER PROFESSOR PARSONS

## ASSOCIATE PROFESSOR VISSER ASSISTANT PROFESSOR COPE DR. REED <br> MR. DAWSON

The objectives of the History Department are to provide an opportunity for students to understand the backgrounds of Western culture and their relationships to other cultures through a knowledge of pertinent historical material, and to become acquainted with the methods of historical research and analysis.

In addition to History 001, 002, students majoring in history must take Course 013, 014; six additional semester hours of European history; eleven semester hours in elective history courses, including one seminar; Economics 003, 004; Political Science 001, 002; Sociology 001; English Literature 003, 004 or 019, 020; and Psychology 001.

For students who plan to prepare for secondary school teaching in the social studies field it is suggested that consideration be given to course 033-034 and to those other courses which include study of contributions of minority groups, specifically History 013-014; 007-008; 016; and the seminars devoted to African or American topics.

045-001. EUROPEAN CIVILIZATION
STAFF
An introductory history of ideas and institutions in European Civilization for the purpose of providing a general historical background for other courses and for an understanding of contemporary world affairs. Two lectures and one section meeting per week. Three semester hours.

045-002. EUROPEAN CIVILIZATION
STAFF
Prerequisite, History 001. Continuation of Course 001. Two lectures and one section meeting per week. Three semester hours.

045-003. MEDIEVAL INSTITUTIONS
DR. VISSER
A study of selected economic, social, cultural, religious, and political institutions essential to the understanding of the period from the fall of Rome to the Renaissance. Not open to first-year students. Three hours per week. Three semester hours.

045-004. THE RENAISSANCE AND THE REFORMATION
DR. VISSER
A study of humanism and religion in the 15 th and 16 th centuries. This course not open to first-year students. Three hours per week. Three semester hours.

## 045-005. THE AGE OF ENLIGHTENMENT

DR. COPE
The development of the European state system 1648-1815, the Enlightenment, the French Revolution and the Napoleonic Era. Not open to first-year students. Three hours per week. Three semester hours.

## 045-066. THE AGE OF ROMANTICISM

DR. COPE
European romanticism and nationalism 1815-1870. Not open to first-year students. Three hours per week. Three semester hours.

## 045-007. THE TWENTIETH CENTURY

DR. VISSER
A study of the impact of industrialization, neo-imperialism, and nationalism upon the European peoples and their overseas empires in the years leading up to and directly following the first World War. Not open to first-year students. Three hours per week. Three semester hours.

045-008. THE TWENTIETH CENTURY
DR. VISSER
A continuation of History 007 covering the events leading up to and following the second World War and the problems of contemporary world history. Not open to first year students. Three hours per week. Three semester hours.
*045-009. ENGLAND AND THE BRITISH EMPIRE
DR. COPE
A history of the British people with special attention to political and constitutional developments to 1600 . Three hours per week. Three semester hours. (Alternates with 011.)
*045-010. ENGLAND AND THE EMPIRE-COMMONWEALTH
DR. COPE
A continuation of History 009 with special attention to political and imperial developments since 1600. Three hours per week. Three semester hours. (Alternates with 012.)

## 045-011. BRITISH SOCIAL HISTORY

DR. COPE
A study of the daily life of the British people. Three hours per week. Three semester hours. (Alternates with 009.)

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045-012. BRITISH SOCIAL HISTORY
DR. COPE
A continuation of Course 011. Three hours per week. Three semester hours. (Alternates with 010.)

045-013. THE UNITED STATES OF AMERICA
DR. PARSONS
Political and cultural history from colonial status to World Power with special emphasis on Pennsylvania. This course is prescribed for all students majoring in history and for any others who are preparing to teach social studies. Three hours per week. Three semester hours.

045-014. THE UNITED STATES OF AMERICA
DR. PARSONS
A continuation of Course 013. Prescribed for all students majoring in history and for any others preparing to teach social studies. Three hours per week. Three semester hours.

045-015. AMERICAN DIPLOMATIC HISTORY
DR. REED
A study of American diplomacy from the treaty of 1783 to the present, including an analysis of the various factors which determine that policy: public opinion, population, world markets and international organization. Three hours per week. Three semester hours.

045-016. ECONOMIC AND SOCIAL HISTORY OF THE UNITED STATES AND PENNSYLVANIA

DR. PARSONS
Economic foundations and social change in the United States with intensive study of Pennsylvania. Two-year cycle of topics. Students may elect each topic for separate credit. This course is not open to first-year students.

045-016a. COLONIAL AMERICA. Three hours per week. Three semester hours.
045-016b. CIVIL WAR. Three hours per week. Three semester hours.
045-016c. WESTWARD MOVEMENT. Three hours per week. Three semester hours.
*045-016d. TWENTIETH CENTURY AMERICA. Three hours per week. Three semester hours.
*045-017 LATIN AMERICA
DR. MILLER
Political and cultural backgrounds of South and Central American nations and their relation to the interests and policy of the United States. Three hours per week. Three semester hours. (Alternates with 023.)

## *045-018 LATIN AMERICA

DR. MILLER
A continuation of History 017. Three hours per week. Three semester hours. (Alternates with 024.)

[^7]Studies in the social, political, and economic life in the ancient world of the Eastern Mediterranean and the Hellenistic area. Three hours per week. Three semester hours.

045-020. ANCIENT HISTORY
STAFF
A continuation of History 019 with emphasis upon the history of the Roman republic, the transition to empire, and the causes for the decline of the Roman world. Three hours per week. Three semester hours.

045-021. MIDDLE EAST
MR. DAVIS
A study of the Byzantine, Persian, and Moslem empires in the middle ages. Three hours per week. Three semester hours.

045-022. MIDDLE EAST
MR. DAVIS
The Moslem World and the Middle East under the Ottoman Empire and in modern times. Three hours per week. Three semester hours.

045-023. THE FAR EAST
DR. MILLER
History of the Asiatic Mainland and the Pacific Islands. Three hours per week. Three semester hours. (Alternates with 017.)*

045-024. THE FAR EAST
DR. MILLER
A continuation of History 023. Three hours per week. Three semester hours. (Alternates with 018.)
*045-025. POLITICAL AND SOCIAL HISTORY OF RUSSIA
MR. DAVIS
An examination of the political, social, economic, and cultural conditions of the medieval and modern periods of Russian development through the imperial era to the end of the nineteenth century. Three hours per week. Three semester hours.
*045-026. POLITICAL AND SOCIAL HISTORY OF RUSSIA
MR. DAVIS
An examination of the history of the Soviet Union, the sources of its institutions, and its role in the contemporary world. Three hours per week. Three semester hours.

045-027. HISTORY OF ART
MR. DAWSON
An introduction to the history of architecture, sculpture and painting, both Occidental and Oriental, presented by means of illustrated lectures and museum trips. Prerequisite, History 001, 002 or Philosophy 101, 102. Three hours per week. Three semester hours.

045-028. HISTORY OF ART
MR. DAWSON
A continuation of History 027. Prerequisite, History 027. Three hours per week. Three semester hours.
See also, Fine Arts.

[^8]045-029. SEMINAR IN THE HISTORY OF EUROPE, OR ASIA, OR AFRICA STAFF Preparation and discussion of research papers. Open to third-year and fourth-year students with the permission of the instructor. Two consecutive hours per week. Two semester hours.
The requirement of History 029 may be met by students who complete a special summer course of European travel and research conducted by a member of the Department of History of Ursinus College.

045-030. SEMINAR IN THE HISTORY OF ASIA, OR AFRICA, OR EUROPE STAFF Preparation and discussion of research papers. Open to third-year and fourth-year students with the permission of the instructor. Two consecutive hours per week. Two semester hours.

045-031. SEMINAR IN THE HISTORY OF AMERICA STAFF
Preparation and discussion of research papers. Open to third-year and fourth-year students with the permission of the instructor. Two consecutive hours per week. Two semester hours.

045-032. SEMINAR IN THE HISTORY OF AMERICA
STAFF
Preparation and discussion of research papers. Open to third-year and fourth-year students with the permission of the instructor. Two consecutive hours per week. Two semester hours.

045-033. MINORITIES IN AMERICA
DR.PARSONS
A study of European and Asian minority groups in American history and society with particular attention to their problems of identity and adjustment, and their special contributions to American life. Three hours per week. Three semester hours.

045-034. MINORITIES IN AMERICA
DR. REED
A study of the Afro-American minority with particular attention to their problems of identity and adjustment, and their special contributions to American life. Three hours per week. Three semester hours.

## 050-MATHEMATICS

## PROFESSOR DENNIS <br> ASSOCIATE PROFESSOR LEWIS

## ASSOCIATE PROFESSOR SCHULTZ ASSISTANT PROFESSOR BREMILLER

The general aims of the Department of Mathematics are (1) to give the students a grasp of the ideas and methods of mathematics; (2) to develop an understanding and appreciation of mathematics as an abstract deductive system; (3) to give the students an appreciation of the historical importance of mathematics in the progress of civilization, both past and present; and (4) to provide the students with sufficient skills to enable them to apply their knowledge to related fields of study.

For mathematics majors, the Department aims to provide stimulation and preparation for (1) continued study at the graduate level; or (2) effective teaching in the secondary schools; or (3) employment in industrial research, statistics, computing, or actuarial positions. For other majors, it seeks to provide the mathematical competence required by the increasing quanitative emphasis in many of these disciplines.

NOTE: Students who complete the integrated course in General Chemistry, General Physics and Mathematics (CMP267-001, 002) will satisfy the requirement for the following combination of courses: Physics 001, 002; Mathematics 029, 030; and 8 semester hours of Ceneral College Chemistry.

A student majoring in Mathematics is required to take Physics 001, 002 and Mathematics $029,030,031,033$, and 034 and fifteen additional hours in Mathematics selected from the courses whose number are above 031.

Certain particular courses are recommended but not specifically required. For those preparing to be teachers - Mathematics 035, 036, 037, 038, 041, 042. For those preparing to take post-graduate work - Mathematics 032, 035, 036, 037, 038, 039, 040, 041, 042, 043, 044, 045.
For those preparing for engineering jobs in industry and for work in the computing field - Mathematics 032, 035, 036, 039, 040, 04I, 042.

050-001. FUNDAMENTALS OF MODERN MATHEMATICS
DR. LEWIS
A treatment of the ideas that are especially pervasive in modern mathematics; sets, functions, operations, and relations; with emphasis on the logical structure of the number systems, algebra, and analytical geometry. Three hours per week. Three semester hours.

050-002. FUNDAMENTALS OF MODERN MATHEMATICS
DR. LEWIS
A further development of modern mathematics with a greater emphasis on analysis, and the mathematical disciplines as illustrated in the study of transcendental functions, probability, statistics, and the calculus. Three hours per week. Three semester hours.

050-013. STATISTICS
DR. LEWIS
Statistical methods of studying data from the fields of economics, education and industry; probability, measure of central tendency, dispersion, skewness. Two hours per week. Two semester hours.

## 050-014. STATISTICS

DR. LEWIS
Additional subjects covered are a continuation of Mathematics 013, correlation, analysis of variance, and methods of testing hypotheses. Prerequisite, Mathematics 013. Two hours per week. Two semester hours.

050-029. ANALYTIC GEOMETRY AND CALCULUS
DR. DENNIS
An integrated study of analytic geometry and calculus with respect to functions of one variable. Three hours per week. Three semester hours.

050-030. ANALYTIC GEOMETRY AND CALCULUS
DR. DENNIS
A continuation of Mathematics 029, with applications to the fields of chemistry and physics. Prerequisite, Mathematics 029. Three hours per week. Three semester hours.

050-031. INTERMEDIATE CALCULUS
MR. BREMILLER
A continuation of Mathematics 030, with emphasis on functions of more than one variable including three-dimensional geometry, partial differentiation and multiple integration; study of infinite series; and applications to problems in engineering. Prerequisite, Mathematics 030. Three hours per week. Three semester hours.

050-032. DIFFERENTIAL EQUATIONS

## MR. BREMILLER

Solution of ordinary differential equations of first and second order, with applications to problems in the physical sciences. Laplace transforms; Fourier Series; power series solutions. Prerequisite, Mathematics 031. Three hours per week. Three semester hours.

050-033. LINEAR ALGEBRA
DR. DENNIS
An introduction to the important mathematical concepts of systems of linear equations, matrix theory, linear transformations on vector spaces, bilinear and quadratic forms. Three hours per week. Three semester hours.

050-034. LINEAR ALGEBRA
DR. DENNIS
A continuation of Mathematics 033 with emphasis on applications to Euclidean vector spaces of two and three dimensions. Prerequisite, Mathematics 033. Three hours per week. Three semester hours.

050-035. MODERN ALCEBRA
DR. DENNIS
An introduction to the modern mathematical systems of groups, integral domains, rings, and ideals, fields, and vector spaces. Prerequisite, Mathematics 034. Three hours per week. Three semester hours.

050-036. MODERN ALCEBRA
DR. DENNIS
A continuation of Mathematics 035, with extensions to linear groups, algebraic number fields, algebra of classes, Galois theory of equations. Prerequisite, Mathematics 035. Three hours per week. Three semester hours.

050-037. INTRODUCTION TO TOPOLOGY
MR. BREMILLER
Elementary point set topology; metric spaces; topological spaces, separation axioms, compactness, connectedness. Three hours per week. Three semester hours. Prerequisite, consent of the Instructor.

050-038. FUNDAMENTALS OF GEOMETRY
MR. BREMILLER
Axiomatic development, introduction to non-Euclidean geometry, projective geometry and modern geometry. Three hours per week. Three semester hours. Prerequisite, consent of the Instructor.

A theoretical treatment of the concepts of limits, continuity, partial differentiation, indeterminate forms, and infinite series; definitions and properties of the Stieltjes integral, multiple integrals, line and surface integrals. Prerequisite, Mathematics 031. Three hours per week. Three semester hours.

050-040. ADVANCED CALCULUS
MISS SCHULTZ
A continuation of Mathematics 039, with an introduction to Gamma and Bessei functions. Fourier series, Laplace transforms, and applications to the solutions of differential equations Prerequisite, Mathematics 039. Three hours per week. Three semester hours.

050-041. PROBABILITY
DR. LEWIS
An introduction to probability theory; a study of discrete and continuous probability functions. Prerequisite, Mathematics 002 or 029 . Three hours per week. Three semester hours.

050-042. MATHEMATICAL STATISTICS
MISS SCHULTZ
This course emphasizes the essential mathematical background of modern statistics. It includes the mathematical development of sampling distributions; the theory and application of tests of hypotheses, regression and correlation, and analysis of variance. Prerequisite, Mathematics 031 and 041. Three hours per week. Three semester hours.

050-043. VECTOR ANALYSIS
DR. DENNIS
Applications of vector calculus to geometry and physics; properties of scalar and vector fields, theorems on line and surface integrals, generalized coordinate systems and transformation theory. Three hours per week. Three semester hours. Prerequisite, Mathematics 039, or simultaneously with Mathematics 039.
*050-044. THEORY OF NUMBERS
DR. DENNIS
Theory of primes and divisibility conditions; simple continued fractions, congruence theory, quadratic residues, diophantine equations. Three hours per week. Three semester hours.
*050-045. FUNCTIONS OF A COMPLEX VARIABLE
DR. DENNIS
An introduction to the theory of analytic functions, integrals of complex functions, conformal mapping, harmonic functions. Taylor's and Laurent's series, residue theory, geometry of elementary functions. Prerequisite, Mathematics 039, or simultaneously with Mathematics 039 . Three hours per week. Three semester hours.

050-051. SEMINAR IN ADVANCED MATHEMATICS
STAFF
A course designed to acquaint the student with modern trends in advanced topics in mathematics and its applications. The course will be adapted to the students'
*This course is not offered in 1972-1973.

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preferences and needs. Three hours per week. Three semester hours. Prerequisite, consent of the Instructor.

## 050-052. SEMINAR IN ADVANCED MATHEMATICS

STAFF
A course designed to acquaint the student with modern trends in advanced topics in mathematics and its applications. The course will be adapted to the students' preferences and needs. Three hours per week. Three semester hours. Prerequisite, consent of the Instructor.

## 055-MUSIC

## PROFESSOR PHILIP

The program in music is designed to meet the needs of non-professional music students and to promote a wider knowledge and appreciation of the history, theory, and performance of great music. The program comprises classroom instruction and opportunities for individual and group participation.

## A. THEORY OF MUSIC

055-001. ELEMENTARY HARMONY
DR. PHILIP
A thorough foundation in the melodic, rhythmic, and harmonic elements of music; keys, scales, intervals, cadences, major and minor chords; rhythmic reading and dictation, time durations, and the study of compound and simple measures. Prerequisite, one year of piano study or of musical theory. Two hours per week. Two semester hours.

055-002. ELEMENTARY HARMONY
DR. PHILIP
A continuation of Music 001. Prerequisite, Music 001. Two hours per week. Two semester hours.

## B. APPRECIATION OF MUSIC

055-013. APPRECIATION OF MUSIC DR. PHILIP
This course covers the early development of music through religious music, folk song and folk dance, and follows their progress to the larger forms of musical composition. Two hours per week. Two semester hours.

055-014. APPRECIATION OF MUISIC
DR. PHILIP
A continuation of Music 013. The further development of music is traced into the symphonic and operatic fields of composition. Prerequisite, Music 013. Two hours per week. Two semester hours.

## C. HISTORY OF MUSIC

055-015. HISTORY OF MUSIC
DR. PHILIP
Introduction to choral and instrumental music of the ancient and medieval period. Two hours per week. Two semester hours.

## COURSES OF INSTRUCTION

055-016. HISTORY OF MUSIC
DR. PHILIP
A continuation of Music 015. This course deals with the music of the Eighteenth Century, the Romantic period, and the Twentieth Century. Prerequisite, Music 015. Two hours per week. Two semester hours.
*055-017. OPERA AND ORCHESTRAL MUSIC
DR. PHILIP
A detailed analysis of symphonic music. Two hours per week. Two semester hours.
*055-018. OPERA AND ORCHESTRAL MUSIC
DR. PHILIP
A detailed analysis of proven operatic compositions. Two hours per week. Two semester hours.

055-019. MUSIC DRAMAS OF RICHARD WAGNER
DR. PHILIP
An intimate discussion and the detailed analysis of Wagner's works. Two hours per week. Two semester hours.
Music 019 alternates with Music 017, 018.

## D. MUSICAL ORGANIZATION

055-021a, 022a. BAND
Participation in the marching and the concert band. Two hours per week. Not a credit course.

055-021b, 022b. BAND
Second year. Continuation of first-year work. Two hours per week. Not a credit course.
055-021c, 022c. BAND
Third year. Continuation of second-year work. Two hours per week. Not a credit course.

055-021d, 022d. BAND
Fourth year. Continuation of third-year work. Two hours per week. Not a credit course.

055-027a,028a, VOCAL ENSEMBLE AND METHODS
A study of the basic principles of ensemble technique, vocal characteristics, and various types of voices. Discussion and study of the musical literature of the different periods. Practical application of principles studied as well as participation with the Ursinus Meistersingers in public concerts. Two hours per week. Not a credit course but a prerequisite for Music 027b, 028b.

055-027b, 028b. VOCAL ENSEMBLE AND METHODS
Second year. Continuation of first-year work. Two hours per week. Credit of one semester hour to be awarded at the conclusion of the year.
*This course is not offered in 1972-1973.

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## 055-027c, 028c. VOCAL ENSEMBLE AND METHODS

Third year. Concentration of second-year work. Two hours per week. Credit of one semester hour to be awarded at conclusion of the year.

055-027d, 028d. VOCAL ENSEMBLE AND METHODS
Fourth year. Continuation of third-year work. Two hours per week. Not a credit course. Not more than twelve semester hours in Music may be counted toward graduation.

## 060-PHILOSOPHY AND RELIGION

## PROFESSOR WILLIAMSON <br> ASSOCIATE PROFESSOR CREAGER

## ASSISTANT PROFESSOR HARDMAN MR. ZAKYDALSKY

The Department of Philosophy and Religion seeks to encourage the student's practical appreciation and facile use of the tools of philosophy, to cultivate his informed awareness and critical appraisal of philosophical perspectives, and to give him opportunity for a scholarly and appreciative study of historic as well as contemporary religious insights. In this manner the department strives to translate into the terms of today's academic interests the traditional roles both disciplines have played in liberal education.
The offerings of the Department are open to all students, but will be of special interest to pre-theological students, prospective teachers in the fields of religion and ethics, and all of those interested in the general humanities.
Majors must take thirty-six semester hours of work within the Department including Philosophy 101, 102; Religion 001, 002; and Philosophy 109, 110 which are required. Each major also must elect fifteen hours of course work in one of four Areas of Concentration, each of which is viewed as giving explicit expression to certain traditional types of philosophical inquiry and religious reflection. The four areas are:

A-Classics, for the student interested in Ancient History, Greek, Latin, etc.
B-Poetics, for the student interested in Literature, Fine Arts, Music, etc.
C-Analytics, for the student interested in Logic, the Philosophy of Science, the Philosophy of Mathematics, etc.
D-Social Sciences, for the student interested in the Social Sciences.
With the approval of the adviser a major may make certain substitutions in the area he chooses.

060-101. HISTORY OF ANCIENT AND MEDIEVAL PHILOSOPHY

DR. WILLIAMSON AND STAFF
A survey of the evolution of reflective thought in the Western World from Thales to Descartes. Course 101 is open to all students. Three hours per week. Three semester hours.

060-102. HISTORY OF MODERN PHILOSOPHY DR. WILLIAMSON AND STAFF A survey of developing reflective thought in the Western World, beginning with Descartes and including several representative modern philosophers. Course 102 is open to all students. Three hours per week. Three semester hours.

060-103. CENERAL PROBLEMS OF PHILOSOPHY
DR. WILLIAMSON
A study designed to orient the student with reference to perennial problems of philosophical inquiry. Intensive use is made of primary sources. Three hours per week. Three semester hours.

060-104. CONTEMPORARY PHILOSOPHY
MR. ZAKYDALSKY
A study of late nineteenth century and twentieth century philosophers and trends in philosophic thought beginning with Nietzsche and Moore. Intensive use is made of primary sources. Three hours per week. Three semester hours.

060-105. INTRODUCTORY LOGIC
MR. ZAKYDALSKY
A study of the guiding principles involved in correct thinking, the use of terms; classification; the nature of deductive inference with special reference to fallacious forms of reasoning as they receive expression in daily life; the canons of inductive inference; the basic concepts in scientific method. Three hours per week. Three semester hours.

060-106. ADVANCED LOCIC
MR. ZAKYDALSKY
The study of symbolic logic and its relation to contemporary philosophy and scientific thought with a consideration of two-valued sentential and quantificational logic and an introduction to many-valued logics, modal logic and natural deduction. Prerequisite, Philosophy 105. Three hours per week. Three semester hours.

## 060-107. PHILOSOPHY OF RELIGION

## DR. CREAGER, DR. WILLIAMSON

A philosophical study of religious beliefs and practices in order to ascertain the nature and value of religion. Particular attention is given to questions involving the nature and reality of God, the problem of evil and suffering, free will and immortality. Three hours per week. Three semester hours.
Offered in both terms.

060-108. AESTHETICS
DR. WILLIAMSON
An examination of the canons of beauty and art to supply a background for evaluation of specific works of painting, sculpture, music and architecture. Three hours per week. Three semester hours.

060-109. SENIOR SEMINAR: CURRENT ISSUES AND MOVEMENTS IN RELIGION

DR. WILLIAMSON
AND STAFF
A study of contemporary theological and institutional trends in Religion, making use of lectures, discussions, research papers, etc. Course 109 is open only to majors in the field of Philosophy and Religion. Three hours per week. Three semester hours.

## URSINUS COLLEGE BULLETIN

060-110. SENIOR SEMINAR: CURRENT ISSUES AND MOVEMENTS IN PHILOSOPHY
A study of contemporary thinkers and schools of thought in Philosophy, making use of lectures, discussions, research papers, etc. Course 110 is open only to majors in the field of Philosophy and Religion. Three hours per week. Three semester hours.

## 060-111. ETHICS

## MR. ZAKYDALSKY

A study of the principles of moral judgment, with exposition and criticism of the more important theories concerning the basic distinction between right and wrong conduct; the various problems of theoretical and practical ethics. Three hours per week. Three semester hours.

060-112. PHILOSOPHY OF SCIENCE
MR. ZAKYDALSKY
An examination of the nature of scientific method and scientific theory, with reference to presuppositions, inference, explanation, prediction, application and verification. Three hours per week. Three semester hours.

060-113. EPISTEMOLOGY
MR. ZAKYDALSKY
A critical study of the theories of truth, belief, perception, understanding, and the important concepts involved in the characterization, analysis, and appraisals of classic and contemporary discussions of human knowledge. Three hours per week. Three semester hours.

060-001. INTRODUCTION TO THE LITERATURE OF THE BIBLE: OLD TESTAMENT

DR. HARDMAN
Foundations of the Judaeo-Christian tradition in the literature and thought of the Old Testament. Emphasis is placed both on the biblical materials themselves and on the varying methodologies of Old Testament interpretation. Three hours per week. Three semester hours.

060-002. INTRODUCTION TO THE LITERATURE OF THE BIBLE: NEW TESTAMENT

DR. HARDMAN
A study of the Judaistic background of the New Testament, the life and times of Jesus, the emerging Church, and relevant literature. Three hours per week. Three semester hours.
*060-003. RELIGION IN THE UNITED STATES
DR. HARDMAN
A study of the religious background of the colonies and a reconstruction of the influence of religion in the development of the United States. (Alternates with course 005.) Three hours per week. Three semester hours.
*This course is not offered in 1972-1973.

An examination of the forms and functions of religion in primitive societies, as well as a study of the application of anthropological theory and research to the field of religion. (Alternates with course 003.) Three hours per week. Three semester hours.
*060-006. HISTORY OF THE CHRISTIAN CHURCH

## DR. CREAGER

A study of the development of the Christian church from the apostolic period to modern times, with a view to understanding the nature and extent of its contribution to society. (Alternates with course 008). Three hours per week. Three semester hours,

## 060-008. CLASSICS OF THE LIVING RELIGIONS

DR. CREAGER
Reading and discussion of substantial portions of the classic literature of Hinduism, Buddhism, Chinese Religion, Judaism, Christianity, and Islam. The aim of the course is to gain understanding of these religions by examination of basic sources and to discover differences and similarities among them. (Alternates with course 006). Three hours per week. Three semester hours.

060-010. LITERATURE AND RELIGIOUS IDEAS
DR. HARDMAN
An analysis of the significant themes common to works of imaginative literature exploring the interrelation of religion and artistic creativity. Attention will be given to Camus, Eliot, Faulkner, Kazantzakis, Waugh, etc. Three hours per week. Three semester hours.

## 060-011. SEMINAR IN RELIGION

DR. HARDMAN
The directed study of a given topic in religion as it relates to the vital issues of our time. Prerequisite, Departmental permission. Three hours per week. Three semester hours.

060-011A-History and Thought of Judaism
*060-011B-(Topic for 1971-72)

060-012. SEMINAR IN RELIGION
DR. HARDMAN
The directed study of a given topic in religion as it relates to the vital issues of our time. Prerequisite, Departmental permission. Three hours per week. Three semester hours.

> 060-012A-Religion and Modern Theology
> *060-012B-(Topic for 1971-72)
*This course is not offered in 1972-1973.

## 065-PHYSICS

PROFESSOR SNYDER<br>PROFESSOR HEILEMANN

## ASSOCIATE PROFESSOR MARSTELLER DR. TAKATS

The courses in Physics are designed to furnish the student with a groundwork of as much of the material of Physics as time will permit. Stress is laid upon methods of analysis and presentation of ideas. It is hoped in this way to make the student conversant with the methods of Physics, to develop in him the ability to study independently and to transmit his ideas to others.

Students majoring in Physics must take the following courses: CMP267-001, 002; Physics 003, 004, 005, 006, 007, 008; Mathematics 031, 032, 039, 040, 043, 045. Students majoring in physics who are preparing to teach in secondary schools must take CMP267-001, 002 (or equivalent); Physics 003, 004, 011, 012, either 005, 006 or 007, 008; Mathematics 031, 032.

NOTE: Students who complete the integrated course in General Chemistry, General Physics and Mathematics (CMP267-001,002) will satisfy the requirement for the following combination of courses: Physics 001, 002; Mathematics 029, 030; and 8 semester hours of General College Chemistry. See p. 119.

065-001. GENERAL PHYSICS
DR. HEILEMANN, MR. MARSTELLER
Elementary mechanics and heat. Physics is presented not only as a science having practical application to everyday life, but as an example in itself of general scientific method. Prerequisite, Mathematics 001, 002, or high-school trigonometry and a satisfactory rating in the Mathematical Aptitude section of the CEEB test or in some test of a similar nature. Although not a requirement, Mathematics 029 and 030 are strongly urged, to be pursued concurrently if not already completed. Three hours lecture and three hours laboratory per week. Four semester hours.

065-002. CENERAL PHYSICS
Dr. HEILEMANN, MR. MARSTELLER
Elementary sound, light, electricity and magnetism. Prerequisite, Physics 001. Three hours lecture and three hours laboratory per week. Four semester hours. Admission to advanced courses depends upon the quality of work done in the elementary courses.

Students intending to elect any of the advanced courses are asked to confer with the instructor during the year prior to that in which the course is to be taken, in order that a satisfactory schedule may be arranged.

065-003. MECHANICS: STATICS AND DYNAMICS
DR. HEILEMANN
Plane and space force systems; concurrent forces; moments; center of gravity; friction; motion; curvilinear motion; projectiles; D'Alembert's Principle; moment of inertia; equilibrium of a rigid body; kinematics; Newton's Laws; work and energy; harmonic motion; rotation about a fixed axis; torsion pendulum; compound
pendulum; coupled systems. Prerequisite, Mathematics 029 and 030. Three hours lecture and three hours laboratory per week. Four semester hours.

065-004. ELECTRICITY AND MACNETISM
DR. TAKATS
Gauss's Theorem; potential; capacity; electric and magnetic circuit; Kirchhoff's Laws; inductance; alternating currents; electrical machinery; elements of electronics. Prerequisite, Mathematics 029 and 030 . Three hours lecture and three hours laboratory per week. Four semester hours.

065-005. OPTICS
MR. MARSTELLER
Image formation, systems of lenses and mirrors; dispersion; spectra; interference and diffraction; polarization; origin of radiation; effects of radiation; applications. Three hours lecture and three hours laboratory per week. Four semester hours.

065-006. SOUND
DR. HEILEMANN
The nature of sound, the physical basis of music, speech, and hearing; acoustics of buildings; methods of sound transmission and reproduction, and study of distortion; diffraction and interference; applications. Three hours lecture and three hours laboratory per week. Four semester hours.

065-007. MODERN PHYSICS
DR. TAKATS
Special relativity; the elementary charged particles; electromagnetic radiation; waves and particles; elementary theory of the hydrogen atom, atomic spectra and electron distribution. Prerequisite, CMP267-001, 002 or equivalent. Three hours per week. Three semester hours.

065-007a. LABORATORY IN MODERN PHYSICS
DR. SNYDER
Laboratory work (optional) for Course 007. Three hours per week. One semester hour.

065-008. MODERN PHYSICS
DR. TAKATS
A continuation of Course 007, with applications to properties of matter, nuclear physics, and elementary particle physics. Prerequisite, Physics 007. Three hours per week. Three semester hours.

065-008a. LABORATORY IN MODERN PHYSICS
DR. SNYDER
Laboratory work (optional) for Course 008. Three hours per week. One semester hour.

065-011. GENERAL ASTRONOMY
MR. MARSTELLER
The Earth as an astronomical body; description and determination of celestial coordinates and time; optical principles and forms of the telescope and spectroscope; fundamentals of spectroscopy; the Moon and its motions; eclipses, the constellations. Prerequisites, Mathematics 001 and 002 or their equivalent and some knowledge of Physics. Three semester hours.

## 065-012. CENERAL ASTRONOMY

MR. MARSTELLER
Continuation of Course 011. Description and dynamics of the Solar System: Kepler's laws, Newton's laws, historical notes. The sidereal universe: stellar designations and catalogs, notes on the literature of Astronomy, the Sun as a star, stellar motions, the constitution and evolution of the stars; the Galaxy. Prerequisite, Physics 011. Three semester hours.

065-014. ALTERNATING CURRENTS
DR. SNYDER
Capacitative and self-inductive circuits; mutual induction; the alternating-current circuit; alternating-current power and power factor; divided circuits; application of complex numbers; electromagnetic waves. Prerequisites, Physics 004 and Mathematics 031. Three hours per week. Three semester hours.
*065-015. ELEMENTS OF MATHEMATICAL PHYSICS
DR. SNYDER
Introduction to selected concepts and techniques of theoretical physics; vector and tensor analysis, differential equations, LaGrange's equations, LaPlace transforms, Fourier analysis, boundary value problems for the diffusion equation, heat flow equation, wave equation, calculus of variations. Prerequisites CMP267-001, 002 or equivalent; Physics 003, 004; Mathematics 031, 032. Two hours per week. Two semester hours.
*065-016. ELEMENTS OF MATHEMATICAL PHYSICS
DR. SNYDER
Continuation of prerequisite Course 015. Two hours per week. Two semester hours.
065-017. SEMINAR
STAFF
Study and discussion of advanced topics or recent developments in physics. Registration for this course must be in consultation with the chairman of the department. Two semester hours.

065-018. SEMINAR
STAFF
Continuation of Course 017. Two semester hours.
065-031. THERMODYNAMICS
STAFF
Primarily classical thermodynamics with a brief introduction to statistical aspects. Temperature, laws of thermodynamics, work, heat, energy, entropy, thermodynamic potentials, kinetic theory of dilute gases, equations of state. Prerequisites: Physics 001, 002 or CMP267-001, 002, Mathematics 031, 032. Three hours per week. Three semester hours.

065-109. RESEARCH
STAFF
Investigations, of experimental or theoretical nature, pursued independently by the student. The preparation of a summarizing report is required. To register for this course a student must have the consent of a member of the physics staff to serve as his adviser. One semester hour.
*This course is not offered in 1972-1973.

## COURSES OF INSTRUCTION

065-110. RESEARCH
Continuation of Course 065-109. One semester hour.
065-209—RESEARCH
STAFF
Same as Course 065-109, but more extensive in scope. Two semester hours.
065-210. RESEARCH
Continuation of Course 065-209. Two semester hours.

065-312. INTRODUCTORY ASTROPHYSICS
MR. MARSTELLER
Discussion of fundamental problems of Astrophysics, e.g., stellar vital statistics and their determination, steilar constitution, evolution, and the stellar model, energy generation and transfer in the stars, stellar aggregations and their dynamics, intrinsic stellar variability. The course is open to third and fourth year Physics majors and to other students who have completed Physics 065-012. Three hours per week. Three semester hours.

065-401. INTRODUCTORY QUANTUM MECHANICS
DR. TAKATS
Eigenvalues and eigenfunctions; probability density, expectation values, and operators; the Schrodinger equation in one and three dimensions; the hydrogen atom; perturbation theory: identical particles, spin. The course is open to fourth-year chemistry, mathematics, and physics majors and to qualified third-year students having the consent of the instructor. Three hours per week. Three semester hours.

070-POLITICAL SCIENCE

## PROFESSOR E. H. MILLER <br> *PROFESSOR PANCOAST <br> ASSOCIATE PROFESSOR ZUCKER

ASSOCIATE PROFESSOR CRAFT
MR. KANE
MR. KINNEY
The objectives of the Department of Political Science with relation to the general student are:
(1) To help the student attain an appreciation of both the theory and the functioning of politics.
(2) To aid the student in developing the faculty of critical thinking.
(3) To familiarize the student with those values that sustain freedom.

The professional objectives are:
(1) To prepare students for graduate work in political science and the law.
(2) To prepare students for the examinations of the domestic civil service and the foreign service.

[^9]In addition to Political Science 001, 002, students majoring in Political Science must take courses 005,006 , and 015,016 ; seven semester hours in elective Political Science courses; History 001, 002; History 013, 014; Economics 003, 004; Psychology 001 and Sociology 001, 002.

070-001. AMERICAN GOVERNMENT
MR. KANE, MR. KINNEY, DR. PANCOAST, DR. ZUCKER
An analysis of the structure and functions of American national and state governments. Three hours per week. Three semester hours.

070-002. AMERICAN GOVERNMENT<br>MR. KANE, MR. KINNEY, DR. PANCOAST, DR. ZUCKER<br>Continuation of Course 001. Three hours per week. Three semester hours.

## 070-003. MUNICIPAL GOVERNMENT AND ADMINISTRATION

MR. KINNEY, DR. PANCOAST
The legal power and position of the city and other local governmental institutions in our political system. Thorough consideration of forms and activities of local government. Three hours per week. Three semester hours.

070-004. POLITICAL PARTIES
MR. KINNEY, DR. PANCOAST
Both structural description and functional analysis of American political parties.
The organization, work, leaders, and place of political parties in our democracy are considered at length. Three hours per week. Three semester hours.

070-005. COMPARATIVE GOVERNMENT
DR. MILLER
A detailed comparison of the Cabinet and Presidential systems, as exemplified by England and the United States. Three hours per week. Three semester hours.

070-006. COMPARATIVE COVERNMENT
DR. MILLER
The study is extended to other representative governments, including France, Germany, Italy, Russia and Japan. Three hours per week. Three semester hours.

## 070-007. POLITICAL THEORY

DR. ZUCKER
Significant political ideals, forces and concepts from Plato to the present. Three hours per week. Three semester hours.

070-008. CONSTITUTIONAL LAW
MR. KINNEY, DR. PANCOAST
General principles of constitutional law as enunciated through the judicial process.
Extensive use of cases on the federal system, the distribution of governmental power and the limitations on governmental power in the areas of personal liberty and property rights. Three hours per week. Three semester hours.

070-009. PUBLIC ADMINISTRATION
MR. KINNEY, DR. PANCOAST
A survey of the field of public administration, emphasizing administrative organization, fiscal management and personnel management. The administrative process is considered as a unit encompassing federal, state and local administration. Three hours per week. Three semester hours.

070-010. AMERICAN POLITICAL THEORY
DR. ZUCKER
Main currents in American political thought from the seventeenth century to the present. Three hours per week. Three semester hours.

070-011. INTERNATIONAL RELATIONS
DR. CRAFT
Basic theory, principles and functioning of the states in the world community. Three hours per week. Three semester hours.

070-012. INTERNATIONAL RELATIONS
DR. CRAFT
Continuation of Political Science 070-011. Three hours per week. Prerequisite, 011. Three semester hours.

070-013. SEMINAR IN INTERNATIONAL LAW
DR. MILLER
A course in the Law of Nations. Case studies are stressed. Two hours per week. Two semester hours.

070-014. SEMINAR IN INTERNATIONAL ORGANIZATION
DR. MILLER
The structure and functions of international organizations. Two hours per week. Two semester hours.

070-015. METHODS OF POLITICAL ANALYSIS
DR. CRAFT
An examination of the analytic processes in the development of concepts, hypotheses, and theories. Formulation of research problems related to basic methodologies. Three hours per week. Three semester hours.

070-016. METHODS OF POLITICAL ANALYSIS
DR. CRAFT
A continuation of Course 015. Prerequisite, Political Science 015. Three hours per week. Three semester hours.

## 070-017. SEMINAR IN AMERICAN GOVERNMENT

## DR. ZUCKER, DR. PANCOAST

Selected topics in American Government. Preparation and discussion of research papers. Open to third and fourth year students with permission of the instructor. Two hours per week. Two semester hours.

070-018. SEMINAR IN AMERICAN GOVERNMENT
DR. ZUCKER
Selected topics in American Government. Preparation and discussion of research papers. Open to third and fourth year students with permission of the instructor. Two hours per week. Two semester hours.
*070-019. SEMINAR IN POLITICS OF THE DEVELOPINC WORLD
DR. MILLER
Selected topics concerning the politics of Asia, the Middle East, Africa and Latin America. Preparation and discussion of research papers. Open to third- and fourthyear students with permission of the instructor. Two hours per week. Two semester hours.
*070-020. SEMINAR IN POLITICS OF THE DEVELOPING WORLD DR. MILLER
Selected topics concerning the politics of Asia, the Middle East, Africa and Latin America. Preparation and discussion of research papers. Open to third- and fourthyear students with permission of the instructor. Two hours per week. Two semester hours.

## 075-PSYCHOLOGY

## PROFESSOR FLETCHER <br> ASSISTANT PROFESSOR FAGO

## ASSISTANT PROFESSOR SHARP ASSISTANT PROFESSOR FRANCIS

The Department of Psychology is guided in its offerings and activities by two sets of objectives: (1) For the student majoring in areas other than Psychology, the introductory course, and Abnormal Psychology and Mental Hygiene, endeavor to show the growth of modern psychology and understanding of adjustments used in maintaining mental health; and (2) an attempt is made to present a composite view of the main phases of present-day psychology.

Students majoring in Psychology must take the following courses: Biology 001, 002, 021, 022; Mathematics 013, 014; Anthropology 001, 002; Sociology 001, 002; Psychology 001, 008, 009, 010, 021, 031, 033, 040, 044, and an additional elective course in Psychology.

Students who plan to continue the study of Psychology at the graduate level are strongly urged to include in their schedules Mathematics 029, 030; Biology 017, 018; Philosophy 003, 004 and Physics 001, 002.
For those seeking admission to medical school, the following additional subjects are usually required: a year of General Chemistry, a year of Organic Chemistry, a year of General Physics, and at least two courses in Biology beyond the year of General Biology required of all Psychology majors.

075-001. INTRODUCTORY PSYCHOLOGY
A survey of the various fields of psychology with an emphasis on the scientific search for principles of behavior. Three hours per week. Psychology 001 is a prerequisite for all other psychology courses. Three semester hours.
Psychology 001 must be taken by the first semester of the second year by all students preparing to become teachers.
*This course is not offered in 1972-1973.

The problem of mental health is treated under the following topics: The dynamics of human behavior, normal and abnormal reactions to frustration and conflict. Psychological, organic and social causes of poor mental health. The roles played by the home, the school and society in mental health. Additional topics include psycho-neuroses and functional psychoses, epilepsy, drug addiction and alcoholism. Methods of prevention and treatment of mental illness are discussed. This course is given from the point of view of preventive mental hygiene. Prerequisite, Psychology 001. Three hours per week. Three semester hours.

075-009. EDUCATIONAL AND PSYCHOLOGICAL TESTS AND MEASUREMENTS DR. FLETCHER
An introductory survey of the field of measurement in psychology and education; main features of the technique of testing and test construction; types of tests and scales; evaluation; interpretation; use. Prerequisites, Psychology 001, 031, 032. Two hours of lecture, two hours of laboratory per week. Three semester hours. (The same course as 009 under Education.)

075-010. ELEMENTARY EXPERIMENTAL PSYCHOLOGY
DR. FAGO
This course is designed to acquaint the student with laboratory techniques used in psychology. Lectures, demonstrations, individual experiments, and the preparation of scientific reports. Prerequisites, Psychology 001, Biology 001 or 011, Mathematics 013, 014. Three hours lecture, two hours laboratory per week. Four semester hours.

075-011. HISTORY AND THEORIES OF PSYCHOLOGY
STAFF
A study of the more important findings and theories contributing to the development of modern scientific psychology. Prerequisite, Psychology 001. Three hours per week. Three semester hours.

075-012. PSYCHOLOGY IN INDUSTRY
DR. FLETCHER
This course deals with the application of psychological techniques and principles to the problems of industry. Emphasis is given to individual differences, aptitudes and skills, job evaluation, merit rating, work methods, training programs, fatigue, accident control, safety education, incentives, employee attitudes, morale, the interview and related employment methods. Prerequisite, Psychology 001; Mathematics 013, 014. Three hours per week. Three semester hours.

075-021. PHYSIOLOGICAL PSYCHOLOGY
DR. SHARP
The physiological basis of behavior is explored. Topics include the structure of the central and peripheral nervous systems, including the sensory systems, and the physiological basis for sleep, arousal, hunger, thirst, emotion, conditioning and other related functions. Prerequisites: Psychology 001, 010; Biology 001, 011; or by permission of the instructor. Three hours per week. Three semester hours.

## 075-031. EDUCATIONAL PSYCHOLOGY - GROWTH AND DEVELOPMENT DR. FLETCHER, DR. SHARP, DR. FAGO

The nature and development of the psychological processes from the prenatal period through adolescence. (The same course as 031 under Education.) Prerequisite, Psychology 001. Three hours per week. Three semester hours.

075-032. EDUCATIONAL PSYCHOLOGY - LEARNINC
DR. FLETCHER, DR. SHARP, DR. FAGO
Contemporary learning theory for teachers. Topics include schedules of reinforcement, operant theory and methodology for the classroom, token economies, and programmed learning techniques and their application. (The same course as 032 under Education.) Prerequisite, Psychology 001. Three hours per week. Three semester hours.

075-033. LEARNING AND MOTIVATION
DR. FAGO
A review of learning theory, past and contemporary. Emphasis will be on the basic processes of classical conditioning and instrumental learning, the phenomena associated with these processes, and the development of learning theory in response to experimentation. Lectures, individual experimentation and the preparation of scientific reports. Prerequisites, Psychology 001 and 010. Three hours lecture, two hours laboratory per week. Four semester hours.

075-034. SENSATION AND PERCEPTION
DR. SHARP
The nature of the fundamental sensory processes will be explored with emphasis on vision and audition. Theory and experiments bearing on significant perceptual phenomena will be surveyed from both physiological and experimental viewpoints. Prerequisites, Psychology 001, Psychology 010. Three hours of lecture, two hours of laboratory per week. Four semester hours.

075-040. SOCIAL PSYCHOLOCY

## DR. FLETCHER

A study of group action and of the group influences by which the individual is surrounded; tradition, custom, public opinion and other psychological and social forces which affect individual judgment and action. Prerequisite, Psychology 001 and 032. Three hours per week. Three semester hours.

075-042. RESEARCH
STAFF
Investigations of an experimental or theoretical nature pursued independently by the student. The preparation of a scientific report is required. To register for the course a student must have the consent of a member of the psychology staff to serve as his adviser. Students who have been admitted to the course and who have fulfilled its requirements may be awarded Departmental Honors, but no additional semester hours of credit, if they have qualified in other ways for admission to the honor program. Three semester hours.

075-044. SEMINAR IN PSYCHOLOGY
DR. FLETCHER
A course designed to acquaint the student with current trends in theoretical and applied psychology. Emphasis will be given to the preparation and presentation of
papers on selected topics which will vary from year to year. Open only to fourth-year students majoring in psychology. Prerequisite, Psychology 001. One hour per week. One semester hour.

## 077-PUBLIC SPEAKING

MR. EHRLICH

MR. VANNUCCHI

077-001. PUBLIC SPEAKING
MR. EHRLICH
Composition and delivery of speeches designed to inform, persuade, stimulate, and entertain, with group analysis and criticism. Students will also be required to deliver impromptu speeches and participate in panel discussions on topics of current cultural and social interest. There will be some oral interpretation of plays and poems, as well as emphasis upon parliamentary procedure and practice. Two hours per week. Two semester hours.

077-002. PUBLIC SPEAKING
MR. EHRLICH
A continuation of Course 001 with the addition of game theatre and oral interpretation. Students will be asked to improvise dramatic situations and to interpret poems and scenes from plays. Prerequisite, Public Speaking 001. Two hours per week. Two semester hours.

077-003. DEBATING AND RESEARCH
MR. VANNUCCHI
This course is organized for students who are interested in debating in intercollegiate tournaments. Open to third-year students who have completed Public Speaking 001 and 002, or who have, as members of the Debating Club, participated in twelve tournaments by the end of the Sophomore year. One semester hour.

077-004. DEBATING AND RESEARCH
MR. VANNUCCHI
Continuation of Course 003. Prerequisite, Debating and Research 003. One semester hour.

077-005. DEBATING AND RESFARCH
MR. VANNUCCHI
This course is an expansion of the elementary methods of argumentation. Open to senior students who have met the requirements of Debating and Research 003 and 004, and who have actively engaged in the summer program of formulating cases and organizing and accumulating rebuttal files. Prerequisite, Debating and Research 003 and 004. One semester hour.

007-006. DEBATING AND RESEARCH
MR. VANNUCCHI
Continuation of Course 005. Prerequisite, Debating and Research 005. One semester hour.

## URSINUS COLLEGE BULLETIN

## ROMANCE LANGUAGES

## PROFESSOR GARRETT ASSOCIATE PROFESSOR REINER MRS. LUCAS

## MR. RAPPOCCIO <br> MR. VANNUCCHI <br> MR. WAKEFIELD

The development of linguistic ability and an understanding of the foreign culture and literature comprise the scope of the first two years' work.
Students who advance beyond courses numbered 004 receive further instruction in conversation, composition and the literatures of the respective languages.
The goal of this teaching is to develop faculties of critical and esthetic judgment, as well as to perfect the use of the languages.

## 086-French

French majors must meet the following requirements:
French 005, 006, 015, 016; English Literature 003, 004; History 003, 004 or 005, 006. It is recommended that Latin 001,002,003,004 (or equivalent, i.e., four years of Latin in secondary school) be taken.
Two of the following courses: French 021, 022, 023, 024.
Two of the following courses: French 011, 012, 013, 014.

## 086-001. ELEMENTARY FRENCH

Three hours per week. Three semester hours.

## 086-002. ELEMENTARY FRENCH <br> STAFF <br> Prerequisite: French 001. Three hours per week. Three semester hours.

086-003. INTERMEDIATE FRENCH
STAFF
Prerequisite: French 022 or equivalent (i.e., satisfactory completion of two years of French in secondary school). Three hours per week. Three semester hours.

086-004. INTERMEDIATE FRENCH
STAFF
Prerequisite: French 003. Three hours per week. Three semester hours.

086-005. SURVEY OF FRENCH CIVILIZATION AND LITERATURE
MRS. LUCAS
The development of French life, arts, and literature from the Middle Ages to the Revolution. Three hours per week. Three semester hours.

086-006. SURVEY OF FRENCH CIVILIZATION AND LITERATURE MRS. LUCAS A continuation of French 005 ; from 1789 to the present. Three hours per week. Three semester hours.
*086-021. MEDIEVAL FRENCH I.ITERATURE
MR. VANNUCCHI Three hours per week. Three semester hours.
*086-022. RABELAIS, THE PLEIADE, MONTAIGNE
MR. VANNUCCHI Three hours per week. Three semester hours.

086-023. CORNEILLE, RACINE, MOLIERE
Three hours per week. Three semester hours.

## 086-024. THE ENLICHTENMENT

MR. VANNUCCHI
Three hours per week. Three semester hours.
French 021 and 022 alternate with French 023 and 024.
*086-011. SEMINAR IN FRENCH LITERATURE, 1800-1860
DR. GARRETT Three hours per week. Three semester hours.
*086-012. SEMINAR IN FRENCH I.ITERATURE, 1860-1890
DR. GARRETT
Prerequisite: French 011. Three hours per week. Three semester hours.

086-013. SEMINAR IN FRENCH LITERATURE, 1890-1914
DR. GARRETT
Three hours per week. Three semester hours

086-014. SEMINAR IN FRENCH LITERATURE, 1914 TO THE PRESENT
DR. GARRETT
Prerequisite: French 013. Three hours per week. Three semester hours.
French 011 and 012 alternate with French 013 and 014.

086-015. ADVANCED COMPOSITION AND CONVERSATION MR. VANNUCCHI, AND MRS. LUCAS
Three hours per week. Three semester hours.

## 086-016. ADVANCED COMPOSITION AND CONVERSATION MR. VANNUCCHI, AND MRS. LUCAS

Three hours per week. Three semester hours.

## 088-Spanish

Spanish majors must meet the following requirements:
Six hours of advanced Spanish composition and conversation and fourteen hours of Spanish literature (Students planning to teach shall take three hours of advanced grammar in second semester of the senior year and may then take eleven hours of literature). English Literature 003, 004; History 001, 002; 005, 006 or 017,018 , or 027, 028.
*This course is not offered in 1972-1973.

## URSINUS COLLEGE BULLETIN

088-001. ELEMENTARY SPANISH
STAFF
Three hours per week. Three semester hours

088-002. ELEMENTARY SPANISH
STAFF
Prerequisite, Spanish 001. Three hours per week. Three semester hours.

088-003. INTERMEDIATE SPANISH
STAFF
Prerequisite, Spanish 002 or equivalent (i.e., satisfactory completion of two years of Spanish in secondary school). Three hours per week. Three semester hours.

088-004. INTERMEDIATE SPANISH
STAFF
Prerequisite, Spanish 003. Three hours per week. Three semester hours.

088-009. SPANISH-AMERICAN LITERATURE THROUGH THE TWENTIETH CENTURY

MR. RAPPOCCIO
Prerequisite, Spanish 014 or permission of the instructor. Three hours per week. Three semester hours.

088-010. SPANISH-AMERICAN LITERATURE OF THE THE TWENTIETH CENTURY

MR. RAPPOCCIO
Prerequisite, Spanish 014 or permission of the instructor. Three hours per week. Three semester hours.
Spanish 009 and 010 alternate with Spanish 121 and 122.
088-013. ADVANCED COMPOSITION AND CONVERSATION MR. WAKEFIELD Three hours per week. Three semester hours.

088-014. ADVANCED COMPOSITION AND CONVERSATION MR. WAKEFIELD Three hours per week. Three semester hours.
*088-121. SPANISH THEATRE SINCE 1800
MR. RAPPOCCIO
Prerequisite, Spanish 014 or permission of the instructor. Three hours per week. Three semester hours.
*088-122. SPANISH PROSE SINCE 1800
MR. RAPPOCCIO
Prerequisite, Spanish 014 or permission of the instructor. Three hours per week. Three semester hours.

088-123. THEATRE OF THE SIGLO DE ORO
STAFF
Prerequisite, Spanish 014 or permission of the instructor. Three hours per week. Three semester hours.

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## 088-124. PROSE OF THE SIGLO DE ORO

 STAFFPrerequisite, Spanish 014 or permission of the instructor. Three hours per week. Three semester hours.
Spanish 123 and 124 alternate with Spanish 125 and 126.
*088-125. SPANISH LYRIC POETRY STAFF
Prerequisite, Spanish 014 or permission of the instructor. Three hours per week. Three semester hours.
*088-126. MEDIEVAL SPANISH LITERATURE
STAFF
Prerequisite, Spanish 009, 010, 121, 122, 123, 124, 125 or permission of the instructor. Three hours per week. Three semester hours.

088-128. ADVANCED GRAMMAR
STAFF
Intended primarily for Spanish majors who plan to teach. Prerequisites, Spanish 014 and at least one year of a Spanish literature course. Three hours per week. Three semester hours.

## 090 -SOCIOLOGY

MR. STOKES

090-001. INTRODUCTION TO SOCIOLOGY
MR. STOKES
A course designed to give the student a more scientific understanding of man's social nature and of the social world in which he lives. In addition to fundamental concepts and theories particular attention is focused on problems arising from race relations and personality disorganization. Not open to freshmen. Three hours per week. Three semester hours.

090-002. INTRODUCTION TO SOCIOLOGY
MR. STOKES
A continuation of Sociology 001. Problems to which particular attention is given include urbanization, public opinion and propaganda, marriage and the family and crime and delinquency. Prerequisite, Sociology 001. Three hours per week. Three semester hours.

## SPANISH

See under Romance Languages

## SWEDISH

See under Germanic Languages
*This course is not offered in 1972-1973.

## SPECIAL OFFERINGS

## College Scholar's Program

Guided independent study for qualified freshmen in their second term, sophomores and juniors. Each course is credited as three semester hours. (See "The Ursinus Plan" for details.)
201. LANGUAGES
202. LANCUACES
203. HUMANITIES
204. HUMANITIES
205. SOCIAL SCIENCES
206. SOCIAL SCIENCES

DR. RICE AND DIVISIONAL TUTORS
DR. RICE AND DIVISIONAL TUTORS
DR. BYERLY AND DIVISIONAL TUTORS
DR. BYERLY AND DIVISIONAL TUTORS
DR. VISSER AND DIVISIONAL TUTORS
DR. VISSER AND DIVISIONAL TUTORS
207. NATURAL AND PHYSICAL SCIENCES

DR. HOWARD AND DIVISIONAL TUTORS
208. NATURAL AND PHYSICAL SCIENCES

DR. HOWARD AND DIVISIONAL TUTORS

## Integrated Physical Science Course

CMP267-001. INTEGRATED GENERAL CHEMISTRY, MATHEMATICS AND PHYSICS STAFFS OF THE CHEMISTRY, MATHEMATICS AND PHYSICS DEPARTMENTS

A combined course of general chemistry, analytic geometry, calculus and general physics which avoids repetition and takes advantage of the complementary nature of these subjects. As the calculus is developed it is utilized in the presentation of the concepts of chemistry and physics. A knowledge of the elements of trigonometry is assumed.

It includes a study of the basic theories and laws of chemistry covering the common elements of the periodic system, their interactions and energy relationships. The mathematics portion is an integrated study of analytic geometry and calculus with respect to functions of one variable. The coverage is equivalent to the content of Mathematics 029. Elementary mechanics and heat comprise the physics content. Emphasis is placed on gaining an understanding of basic concepts of physics. An attempt is made to foster an analytical approach to the sciences through the application of mathematical and physical principles to physical problems.
Seven hours of lecture; two three hour laboratories, one in chemistry and one in physics, per week. Nine semester hours.

## CMP267-002. INTEGRATED GENERAL CHEMISTRY, MATHEMATICS AND CENERAL PHYSICS

STAFFS OF THE CHEMISTRY, MATHEMATICS AND PHYSICS DEPARTMENTS
A continuation of course 267-001. The chemistry is a study of the oxidation states of the common elements, chemical equilibrium, solubility and pH . The chemistry laboratory work deals with the qualitative separation of the common cations and anions. The mathematics portion is a continuation of the study of analytic geometry and calculus. It is equivalent to Mathematics 030. The physics subjects covered include sound, light, electricity and magnetism.
Prerequisite, course 267-001. Completion of course 267-002 is prerequisite for subsequent chemistry and physics courses and satisfies the prerequisite for Mathematics 031. Seven hours of lecture; two three-hour laboratories, one in chemistry and one in physics, per week. Nine semester hours.
A student who fails CMP267 may receive three credits in chemistry, mathematics or physics upon recommendation of the CMP teaching staff. The recommendation is to be based on the student's performance during the semester he failed. Credit for only one or two of the three subjects may be obtained in this way, making it possible to redeem three or six semester hours. When credit is granted in chemistry at the end of the first semester of CMP, it enables the student to enroll in Chemistry 002; in mathematics, Mathematics 002 or Mathematics 030 ; in physics, Physics 002 . The maximum grade assigned will be within the " D " range.

## Departmental Honors

Guided independent study and research for qualified seniors. Written thesis required. There is a Project Adviser for each course listed below. (See the Ursinus Plan for details.) Three semester hours.

005-150. BIOLOGY
010-150. CHEMISTRY
016-150. GREEK
017-150. LATIN
020-150. ECONOMICS
032-150. ENGLISH LITERATURE
035-150. GERMAN
040-150. HEALTH AND PHYSICAL EDUCATION

045-150. HISTORY
050-150. MATHEMATICS
060-150. PHILOSOPHY-RELIGION
065-150. PHYSICS
070-150. POLITICAL SCIENCE
075-150. PSYCHOLOGY
086-150. FRENCH
088-150. SPANISH

## 027-Intercollege Seminar

## 027-002. SEMINAR ON CONTEMPORARY PROBLEMS

An elective course dealing with contemporary issues. The problems are analyzed from philosophical, sociological, psychological, and scientific viewpoints.

## URSINUS COLLEGE BULLETIN

Seven class meetings of 90 minutes each. One class is held at each of the participating colleges. Coordinator is in charge.
Open to sophomores and juniors.
Students make own travel arrangements to and from participating colleges. One semester hour.

## 028-Senior Symposium

The Senior Symposium is an elective course designed to encourage seniors from all departments to apply their accumulated knowledge to some of the major problems of this age. It is hoped that open discussion of current movements, ideas and values will help the students to move with greater degree of confidence and usefulness in the world after graduation and will result in individual participation and involvement in the great issues of their time. The Symposium, therefore, will deal with meanings and values as well as facts.

028-001. SENIOR SYMPOSIUM
MR. DAVIS AND STAFF
Independent readings and periodic conferences with a Tutor, with emphasis on the Contemporary World. Open only to seniors. Three hours per week. Three semester hours.

028-002. SENIOR SYMPOSIUM
MR. DAVIS AND STAFF
Discussion in depth of some of the major issues confronting Americans today with particular emphasis on the social foundations of education. Prerequisite, Senior Symposium 001. Three hours per week. Three semester hours.

## 030-World Literature

030-001. WESTERN LITERATURE STAFF
Critical reading of selected representative works from Western literature. Three hours per week. Three semester hours.

030-002. WESTERN LITERATURE
STAFF
A continuation of World Literature 001. Prerequisite, Course 001. Three hours per week. Three semester hours.
*030-003. NON-IWESTERN LITERATURE STAFF
Critical reading of selected representative works from non-Western literature. Three hours per week. Three semester hours.
*030-004. NON-WESTERN LITERATURE STAFF
A continuation of World Literature 003. Three hours per week. Three semester hours. World Literature 001, 002 and 003, 004 are offered in alternate years. Student may elect both year courses for credit.

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## DEPARTMENTAL REQUIREMENTS

BIOLOGY (B.S.)
Adviser-Professor Allen
First Year
CMP267-001, 002 ..................... . 18
English Composition 001, 002 ........ 6
Language 001, 002 or $003,004 \ldots .$. . . 6
Physical Education 101, 102
-

30

## Second Year

Biology 011, 012 ....................... . 8
Chemistry 007, 008 .................... . . 8
Pivotal Humanities ..................... . . 6
Language 003, 004
or
Pivotal Social Sciences ............... 6
Electives ................................ . . 3

## Third Year

Biology 019 ........................... 4
Biology 021 ............................ 3
Biology 014 ............................ . . 4
Pivotal Social Sciences
or
Electives ................................ . . 6
Biology Electives ....................... 3
Electives ................................. . . . . 10

## Fourth Year

Biology 031
3
Biology Electives ....................... . . 3
Electives ................................. . 24

CHEMISTRY (B.S.)
Adviser-Professor Staiger
First Year
CM267-001, 002 ..................... . 18
English Composition ................. 6
German 001, 002 or 003,004 ........ . 6
Physical Education 101, 102 30

## Second Year

Mathematics 031, $032 \ldots .$. ........... 6
Chemistry 007, 008 ..................... . 8
Chemistry 003, Physics 004 ........... 8
German 003, 004 ..................... . . 6
Humanities or Social Science ......... 6

## Third Year

Chemistry 009, 010 ..................... . 8
Chemistry 011, 004 ..................... . . 8
Humanities or Social Science ......... 6
German 011, 012 ...................... 6
Radial ..................................... 7 31

## Fourth Year

Chemistry 005, 006 ................... 6
Chemistry 013, 012 ..................... 5
Chemistry 021, 022, 023, 030 .......... 3
Physics 007, 008 ...................... . . 4
German 011, 012 or .................... . 6
Radial ..................................... . . 6

CLASSICS (B.A.)<br>Adviser-Professor Baker

First YearEnglish Composition 001, 002 6
History 001, 002 ..... 6
Greek 001, 002 ..... 6
Latin 001,002 or 003,004 or 005,00 ..... 6Elective
Physical Education 101, 102 ..... -30
Second YearSocial Science6
Science ..... 6
Greek 003, 004 ..... 6
Latin ..... 6
Electives ..... 6
Third Year
Latin or Greek ..... 6
Electives ..... 2430
Fourth Year
Greek 007 ..... 3
Latin or Greek ..... 3
Electives ..... 24$\overline{30}$
ECONOMICS (B.A.)
Adviser-Professor Hunter
First Year
English Composition 001, 002 ..... 6
Science ..... 6
Foreign Language ..... 6
Mathematics 001, 022 ..... 6
Economics 003, 004 ..... 6
Physical Education 101, 102 ..... -
30
Economics Electives ..... 6Economics 035 or 0363
Electives ..... 21
Economics 026, 027 ..... 6
Economics Electives ..... 3
Elective Radial ..... 2
Electives ..... 19
Foreign Language 003, 004 (if not completed) ..... 6
Humanities Pivotal ..... 6
Mathematics 013, 014 ..... 4
Economics Electives ..... 6
Social Science Pivotal ..... 6
Electives ..... 2
30
Third Year30
ENGLISH (B.A.)
Adviser-Professor Storey
First Year
English Composition 001, 002 ..... 6
Humanities ..... 6
Science ..... 6
Foreign Languages ..... 6
Social Science ..... 6
Physical Education 101, 102 ..... -30
Second Year
English Literature(Candidates for teaching should take014)12
Foreign Language (if not completed) ..... 6
Radial Courses ..... 6
Other Electives ..... 630

## DEPARTMENTAL REQUIREMENTS

Third Year Fourth Year
English Literature ..... 12
Radial Courses ..... 6
Other Electives ..... 12
-
Philosophy ..... 630
German 009, 010 or 007,008 or 015, 016 ..... 6
German 013, 014 ..... 6
Electives ..... 12
Fourth Year
English Literature ..... 6
Electives ..... 24
30
GERMAN (B.A.)
Adviser-Professor Hartzell
First Year
English Composition 001, 002 ..... 6
History 001, 002 ..... 6
Science ..... 6
German 001, 002 or 003, 004 ..... 6
Other Language 001, 002 or 003,004 . ..... 6
Physical Education 101, 102
Second Year
English Literature 003, 004 ..... 6
Psychology 001 ..... 3
Radial Courses ..... 6
German 003, 004 or 005,006 ..... 6
Other Language 003, 004
(if not completed) ..... 6
Electives ..... 3

30
Foreign Language (if not completed) ..... 6
Biology 017, 018
Biology 017, 018 ..... 4 ..... 4
Education 002
Education 002 ..... 3 ..... 3
Education 031 ..... 3
Education 032 ..... 3
Physical Education 043 ..... 3
Physical Education 303, 304 ..... 4
Psychology 001 ..... 3
Physical Education 044 ..... 2
Electives ..... 3
English Composition 001, 002 ..... 6
History 001, 002 ..... 6
Foreign Language ..... 6
Biology 001, 002 ..... 6
Physical Education 031, 032 ..... 6
Physical Education 301, 302 ..... 4 ..... 
HEALTH AND PHYSICAL EDUCATION (B.S.)30
Adviser-Professor Bailey
First Year34
Second Year
3430
Third Year
German 005, 006 (if not completed) ..... 6
German 007, 008 or 009,010 or 015, 016
Third Year
Physical Education 051, 052 ..... 4
Physical Education 054 ..... 2
Physical Education 055, 056 ..... 4
058
Physical Education 057, 058 ..... 4
German 013, 014 . . . . . . . . . . . . . . . . . . . 6
Electives6 Physical Education 305, 3063
12
12
Electives ..... 114
3032
Fourth Year
Education 005 ..... 8
Education 041 ..... 2
Education 044 ..... 3
Physical Education 062 ..... 2
Physical Education 064 ..... 3
Physical Education 307, 308 ..... 2
Psychology 008 ..... 3
Electives ..... 5
28
HISTORY (B.A.)
Adviser-Professor Davis
First Year
English Composition 001, 002 ..... 6
History 001, 002 ..... 6
Science ..... 6
Foreign Language ..... 6
Political Science 001, 002 ..... 6 ..... 6
Physical Education 101, 102 ..... --
Second Year
English Literature 003, 004 or 019,020 . 6
Foreign Language 003, 004
(if not completed) ..... 6
Psychology 001 ..... 3
Economics 003, 004 ..... 6
History 013, 014 ..... 6
Electives ..... 330
Third Year
Sociology ..... 3
History 003, 004 or 005,006 or 007, 008 ..... 6
History Seminar ..... 2
Electives ..... 19
30
Fourth Year
History ..... 8
Electives ..... 22
MATHEMATICS (B.S.)
Adviser-Professor Dennis

First Year

First Year

First Year

First Year

First Year

English Composition 001, 002

English Composition 001, 002

English Composition 001, 002

English Composition 001, 002

English Composition 001, 002 .....  .....  .....  ..... 6 .....  .....  .....  ..... 6 .....  .....  .....  ..... 6 .....  .....  .....  ..... 6 .....  .....  .....  ..... 6

Foreign Language 001, 002 or 003, 004

Foreign Language 001, 002 or 003, 004

Foreign Language 001, 002 or 003, 004

Foreign Language 001, 002 or 003, 004

Foreign Language 001, 002 or 003, 004 .....  .....  .....  ..... 6 .....  .....  .....  ..... 6 .....  .....  .....  ..... 6 .....  .....  .....  ..... 6 .....  .....  .....  ..... 6
Humanities
Humanities
Humanities
Humanities
Humanities ..... 6 ..... 6 ..... 6 ..... 6 ..... 6
Mathematics 029, 030
Mathematics 029, 030
Mathematics 029, 030
Mathematics 029, 030
Mathematics 029, 030 ..... 6 ..... 6 ..... 6 ..... 6 ..... 6
Physics 001, 002
Physics 001, 002
Physics 001, 002
Physics 001, 002
Physics 001, 002 ..... 8 ..... 8 ..... 8 ..... 8 ..... 8
Physical Education 101, 102 ..... -
Second Year
Second Year
Second Year
Second Year
Second Year
Second Year
Foreign Language 003, 004
Foreign Language 003, 004
Foreign Language 003, 004
Foreign Language 003, 004
Foreign Language 003, 004
Foreign Language 003, 004 (if not completed) (if not completed) (if not completed) (if not completed) (if not completed) (if not completed) ..... 6 ..... 6 ..... 6 ..... 6 ..... 6 ..... 6
Social Science
Social Science
Social Science
Social Science
Social Science
Social Science ..... 6 ..... 6 ..... 6 ..... 6 ..... 6 ..... 6
Mathematics 031
Mathematics 031
Mathematics 031
Mathematics 031
Mathematics 031
Mathematics 031 ..... 3 ..... 3 ..... 3 ..... 3 ..... 3 ..... 3
Mathematics 033, 034
Mathematics 033, 034
Mathematics 033, 034
Mathematics 033, 034
Mathematics 033, 034
Mathematics 033, 034 ..... 6 ..... 6 ..... 6 ..... 6 ..... 6 ..... 6
Radial Courses
Radial Courses
Radial Courses
Radial Courses
Radial Courses
Radial Courses ..... 6 ..... 6 ..... 6 ..... 6 ..... 6 ..... 6
Electives
Electives
Electives
Electives
Electives
Electives ..... 3 ..... 3 ..... 3 ..... 3 ..... 3 ..... 3 ..... 30 ..... 30 ..... 30 ..... 30 ..... 30 ..... 30
Third Year
Radial Courses ..... 6
Mathematics ..... 9
Electives ..... 15
30
Fourth Year
Mathematics ..... 6
Electives ..... 22
28
ALTERNATE MATHEMATICS (B.S.)Adviser-Professor Dennis
First Year
English Composition 001, 002 ..... 6
Foreign Language 001, 002 or 003, 0046CMP267-001, 00218
Physical Education 101, 102 ..... -$\overline{30}$
Second Year
Foreign Language 003, 004(if not completed)6
Humanities ..... 6
Mathematics 031 ..... 3
Mathematics 033, 034 ..... 6
Social Science ..... 6
Electives ..... 3Third Year
Radial Courses ..... 6
Mathematics ..... 9
Electives ..... 1530
Fourth Year
Mathematics ..... 6
Radial Courses ..... 6
Electives ..... 18
30
PHILOSOPHY AND RELIGION (B.A.)
Adviser-Professor Williamson
First Year
English Composition 001, 002 ..... 6
Foreign Language ..... 6
Science ..... 6
Social Science ..... 6
Philosophy 101, 102 ..... 6
Physical Education 101, 102 ..... -30
Second Year
Foreign Language 003, 004
(if not completed) ..... 6
Religion 001, 002 ..... 6
Radial Courses ..... 12
Electives in Area of Concentration ..... 3
Electives ..... 3
30
Third Year
Philosophy or Religion ..... 15 or 18
Electives in Area of
Concentration 6 or 9
6
Physics 007, 008
2
Physics 007a, 008a3
Electives
Electives 6 or 9 Electives ..... 19
Radial Courses ..... 6
Social Science ..... 6
Physics 005, 006 ..... 8
Mathematics 039, 040 ..... 6
Mathematics 043 ..... 3
Electives ..... 3
Radial Courses ..... 6
Humanities ..... 6
Physics 003, 004 ..... 8
Mathematics 031, 032 ..... 6
Electives ..... 4

English Composition 001, 002

English Composition 001, 002

English Composition 001, 002 .....  ..... 6 .....  ..... 6 .....  ..... 6

Foreign Language

Foreign Language

Foreign Language .....  ..... 6 .....  ..... 6 .....  ..... 6
CMP267-001, 002
CMP267-001, 002
CMP267-001, 002 ..... 18 ..... 18 ..... 18
Physical Education 101, 102
Physical Education 101, 102
Physical Education 101, 102 ..... - ..... - ..... -
PHYSICS (B.S.)
PHYSICS (B.S.)
PHYSICS (B.S.)
Fourth Year
Philosophy or Religion ..... 3
Senior Seminar (109, 110) ..... 6
Electives in Area of Concentration ..... 3 or 6
Electives ..... 18 or 213030
Second Year32
Fourth Year30

## URSINUS COLLEGE BULLETIN

## POLITICAL SCIENCE (B.A.)

Adviser-Professor E. H. Miller

First YearEnglish Composition 001, 0026
History 001, 002 ..... 6
Science ..... 6
Foreign Language ..... 6
Political Science 001, 002 ..... 6
Physical Education 101, 102 ..... - ..... -
30
Second Year
Foreign Language 003, 004(if not completed)6
Psychology 001 ..... 3
Economics 003, 004 ..... 6
Political Science 005, 006 ..... 6
Political Science 015, 016 ..... 6
Electives ..... 3
Third Year
Sociology 001, 002 ..... 6
History 013, 014 ..... 6
Political Science
Electives
Radial Courses ..... 6
8
8 ..... 4 ..... 4
30-
Fourth Year
Political Science ..... 3
Electives ..... 27
3
PSYCHOLOGY (B.S.)Adviser-Professor Fletcher
First YearEnglish Composition 001, 002
Humanities or Psych. 001, 008 ..... 6
Foreign Language ..... 6
Mathematics 001, 002 or 013,014 ..... 6
Biology 001, 002
Biology 001, 002 ..... 6 ..... 6
Physical Education 101, 102
30
306
-
-830

Foreign Language 003, 004

Foreign Language 003, 004

Foreign Language 003, 004

Foreign Language 003, 004

Foreign Language 003, 004

Foreign Language 003, 004     (if not completed)     (if not completed)     (if not completed)     (if not completed)     (if not completed)     (if not completed) .....  .....  .....  .....  ..... 6 .....  .....  .....  .....  ..... 6 .....  .....  .....  .....  ..... 6 .....  .....  .....  .....  ..... 6 .....  .....  .....  .....  ..... 6 .....  .....  .....  .....  ..... 6

Mathematics 013, 014

Mathematics 013, 014

Mathematics 013, 014

Mathematics 013, 014

Mathematics 013, 014

Mathematics 013, 014 .....  ..... 4 .....  ..... 4 .....  ..... 4 .....  ..... 4 .....  ..... 4 .....  ..... 4
Psychology 001, 008 or Humanities
Psychology 001, 008 or Humanities
Psychology 001, 008 or Humanities
Psychology 001, 008 or Humanities
Psychology 001, 008 or Humanities
Psychology 001, 008 or Humanities ..... 6 ..... 6 ..... 6 ..... 6 ..... 6 ..... 6
Psychology 010
Psychology 010
Psychology 010
Psychology 010
Psychology 010
Psychology 010 ..... 4 ..... 4 ..... 4 ..... 4 ..... 4 ..... 4
Biology 021, 022
Biology 021, 022
Biology 021, 022
Biology 021, 022
Biology 021, 022
Biology 021, 022 ..... 5 ..... 5 ..... 5 ..... 5 ..... 5 ..... 5
Radial Courses
Radial Courses
Radial Courses
Radial Courses
Radial Courses
Radial Courses ..... 6 ..... 6 ..... 6 ..... 6 ..... 6 ..... 6 .....  .....  .....
e03, 004
e03, 004
e03, 004
e03, 004
e03, 004
e03, 004
 ..... 31
Sociology 001, 002
Sociology 001, 002
Sociology 001, 002
Sociology 001, 002
Sociology 001, 002
Sociology 001, 002
Sociology 001, 002
Sociology 001, 002 ..... 6 ..... 6 ..... 6 ..... 6 ..... 6 ..... 6 ..... 6 ..... 6
Anthropology 001, 002
Anthropology 001, 002
Anthropology 001, 002
Anthropology 001, 002
Anthropology 001, 002
Anthropology 001, 002
Anthropology 001, 002
Anthropology 001, 002 ..... 6 ..... 6 ..... 6 ..... 6 ..... 6 ..... 6 ..... 6 ..... 6
Psychology 031, 033
Psychology 031, 033
Psychology 031, 033
Psychology 031, 033
Psychology 031, 033
Psychology 031, 033
Psychology 031, 033
Psychology 031, 033 ..... 7 ..... 7 ..... 7 ..... 7 ..... 7 ..... 7 ..... 7 ..... 7
Psychology 021
Psychology 021
Psychology 021
Psychology 021
Psychology 021
Psychology 021
Psychology 021
Psychology 021 ..... 3 ..... 3 ..... 3 ..... 3 ..... 3 ..... 3 ..... 3 ..... 3
Radial Courses
Radial Courses
Radial Courses
Radial Courses
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Radial Courses
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Radial Courses ..... 6 ..... 6 ..... 6 ..... 6 ..... 6 ..... 6 ..... 6 ..... 6
Electives
Electives
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Electives
Electives ..... 2 ..... 2 ..... 2 ..... 2 ..... 2 ..... 2 ..... 2 ..... 2
Third Year
Third Year
Third Year
Third Year
Third Year
Third Year
Third Year
Third Year ..... 30 ..... 30 ..... 30 ..... 30 ..... 30 ..... 30 ..... 30 ..... 30
Electives
Electives
Electives
Electives
Electives
Electives
Electives
Electives
30
30
30
30
30
30
30
30

Fourth Year

Fourth Year

Fourth Year

Fourth Year

Fourth Year

Fourth Year

Psychology 009, 040

Psychology 009, 040

Psychology 009, 040

Psychology 009, 040

Psychology 009, 040

Psychology 009, 040 .....  .....  .....  .....  ..... 6 .....  .....  .....  .....  ..... 6 .....  .....  .....  .....  ..... 6 .....  .....  .....  .....  ..... 6 .....  .....  .....  .....  ..... 6 .....  .....  .....  .....  ..... 6

Psychology 044

Psychology 044

Psychology 044

Psychology 044

Psychology 044

Psychology 044 .....  .....  .....  ..... 1 .....  .....  .....  ..... 1 .....  .....  .....  ..... 1 .....  .....  .....  ..... 1 .....  .....  .....  ..... 1 .....  .....  .....  ..... 1

Psychology

Psychology

Psychology

Psychology

Psychology

Psychology .....  ..... 3 .....  ..... 3 .....  ..... 3 .....  ..... 3 .....  ..... 3 .....  ..... 3

Electives

Electives

Electives

Electives

Electives

Electives .....  ..... 20 .....  ..... 20 .....  ..... 20 .....  ..... 20 .....  ..... 20 .....  ..... 20 .....  ..... $\overline{30}$ .....  ..... $\overline{30}$ .....  ..... $\overline{30}$ .....  ..... $\overline{30}$ .....  ..... $\overline{30}$ .....  ..... $\overline{30}$
ROMANCE LANGUAGES FRENCH (B.A.)
Adviser-Dean Bozorth (Acting)

## Second Year

Second Year
First Year
English Composition ..... 6
History 001, 002 ..... 6
Science ..... 6
French 003, 004 ..... 6
Foreign Language ..... 6
Physical Education 101, 102 ..... - ..... 30

Second Year

Second Year

Second Year

Second Year

Second Year

English Literature 003, 004

English Literature 003, 004

English Literature 003, 004

English Literature 003, 004

English Literature 003, 004 .....  .....  .....  ..... 6 .....  .....  .....  ..... 6 .....  .....  .....  ..... 6 .....  .....  .....  ..... 6 .....  .....  .....  ..... 6

Social Science (Pivotal)

Social Science (Pivotal)

Social Science (Pivotal)

Social Science (Pivotal)

Social Science (Pivotal) .....  .....  ..... 6 .....  .....  ..... 6 .....  .....  ..... 6 .....  .....  ..... 6 .....  .....  ..... 6

French 005, 006

French 005, 006

French 005, 006

French 005, 006

French 005, 006 .....  .....  ..... 6 .....  .....  ..... 6 .....  .....  ..... 6 .....  .....  ..... 6 .....  .....  ..... 6

French 015, 016

French 015, 016

French 015, 016

French 015, 016

French 015, 016 .....  ..... 6 .....  ..... 6 .....  ..... 6 .....  ..... 6 .....  ..... 6
Foreign Language 003, 004
Foreign Language 003, 004
Foreign Language 003, 004
Foreign Language 003, 004
Foreign Language 003, 004 (if not completed, or other radial (if not completed, or other radial (if not completed, or other radial (if not completed, or other radial (if not completed, or other radial course) course) course) course) course) ..... 6 ..... 6 ..... 6 ..... 6 ..... 6
Third Year
History 003, 004 or 005, 006 ..... 6
French 011, 012 or 013, 014 ..... 6
French 021, 022 or 023, 024 ..... 6
Electives ..... 12$\overline{30}$
Fourth Year
Electives ..... 3030
SPANISH (B.A.)
Adviser-Dean Bozorth (Acting)
First Year
English Composition 001, 002 ..... 6
History 001, 002 ..... 6
Science ..... 6
Spanish 003, 004 ..... 6
Foreign Language ..... 6
Physical Education ..... -
30
Second Year
English Literature 003, 004 ..... 6
Social Science (Pivotal) ..... 6
Spanish 013, 014 ..... 6
Foreign Language 003, 004 (if not ..... 
completed or other radial course)
completed or other radial course) ..... 6 ..... 6
Electives ..... 6
Third Year
History
Spanish 121, 122 or 123, 124
Spanish 125, 126 or 009, 010
Electives
6
6 ..... 6 ..... 6 ..... 12 ..... 12
30 ..... $\overline{30}$
30 ..... 30
Fourth Year for Teachers
3
Spanish 124 or 122
3
Spanish 128
12
Electives
Education Semester ..... 14
30

## Fourth Year

Spanish 123, 124 or 121, 122 ..... 6
Electives ..... 24
SCIENCES (B.S.)
PREPARATION FOR SECONDARY SCHOOL TEACHING IN THE SCIENCES
I. CONCENTRATION IN BIOLOGY
Advisers-Professor Allen and
Visiting Professor Wessel
First Year
CMP267-001, 002 ..... 18
English Composition 001, 002 ..... 6
Language 001, 002 or 003, 004 ..... 6
Physical Education 101, 102 ..... 30
Second Year
Biology 011, 012 ..... 8
Biology 021, 022 ..... 5
Pivotal Humanities ..... 6
Langauge 003, 004
or
Pivotal Social Sciences ..... 6
Psychology 001 ..... 3
Education 002 ..... 3


Biology 017, 018 ..... 4
Biology 015 ..... 3
Biology 014 or 019 ..... 4
Education 031, 032 ..... 6
Pivotal Social Sciences
or
Electives ..... 6
Electives ..... 7
Third Year
30
Fourth Year
Education 005 ..... 8
Education 044 ..... 3
Education 041, 043 ..... 3
Biology Electives ..... 4
Electives ..... 12

## II. CONCENTRATION IN CHEMISTRY

Advisers--Professor Staiger and Visiting Professor Wessel

## III. CONCENTRATION IN PHYSICS

Advisers-Professor Heilemann and Visiting Professor Wessel


COURSE OUTLINE PROGRAM LEADING TO COMPREHENSIVE SCIENCE CERTIFICATION

Advisers-Professor Staiger and Visiting Professor Wessel

## First Year

CMP267-001, 002 ..... 18
English Composition 001, 002 ..... 6
Language 001, 002 ..... 6
or
Language 003-004 ..... 6
30
Second Year
Biology 001, 002 ..... 6
Chemistry 003 ..... 4
Physics 004 ..... 4
History 001, 002 ..... 6
Language 003, 004 ..... 6
or
Senior Symposium inSenior Year
Psychology 001 ..... 3
Education 002 ..... 332
Third Year
Physics 011, 012 ..... 6
Chemistry 007, 008 ..... 8
Education 031, 032 ..... 6
Biology 017, 018 ..... 4
Psychology 008 ..... 3
Electives ..... 27
ecives ..... 3
30
Fourth Year
Geology 001, 002 ..... 6
Education 041, 043 ..... 3
Education 005 ..... 8
Education 044 ..... 3
20
Electives ..... 10

FIVE-YEAR COMBINED LIBERAL ARTS ENGINEERING PROGRAM URSINUS COLLEGE (B.A.), THE UNIVERSITY OF PENNSYLVANIA AND THE UNIVERSITY OF SOUTHERN CALIFORNIA (B.S. in Engr.)

Adviser-Professor Heilemann

## PLAN I FOR ELECTRICAL, CIVIL OR MECHANICAL ENGINEERS

## First Year

English Composition 001, 002 ..... 6
Foreign Language 003, 004 ..... 6
CMP267-001, 002 ..... 18
Physical Education 101, 102 ..... 30
Second Year
Radial Courses ..... 6
Humanities ..... 6
Physics 003, 004 ..... 8
Mathematics 031, 032 ..... 6
Drafting ..... 3
Descriptive Geometry ..... 3Third Year
Radial Courses ..... 6
Social Science ..... 6
Physics 007, 014 ..... 6
Mathematics 039, 040 ..... 6
Electives ..... 6$\overline{30}$
Fourth and Fifth Yearsto be completed at the University ofPennsylvania or the University of SouthernCalifornia.
PLAN II FOR CHEMICAL OR METALLURGICAL ENGINEERS
First Year
English Composition 001, 002 ..... 6
Foreign Language ..... 6
CMP267-001, 002 ..... 18
Physical Education 101, 102$\overline{30}$

| Second Year | Fourth Year |
| :---: | :---: |
| Radial Courses . . . . . . . . . . . . . . . . . . 6 | to be completed at the University of |
| Humanities . . . . . . . . . . . . . . . . . . . . . 6 | Pennsylvania or the University of Southern |
| Chemistry 003 . . . . . . . . . . . . . . . . . . . 4 |  |
| Physics 004 . . . . . . . . . . . . . . . . . . . . 4 | California. |
| Drafting . . . . . . . . . . . . . . . . . . . . . . 3 |  |
|  |  |
| 29 |  |
| Third Year | STUDENTS WHO WISH TO PREPARE |
| Radial Courses . . . . . . . . . . . . . . . . . 6 | FOR TEACHING, THE MINISTRY, OR |
| Social Science . . . . . . . . . . . . . . . . . . 6 | FOR ADMISSION TO PROFESSIONAL |
| Chemistry 009, 010 . . . . . . . . . . . . . 8 | SCHOOLS OF MEDICINE, DENTISTRY, VETERINARY MEDICINE, LAW OR NURS- |
| Physics 003 . ........... . . . . . . . . . . . 4 | ING SHOULD REFER TO "THE ADMIS- |
| Mathematics 039, 040 . . . . . . . . . . . . . 6 | SION SECTION (CAREER OPPORTUNI- |
| Electives . . . . . . . . . . . . . . . . . . . . . . . . 3 | TIES)" WHERE SUGGESTED MAJORS |
| 33 | ARE INDICATED. |

## DIRECTORY

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[^12]BOIES PENROSE, B.A., LL.D., Devon ..... 1964 ..... 1974
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B.A., Haverford College; M.A., Ph.D., Harvard University.

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B.A., Ursinus College; M.A., Ph.D., University of Pennsylvania.

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## URSINUS COLLEGE BULLETIN

EVERETT MARTIN BAILEY, M.A., Director of Athletics; Professor of Physical Education
B.P.E., B.S., Springfield College; M.A., Columbia University.

IOHN JACOB HEILEMANN, Ph.D., Professor of The College, Professor of Physics
B.A., M.A., Ph.D., University of Pennsylvania
eUGene herbert miller, Ph.D., Professor of Political Science B.A., Ursinus College; M.A., Ph.D., Clark University

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HELEN THOMPSON GARRETT, Ph.D., Professor of French
B.A., Swarthmore College; Diplome, University of Lille; Ph.D., University of Pennsylvania.
*GARFIELD SIEBER PANCOAST, Ph.D., Professor of Political Science B.S., Ursinus College; M.A., Ph.D., University of Pennsylvania.

RICHARD MUMMA FLETCHER, Ph.D., Professor of Psychology B.A., Franklin and Marshall College; Ph.D., Pennsylvania State University.
roger powell stalger, Ph.D., David Laucks Hain Professor of Chemistry B.S., Ursinus College; M.S., Ph.D., University of Pennsylvania.

Georce Gilbert storey, Ph.D., Professor of English
B.A., Geneva College; M.A., Duke University; M.A., Ph.D., Harvard University.

DONALD JAMES HUNTER, Ph.D., Professor of Economics
B.S., University of Illinois; M.S., Ph.D., lowa State University
*On sabbatical leave, 1971-1972.

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B.S., Ursinus College; M.S., Ph.D., University of Pennsylvania.

WILLIAM BEDFORD WILLIAMSON, Ed.D., D.D., Professor of Philosophy B.S., S.T.B., Ed.D., Temple University; S.T.M., Lutheran Theological Seminary; M.A., Lehigh University; D.D., National University.

PHILIP EUGENE WILLIAMS, Ph.D., Adjunct Professor of English
A.B., Franklin and Marshall College; B.D., Yale University Divinity School; S.T.M., Union Theological Seminary; Ph.D., University of Pennsylvania.

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B.A., Ursinus College; M.A., University of Pennsylvania.

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B.A., Amherst College; M.A., Ph.D., University of Pennsylvania; L.H.D., Amherst C̣ollege.

EDWARD RICE SELTZER, M.Ed., Visiting Professor of Education
A.B., Muhlenberg College; M.Ed., Temple University, Pennsylvania State University.

CHARLES LOUIS LEVESQUE, Ph.D., Director of the Evening and Summer Schools, Visiting Professor of Applied Science
A.B., A.M., Dartmouth College; Ph.D., University of Illinois.

[^15]ALFRED LEON CREAGER, B.D., D.D., Associate Professor of the History of the Christian Church
B.S., Ursinus College; B.D., The Theological Seminary, Lancaster; D.D., Ursinus College.
RAYMOND VICTOR GURZYNSKI, M.Ed., Associate Professor of Physical Education
B.S., Ursinus College; M.Ed., Temple University.

GEOFFREY DOLMAN, M.A., Dean of Admissions; Associate Professor of English
B.A., M.A., University of Pennsylvania.

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ROBERT STEARNS HOWARD, Ph.D., Associate Professor of Biology B.S., University of Chicago; M.S., University of Miami; Ph.D., Northwestern University.

EVERETT VERNON LEWIS, Ph.D., Associate Professor of Mathematics B.S., Ph.D., Massachusetts Institute of Technology.

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B.A., University of Delaware; M.A., University of Pennsylvania.

BLANCHE BEATRICE SCHULTZ, M.S., Associate Professor of Mathematics B.S., Ursinus College; M.S., University of Michigan.

CONRAD EDWARD KRUSE, D.Sc., Associate Professor of Biology B.Sc., D.Sc., Philadelphia College of Pharmacy and Science; M.Sc., University of Wisconsin.
WALTER WOODROW MARSTELLER, B.S., Associate Professor of Physics B.S., Ursinus College.

RUTH ROTHENBERGER HARRIS, Dean of Women; Director of Student Activities
B.S., Ursinus College, M.A., Columbia University.

DERK VISSER, Ph.D., Associate Professor of History
M.A., University of Pennsylvania; Ph.D., Bryn Mawr College.

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B.A., University of Pennsylvania; M.A., Ph.D., Princeton University.

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JAMES PRESSLEY CRAFT, JR., Ph.D., Assistant Dean of the College; Associate Professor of Political Science
B.S., U.S. Naval Academy; M.S., Massachusetts Institute of Technology; Ph.D., University of Pennsylvania.

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ALBERT LESTER REINER, Ph.D., Associate Professor of Romance Languages A.B., M.A., Ph.D., Harvard University.

RICHARD JACOB WHATLEY, M.S., Dean of Men; Assistant Professor of Physical Education
B.S., University of Maine; M.S., Springfield College.

JANE ANN BARTH, M.A., Assistant Professor of Chemistry B.A., Mount Holyoke College; M.A., Smith College.

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ADELE PACK BOYD, M.Ed., Assistant Professor of Physical Education B.S., Ursinus College; M.Ed., Temple University.

MARGARET BROWN STAIGER, B.A., Senior Assistant Librarian B.A., Ursinus College.

HUGHAN CONRAD MEYER, JR., M.A., Assistant Professor of Economics B.A., Ursinus College; M.A., University of Pennsylvania.

GEORGE ARTHUR SHARP, Ph.D., Assistant Professor of Psychology
B.S., Thiel College; M.P.S., University of Colorado; M.A., Ph.D., Temple University.

## URSINUS COLLEGE BULLETIN

Albert curtis allen, JR., Ph.D., Assistant Professor of Biology B.A., College of Wooster; M.A., Ph.D., University of Michigan.

ESTHER SIDNEY COPE, Ph.D., Assistant Professor of History A.B., Wilson College; M.A., University of Wisconsin; Ph.D., Bryn Mawr College.

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*Deceased January 1, 1971.

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The John C. Boyer Memorial Prize-David Scott Whitten
Cub and Key Scholarship-William David Ardill
The George Ditter Prize-Alan Paul Novak
The Duttera 'Prize-Joy Ann Todt
The Ehret Prize-Gary George Schaal
The Philip H. Fogel Memorial Prize-Thomas Alan Roth
The Ronald C. Kichline Athletic Prize-John William Russell
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The Paisley Prize-Thomas Alan Roth

The Peters Prize-Wayne Andrew Huss
The Ellen Beaver Schlaybach Memorial Prize-Patricia Anne Mellon
The Robert Trucksess Prize-Edward Lewis McCandless, Jr.
The Ursinus Women's Club Prize-Jewell Ethel Malick, Joan Cecelia Broderick

The Wagman Prize-Alan Cary Gold
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## COLLEGE CALENDAR FOR 1972

| January | 3 |
| :--- | ---: |
| January | 20 |
| January | 29 |
| January | 31 |

February 7 Monday Second Semester begins, 8:00 A.M. Registration of New Students

| March | 24 | Friday |
| :--- | :--- | :--- |
| March | 25 | Saturday |
| March | 29 | Wednesday |

Mid-Semester grades due, 4:00 P.M. Spring Recess begins, 1 P.M. Mid-Semester grades mailed

| April | 4 | Tuesday <br> Monday | Spring Recess ends, 8:00 A.M. <br> Pre-Registration begins |
| :--- | ---: | :--- | :--- |
| May | 17 | 25 | Thursday | Second Semester examinations begin


| June | 3 | Saturday | Second Semester examinations end |
| :---: | :---: | :---: | :---: |
| June | 3 | Saturday | Alumni Day |
| June | 4 | Sunday | Baccalaureate Service, 10:00 A.M. |
|  |  |  | Commencement, 2:00 P.M. |
| June | 7 | Wednesday | Summer School begins, 8:00 A.M. |
| August | 30 | Wednesday | Summer School ends, 5:30 P.M. |
| Sept. | 16 | Saturday | Freshman Program begins, Academic Convocation, 4:00 P.M. |
| Sept. | 18 | Monday | Registration of New Students |
| Sept. | 19 | Tuesday | Second Day of Registration |
| Sept. | 20 | Wednesday | First Semester begins, 8:00 A.M. |
| October | 7 | Saturday | Parents' Day |
| October | 21 | Saturday | Homecoming Day |
| November |  | Sunday | Founder's Day Convocation, 3:00 P.M. |
| November |  | Monday | Mid-Semester Grades submitted by Faculty, 9:00 A.M. |
| November |  | Thursday | Mid-Semester Grades mailed |
| November |  | Wednesday | Thanksgiving Recess begins, 5:30 P.M. |
| November |  | Monday | Thanksgiving Recess ends, 8:00 A.M. |

December 16 Saturday Christmas Recess begins, 1:00 P.M.

| COLLE |  | LENDAR | FOR 1973 |
| :---: | :---: | :---: | :---: |
| January | 2 | Tuesday | Christmas Recess ends, 8:00 A.M. |
| January | 18 | Thursday | First Semester examinations begin |
| lanuary | 27 | Saturday | First Semester examinations end |
| January | 29 | Monday | Last day for filing financial aide applications |
| February | 5 | Monday | Second Semester begins, 8:00 A.M. Registration of New Students |
| March | 23 | Friday | Mid-Semester grades due, 4.00 P.M. |
| March | 24 | Saturday | Spring Recess begins, 1 P.M. |
| March | 28 | Wednesday | Mid-Semester grades mailed |
| April | 2 | Monday | Spring Recess ends, 8:00 A.M. |
| April | 9 | Monday | Pre-Registration begins |
| April | 19 | Friday | Easter Recess begins, 5:30 P.M. |
| April | 24 | Tuesday | Easter Recess ends, 8:00 A.M. |
| May | 24 | Thursday | Second Semester examinations begin |
| June | 2 | Saturday | Second Semester examinations end |
| June | 2 | Saturday | Alumni Day |
| June | 3 | Sunday | Baccalaureate Service, 10:00 A.M. Commencement, 2:00 P.M. |
| June | 6 | Wednesday | Summer School Begins, 8:00 A.M. |
| August | 29 | Wednesday | Summer School ends, 5:30 P.M. |
| Sept. | 15 | Saturday | Freshman Program begins, Academic Convocation, 4:00 P.M. |
| Sept. | 17 | Monday | Registration of New Students |
| Sept. | 17 | Tuesday | Second day of Registration |
| Sept. | 19 | Wednesday | First Semester begins, 8:00 A.M. |

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## THE



## kEy to the campus

1. Pfahler Hall of Science (laboratories, classrooms, Evening School)
2. Curtis Hall, dormitory for men
3. Wilkinson Hall, lounge and dormitory for men
4. Brodbeck Hall, dormitory for men
5. Myrin Library
6. Bomberger Memorial Hall
7. Post Office, Store and Snack Bar
8. College Union (1972)
9. Administration Building (Admissions Office)
10. Studio Coltage
11. Infirmary
12. Maintenance Building
13. Paisley, Stauffer, Beardwood Halls, dormitories for women
14. College Gymnasium (to be demolished, 1972)
15. Thompson-Gay Gymnasium
16. Heating and Power Plant
17. Wismer Hall (dining, theater, classrooms)
18. Dormitory for women, 944 Main Street
19. Dormitory for women, 942 Main Street
20. Fircroft Hall, dormitory for men, 940 Main Street
21. Isenberg Hall, dormitory for men, 801 Main Street
22. Todd Hall, dormitory for women, 724 Main Street
23. Omwake Hall, dormitory for men, 701 Main Street
24. Schaff Hall, dormitory for women, 646 Main Street
25. Olevian Hall, dormitory for women, 640 Main Street
26. Zwingli Hall, U.C.C. Conf. Hdq., 620 Main Street
27. Duryea Hall, dormitory for women, 612 Main Street
28. Shreiner Hall, dormitory for women, 6 th Avenue and Main Street
29. South Hall
30. Hobson Hall, dormitory for women, 568 Main Street
31. Fetterolf House, Faculty Offices, 554 Main Street
32. Super House, 542 Main Street
33. Trinity Church, United Church of Christ
34. The Parsonage, 522 Main Street
35. Maples Hall, dormitory for men, 520 Main Street
36. Keigwin Hall, dormitory for women, 513 Main Street
37. Clamer Hall, dormitory for women, 409 Main Street
38. Dormitory for men
39. Physical Education Facility (1972)
40. 777 Main Street, dormitory for women
41. Life Science Building

[^0]:    **This course is not offered in 1973-1974.
    ***This course is not offered in 1972-1973.

[^1]:    *This course is not offered in 1973-1974; offered in 1972-1973.

[^2]:    *This course is not offered in 1972-1973.

[^3]:    *This course is not offered in 1972-1973.

[^4]:    *This course is not offered in 1972-1973.

[^5]:    *This course is not offered in 1972-1973.

[^6]:    *This course is not offered in 1972-1973.

[^7]:    *This course is not offered in 1972-1973.

[^8]:    *This course is not offered in 1972-1973.

[^9]:    *On Sabbatical Leave, 1971-1972.

[^10]:    *This course is not offered in 1972-1973.

[^11]:    *This course is not offered in 1972-1973.

[^12]:    *Did not serve 1968-1969
    **Did not serve 1966-1967
    ***Deceased January 3, 1972

[^13]:    *Deceased May 13, 1971

[^14]:    *Listed in order of appointment to present rank; appointments of the same year are listed alphabetically.

[^15]:    *Deceased July 8, 1971.

