1968-1969 Bulletin
University of Dayton Bulletin

Undergraduate Catalog Issue

1968-1969

DAYTON, OHIO 45409
Academic Calendar

1968-1969

FIRST TERM

Aug. 24 Sat.       Parents Day
Aug. 25-26-27 Mon., Tues., Wed.     Orientation for freshmen
Aug. 26 Mon.       Registration
Aug. 27 Tues.      Registration: All registration closed at 4 p.m.
Aug. 29 Thurs.     Mass in honor of the Holy Spirit at 9 a.m.
                   Classes begin at 11 a.m.
Sept. 2 Mon.       Labor Day (no day or evening classes)
Sept. 5 Thurs.     Last day for changes in schedules
Sept. 19 Thurs.    Last day to withdraw without record
Sept. 20 Fri.      From this date every withdrawal from class for academic
difficulty is recorded as F
Oct. 19 Sat.       Homecoming (graduate and Saturday only classes held)
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<thead>
<tr>
<th>Date</th>
<th>Day</th>
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<tr>
<td>Oct. 21</td>
<td>Mon.</td>
<td>Mid-term progress grades due in Registrar's Office (for freshmen only)</td>
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<td>Deficiency reports due in Dean's Office (for all deficient students)</td>
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<tr>
<td>Nov. 1</td>
<td>Fri.</td>
<td>Feast of All Saints (no day or evening classes)</td>
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<tr>
<td>Nov. 27</td>
<td>Wed.</td>
<td>Thanksgiving recess begins after last evening class</td>
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<tr>
<td>Dec. 2</td>
<td>Mon.</td>
<td>All classes resume</td>
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<tr>
<td>Dec. 12-18</td>
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<td>Examinations in evening classes during final period</td>
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<tr>
<td>Dec. 16</td>
<td>Mon.</td>
<td>Examinations</td>
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<td>Dec. 17</td>
<td>Tues.</td>
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<tr>
<td>Dec. 18</td>
<td>Wed.</td>
<td>Examinations: Term ends after last examination</td>
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<tr>
<td>Dec. 21</td>
<td>Sat.</td>
<td>Diploma exercises</td>
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**SECONb TERM**

| Jan. 2  | Thurs. | Registration                                                        |
| Jan. 3  | Fri.    | Registration                                                        |
| Jan. 4  | Sat.    | Registration: All registration closed at 12 noon                    |
| Jan. 6  | Mon.    | Classes begin                                                        |
| Jan. 13 | Mon.    | Last day for changes in schedules                                   |
| Jan. 27 | Mon.    | Last day to withdraw without record                                  |
| Jan. 28 | Tues.   | From this date every withdrawal from class for academic difficulty is recorded as F |
| Feb. 24 | Mon.    | Mid-term progress grades due in Registrar's Office (for freshmen only) |
|         |         | Deficiency reports due in Dean's Office (for all deficient students) |
| Mar. 5  | Wed.    | Honors Day                                                          |
| Apr. 2  | Wed.    | Easter recess begins after last evening class                       |
| Apr. 8  | Tues.   | All classes resume                                                  |
| Apr. 21-25 |       | Examinations in evening classes during final period                  |
| Apr. 22 | Tues.   | Study Day (no day classes)                                          |
| Apr. 23 | Wed.    | Examinations                                                         |
| Apr. 24 | Thurs.  | Examinations                                                         |
| Apr. 25 | Fri.    | Examinations: Term ends after last examination                       |
| Apr. 27 | Sun.    | Commencement exercises                                               |

*Mid-term progress grades due in Registrar’s Office (for freshmen only)*

*Deficiency reports due in Dean’s Office (for all deficient students)*

*Please note: The shaded text was handwritten and is not transcribed.*

*Honors Day*
1968-1969

THIRD TERM (First Session)

May 5 Mon. Registration
May 6 Tues. Registration: All registration closed at 4 p.m.
May 8 Wed. Classes begin
May 12 Mon. Last day for changes in schedules
May 15 Thurs. Feast of the Ascension (no day classes)
May 19 Mon. Last day to withdraw without record
May 20 Tues. From this date every withdrawal from class for academic
difficulty is recorded as F
May 30 Fri. Memorial Day (no day or evening classes)
June 16-20 Examination in evening classes during final period
June 20 Fri. Examinations
June 21 Sat. Examinations: Session ends after last examination

THIRD TERM (Summer Session)

June 20 Fri. Registration
June 21 Sat. Registration: All registration closed at 12 noon
June 23 Mon. Classes begin
June 26 Thurs. Last day for changes in schedules
July 3 Thurs. Last day to withdraw without record
July 4 Fri. Independence Day (no day or evening classes)
July 5 Sat. From this date every withdrawal from class for academic
difficulty is recorded as F
July 20-August 1 Examinations in evening classes during final period
Aug. 1 Fri. Examinations
Aug. 2 Sat. Examinations: Session ends after last examination
Aug. 3 Sun. Diploma exercises
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I General Information

THE UNIVERSITY OF DAYTON
The University of Dayton is a medium-sized, private, coeducational school with a growing reputation for academic achievement. Located in the heart of the midwest, it attracts its student body from the local community, the state of Ohio and other Midwestern and Eastern states, and a number of foreign lands. With a full-time student body of seven-thousand-five-hundred, the University of Dayton is ranked seventh in size among the nation's Catholic colleges. It includes four schools and the college offering a large selection of study ranging from art and philosophy to geology and computer science.

Founded more than a century ago by the Catholic teaching order of the Society of Mary (Marianists), the University numbers among its students representatives of many faiths. All students, however, partake of the friendly family spirit for which the campus is known.

The campus itself is located on a seventy-six acre hilltop at the southern edge of the city of Dayton where older and newer buildings are blended into a pleasant setting. A West Campus, just several minutes distant from the Main Campus, also comprises seventy-six acres; it is used primarily for housing of freshman men. An East Campus, on the dividing line between Montgomery and Greene Counties, is the motherhouse for young Marianist Brothers who are doing college work. The East Campus is also the site of Bergamo, a center for ecumenical study and activity.

A well-qualified faculty of laymen, priests, Brothers, and Sisters, provides the student the "competent instruction, tempered discipline, and prudent counseling" which the University sees as one of its principal aims.

A placement service for students and graduates; reasonable tuition rates and financial aid plans; varied religious, social, and cultural opportunities; a trimester-type academic calendar providing a number of different study-recess possibilities; and high-caliber intercollegiate and intramural athletic programs are but a few of the "features" which contribute to the character of the University of Dayton.
UNIVERSITY GOALS

Education, which has as its ultimate aim to prepare man for what he must be and what he must do here on earth in order to attain the sublime end for which he was created, is necessarily a lifelong process in which many agencies participate. As one of these agencies, concentrating its efforts in the area of higher education, the University of Dayton professes to provide an academic atmosphere in which Christian principles of thought and action are the essential integrating and dynamic forces impelling the student to pursue, to cherish, and to disseminate what is true, good, and beautiful.

In promoting this formation the University envisions the harmonious development of the student's natural and supernatural capacities and contributes to this objective by helping him to acquire and develop sound religious and moral convictions, broad knowledge and basic intellectual habits, physical vigor and emotional stability, keen awareness of social responsibility, specialized professional attitudes and competencies.

To assure the achievement of these objectives the University endeavors to provide for all its students competent instruction, tempered discipline, and prudent counseling, together with appropriate physical surroundings and opportunities for participation in a variety of curricular and extracurricular activities.

The University is convinced that, by imparting such a well-rounded education to as many students as possible, it is preparing worthy members for both the Church and the State. Moreover, by offering to these institutions its physical and human resources for the discovery and dissemination of truth and for the rendering of those specialized educational services that fall within the area of its competence, the University seeks to fulfill as fully as possible the mission to which it is committed by its official motto—Pro Deo et Patria, For God and Country.

HISTORICAL SKETCH

The University of Dayton traces its history to the year 1850 when a modest primary school for boys, known as St. Mary's Institute, was opened in Dayton. Operating the little school was a group of Catholic missionaries who had left their native France just a year earlier to bring their educational work to
America. These priests and Brothers were members of the Society of Mary, a religious order founded in 1817 by Father William Joseph Chaminade.

These pioneer Marianists, as members of the Society are called, while conducting their ministry in Dayton fortunately became acquainted with a certain Mr. John Stuart, scion of the royal family of Scotland. Mr. Stuart sold the Marianists his one-hundred-and-twenty-acre “Dewberry Farm” just south of the city—an ideal, hilltop property for a school. The following summer, in 1850, fourteen pupils began classes in the house on Dewberry Farm.

From that humble beginning St. Mary’s Institute grew. Some years later, it became St. Mary’s College, and then, in 1920, the University of Dayton.

Its growth and progress continued. When the school adopted its present name, enrollment was one hundred and seventy-one. In 1937, two years after coeducation was introduced, it passed the thousand mark. Following World War II, enrollment at the University of Dayton—as at most other colleges and universities around the country—expanded rapidly. In 1946, almost three thousand students registered and, in 1967, a record total enrollment of over ten thousand was attained.

Growth in numbers does not necessarily represent progress, of course. While enrollments grew, new programs on both undergraduate and graduate levels were initiated, curricula and methods of presenting them were streamlined. New buildings to house various departments and activities were built at a rapid pace. Professional and educational groups recognized the University’s work with accreditation and approval.

Today, in its one-hundred-and-eleventh academic year, the University of Dayton includes the College of Arts and Sciences, School of Business Administration, School of Education, School of Engineering, and Technical Institute. In all, forty departments of instruction function on the campus, awarding twenty-four different degrees on the associate, baccalaureate, and graduate levels. These degrees are:

- Bachelor of Arts
- Bachelor of Science
- Bachelor of Fine Arts
- Bachelor of Music
- Bachelor of Social Science
- Associate in Police Administration
- Bachelor of Science in Home Economics
- Bachelor of Science in Medical Technology
- Bachelor of Science in Business Administration
- Associate in Business Administration
- Bachelor of Science in Education
- Bachelor of Chemical Engineering
- Bachelor of Civil Engineering
- Bachelor of Electrical Engineering
- Bachelor of Industrial Engineering
- Bachelor of Mechanical Engineering
- Bachelor of Technology
- Associate in Technology
- Master of Arts
- Master of Public Administration
- Master of Business Administration
- Master of Science
- Master of Science in Education
- Master of Science in Engineering
ACCREDITATION

The University of Dayton is officially accredited by the North Central Association of Colleges and Secondary Schools. Other official accreditations include those of the State of Ohio Department of Education, the National Council for Accreditation of Teacher Education, the Engineers' Council for Professional Development (for civil, electrical, and mechanical engineering curricula, and for electronic, industrial, and mechanical engineering technology programs), and the Council on Social Work Education (for sociology). The University has the approval of the American Medical Association (for its pre-medical program) and of the American Chemical Society (for its programs in chemistry).

In addition to these accreditations and approvals, the University holds institutional memberships in the Association of American Colleges, the American Association of Colleges for Teacher Education, the American Council on Education, the American Society for Engineering Education, the National Catholic Educational Association, the Ohio College Association, the International Council on Education for Teaching, the Association of Urban Universities, the American Association of University Women, and the Association of University Evening Colleges.

UNIVERSITY PROGRAMS

In addition to the regular day session, the University also conducts evening and summer sessions and offers short-term non-credit courses, conferences, and institutes through a Special Sessions program.

COLLEGE OF ARTS AND SCIENCES

The College of Arts and Sciences, largest of the University's six academic units and traditionally the basic unit, includes twenty-one departments: Biology, Chemistry, Communication Arts, Computer Science, English, Fine Arts, Geology, History, Home Economics, Information Science, Languages, Mathematics, Music, Philosophy, Physics, Political Science, Psychology, Sociology and Anthropology, Theological Studies, and Military Science.
Pre-professional courses are offered in medicine, dentistry, dietetics, optometry, veterinary medicine, pharmacy, law, foreign service, social service, radio and television broadcasting. In cooperation with St. Elizabeth, Good Samaritan, and Miami Valley hospitals, courses are given in medical technology. Affiliation with the Dayton Art Institute makes it possible for students to work for the Bachelor of Fine Arts degree. Affiliation of the Dayton Junior Philharmonic Orchestra with the University provides music students an opportunity for valuable musical practice and experience.

Programs leading to the degrees of Master of Arts or Master of Science are offered in biology, chemistry, English, history, mathematics, philosophy, physics, political science, psychology, information science, and theological studies. The professional degree Master of Public Administration is also offered.

School of Business Administration
The School of Business Administration offers undergraduate majors in accounting, business management, industrial management, marketing, personnel management, and economics. On the graduate level, the School awards a Master of Business Administration degree. Also offered is a two-year course in secretarial studies leading to an associate degree.

School of Education
The School of Education prepares teachers for the elementary and secondary levels and for such specialized fields as art, music, speech, business, health and physical education, and home economics. It conducts retraining and postgraduate programs, and offers graduate programs leading to the degree of Master of Science in Education. These programs are designed to prepare school administrators, school counselors, school psychologists, master elementary teachers, master high school teachers, and educational research specialists.

School of Engineering
The School of Engineering includes the departments of Chemical Engineering, Civil Engineering and Engineering Mechanics, Electrical Engineering, Industrial Engineering, and Mechanical Engineering. The School offers a graduate program leading to the degree of Master of Science in Engineering.

Technical Institute
The Technical Institute includes the Departments of Chemical Technology, Electronic Engineering Technology, Industrial Engineering Technology, and Mechanical Engineering Technology. Each of these offers a five-term program leading to the Associate in Technology degree. The Technical Institute also offers a program leading to the Bachelor of Technology degree for those who complete the Associate in Technology program.
SPECIAL SESSIONS

Many of the programs presented during the regular day sessions are offered also in the Evening and Summer Sessions, enabling students to work toward degrees on a part-time basis. These sessions are governed by the same policies and regulations prevailing during the Day Session.

In addition, specialized non-credit, adult education courses are offered through Special Sessions. Management development and continuing education programs are conducted for business, industry, government, schools, the professions, and the general public.

WVUD-FM AND UD-CCTV

Modern communications media, available to all University departments and programs, include WVUD-FM, a radio station covering the Miami Valley area, and an on-campus, closed circuit television operation. Both facilities are housed in the John F. Kennedy Memorial Union.

RESEARCH INSTITUTE

As an integral unit of the University, the Research Institute administers sponsored research that the University agrees to perform for commercial organizations and governmental agencies. Research projects concerned with a single discipline are normally performed by the appropriate department of instruction, whereas the larger projects that are primarily multi-disciplinary in character are performed within research laboratories under the jurisdiction of the Research Institute. A strong emphasis is placed on the integration of all research with the instructional activities of the University, and a concerted effort is made to provide opportunities for undergraduate, as well as graduate, students to acquire experience and training in the methods of research.
CALENDAR
The University of Dayton operates on a “Split Third-Term” calendar. This modern calendar, detailed on page 3, comprises a fall and winter term, each of fifteen weeks, and a spring-summer term which is split into two six-week units. The advantages of such a calendar, for varying the vacation periods or for accelerating the study program, are many. A student may enroll for the traditional fall and winter terms and take an expanded summer vacation; or he may add each summer a half term or full term in order to complete graduation requirements sooner. The student who must work to put himself through school will have additional time in the spring and summer for employment; or he may enroll for the spring-summer term and use either the fall or winter term as a vacation period when the employment market is not crowded with other college students. Each student is free, within the broad limits of the calendar, to construct his own study-vacation plan.

LOCATION
The University of Dayton Main Campus is located near Interstate Route 75, just a short distance east from the Exit at Nicholas Road and Stewart St. Directional signs posted throughout the area facilitate travel to the campus.

The West Campus is located on Germantown Street (State Route 4 West) near the intersection of Gettysburg Avenue. City bus routes serve both campuses.

The East Campus, situated on Patterson Road five miles to the east of the Main Campus, houses in Marianist College over two-hundred religious Brothers of the Society of Mary who are students at the University. Bergamo, a center for ecumenical study and activity, is located on the East Campus.

(See map, inside back cover.)
1. Fieldhouse
2. Flyers Hangar
3. Albert Emanuel Library
4. St. Joseph Hall
5. Zehler Hall
6. Immaculate Conception Chapel
7. Liberty Hall
8. St. Mary Hall
9. Arcade
10. Chaminade Hall
11. Post Office
13. Services Bldg.
14. Power House-Laundry
15. Services Bldg.
16. Office Bldg.
17. J. F. Kennedy Memorial Union
18. Miriam Hall
19. Sherman Hall
20. Alumni Hall
21. Founders Hall
22. Wohlleben Hall
24. R.O.T.C. Bldg.
25. Marycrest Hall
26. Gosiger Health Center
27. Telescope
28. Stuart Hall
University of Dayton
(Campus Map)

"A", "E" Student Parking
"B", "C", "D", "F" Faculty Staff Parking
"\/////////// Visitors Parking"
CAMPUS AND BUILDINGS
Principal buildings on the Main Campus, with the date of construction of each in parentheses, are as follows:

**ALBERT EMAUEL LIBRARY (1928)**

The University's main library was erected by the late Victor C. Emanuel, an alumnus, in memory of his father. It and two departmental libraries house two hundred and thirty thousand books and over four thousand journals. Occupying one wing of the building is the internationally famed Marian Library, containing the largest collection of Mariana in the western hemisphere.

**UNIVERSITY FIELDHOUSE (1950)**

Home base of the Dayton Flyers, nationally prominent University basketball team, the Fieldhouse also houses the offices of the Department of Athletics and, the Department of Health and Physical Education. University convocations and commencement exercises are conducted in this six-thousand-seat arena.

**FLYERS HANGAR (1962)**

A smart snack shop and cafeteria, the "Hangar" is a popular between-classes gathering place for students.

**BAUJAN FIELD (1925)**

The University football stadium, with a seating capacity of fourteen thousand, is named for Harry C. Baujan, long-time athletic director at the University.

**ST. JOSEPH HALL (1884)**

One of the oldest buildings on the campus, St. Joseph Hall has seen many uses. It now houses classrooms and laboratories, faculty offices, and the administration of the Technical Institute.
Chapel of the Immaculate Conception (1868)
Dedicated to the patroness of the University, the main chapel is the focal point of religious life on the campus.

St. Mary Hall (1870)
When it was built, St. Mary Hall was the largest building in the city of Dayton. For many years, practically the entire school was centered in its five floors. Today it houses the University's principal administrative offices and the Psychological Services Center.

Women's Gymnasium and Music Building (1874)
Headquarters of the women's physical education program (first floor) and the Department of Music (second floor), this building was originally a "Play House" and chemistry laboratory.

Post Office (1903)
The University's postal service includes a federal Post Office contract station, assuring efficient service features for the campus.

Chaminade Hall and Arcade (1904)
Named for the founder of the Society of Mary, Father William Joseph Chaminade, this building provides quarters for the School of Education and the University Bookstore. The Arcade joins Chaminade Hall to St. Mary Hall.

Liberty Hall (1866)
This small, two-story structure is used as a service building.
**Zehler Hall (1865)**

The oldest of the present campus buildings, Zehler Hall houses faculty offices, the University Printing Service, and some research activities.

**Power House (1898)**

Heat and power for older campus buildings is supplied through this facility. The University laundry also operates in the Power House.

**John F. Kennedy Memorial Union (1964)**

The "University Living Room" includes a little theater, cafeteria and snack shop, ballroom, art galleries, lounges, bowling alleys, and other "union" type facilities.

**Miriam Hall (1965)**

Construction of this modern classroom and office building was completed in 1965 for the School of Business Administration. It was named in memory of a great philanthropist, Miriam Rosenthal, without whose labor and enthusiasm the funds for erecting the edifice would not have been available.
**Sherman Hall of Science (1960)**

Honoring the late John Q. Sherman, distinguished Dayton industrialist and philanthropist, Sherman Hall includes the administrative offices of the College of Arts and Sciences, classrooms and laboratories of departments of Biology, Physics, Home Economics, Psychology, and Mathematics.

**Wohlleben Hall (1958)**

The departments of Chemistry, Chemical Engineering, and Geology, and administrative offices of the Research Institute are located in Wohlleben Hall, named for the late Brother William J. Wohlleben, Marianist Brother who introduced chemistry and chemical engineering studies to the campus. It also houses the office of the Dean of the School of Engineering.

**Alumni Hall (1924)**

This hall is the residence for members of the Society of Mary.

**Founders Hall (1954)**

Honoring the founders of the University, this men's residence hall is conveniently located in the center of the campus.

**ROTC Building (1952)**

Regarded as the finest ROTC facility in the Army's Twentieth Corps area, which includes Ohio, Kentucky, and West Virginia, the building is the headquarters of the Department of Military Science. Among its outstanding features is a large indoor rifle range.
MECHANICAL ENGINEERING LABORATORY (1948)

Laboratories of several engineering departments are located in this building which was originally a drill hall at Camp Perry, Va. It was dismantled and brought to Dayton, rebuilt and bricked.

MARYCREST (1962)

Marycrest is the University's first and only residence hall for women. It is home for more than nine hundred women students, and has its own cafeteria, lounge, and chapel.

STUART HALL (1963)

This men's residence hall provides modern accommodations for some seven hundred students. Its name honors John Stuart, from whom the pioneer Marianists obtained the original University property.

WEST CAMPUS, UNIVERSITY HALL

In 1960, the University acquired through the federal government surplus program a large property in the western section of Dayton which had been a part of the vast Veterans Administration Center. The property included a large hospital building. This building was converted into University Hall and the entire property, including housing facilities, cafeteria, classrooms, and indoor and outdoor recreational areas, is known as the West Campus. Residents of this campus are primarily freshman men. Regularly scheduled busses bring students to and from the Main Campus throughout the day and evening hours.

EAST CAMPUS, MARIANIST COLLEGE

Marianist College (1961) is located on the eastern outskirts of Dayton. It is the house of studies for religious members of the Society of Mary. These students pursue their collegiate studies, some on the East Campus, some on the Main Campus. On the East Campus are also located a dormitory, classroom and administration building (1915); a gymnasium and recreation building called Sieben Hall (1961); a residence (1926) for Brothers; and a retreat for students and men called Marianist Retreat House (1911). The Bergamo Center for Christian Renewal (1966) is also located on the East Campus.

RESERVE OFFICERS TRAINING CORPS (ROTC)

The Department of Military Science conducts the Reserve Officers Training Corps (ROTC) program on the campus, providing instruction in general military subjects applicable to all branches of the Army.
Objective of the program is to produce junior officers who by their education, training, and inherent qualities of leadership are suited to continued development as officers in the Army of the United States.

The ROTC Course is designed to: implant habits of orderliness and precision; instill respect for constituted authority; develop patriotism; encourage a high degree of personal honor, self-reliance, and leadership; and provide the means of becoming a better informed citizen on matters of national defense. It is an academically oriented, rather than a drill centered, curriculum.

The ROTC program is divided into a basic and an advanced course. All male students who are physically qualified and have not completed the basic course or its equivalent are required to enroll in the basic course during the freshman and sophomore years. For eligible students, satisfactory completion of the basic military course is a prerequisite for graduation from the University. Students in the basic course are excused from the physical education requirement.

Admission to the advanced course, which is also a two-year program, is on an optional-selective basis, requiring approval of the President of the University and the Professor of Military Science.

Satisfactory completion of the advanced course qualifies the student for consideration for commission as a second lieutenant in the Army Reserve. In addition, selected outstanding students may become eligible for commission in the Regular Army.

Students enrolled in military courses are issued appropriate uniforms, insignia, books, and other equipment. Those in the advanced course receive forty dollars a month; but while in attendance at summer camp, which is required of all advanced students between their junior and senior years, they receive approximately one hundred and twenty dollars a month, plus travel expenses from home to camp and return.

Flight training, which leads to a pilot's license, is an optional feature of the ROTC program.

Subject to deferment quota limitations which are prescribed by the Selective Service Act, selected ROTC students are deferred from induction into the Armed Forces as long as they remain in good standing in their academic and military courses.
II Student Life and Services

RESIDENCE FACILITIES

Men

It is the University's policy that all male freshmen live in one of the men's residence halls unless their home is within commuting distance, or unless all of the rooms are occupied.

Application/contracts for residence hall accommodations and instructions are forwarded by the Office of Admissions to all new students upon their official acceptance to the University of Dayton. The instructions should be read and followed carefully.

All rooms are double occupancy rooms with the exception of a number of triple occupancy rooms at University Hall. The University provides adequate furnishings for comfortable living. Bed linens are supplied and laundered but students must furnish their own desk lamps, towels, wash cloths, and blankets.

Overall supervision of the men's residence halls is the responsibility of the Dean of Men who employs a staff of Head Residents, Assistant Head Residents and Floor Advisors to manage each specific Hall. One Floor Advisor is assigned to approximately every forty residents. It is his duty to answer any questions one may have and see to it that an atmosphere conducive to study and sleep is maintained on each floor. A chaplain resides in each hall and is available for counseling or religious direction.

The University maintains an Off-Campus Housing Office for those students who are unable to obtain accommodations in one of the men's residence halls and for those upperclassmen and transfer students who prefer not to live in one of the men's halls.

For aid in securing accommodations off campus, please contact by mail or in person the Director of Off-Campus Housing in care of the University of Dayton.

Questions concerning housing information in any of the men's residence halls should be directed to the Housing Office at the University of Dayton.
Women
Housing for women students at the University of Dayton is administered by the Office of the Dean of Women. University policy requires that freshman and sophomore women who do not live within commuting distance secure housing in Marycrest Hall on the University campus. Upperclass women are assigned University-approved off campus housing. Communications regarding women's housing should be addressed to the Dean of Women.

Application/contracts for residence hall accommodations and instructions are forwarded by the Office of Admissions to all new students upon their official acceptance to the University. Students should follow the instructions carefully and return the application/contract promptly. Upperclass transfer students apply directly to the Dean of Women's office for assignment to off campus housing.

Rooms at Marycrest are double or triple. Adequate closet space and comfortable furnishings are provided. Bed linens are supplied and laundered but students must provide desk lamps, towels, wash cloths and blankets.

A professional staff consisting of a director and two assistants and a student staff of approximately thirty Floor Advisers cooperates with the Office of the Dean of Women in managing the Residence Hall and providing student services. A Chaplain appointed by the University maintains an office in the Hall and is available for counseling. An elected Hall Council represents student opinion and initiates programs for the residents.

Dining Facilities
The University's food service is operated in four principal facilities. The main cafeteria is located in the Kennedy Memorial Union and contains a dining area seating four hundred students. Adjacent to this facility in the Union is a snack bar where light lunches may be obtained.

Marycrest cafeteria is located in the women's residence hall and is a smartly decorated modern dining room.

The University Hall cafeteria, located on the West Campus, serves the students residing in this residence hall.

The Flyers Hangar serves light lunches consisting of sandwiches, salads, soups, pastries, and beverages. It is a popular meeting place for the student body during the day and the early evening hours.

All food service on both campuses is operated under the direction of a professional manager, with qualified assistants managing each of the separate facilities.

Well-rounded, appetizing meals are served attractively in quantities appropriate to the needs of still growing young men and women. Food service is of
such proportions at the University that more than a million meals a year are served in the four cafeterias.

STUDENT ORGANIZATIONS
The University of Dayton campus abounds in student organizations. Any student from any part of the world, no matter what his interest, will find at least one group on the campus from which he will derive benefits and in turn benefit the group.

Included are student government units such as the Student Government and the Central Women’s Organization; religious clubs such as Christian Careers Unlimited and the Sodality; social groups such as the International Club, and the many organizations such as the Cleveland and Cincinnati and Knickerbocker and Illini clubs: local university of Dayton fraternities and sororities; co-curricular or academic organizations from the Art Club and Debate Team to the honor societies in the various colleges and schools; and there are musical, military, and athletic clubs—all designed to help the student further his educational, religious, or social well-being while at the University. Students also publish a weekly newspaper, a quarterly literary magazine, an annual pictorial review, and other special interest publications.

Each of the campus clubs elects its own officers and has a member of the faculty as adviser.

At the beginning of each academic year, students are issued a handbook in which these organizations are listed. During the regular orientation week early each year, new students are invited to become members of the various clubs.

LITURGICAL LIFE
As a Catholic college, the University of Dayton places great emphasis on the liturgical life of the student. All Catholic day students are strongly encouraged to attend a weekly chapel service on campus at which Mass is offered and opportunities for the reception of the sacraments are provided. Regular attendance, it is felt, insures the integration of thought and action, of belief and practice, which is envisioned by the University in its professed purposes. At the same time, by enabling the students to pray and worship together, a spirit of unity and solidarity is fostered among them, thus creating a genuine Christian atmosphere on the campus.

Mass is celebrated in the Chapel of the Immaculate Conception (the main chapel) five times each morning during the week and six times on Sunday. At least one Mass each day (morning or evening) is offered in the chapels of the residence halls. Confessions are heard before, during, and after all Masses in the main chapel each day, and before the daily Mass in all the dormitories.
Special liturgical devotions are held on campus throughout the Church year. Of special note is the Rosary Rally in the month of the Most Holy Rosary, the Advent Wreath and Liturgical prayers on each Sunday of Advent, and the Holy Week services, the highest point of the Liturgical Year. An annual one-day retreat is expected of each University student, and such an exercise is regularly scheduled. Two nearby retreat houses make it convenient for a student, if he so desires, to engage in a weekend retreat.

The Chaplain and Associate Chaplain of the University supervise all spiritual group activities of the student body and of all religious organizations. The many priests on the faculty, under the direction of the Chaplain, are available at all times for counseling on moral, religious, or social matters.

TESTING
The University Psychological Services Center provides a complete testing program for the students of the University, and for industry and the community at large. Besides this local service, the Testing Center conducts testing programs for Catholic elementary and high school students in fifteen States and is under contract to the U.S. Government to administer the National Defense Education Act (N.D.E.A.) tests in secondary private schools in thirty-eight States.

COUNSELING AND GUIDANCE
In addition to the testing services for University full-time students which are used to help the student identify his talents and aptitudes and thus guide him into proper fields of study, the Psychological Services Center offers the student the opportunity to seek advice in personal, social, and academic problems which he may encounter.

Well-qualified psychologists direct and participate in the work of the Center — work which goes beyond the campus to provide counseling, guidance, and other psychological services to schools, business, and industry.

Specific counseling in all study areas is provided by the deans of the schools and colleges, by the departmental chairmen, and by individual faculty members who are available throughout the day, subject to their administrative and teaching schedules.
PLACEMENT
The University maintains a placement office which energetically assists students in securing part-time work to help them financially while attending school. Details of this operation are treated under "Financial Aids" below.

In addition to the efforts in behalf of students, the placement office also maintains an exceptional liaison with business and industry throughout the nation, and arranges interview sessions between recruiters and senior students, assisting the graduating student in his choice of prospective employment or association. This same service is also provided the University's alumni without charge.

STUDENT HEALTH SERVICES AND INSURANCE
Centrally located in the C. H. Gosiger Health Center the University Health Service provides a well-staffed and well-equipped operation to safeguard the health of the student. The University physicians, on call at all hours, are on duty during morning hours daily for advice and treatment. A staff of ten professional nurses works around the clock.

Full-time students may come to the Health Service for out-patient treatment by the staff on duty at the time, and no restriction is made on the number of visits. Ordinary medications are provided without charge when ordered by the attending physician.

Students whose permanent residence is not within commuting distance may avail themselves of the in-patient service of the infirmary at a nominal cost. When the case warrants, students are transferred to local hospitals.

Infirmary or hospital costs are covered for the most part by the highly recommended student insurance program which is available to all full-time students. Blue Cross and Blue Shield family coverage expires when the student reaches age nineteen, and this student insurance plan continues much of this coverage at a nominal rate. (Full information on this program may be obtained by writing to the Office of Student Accounts.)

STUDENT IDENTIFICATION CARDS
At the beginning of the school year, each full-time student secures a student identification card (I.D. card) which he carries with him at all times. Provision for obtaining the card, complete with the student's photograph, is made during registration procedures. The I.D. card is vital and obligatory for the student, since it is necessary for participating in student elections or other activities for which official identification is necessary. It must be shown in order to obtain tickets to certain athletic events.
PARKING
Parking facilities are extremely limited on the Main Campus. Those that are available are restricted to commuting students who live some distance from the campus, and all such parking is by permit only. Students may apply for permits. Students residing on the West Campus are permitted to have cars and to park them on campus.

CULTURAL ACTIVITIES
Principally through its very successful University Arts Series, but as well through various other programs throughout the year, the University of Dayton provides for the student well-planned and coordinated opportunities for association with high-level intellectual and cultural ideas and personalities.

Among renowned guests to appear on the University Arts Series have been Contralto Marian Anderson, Poets Louis Untermeyer, John Ciardi, and W. H. Auden, Philosopher Mortimer Adler, Publisher Frank Sheed, Illinois Senator Paul Douglas, the Roger Wagner Chorale, the Dayton Civic Ballet, Journalists Drew Pearson, Marquis Childs, Ralph McGill, and Harry Golden. The Dayton Philharmonic Orchestra, the University Concert Band and the University Choir appear each year.
Arts Series programs are given on the campus in mid-day, making attendance convenient for the student. Since the series, which has been extremely well-received, is supported through the student activities fee, there is no admission charge for the individual programs.

In addition to this series, many other continuing programs are offered for the student each year. Among these are the regular productions of the talented University Players; the University Lecture Series, presenting members of the faculty in an eight-week program of intellectual discussions; the Evenig Religion Series, bringing to the campus outstanding theological scholars; annual lectures sponsored by the Department of History in which known historians are brought to the University; an interesting variety of musical and discussion programs on WVUD-FM; and lectures by outstanding men and women in many other fields of interest.

Many outstanding musical, dramatic, and artistic programs are given throughout the year in the Dayton community. Most offer student rates and are well advertised on the campus.
SOCIAL LIFE
Realizing that "all work and no play" will indeed dull the young student, the University of Dayton provides and encourages participation in a wide variety of social functions.

Small informal social events are given on the campus almost every weekend. Bigger, more formal occasions, such as the Homecoming Dance, or the Junior Prom, are usually held off the campus. Social functions are attended by members of the faculty.

RECREATION
Both campuses of the University are equipped with recreational areas where, over and above intramural programs on an organized basis, the student may take part in recreation. Each residence hall has its own recreational areas; the Fieldhouse on the Main Campus and the gymnasium on the West Campus have facilities for individual calisthenics and similar programs. The new Kennedy Union includes bowling alleys, browsing rooms, music and art rooms. Tennis courts, outdoor and indoor basketball courts, baseball diamonds, and playfields are available on both campuses. During the winter months, skiing, tobogganing, and ice skating in nearby parks are popular with students. Dayton has a number of fine theaters and several campus organizations frequently present recent motion pictures in campus auditoriums as fund-raising ventures; these are well attended.
ATHLETICS

Participation in athletics is an integral part of the educational development that the University strives to achieve for all its students. This applies both to intercollegiate and intramural athletics.

All students are encouraged to engage in some form of athletic activity according to their ability. This is particularly emphasized for students majoring in physical education, for whom the various athletic activities have special importance in view of the career for which they are preparing.

The University feels that athletics, intercollegiate and others, cultivate a sense of unity which is one of the important factors in student morale.

Many persons throughout the country have come to know the University of Dayton through the accomplishments of its varsity team, the Dayton Flyers. The University also engages in intercollegiate competition in football, baseball, tennis, golf, soccer, ice hockey, and field hockey.

There are highly competitive intramurals in all sports including golf, tennis, softball, touch football, basketball, and volleyball.

THE STUDENT HANDBOOK

As a member of the University family, the student will desire more detailed information than that given here. This information is given in a separate publication called THE STUDENT HANDBOOK. Both student and parents are strongly urged to familiarize themselves with the contents of this publication.
III Admissions

REQUIREMENTS FOR ADMISSION

For admission to a freshman class, the applicant must submit a written application, a satisfactory high school record, and results of the Scholastic Aptitude Test (mathematics and verbal) of the College Entrance Examination Board. The application must be on a form which the prospective student may obtain by writing the Director of Admissions.

A student is allowed to register only after all credentials have been received and evaluated and a registration permit has been issued.

The applicant for the freshman class must present sixteen units from a high school accredited by some regional accrediting association or by a State Department of Education, and have a total record indicating likelihood of success in college. Certain courses of study require specific entrance units, as follows:

ENTRANCE UNITS REQUIREMENTS

<table>
<thead>
<tr>
<th>DEGREES</th>
<th>English</th>
<th>Language</th>
<th>Algebra</th>
<th>Geometry</th>
<th>Trigonometry</th>
<th>Mathematics</th>
<th>Chemistry</th>
<th>Physics</th>
<th>Science</th>
<th>History</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts degrees</td>
<td>3-4</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science degrees</td>
<td>3-4</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>½*</td>
<td>1**</td>
<td></td>
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<tr>
<td>Business degrees</td>
<td>3-4</td>
<td>1½</td>
<td>1</td>
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<td>Education degrees:</td>
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</tr>
<tr>
<td>a) elementary</td>
<td>3-4</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
<td>1</td>
<td>2</td>
<td></td>
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<tr>
<td>b) secondary, art,</td>
<td>3-4</td>
<td>2 or 1</td>
<td>1 and 1</td>
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<td></td>
<td>1</td>
<td>2</td>
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<td></td>
<td></td>
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<tr>
<td>music and speech</td>
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<td>c) physical and</td>
<td>3-4</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
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<tr>
<td>home economics</td>
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<tr>
<td>Engineering degrees</td>
<td>3-4</td>
<td>2</td>
<td>1</td>
<td>½</td>
<td>1</td>
<td>1</td>
<td></td>
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<tr>
<td>T.I. degrees</td>
<td>3-4</td>
<td>1</td>
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<td></td>
<td></td>
<td>1</td>
<td></td>
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</tr>
<tr>
<td>Police Administration</td>
<td>3-4</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

*No trigonometry is required for Medical Technology and Home Economics degrees.
**Chemistry required for those planning a major in Physics, Chemistry, Mathematics, and Computer Science.
All exceptions to the foregoing admission rules must be approved by the Academic Dean.

The University bases its acceptance of a prospective student on a satisfactory high school record, recommendation of the high school principal, and the results of the Scholastic Aptitude Test.

In addition to the above the University of Dayton requires all accepted students to take the English, Mathematics II, and Language Achievement Tests of the C.E.E.B. before June 1. These tests are used for placement only. Those who have not taken a language in high school do not take the Language Achievement Test.

The University admissions standards and policies are free of discrimination on the grounds of race, creed, color, and national origin.

ADVANCED PLACEMENT
The University accepts the advanced placement program offered to secondary schools under the auspices of the Advanced Placement Committee of the College Entrance Examination Board.

The University will give not only advanced placement but also credit to students enrolled in the program, provided that such students have taken the tests provided and scheduled by the College Entrance Examination Board and have received a favorable interpretation grade from the Educational Testing Service.
Students desirous of receiving advanced placement under this program are to arrange that test scores be sent to the University Office of Admissions, which will grant advanced standing with or without credit in the appropriate subject areas. Credit, when given, will be recorded as Em credit and will be determined by the interpretation grade:

- For a score of “5”, two terms of advanced standing with credit.
- For a score of “4”, one term of advanced standing with credit.
- For a score of “3”, one term of advanced standing without credit.

Scores below “3” do not entitle the applicant to either credit or advanced standing.

High school students in the senior year may under certain conditions take courses at the University of Dayton for advanced standing with credit. Interested students should seek further details from the Registrar.

TRANSFER STUDENTS

The admission of transfer students is controlled by a special Committee on Admissions comprising the Provost of the University, the Director of Admissions, and the Dean of the School concerned.

In addition to the credentials required of all applicants, a transfer student must present an official transcript of credits and a statement from the school last attended confirming that he was honorably dismissed and that the school would be willing to enroll him again.
The University, through the executive officer of the Admissions Committee, will accept transfer students in the following categories:

(1) students who have established credit in less than thirty-two semester hours work (or the equivalent) with a grade point average of 2.00 or higher out of a possible 4.00;

(2) students who have established credit in not less than thirty-two semester hours work nor more than sixty-three semester hours work (or the equivalent) with a grade point average of 2.25 or higher out of a possible 4.00;

(3) students who have established credit in sixty-four semester hours work (or the equivalent) with a grade point average of 2.50 or higher out of a possible 4.00. (Grade point averages will be calculated on the basis of all work taken and in University of Dayton equivalents.)

Transfer students who cannot meet the above requirements but who feel that, by reason of extraneous circumstances, their cases merit additional consideration, may have their applications referred to the Committee on Admissions for final decision. Such referrals must be made to the Committee no later than four weeks prior to the first day of registration for the term in which enrollment is desired.

APPLICATION AND ADMISSIONS PROCEDURES

The prospective student should write to the Director of Admissions requesting application forms. This request should be made at the beginning of the applicant's senior year in high school.

After completing the forms, the applicant must affix a check or money order in the amount of ten dollars, made payable to University of Dayton, and present the application to his high school principal and/or high school counsellor.

The principal and/or high school counsellor completes those portions of the forms so designated (recommendation of the applicant, and official records of high school performance) and mails them to the University.

If the applicant is in the upper third of the class and has 1000 on Junior SAT his application is given immediate attention by the Committee on Admissions. If he is not within the upper third of the class or does not have 1000 on Junior SAT, his application is held until he has completed seven semesters of high school and grades are received, as well as Senior SAT scores.

After the Committee on Admissions studies the application, the applicant is notified if he has been found "acceptable" or not. Those "acceptable" must within twenty days of such notice forward the required deposit—the applicant's assurance to the University that he intends to register.

Prospective students who have designated on their applications that they wish to live in campus housing will receive a contract for such accommodations. This must be properly filled in, and a fifty dollar deposit made.
These two latter deposits are applicable to the student's bill at the first registration, except for ten dollars of the housing deposit which is retained to cover possible damage to his room during occupancy.

Let it be noted that the provisions of this bulletin are not an irrevocable contract between the student and the University. The University reserves the right to change any provision or requirement at any time within the student's term of residence. The University further reserves the right to ask the student to withdraw for cause at any time.

EDUCATION OF VETERANS
All departments of the University have been approved by the Veterans Administration for training under United States Code, Title 38, Chapters 31, 33, 34, and 35. Credits earned during military service are accepted after an evaluation in terms of the University's standards and the course of study for which the veteran applies. An adequate counseling service is available under the direction of the Veterans' Adviser whose office is located in Room 108, St. Mary Hall.

PHYSICAL EXAMINATIONS
Physical examinations are required of all new full-time students. These examinations are to be performed by a private physician of the student's choice and the results submitted on the special form supplied by the Office of Admissions. The form must be returned, completed, to the admissions office for transmittal to the University Health Service to fulfill admission requirements. This must be done prior to registration. Physical examinations are not required of Police Administration students who are already in police service.

FOREIGN STUDENTS
All foreign students must comply with the admission requirements. In addition, the following items must be in order.
1) the official credentials must be in an official English translation.
2) the results of the TOEFL test must be submitted.
3) the student health record must be on file on the University of Dayton health form.

Foreign students must deposit $2,500 with the Treasurer of the University of Dayton before the form to obtain a student visa can be issued.

Arrangements to see the Foreign Student Advisor must be made within 24 hours of the student's arrival on campus.
IV Financial Information

GENERAL POLICY
The tuition and fee charges of the University are set at the minimum permissible for financially responsible operation, and in general, these charges are less than the actual costs incurred. Gifts and grants received through the generosity of industry, friends, and the alumni of the University help to bridge the difference between income and costs. When need arises, the trustees of the University reserve the right to change the regulations concerning the adjustment of tuition and fees at any time, and to make whatever changes in the curricula they may deem advisable.

All fees and tuition are payable in full at the time of registration for the term, unless arrangements for payment by some deferred payment program are made with the Office of Student Accounts in advance of each registration.

No student will be registered for a new term, unless the account for the previous term is settled.

Transcript of credits and honors of graduation will be denied students whose bills have not been paid.

All checks should be made payable to the UNIVERSITY OF DAYTON.

Tuition reductions are granted to some unmarried children from the same family attending classes, full-time, simultaneously, and not on scholarship, if certain conditions are fulfilled. Inquiries regarding such reductions should be made through the Office of Student Aid in advance of each registration.
# Educational Charges

**May, 1968 through June, 1969**

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Fee, payable once, upon application</td>
<td>$10.00</td>
</tr>
<tr>
<td>Matriculation Fee, payable once by Full Time Students, at entrance</td>
<td>$10.00</td>
</tr>
<tr>
<td>Testing and Counseling Fee, payable once at entrance</td>
<td>$25.00</td>
</tr>
<tr>
<td>Freshman Orientation Fee</td>
<td>$35.00</td>
</tr>
</tbody>
</table>

## Full Time Comprehensive Academic Charge, I & II Terms

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate Student, per term</td>
<td>$600.00</td>
</tr>
<tr>
<td>Full Time Student Teacher (12 credit hours or less), including the supervising teacher fee, per credit hour</td>
<td>$30.00</td>
</tr>
<tr>
<td>Full Time Student Teacher (13 or more credit hours), including the supervising teacher fee</td>
<td>$600.00</td>
</tr>
<tr>
<td>Full Time Fine Arts Student, when taking art courses at Dayton Art Institute simultaneously, per credit hour</td>
<td>$30.00</td>
</tr>
<tr>
<td>Basic University Fee—Students carrying 12 or more hours at UD or 12 or more hours combined at UD and/or an affiliated institution and Full Time Student Teachers, per term</td>
<td>$50.00</td>
</tr>
</tbody>
</table>

## Part Time Undergraduate Students, I & II Terms and All Undergraduate Students, Each Split Term

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration Fee, each Registration</td>
<td>$2.00</td>
</tr>
<tr>
<td>Tuition, per credit hour</td>
<td>$30.00</td>
</tr>
<tr>
<td>Tuition per Laboratory clock hour</td>
<td>$22.00</td>
</tr>
<tr>
<td>Laboratory Materials and Equipment Fee (variable) each term</td>
<td>$5.00 to $20.00</td>
</tr>
<tr>
<td>Laboratory Breakage Deposit, each term</td>
<td>$5.00 to $10.00</td>
</tr>
<tr>
<td>Basic University Fee</td>
<td>$8.00 per credit hour—not to exceed $15 per term</td>
</tr>
<tr>
<td>Applied Music Fees (part time students) per term</td>
<td></td>
</tr>
<tr>
<td>Piano</td>
<td>$20.00</td>
</tr>
<tr>
<td>Organ</td>
<td>$20.00</td>
</tr>
<tr>
<td>Voice</td>
<td>$20.00</td>
</tr>
<tr>
<td>Orchestral or Band Instrument</td>
<td>$20.00</td>
</tr>
<tr>
<td>Reed and Woodwind Instruments</td>
<td>$40.00</td>
</tr>
<tr>
<td>Violin, Cello, Bass</td>
<td>$40.00 to $64.00</td>
</tr>
</tbody>
</table>
**FINANCIAL INFORMATION**

**OTHER CHARGES**

- R.O.T.C. Uniform Deposit, payable once each year, refundable $20.00
- Service Charge for Change of Schedule per course $2.00
- Late Registration Service Charge $5.00 to 15.00
- Proficiency and Final Make-up Examinations $5.00
- Graduation Fee, Undergraduate and Graduate Students $26.00
- Books and Stationery Variable

**FULL-TIME STUDENTS**

A student with an academic schedule of at least twelve lecture credit hours is considered a full-time student. Students from outside the Dayton area must be full-time students. With this status and upon payment of the tuition and applicable fees he is entitled to the benefits of the various activities.

**PART-TIME DAY STUDENTS**

A day student with an academic schedule of six to eleven lecture credit hours is considered a part-time student.

**SPECIAL STUDENTS**

Special students, non-matriculated students, and auditors are subject to the various expenses as outlined above (see pages 44 and 45).
CANCELLATION AND REFUNDS
Cancellation will be allowed only after the completion of the proper withdrawal forms. Students who discontinue class attendance without officially completing the withdrawal procedures during the cancellation period will be responsible for the full amount of the applicable tuition and fees. Those called to military service before the end of a given term should consult with the Treasurer of the University concerning possible credits and financial adjustments.

During the four-week cancellation period for the first and second terms, the tuition charges will be made according to the following schedule:

- During first week of classes ........................................ 20%
- During second week of classes ....................................... 40%
- During third week of classes .......................................... 60%
- During fourth week of classes ...................................... 80%
- During or after fifth week of classes ............................ 100%

During the two-week cancellation period for each session of the split term the tuition charges will be made according to the following schedule:

- During first week of classes ........................................ 35%
- During second week of classes ....................................... 70%
- During or after third week of classes ............................ 100%

The special course and laboratory fees are not refundable nor is the University Fee for student activities.

RESIDENCE FACILITIES FEES
Students from outside the Dayton area reside on the campus unless the residence halls are fully occupied. Meals are provided in the cafeteria assigned to service the particular residence halls. A seven day meal service is offered (three meals a day, Monday through Saturday; Sunday breakfast and noon dinner). The following rates include room rental, meal service, and bed linens; vacation periods are excluded.
# Charges for Room and Board

## May, 1968 Through April, 1969

<table>
<thead>
<tr>
<th></th>
<th>1st Split Term</th>
<th>2nd Split Term</th>
<th>1st Term</th>
<th>2nd Term</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Full Time Students—Women</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single Occupancy</td>
<td>$75.00</td>
<td>$75.00</td>
<td>$435.00</td>
<td>$435.00</td>
</tr>
<tr>
<td>Single Occupancy (7 Day Meal Ticket)</td>
<td>60.00</td>
<td>60.00</td>
<td>410.00</td>
<td>410.00</td>
</tr>
<tr>
<td>Double Occupancy</td>
<td>60.00</td>
<td>60.00</td>
<td>385.00</td>
<td>385.00</td>
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<tr>
<td>Triple Occupancy (7 Day Meal Ticket)</td>
<td>36.00</td>
<td>36.00</td>
<td>300.00</td>
<td>300.00</td>
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<tr>
<td>Room Deposit to Cover</td>
<td>10.00</td>
<td>10.00</td>
<td>10.00</td>
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</tr>
<tr>
<td>Possible Damage (refundable)</td>
<td>10.00</td>
<td>10.00</td>
<td>10.00</td>
<td>10.00</td>
</tr>
<tr>
<td><strong>Full Time Students—Men</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single Occupancy</td>
<td>75.00</td>
<td>75.00</td>
<td>390.00</td>
<td>390.00</td>
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<tr>
<td>Possible Damage (refundable)</td>
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<td>180.00</td>
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<td>210.00</td>
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<td>Possible Damage (refundable)</td>
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<td><strong>Meal Tickets—Off-Campus</strong></td>
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<td>220.00</td>
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**Note 1:** Applies only to Full Time students who attended first and/or second term(s).

**All Others—Room and Board**

- Single $36.00 per week
- Double $50.00 per week
Students who cannot secure accommodations in the residence halls because of limited space may make arrangements to reside in approved housing in the vicinity of the University through the Housing Office. University cafeterias are closed on Sunday evening. However, vending areas are available in the residence halls for light lunches.

During the Christmas vacation, students may continue to reside in residence halls at a nominal charge. During the Thanksgiving and Easter vacation periods, students may reside in their rooms without any additional charge. The meal ticket is honored only during the Thanksgiving vacation period.

Request for accommodations in the residence halls should be addressed to the Director of Campus Housing for men or the Dean of Women for women.

Applications for room reservations must be accompanied by a fifty-dollar deposit of which forty dollars will be credited to the student's bill for the first session of attendance. The remaining ten dollars will be held as a deposit against any room damage which may result during the occupancy.

Students who cancel room reservations prior to July 1 (for fall term occupancy), December 1 (for second term occupancy), April 1 (for the first split term occupancy), or June 1 (for the second split term occupancy), will be entitled to a refund of the housing deposit. A fifty-dollar housing deposit is required for both the fall term applicants or the second term applicants. A twenty-five dollar deposit is required for each of the two split third terms.

Those who cancel reservations after these dates forfeit the entire deposit.

All students living in residence halls are required to observe University regulations in general along with the specific requirements of each hall, and will be held responsible for any damage to their rooms during occupancy. The cost for any unnecessary damage to the various community areas (lounges, utility rooms, halls, etc.) will be pro-rated to all residents of the area of damage in cases where individual responsibility is not ascertained.

STUDENT FINANCIAL AID
The financial aid program at the University of Dayton is designed to help the qualified student who is in need of financial assistance to continue his college education. Financial assistance at the University of Dayton is available in the form of scholarships, loans, grants, tuition reductions, and part-time employment. In most instances a student will be offered some combination of assistance which will include two or more of the above forms.

SCHOLARSHIPS:
The scholarship program at the University of Dayton has been established to recognize excellent high school achievement by incoming freshman students and
outstanding performance by upperclass students in their academic pursuits along with evidenced service to the University.

Scholarships available to incoming freshmen would include:

**University Competitive Scholarships** Available to students in all curricula. Scholarship recipients are selected on the basis of: 1) high school academic performance; 2) SAT scores; 3) activities; 4) service to the community, church and/or school; and 5) earnings and savings.

**Dayton Area and Marianist Scholarships** Offered to the first and second ranking senior of Dayton area and Marianist high schools with enrollments of one thousand or more; and to the first ranking senior in schools of less than one thousand students. Full tuition for eight consecutive terms is covered.

**Business, Industry Scholarships** Various business, industries, civic, fraternal, and professional organizations, and foundations provide funds for many scholarship awards. Many companies and organizations in a student’s hometown also provide outstanding grants to children of employees and members. Students are encouraged to investigate such offers.

**National Defense Student Loans:**
The University of Dayton participates in the National Defense Student Loan Program. These loans are intended to provide assistance for students of ability with limited financial resources who desire an opportunity for advanced study in the field of their choice.

The funds for the loans are provided by the Federal Government and the University follows prescribed guidelines in the administration of these funds.

**Student Employment:**
More than half of today’s college students hold some form of employment, part-time or full-time, to help meet educational expenses. The University provides many such opportunities on campus, and through the Placement Office, helps the students locate such opportunities off campus.

**Institutional Employment** Last year, students earned a total of more than $400,000 for part-time work with the University's Research Institute. Others worked in campus cafeterias, libraries, and dormitories. The Placement Office helped some students find work off the campus. Such off-campus work brings the student an average of fifteen to twenty dollars a week.

**College Work-Study Program** Students who need a job to help pay for college expenses are potentially eligible for employment at the University of Dayton under federally supported work-study program.
V Academic Regulations

REQUIREMENTS FOR DEGREES
All bachelor's degrees granted by the University of Dayton require a minimum of one hundred and twenty-four semester credit hours. These credits must be distributed over eight terms in point of time.

Requirements of the different degrees are listed under the various schools.

One year of residence or thirty semester credit hours—ordinarily the senior year—is a minimum requirement for any bachelor's degree.

A credit hour denotes a semester course taken one hour a week as a class period, or two or three hours a week as a laboratory period.

All undergraduate students are limited to a term course load of seventeen semester credit hours, or to five courses, not including required courses in ROTC or physical education. Any exception to this rule requires the express permission of the Dean.

Students enrolled in the University as candidates for degrees should not take courses at other colleges or universities without first obtaining written permission from their respective deans. If the permission is granted, the dean will request “transient status” for such students at the institutions which they designate. The University reserves the right to refuse the acceptance of credits in transfer when this procedure has not been followed.

The Bachelor of Science in Education degree may be awarded to holders of non-professional degrees from the University of Dayton with the completion of a minimum of thirty semester credit hours prescribed by the School of Education beyond the requirements of the non-professional degree. Students who in addition to a professional degree from the University of Dayton complete all the requirements for the Bachelor of Arts or Bachelor of Science degree may be awarded that degree also. Otherwise, for a second bachelor's degree, a minimum of forty-eight semester hour credits in upper-level courses (plus prerequisites) is required. For a second associate degree, a minimum of twenty-four semester hour credits in the area of specialization (plus prerequisites) is required. Moreover, students seeking a second degree must complete, either as part of or in addition
to the above minima, the prescribed philosophy and theological studies courses of the general curriculum requirements, if they have not already done so as part of their first degree.

GENERAL CURRICULUM REQUIREMENTS
The University desires that every student develop a thorough knowledge in at least one area of study. In addition, each student should be introduced to the humanistic, cultural, scientific and aesthetic areas. To broaden his education in a meaningful manner, at least one of these areas outside the field of specialization should be pursued in greater depth. Above all, the University endeavors to embrace a philosophical and theological dimension in all areas of student development. Although courses play an important part in the accomplishment of these aims, out-of-class contact with the faculty and fellow students, various activities, and the general atmosphere on campus likewise make an important contribution.

Day students following four-year programs are required to complete successfully certain general University requirements, viz., requirements in Communication Arts, English, Military Science, Physical Education, Philosophy and Theological Studies.

INDEPENDENT STUDY PROGRAM AND HONORS COURSES
To facilitate development of each student to his fullest capacity the University offers a variety of honors courses and the opportunity to follow an independent study program.

Some of the growing list of honors courses presently offered include:

Bio. 102L  General Biology Laboratory II
Bio. 421  Biological Problems (Laboratory)
Bio. 422  Biological Problems (Library research)
Bus. 450  Business Management Honors Seminar
Chem. 499  Research
Cme. 499  Special Problems in Chemical Engineering
Cps. 498  Problems in Selected Areas
Cps. 499  Special Topics
Econ. 499  Special Problems in Economics
Edf. 440  Honors Seminar
Eng. 240-241  Literature of Western Civilization
Eng. 395  Junior Honors Tutorial
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Eng. 495</td>
<td>Senior Honors Tutorial</td>
</tr>
<tr>
<td>G.E. 400H</td>
<td>Interdisciplinary Seminar</td>
</tr>
<tr>
<td>Hist. 497</td>
<td>Honors Colloquium I. American History</td>
</tr>
<tr>
<td>Hist. 498</td>
<td>Honors Colloquium II. Non-American History</td>
</tr>
<tr>
<td>Phil. 402</td>
<td>Metaphysics Seminar</td>
</tr>
<tr>
<td>Physics 499</td>
<td>Special Problems. Laboratory or Library Work</td>
</tr>
<tr>
<td>Pol. Sci. 101</td>
<td>Introduction to Political Science</td>
</tr>
<tr>
<td>Pol. Sci. 201</td>
<td>American National Government</td>
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<td>Pol. Sci. 314</td>
<td>International Relations</td>
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<tr>
<td>Pol. Sci. 417</td>
<td>History of Political Philosophy</td>
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<td>Pol. Sci. 431</td>
<td>Research in Political Science</td>
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<tr>
<td>Psy. 490</td>
<td>Special Problems in Psychology</td>
</tr>
<tr>
<td>Psy. 491-492</td>
<td>Readings in Psychology</td>
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<td>Theol. 195</td>
<td>Theology Honors I</td>
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<tr>
<td>Theol. 295</td>
<td>Theology Honors II</td>
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<td>Theol. 395</td>
<td>Theology Honors III</td>
</tr>
<tr>
<td>Theol. 404</td>
<td>Readings in Theology</td>
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<tr>
<td>Theol. 481</td>
<td>Modern Catholic Thought</td>
</tr>
<tr>
<td>Theol. 495</td>
<td>Theology Honors IV</td>
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</table>

A number of students are afforded the opportunity to participate in an independent study program and pursue a more flexible curriculum under the direction of a designated faculty advisor. Students may consult with their faculty advisors, department chairman or dean for further information.

**GRADES AND SCHOLARSHIP**

A progress report of every freshman in each of his classes is submitted to the Registrar by every instructor at the middle of each term. Final grades are submitted at the end of the term and these are made part of a student's permanent record. Copies of these reports are given to the students and deans and are sent to the parents and guardians. The final grades of freshman students are also sent to their high school principals.

The official marks with their meanings and quality point values are as follows:

A—Excellent; for each semester credit hour, four quality points are allowed.

B—Good; for each semester credit hour, three quality points are allowed.

C—Fair; for each semester credit hour, two quality points are allowed.
D—Poor but passing; for each semester credit hour, one quality point is allowed.

F—Failed. This mark indicates poor scholastic work, or failure to report withdrawal from a course. In such cases required courses must be repeated at the next opportunity. A student who receives an F in a required course may repeat the course. He may not, however, take the course a third time unless at the time of the second failure he has a cumulative point average of 2.50 or higher. Under no circumstances will he be permitted to take a course a fourth time.

I—Incomplete. This grade may be given at the discretion of the instructor to any student who, for reasons beyond his control, has not completed some portion of the work of the term, provided that the rest of the work has been of satisfactory grade. It is not to be given if the student has been delinquent in his work, that is, when work has not been completed through his own fault. A grade of I is not to be marked at mid-term. An I must be removed within thirty days from the date listed on the grade report, or it will be changed to an F on the student's permanent record card. No quality point is allowed.

W—Withdrew. During the first three weeks of a term (or the first week and a half of a split term) a student may withdraw from a class without record. Beginning with the fourth week (or the middle of the second week in a split term) all withdrawals are recorded F, if the student withdraws because of academic difficulty. When a student finds it necessary to withdraw from a class for any reason whatsoever, it is important that he notify his Dean immediately. Financial adjustments, if allowed, will be made only from the date of notification.

K—Credit. This mark is used for work credited from other institutions by the Office of Admissions and for workshops. No quality point is allowed.

X—Audit. This mark indicates that the student has registered to audit the course. No credit hours or quality points are awarded for this mark.

Em—Examination. This mark indicates credit given to students registered in the University either on the basis of the advanced placement program of the C.E.E.B. or of examinations taken prior to or after admission to the University. The level of achievement which must be demonstrated by the student on these examinations is determined by the department in which the course is taught. This credit, up to a maximum of twenty-four semester credit hours, shall be assigned only on authorization of the Dean of the School or College in which the student is registered. No quality point is allowed.
No grade change of any kind is permitted after thirty days from the date listed on the grade report.

The *semester grade point average* is the total number of quality points divided by the number of semester credit hours carried by the student. In computing the *cumulative grade point average*, all grades except those for sub-college work are included; in cases where courses are repeated, both the original grades and the new grades are included. Marks of W, K, X and Em are disregarded in the computation of the grade point averages, but a course for which an F or an I is received is included in the usual manner.

**ACADEMIC STANDING**

The following rules will be observed regarding academic standing:

1. To be in good academic standing a student must have a cumulative point average of (a) at least 1.7 at the end of his first and second terms, (b) at least 1.8 at the end of his third, (c) at least 1.9 at the end of his fourth term, and (d) at least 2.0 at the end of his fifth and succeeding terms. A cumulative point average of at least 2.0 is required for graduation.

2. Any student who has a semester point average of less than 1.0, regardless of his cumulative point average, will be dismissed from the University.

3. A cumulative point average below those required will *automatically* place the student on academic probation for the next term. The Registrar's office will indicate such probation on the student's permanent record.

A student on probation must follow a restricted program as follows:

a) His course load shall be reduced to fifteen semester hours, or less in the event his available study time is reduced by remunerative employment or by other activities and responsibilities either in the University or elsewhere.

b) Although he may retain membership in extra-curricular organizations, he shall not take part as a performer, an officer, or an active participant in any extra-curricular activity or any intercollegiate meeting, conference, or athletic event.

4. To remove probation, a student in the following term must earn grades sufficiently high to attain the required cumulative point average. If he fails to do so, he will be dismissed from the School or College in which he is enrolled. He may remain in the University only if he is accepted by the Dean of another School or College.

5. No student will be put on probation more than once in the same School or College.

6. In general, if it appears from the record that a student is not meeting requirements, either scholastic or otherwise, he may be placed on academic probation or he may be dismissed from the University.
7. A student dismissed because of unsatisfactory academic standing may, after the lapse of one calendar year, submit a petition to the Dean of the School or College of his last registration for reinstatement, and be reinstated on probation if the Dean is convinced of his ability and desire to do satisfactory work.

HONORS AND AWARDS

Honors and awards for scholarships are announced at the Honors Convocation.

To be graduated "With Honors" a student must have a cumulative point average for seven terms at the University of 3.5 or higher, based on 4.0. A student who has the required cumulative point average but has been in attendance at the University for less than seven terms may be graduated with honors if he is so recommended by the faculty of the School or College in which he is enrolled and if the recommendation is accepted by the Academic Committee of the School or College. For that Academic Committee to consider such a recommendation, it is necessary that a student must have at least a 3.5 cumulative average in every institution attended. Under no circumstances may a student be graduated with honors who has taken more than half his credits elsewhere and who has not enjoyed at least a 3.5 average in the institutions he attended prior to coming to the University of Dayton.

The notation of honors is made in the commencement program, on the diplomas, on the student's permanent record, and on transcripts, as follows:

- *Cum Laude*—if the cumulative point average is between 3.5 and 3.69;
- *Magna Cum Laude*—if the cumulative point average is between 3.7 and 3.89;
- *Summa Cum Laude*—if the cumulative point average is between 3.9 and 4.0.

Special awards for exceptional scholastic achievement are given annually through the generosity of donors. To be eligible for any of these awards a
student must have a cumulative point average of at least 3.0. The awards:

**Arts and Sciences**—The Dean Leonard A. Mann, S.M., Award of Excellence to Outstanding Senior in the College of Arts and Sciences—donated by Joseph Zusman ’65.

**Accounting**—The Award of Excellence to Outstanding Senior in Accounting—donated by Jerome E. Westendorf ’43 and Warren A. Kappeler ’41.

**Business Administration**—The Alpha Kappa Psi Scholarship Key, awarded by the Delta Nu chapter to the male senior with the highest cumulative point average.


**Chemical Engineering**—The Victor Emanuel ’15 Award of Excellence to Outstanding Senior in Chemical Engineering—sponsored by the University of Dayton Alumni Association since 1962.

**Chemistry**—The Brother George J. Geisler, S.M., Award of Excellence to Outstanding Student in Chemistry—donated by Joseph Poelking ’32.

**Civil Engineering**—The Harry F. Finke ’02 Award of Excellence to Outstanding Senior in Civil Engineering—sponsored by the University of Dayton Alumni Association since 1962.

**Communication Arts**—The Si Burick Award of Excellence for Outstanding Academic and Co-curricular Achievement in Mass Media Arts—donated by the University of Dayton.

**Economics**—The Doctor E. B. O’Leary Award of Excellence to Outstanding Senior majoring in Economics—donated by Winters National Bank and Trust Company.

**Education**—The Reverend George J. Renneker, S.M., Award of Excellence for Outstanding Achievement in Teacher Education—donated by the Montgomery County Chapter, University of Dayton Alumni Association.


**Electrical Engineering**—The Anthony Horvath ’22 and Elmer Steger ’22 Award of Excellence to Outstanding Senior in Electrical Engineering—donated by Anthony Horvath ’22 and Elmer Steger ’22.

**Elementary Education**—The George A. Pflaum ’25 Award of Excellence to Outstanding Student in Elementary School Teacher Education—donated by George A. Pflaum, Jr.

**Engineering**—The University of Dayton Awards (first and second) for Best Engineering or Science Articles Published by Undergraduate Engineering Students—donated by Richard J. Feldmann ’60.

**Engineering**—The Tau Beta Pi Award for the outstanding freshman student.

**English**—The Catholic Poetry Society Award.

**English**—The Faculty Wives Club Award for excellence in composition.

**English**—The Brother Thomas P. Price, S.M., Award of Excellence to Outstanding Senior in English—donated by the U.D. Mothers’ Club.

**General Excellence**—The Central Women’s Organization Award in both academic and extra-curricular activities. (Senior women only.)

**History**—The Doctor Samuel E. Flook Award of Excellence to Outstanding Junior majoring in History—donated by Doctor Samuel E. Flook.

**History**—The Phi Alpha Theta Scholarship Key. (Senior members of Delta Eta Chapter only.)

**Home Economics**—The Upsilon Delta Chi Award for Outstanding Achievement.

**Industrial Engineering**—The American Institute of Industrial Engineers Award of Excellence to Outstanding Student in Industrial Engineering—donated by the local chapter of the American Institute of Industrial Engineers.

**John A. Elbert Award**—The Very Reverend John A. Elbert, S.M., Memorial Award to the student who best assesses a human problem in light of current psychological, philosophical, and theological understanding—donated by Dr. and Mrs. Anthony Debons, ’67.

**Marian Library Medal**—The Marian Library Medal Award in memory of Mary Pflaum Fischer, for publication honoring the Blessed Virgin.

**Mathematics**—The Mathematics Club
Alumni Awards of Excellence in the Junior and Senior classes.

Mechanical Engineering—The Bernard F. Hollenkamp '39 Memorial Award of Excellence to Outstanding Senior in Mechanical Engineering—donated by Louise A. and Mrs. Lucille Hollenkamp.

Mechanical Engineering—The Martin C. Kunz '12 Award of Excellence to Outstanding Junior in Mechanical Engineering—sponsored by the University of Dayton Alumni Association since 1982.

Mechanical Engineering—The Class of '02 Award of Excellence for Outstanding Mechanical Engineering Achievement in memory of Warner H. Kiefaber '05—donated by Michael J. Gibbons '02.

Oratory—The Mary Elizabeth Jones Memorial Award of Excellence to the First and Second Outstanding Debaters—donated by Doctor D. G. Reilly.

Philosophy—The Award of Excellence to the First and Second Outstanding Seniors in Philosophy—donated by Rev. Charles Polichek.

Physical and Health Education—The John L. Macbeth Memorial Award of Excellence to Outstanding Student in Physical and Health Education—donated by Mrs. John L. Macbeth.

Political Science—The Brother Albert H. Rose, S.M., Award of Excellence to Outstanding Senior in Political Science—donated by Joseph Zusman '65.

Political Science—The Eugene W. Stenger '50 Memorial Award of Excellence to the Outstanding Junior in Political Science—donated by Mrs. Eugene W. Stenger.


Scholar-Athlete—The John L. Macbeth Memorial Award to the outstanding scholar-athlete in football and basketball. Recipient must have completed five or more terms and must have won his varsity letter.

Scholar-Student—The Charles R. Kendall '29 Memorial Award of Excellence for Overall achievement in academic and athletic effort—donated by Mrs. Charles R. Kendall and Friends.

Secondary Education—The Brother Louis J. Faerber, S.M., Award of Excellence to Outstanding Student in Secondary School Teacher Education—donated by the University of Dayton Mothers' Club.

Sociology—The Doctor Edward A. Huth Silver Anniversary Award of Excellence to the Outstanding Student in Sociology—donated by Joseph Zusman '65.

Sociology—The Margaret Mary Emonds Huth Memorial Award of Excellence to the Outstanding Senior in Anthropology—donated by Doctor Edward A. Huth.


Technical Institute—The Engineering Technicians Society Award of Excellence to the graduating full-time student with the highest cumulative point average.

Theological Studies—The William Joseph Chaminade Award of Excellence in memory of Mr. and Mrs. George W. Dickson, to Outstanding Student in Theology—donated by Rev. John Dickson, S.M., '36.

CLASS ATTENDANCE

Foreword

It is desirable for students to attend all classes. Listening to the lectures of instructors and being involved in classroom discussions should:

1. stimulate an awareness and interest in the course topics beyond the levels acquired by textbook reading. Because textbook material is generally beneath the level of the current state of knowledge, instructors acquaint the student with new ideas and integrate this material into the course topics;

2. provide instances of the way of thinking and methodology employed by an academic discipline in formulating and solving problems;
3. serve to provide guidelines and goals in the course of study, thus lending direction to the study activities of the student.

Policy
For the above reasons, students are expected to attend all classes. It is felt that upperclassmen, i.e., students enrolled in 200 level courses or above, can be relied upon to display sufficient maturity to assume this responsibility. Let it be noted, however, that to insure the accuracy of records, every student must be present at classes during the first week of each term.

Students are responsible for being aware of the proceedings and material covered in each class period. Students must attend all announced tests and submit assigned written work on the date set by the instructor; it is recommended that the instructor announce such tests and assignments at least a week in advance. The action taken as a consequence of missing a test or an assignment will be determined by the instructor and will be based upon a consideration of the individual circumstances involved.

To assist students enrolled in 100 level courses in their transition to college responsibilities, it is felt that a policy of compulsory attendance is necessary. Therefore, such students will be permitted only a limited number of absences. Commencing with the first term of the academic year 1968-69, in any 100 level course the allowable number of absences in the first term or in the second term will be equal to the number of class meetings per week, i.e., three absences for a class meeting three times a week. In either half of the third term the accumulated time that a student enrolled in any 100 level course to be absent from class shall not exceed the number of credit hours for the course. Normally this would mean that such a student will be permitted two absences in a three credit hour course. A student exceeding this number will not be permitted to continue in the class unless he presents justifiable reasons for his absences to the Attendance Appeals Committee.

The handling of tardiness is left to the discretion of the instructor.

Transcripts
A transcript of credits may be requested from the Office of the Registrar. The official transcript may be sent to the institution or organization desiring it or to the student himself. There is a fee of fifty cents for a transcript with less than twelve credit hours. The fee is one dollar for a transcript with twelve or more credit hours. For transcripts ordered in lots of two or more, the fee is one dollar for the first copy and fifty cents for each additional copy. The first copy requested after graduation is a free copy.
VI College of Arts and Sciences

DR. LEONARD A. MANN, s.m., Dean
REV. RALPH GORG, s.m., Assistant Dean
MR. RICHARD PETERSON, Assistant Dean
MISS ANN FRANKLIN, Assistant to the Dean

Consistent with the goals of the University, the College of Arts and Sciences not only strives to prepare the student for the practical task of making a respectable living, but recognizes that there are other benefits that should come to him. Among these are habits of clear thinking and critical reasoning, a recognition of the role of each person in his society and his responsibility for his fellow man, and an appreciation of the aesthetic and cultural values in life, and a desire for continuing growth in the pursuit of truth.

Ideally, the student is best served when he is equipped with knowledge deep enough to pursue graduate studies in a given discipline, understands and loves his fellow man, and confronts issues and questions that arise in every walk of life with a careful analysis based on unchanging principles that ultimately lead him to his final destiny. The educated man never stops developing his powers, and has a beneficial impact on all those with whom he comes in contact. The development of such a person is the goal of the College of Arts and Sciences.

To achieve these ends, the disciplines of Theology and Philosophy are included in every program, since they are most directly concerned with ultimates and basic principles. In addition to these, foreign language, the humanities, and the social and physical sciences complete the requirements that provide the base for this formation.

The non-academic aspects of the student's development are served best through the many organizations open to all students, such as the social and professional clubs and societies, the performing arts, student government, the campus publications, participation in the guest artist and lecture series, and the spiritual retreats and the campus religious activities.

DEGREE REQUIREMENTS

For the Bachelor of Arts or Bachelor of Science degree, it is necessary to complete all the courses listed in one of the programs on the following pages. This will constitute a major field and usually a minor field. The total number of credit hours will vary from one program to another; the required number can be determined from the program in which the student is enrolled.

In most of the programs some courses are listed as electives. These courses are electives, not in the sense that they may be taken or not taken, but in that the student may elect any course that is offered for which he has prerequisites. They constitute an important part of his program, and permit some latitude in achieving the goals he has set for himself. It is always advisable to select these courses in consultation with the faculty adviser.

In the programs leading to the Bachelor of Arts degree, it is required that two years of foreign language be taken. This refers to a single language.

Students who continue with the language studied in high school for two or more years, elect 201; all others elect 101.
The major field normally constitutes twenty-four hours of upper level courses, and the minor field, twelve. Under unusual circumstances, it is possible to modify this requirement by the substitution of courses from other departments if they serve the specific interests of the student in his pursuit of his major field. This can be done only with the permission of the chairman; however, it is not permitted to take less than eighteen hours in a major field under any circumstances.

POSSIBLE MAJORS
For the Bachelor of Arts degree the possible majors are: communication arts, economics, English, fine arts, geology, history, languages, mathematics, music, philosophy, political science, psychology, sociology, anthropology, or social work, and theological studies.

For the Bachelor of Science degree the possible majors are: biology, chemistry, computer science, geology, mathematics, home economics (the general program or the dietetics program), medical technology, physics, and psychology.

Other programs lead to the Bachelor of Social Science with specialization in Police Administration, the Bachelor of Fine Arts, and the Bachelor of Music degrees.

If a minor is required, it must be selected from one of the above fields. There is an exception in Home Economics where Marketing is permitted as a minor.

ACADEMIC STANDING
As a requirement for graduation, it is necessary that the grade point average be at least 2.00 in the major field, in the minor field, and in the total college work.

PRE-PROFESSIONAL COURSES
The schedule should be drawn up with a view to preparation for a particular profession which the student may have in mind. Hence it is imperative that the student consult the dean to receive the proper educational guidance.

Students interested in librarianship or archival work will need a strong major and minor, a reading knowledge of German and French, and an interest in a variety of subjects. Technically, a law school will accept any college degree with the proper cumulative point average.

For public administration and civil service, a major in a social science is desirable. This is equally true for foreign service, and here a strong aptitude in modern language is also a strong aid.

Although vocational education is not the primary objective of the Arts, they are practical because the best "job-insurance" is not a narrow training in specific skills but a broad training in general capabilities. Graduates with the B.A., for example, are now accepted in graduate schools in M.B.A. programs.

Two years of college study are required for admission to the first year of philosophy in diocesan seminaries. During these years stress should be placed upon English, the classical and modern languages.

Students contemplating the medical profession should consult the pre-medical program (Program—SI11: pp. 94-95) adviser. Those interested in pharmacy, dentistry and similar programs also consult the pre-medical adviser.

TEACHER EDUCATION PROGRAM
Students planning to teach in secondary schools may elect a program of studies with a major in any academic discipline within the College of Arts and Sciences, and include sufficient courses from the School of Education, including student teaching, to qualify them for certification. For details of this program, see the School of Education section of this Bulletin. This would yield the B.A. or the B.S. degree in the discipline, in addition to the teaching certificate.
## GENERAL REQUIREMENTS FOR BACHELOR OF ARTS DEGREES

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### Junior and Senior Years

See specific programs on the following pages.

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¹Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
²Freshmen elect 6 hours from Hst 120, 125, 130, 135. Sophomores elect 6 hours from Hst 251, 252, 260, 265, 270, 275.
⁴This course is fitted into the different programs at different times.
⁵Non-Catholic students take an elective, or Spe 101.
⁶Freshmen who continue a language studied in high school for 2 or more years must have taken CEEB Achievement and Supplementary Achievement Tests in that language in order to qualify for exemption from further language study. Exempted freshmen may take 307 as elective. Freshmen not exempted will be placed at the proper level. Freshmen who begin a new language take 101. Transfer students consult department chairman.
⁷Some programs do not require Sociology.


PROGRAM—A1: BACHELOR OF ARTS WITH A MAJOR IN COMMUNICATION ARTS

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¹Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
²See footnote 2, p. 59.
⁴Non-Catholic students take an elective.
⁵Women take EdP 112-3; men not taking R.O.T.C. take EdP 201-2.
⁶See footnote 6 on page 61.
## PROGRAM--A2: BACHELOR OF ARTS WITH A MAJOR IN ECONOMICS

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¹Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
²See footnote 2, p. 59.
⁴Non-Catholic students may take an elective.
⁵Women take EdP 140; men not taking R.O.T.C. take EdP 201-2.
⁶See footnote 6 on page 61.
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1Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
2Freshmen who complete Eng 105 with a grade of C or better take a 200 level course in the second term.
3Freshmen elect 6 hrs. from Hst 120, 125, 130, 135. Sophomores elect 6 hrs. from Hst 260, 265, 270, 275.
5Non-Catholic students take an elective.
6French or German preferred. See also footnote 6 on page 61.
7Sophomores elect 6 hrs. from Eng 201, 202, 203, 204 and 205.
8Women take EdP 140W; men not taking R.O.T.C. take EdP 201-2.
9Eng 405 or 431.
10Eng 316, 318, 428.
11Eng 412, 413, 420, 434, 435.
12Eng 438, 441, 442.
13Except for Eng 490, the required courses in English could be taken in any term of the junior and senior year.
14Eng 450, 452, 454, 456.
15Eng 362, 423, 424, 425.
## PROGRAM—A4: BACHELOR OF ARTS WITH A MAJOR IN FINE ARTS

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### Freshman Year

| ART   | 226-7 | Introductory Painting                       | 2-0-2    |          |          |
| ART   | 191   | Lettering and Calligraphy                  | 2-0-2    |          |          |
| ART   | 251   | Graphics                                   | 4-0-4    |          |          |
| ART\(^6\) |       | Electives                                  | 3-0-3    |          |          |
| ENG   |       | Sophomore English                          | 3-0-3    |          |          |
| PHIL  | 206   | Problems in Philosophy II                  | 3-0-3    |          |          |
| THEL\(^3\) | 220 | Theology of Christ                         | 3-0-3    |          |          |
| MIL\(^5\) | 201-2 | Second Year Basic Course                   | 2-1-1    | 2-1-1    |          |
|       |       | Foreign Language                           | 3-0-3    | 3-0-3    |          |
|       |       |                                              | 18       | 18       |          |

### Sophomore Year

| ART\(^8\) |       | Electives                                  | 4-0-4    |          |          |
| PHIL\(^4\) |       | Elective                                   | 3-0-3    |          |          |
|       |       | Elective                                   | 3-0-3    |          |          |
| SPE   | 101   | Fundamentals of Effective Speaking         | 3-0-3    |          |          |
|       |       | Science Course                             | 3-3-4    |          |          |
| ART   | 371   | History of Ancient Art                     | 3-0-3    |          |          |
| ART   | 372   | Renaissance Art                            | 3-0-3    |          |          |
| SOC   | 203   | Sociology                                  | 3-0-3    |          | 17       |
|       |       |                                              | 17       | 17       |          |

### Junior Year

| ART\(^8\) |       | Electives                                  | 4-0-4    |          |          |
| ART   | 471   | Development of Modern Art                  | 3-0-3    |          |          |
| ART   | 472   | Art in the Twentieth Century               | 3-0-3    | 3-0-3    |          |
|       |       | Elective                                   | 3-0-3    | 3-0-3    |          |
| PHIL\(^7\) |       | Elective                                   | 3-0-3    |          |          |
| THEL\(^3\) |       | Theology elective                          | 4-0-4    | 2-0-2    |          |
| PSY   | 201   | Introductory Psychology                    | 3-0-3    | 3-0-3    |          |
|       |       | Electives                                  | 3-0-3    | 3-0-3    |          |
|       |       |                                              | 17       | 18       |          |

### Senior Year

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\(^1\)Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.

\(^2\)Women students take EdP 130-1; men not taking R.O.T.C. take EdP 101-2.

\(^3\)Non-Catholic students may take an elective.

\(^4\)Students may choose Phl 455 Philosophy of Art if it is offered.

\(^5\)Women students take EdP 140; men not taking R.O.T.C. take EdP 201-2.


\(^7\)Students may choose Phl 456 Philosophy of Creativity if it is offered.

\(^8\)Students are to select 4 hours each term from upper level art courses.

\(^9\)See footnote 6 on page 61.
PROGRAM—A5: BACHELOR OF FINE ARTS

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**Freshman Year**

18 18

**Sophomore Year**

| ART   | 317   | Intermediate Design                        | 2-0-2    |          |          |
| ART   | —     | Elect either Art 217-18, 318               |          |          |          |
| ART   | 208-9 | Intermediate Drawing                      | 2-0-2    | 2-0-2    |          |
| ART   | 231-2 | Sculpture                                  | 2-0-2    | 2-0-2    |          |
| ARTb  | C221-2 | Ceramics                                  | 2-0-2    | 2-0-2    |          |
| ENG   | —     | Sophomore English                         | 3-0-3    | 3-0-3    |          |
| HSTc  | —     | American History elective                  |          | 3-0-3    |          |
| PHIL  | 206   | Problems in Philosophy II                  | 3-0-3    |          |          |
| THLc  | 221   | Theology of Christ                         |          | 3-0-3    |          |
| MILc  | 201-2 | Second Year Basic Course                   | 2-1-1    | 2-1-1    |          |

**Sophomore Year**

15 18

**Junior Year**

| ART   | 371   | History of Ancient Art                    | 3-0-3    |          |          |
| ART   | 372   | Renaissance Art                           |          | 3-0-3    |          |
| ART   | 251-2 | Graphics                                  | 2-0-2    | 2-0-2    |          |
| ART   | 261   | Introductory Enameling                    | 2-0-2    |          |          |
| ART   | 263   | Jewelry: Introductory Casting             |          | 2-0-2    |          |
| ARTc  | —     | Electives: 4 hours each term              | 4-0-4    | 4-0-4    |          |
| PHILc | —     | Elective                                  | 3-0-3    |          |          |
| THLc  | —     | Theology elective                          | 4-0-4    | 3-0-3    |          |
| PSY   | 201   | Introductory Psychology                    |          | 3-0-3    |          |

**Junior Year**

18 17

**Senior Year**

| ART   | 471   | Development of Modern Art                  | 3-0-3    |          |          |
| ART   | 472   | Art in the Twentieth Century               |          |          | 3-0-3    |
| ARTc  | —     | Electives: 10 hours each term              | 10-0-10  | 10-0-10  |          |
| PHILc | —     | Elective                                  |          | 3-0-3    |          |
| SOC   | 203   | General Sociology                          | 3-0-3    |          |          |

**Senior Year**

16 16

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*aUnder "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
*bWomen students take EdP 130-1; men not taking R.O.T.C. take EdP 101-2.
*cNon-Catholic students take an elective.
*dThis course is taken at the Dayton Art Institute.
*eElect from Hst 251-2, 260, 265, 270 and 275.
*fWomen students take EdP 140; men not taking R.O.T.C. take EdP 201-2.
*gElectives must be toward fulfillment of major requirements within the following principal professional divisions of the Department of Fine Arts: drawing, painting, sculpture, ceramics, crafts, graphics, and design (including advertising design and industrial design).

hStudents may take Phil 456 Philosophy of Creativity or Phil 455 Philosophy of Art if these courses are offered.
MINOR IN FINE ARTS

To minor in Fine Arts, 19 hours are required. Art 101-102 Introductory Drawing, and Art 111-112 Principles of Design must be taken before any of the other courses.

The student is to elect one Art History course. He then selects 8 hours in one, or at most two fields. The fields of choice are: Drawing, Design, Painting, Sculpture, Ceramics, Graphics, and Crafts. It is suggested that the student take one two-hour art course for four terms in order to allow for 8 hours of electives within the field or fields of his choice.

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1The elected courses can be taken from one, but not more than two of the following fields: Drawing, Design, Painting, Sculpture, Ceramics, Graphics, and Crafts, in order to get the 8 hours.

PROGRAM—A6: BACHELOR OF ARTS WITH A MAJOR IN HISTORY

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1Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
2Non-Catholic students take an elective.
3May be taken in either the first or second term.
4Non-Catholic students take Phl 404.
PROGRAM—A7: BACHELOR OF ARTS WITH A MAJOR IN LANGUAGE

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Junior Year²

Senior Year⁴

| PHL   |     | Philosophy elective | 2.0-2    |          | 3.0-3    |
| THL³  |     | Theology elective   | 3.0-3    | 3.0-3    |          |
|       |     | General elective    | 3.0-3    | 3.0-3    |          |
|       |     | Language courses    | 6.0-6    | 6.0-6    |          |
|       |     | Minor               | 3.0-3    | 3.0-3    |          |
|       |     |                     | 14       | 15       |          |

¹Under "Term," 3.0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
²Students with a composite major arrangement may begin their second language in the fourth term, whether they continue the first language or not. A language major may minor in any other field approved in the College of Arts and Sciences, but a minor in languages is highly recommended.
³Non-Catholic students take an elective.
⁴It is recommended that students take any course, such as the history of a particular country or period, which will strengthen their grasp of the cultural background of the languages they are studying. It is possible also that in view of certain types of teaching or graduate work a student would elect special technical courses, such as psychology, statistics, etc. A good student with a background in two languages may be permitted to take as little as one term of a new language for reasons approved by the department chairman. In general, however, any additional language should be taken for at least two terms.
## PROGRAM—A8: BACHELOR OF ARTS WITH A MAJOR IN MATHEMATICS

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¹Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
²See footnote 2, p. 61.
⁴Non-Catholic students take an elective.
⁵Women take EdP 112-3; men not taking R.O.T.C. take EdP 201-2.
⁶See footnote 6 on page 61.
# PROGRAM—A9: BACHELOR OF ARTS WITH A MAJOR IN MUSIC

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¹Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
²Women take required courses in Physical and Health Education (EdP).
³Piano, Voice, Organ, Orchestra or Band Instrument.
⁴Non-Catholic students take an elective.
⁵Select from Mus 322, 341, 303, 315, 300-400 courses in theory or composition, or applied music.
⁶See footnote 6 on page 61.
### PROGRAM—A10: BACHELOR OF MUSIC

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Ensembles (ref. p. 236) 4-6 credits

¹Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
³Students majoring in theory, violin, voice, or orchestra or band instrument will be required to use piano or organ as a minor or demonstrate ability to play the piano at a level satisfactory to the department. Applied music majors will need to take a minimum of 4 credit hours in their major during 3rd terms. Voice majors may be required to take modern languages.
⁴Non-Catholic students take an elective.
⁵Women take EdP 112-3; men not taking R.O.T.C. take EdP 201-2.
⁶Electives must be used toward fulfillment of major and minor requirements in music. Additional hours for remaining electives may be taken in applied music or theory courses, or Mus 303, 315, 322, 325, 326, 327, 328, 335-6, 361-2, 421, 422, 451-2.
# PROGRAM–All: Bachelor of Arts with a Major in Philosophy

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**Freshman and Sophomore Years**

Follow general requirements (p. 61)

**Junior Year**

**Senior Year**

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<sup>1</sup>Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
PROGRAM—A12: BACHELOR OF ARTS WITH A MAJOR IN POLITICAL SCIENCE

A student must successfully complete a minimum of 124 semester hours for the degree.

1. *Humanities.* 36 semester hours, chosen from courses offered by the Departments of Communication Arts, English, Fine Arts, History, Languages, Music, Philosophy, and Theological Studies. These must include Eng 101-106, Freshman English (6), six semester hours of history, and Phl 106-206, Problems in Philosophy (6), and six semester hours of philosophy chosen from 300-400 level courses. Catholic students also take three semester hours of Theological Studies, chosen from Thl 110, 152, 153, and 154; and Thl 220, and six hours chosen from 300 and 400 level courses.

2. *Social and Behavioral Science.* Six semester hours chosen from courses offered by the Departments of Economics, Psychology, and Sociology and Anthropology.

3. *Political Science.* 30 semester hours, which are to include Pol 101, Introduction to Political Science, Pol 201, American National Government, and 24 hours chosen from 300-400 level courses. The advanced courses are to be distributed among the various areas as shown under the Department heading in the catalog.

4. *Minor Subject.* One minor subject is studied, chosen from any of the Departments of the College of Arts and Sciences. The requirements of the Departments concerned are followed, but ordinarily twelve semester hours of 300-400 courses are required. Students who are accepted may minor in Secondary Education.

5. *Laboratory Science.* Eight semester hours of laboratory science.


7. *Tool of Research.* One of the following sequences:
   A) completion of a foreign language at the intermediate level (202) or the equivalent as determined by the Department of Languages;
   B) four terms of the following, in any combination:
      1. two terms of foreign language
      2. Acc 207-208, or ACC 203
      3. Cps 203
PROGRAM—A13: BACHELOR OF SOCIAL SCIENCE WITH A MAJOR IN POLICE ADMINISTRATION

A student must successfully complete a minimum of 124 semester hours for the degree.

1. *Humanities.* 27 semester hours, chosen from courses offered by the Departments of Communication Arts, English, Fine Arts, History, Languages, Music, Philosophy, and Theological Studies. These must include Eng 101-106, Freshman English (6), and Phl 106-206, Problems in Philosophy (6). Catholic students also take 12 semester hours of Theological Studies, which must include three hours chosen from Thl 110, 152, 153, and 154; and Thl 220.

2. *Social and Behavioral Sciences.* 39 semester hours chosen from courses offered by the Departments of Economics, Political Science, Psychology, and Sociology and Anthropology. These must include Pol 201, American National Government; Pol 302, Ohio Government or Pol 303, State and Local Government; Psy 201, Introductory Psychology; Soc 203, Introduction to Sociology; Soc 307, Criminology and Penology; Soc 313, Juvenile Delinquency.

3. *Police Administration.* 24 semester hours, including Pad 200, Introduction to Police Administration; Pad 301, Criminalistics; and Pad 313, Criminal Law and Procedure.


## PROGRAM—AI4: BACHELOR OF ARTS WITH A MAJOR IN PSYCHOLOGY

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1. Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
2. Freshmen elect 6 hrs. from Hst 120, 125, 130, 135. Sophomores elect 6 hrs. from Hst. 260, 265, 270, 275.
5. See footnote 6 on page 61.
6. Certain mathematics courses are recommended for students planning to pursue graduate study.
7. Non-Catholic students take an elective.
8. Non-Catholic students take an elective.
### PROGRAM—A15: BACHELOR OF SCIENCE WITH A MAJOR IN PSYCHOLOGY BIOLOGICAL EMPHASIS

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¹Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
³Women take EdP 140; men not taking R.O.T.C. take EdP 201-2.
⁴Freshmen elect from Thl 110, 152, 153, 154. Non-Catholic students take an elective.
⁵Non-Catholic students take an elective.
⁶May substitute Mth 101 for Mth 112 and Mth 112 for 113.
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**Sophomore Year**

| PSY   | 201  | Introductory Psychology             | 3-0-3    |          |          |
|       |      |                                       |          |          |          |
| MIL²  | 201-2 | Second Year Basic Course            | 2-1-1    | 2-1-1    |          |
| PHL   | 206  | Problems in Philosophy II           | 3-0-3    |          |          |
| PHY   | 201-2 | General Physics                     | 3-2-4    | 3-2-4    |          |
| PSY   | 302  | Elementary Statistics               | 3-0-3    |          |          |
|       |      |                                       |          |          |          |
| THL⁴  | 220  | Theology of Christ                  | 3-0-3    |          |          |

**Junior Year**

| PSY   | 308  | Experimental Design & Inference     | 3-0-3    |          |          |
| PSY   |      | Psychology elective                 | 3-0-3    | 9-0-9    |          |
| PSY   | 308  | Experimental Psychology             |          | 3-2-4    |          |
| SPE   | 101  | Fundamentals of Effective Speaking  | 3-0-3    |          |          |
|       |      | General elective                    | 3-0-3    | 3-0-3    |          |
| THL⁴  |      | Theology                            | 3-0-3    |          |          |

**Senior Year**

| PSY   |      | Psychology elective                 | 6-0-6    | 9-0-9    |          |
|       |      | General elective                    | 9-0-9    | 3-0-3    |          |
| THL⁴  |      | Theology elective                   |          | 3-0-3    |          |

1. Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
4. Freshmen elect from Thl 110, 152, 153, 154. Non-Catholic students take an elective.
5. Non-Catholic students take an elective.
7. French, German, or Russian preferred.
**Program—A17: Bachelor of Arts with a Major in Sociology, Social Work or Anthropology**

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**Senior Year—Anthropology Majors**

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¹Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 5 hrs. credit.
²See footnote 2, p. 61.
⁴Women take EdP 140; men not taking R.O.T.C. take EdP 201-2.
⁵Non-Catholic students take an elective.
⁶Non-Catholic students take an elective.
⁸Must be a 300 or 400 level course.
⁹See footnote 6 on page 61.
## PROGRAM—A18: BACHELOR OF ARTS WITH A MAJOR IN THEOLOGICAL STUDIES

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¹Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
²See footnote 2, p. 61.
⁴Freshmen elect from Thl 110, 152, 153, 154.
⁵Women take EdP 140; men not taking R.O.T.C. take EdP 201-2.
⁶Recommended distribution:
3-9 crs 1. Thl 311-312; Pol 471; Judaics.
4-8 crs 2. Thl 352, 355, 354, 452, 453, 454, 459.
2-4 crs 5. Thl 403, 404, 481.
0-6 crs 6. Thl 395H, 495H.
⁷See footnote 6 on page 61.
PROGRAM—A19: ASSOCIATE IN POLICE ADMINISTRATION

A student must successfully complete a minimum of 62 semester hours for the degree.

1. Humanities. 21 semester hours, chosen from courses offered by the Departments of Communication Arts, English, Fine Arts, History, Languages, Music, Philosophy, and Theological Studies. These must include: Eng 101-106, Freshman English (6), and Phl 106-206, Problems in Philosophy (6). Catholic students also take three hours of Theological Studies, chosen from Thl 110, 152, 153 and 154; and Thl 220.

2. Social and Behavioral Sciences. 21 semester hours, chosen from courses offered by the Departments of Economics, Political Science, Psychology, and Sociology and Anthropology. These must include Psy 201, Introductory Psychology; Soc 203, Introduction to Sociology; Soc 307, Criminology and Penology.

3. Police Administration. 16 semester hours, including Pad 200, Introduction to Police Administration, and Pad 313, Criminal Law and Procedure.

PROGRAM—S1: BACHELOR OF SCIENCE WITH A MAJOR IN BIOLOGY

Biology Major Curriculum

Requirements:

| Major (Core courses as listed in program S-1) | 23 |
| Science required (CHEM., PHYSICS, MATH) | 34 |
| Science electives (BIO., CHEM., PHYSICS, Math, etc.) | 12 |
| Study of man (THL., PHIL., SOC., PSY.) | 18 |
| Humanities electives | 15 |
| English, Languages or General Electives | 18 |
| Military or P.E. | 4 |

| 124 |
| Science | 69 |
| Humanities | 33 |
| General | 22 |

Study of Man electives include theology, philosophy and certain psychology, sociology and similar courses as outlined by the General Education Program Committee.

Humanities electives are to be selected from the various courses which would broaden the individual's approach to reality.

General electives are non-specified courses which add flexibility to the program.

Science electives include physics, chemistry, mathematics, computer science and the following biology courses:

- Bio. 209 Comparative Anatomy
- Bio. 303 Physiology
- Bio. 310 Microtechnique and Histology
- Bio. 325 Parasitology
- Bio. 361 Invertebrate Zoology

407 Embryology
411 General Bacteriology
434 Higher Plants
436 Lower Plants

With permission of the Chairman, advanced students may also elect one or more graduate courses.
### Freshman Year

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¹Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
³May substitute depending on background and score on placement test.
⁴Phil 106 or Thl 110, 152, 153 or 154.
⁵Women take EdP 112-3; men not taking R.O.T.C. take EdP 201-2.
⁶Phil 206, Thl 110 or 220, non-Catholics take Psych., Soc., Eco., etc.
⁷Chm 201, 302 or 420.
⁸Spe 101 in either semester.
⁹Thl 220 or two 2-hr. Thl electives; non-Catholics take elective.
¹⁰Either semester.
¹¹Any other Bio., Chm., Phy., Mth., Cps course as needed.
¹²Thl electives to total 12 cr. Non-Catholics take humanities or Phil., etc.
### PROGRAM—S2: BACHELOR OF SCIENCE WITH A MAJOR IN CHEMISTRY

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¹Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
³Freshmen elect from Thl 110, 152, 153, 154; non-Catholic students take an elective.
⁴Chemistry electives: Chm 404, 412, 416, 420, 499.
⁵Chemistry electives: Chm 313-4 may be substituted with permission of the department chairman.
⁶Students with 2 or more years of high school German take Ger 201; all others take Ger 101.
⁷Non-Catholic students take a General elective.
⁸Non-Catholic students take a General elective.
⁹General electives: Soc 201, 202, Pol 201, Acc 203, 310, Bus 315, Mth 301. One course in advanced mathematics or advanced physics may be taken. Other electives may be taken with the approval of the department chairman.
PROGRAM—S3: BACHELOR OF SCIENCE WITH A MAJOR IN
COMPUTER SCIENCE
Minimum graduation requirements are distributed as follows:

A. COURSES ASSOCIATED WITH THE MAJOR (about 50 credits)
   1. COMPUTER SCIENCE—a course in basic programming, normally Cps 247, and 24 credits
      in upper-level courses, normally including Cps 351 and Cps 455 in the area of
      numerical analysis, Cps 345 and Cps 441 in the area of programming, and Cps 383
      in the area of logic.
   2. MATHEMATICS—basic calculus and differential equations and normally 9 credits in
      upper-level courses, including Mth 362.

B. COURSES IN OTHER AREAS (about 50 credits)
   3. HUMANITIES—30 credits, including 6 credits in Theological Studies for Catholic
      students and 6 credits in Philosophy. It is recommended that 12 credits be conen-
      trated in one area of the humanities. Eng 101, 103, 106 and Spe 101 do not apply to
      this requirement.
   4. SCIENCES—normally 13 credits, including Chm 123, 124, and Phy 206, 207, 207L.
   5. COMPOSITION AND SPEECH SKILLS—A certain level of proficiency is required in these
      skills. Eng 101, 108, 106, Spe 101 may be prescribed by the department or elected by
      the student to assist in attaining the minimum proficiency.
   6. MILITARY SCIENCE OR PHYSICAL EDUCATION—4 credits as indicated in the general
      university requirements.

C. ELECTIVES (about 25 credits)
   7. Additional courses to attain the required 124 credits.

More detailed information may be obtained from the department.
PROGRAM—S4: BACHELOR OF SCIENCE WITH A MAJOR IN GEOLOGY

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|       |     | **Sophomore Year**                          |          |          |          |
| CHM   | 123-4| General Chemistry                           | 3-3-4    | 3-3-4    |          |
| GEO   | 201 | Mineralogy                                  | 3-3-4    |          |          |
| GEO   | 204 | Optical Mineralogy                          |          |          | 2-4-4    |
| MIH   | 201-2| Second Year Basic Course                    | 2-1-1    | 2-1-1    |          |
| PHL   | 206 | Problems in Philosophy II                   |          |          | 3-0-3    |
| PHY   | 201-2| General Physics                             | 3-2-4    | 3-2-4    |          |
| THL   | 220 | Theology of Christ                          | 3-0-3    |          |          |

|       |     | **Junior Year**                             |          |          |          |
| CIE   | 213 | Surveying                                   |          |          | 1-6-3    |
| GEO   | 301 | Structural Geology                          | 3-2-4    |          | 3-2-4    |
| GEO   |     | Geology elective                            |          |          | 3-0-3    |
| SPE   | 101 | Fundamentals of Effective Speaking          | 3-0-3    |          |          |
| THL   | 101 | Theology elective                           | 2-0-2    |          |          |
|       |     | Non-science elective                        |          |          |          |
| SPS   | 102 | Modern language course                      | 3-0-3    | 3-0-3    |          |
|       |     | Science electives                           | 3-3-4    | 3-3-4    |          |

|       |     | **Senior Year**                             |          |          |          |
| GEO   | 303 | Field Geology                               | 3-2-4    |          | x-0-5    |
| GEO   |     | Geology elective                            |          |          | 3-0-3    |
|       |     | Non-science elective                        |          |          | 3-0-3    |
| THL   | 101 | Theology elective                           | 2-0-2    | 2-0-2    |          |
|       |     | Electives                                   | 3-0-3    | 3-0-3    |          |
|       |     | Non-Catholic students take an elective      |          |          |          |
|       |     | Non-Catholic students may take electives in place of theology. |

*Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.


*May substitute Mth 210-1 with permission of department chairman.

*Non-Catholic students take a non-science elective.


*May substitute Phy 206-7 if Mth is taken in sequence.

*Non-Catholic students take an elective.

*Choose from courses in chemistry, mathematics, physics, biology, geology, or engineering.

*Non-Catholic students may take electives in place of theology.
HOME ECONOMICS

The department provides two special curricula:
1. Dietetics and Institutional Management;
2. General Home Economics.

Students following these curricula may pursue a career in homemaking, interior decorating, the creating and construction of clothing; in the management of cafeterias, dormitories, and restaurants; as demonstrators for commercial manufacturing concerns; as dietitians in hospitals and other institutions; in graduate work and in research projects.

The curriculum for dietetics and institutional management meets the requirements of the American Dietetics Association. The department is one of eight in Ohio that meets the standards for vocational certification.

PROGRAM—S5: BACHELOR OF SCIENCE WITH A MAJOR IN HOME ECONOMICS (General Home Economics)

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**Sophomore Year**

**Junior Year**

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**Senior Year**

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1 Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
2 May substitute Chm 123-4 or Chm 110-200.
3 Foods I & II and Clothing I & II may be interchanged.
4 Student may elect any lower division Hst courses.
5 Non-Catholic students take an elective.
6 Non-Catholic students take an elective.
7 Can be taken in English, psychology, retailing, history, or education. Students choosing education must take Edu 208, 351, 419, and Hec 329, 405, and Chm 110-200 or 123-4. Hec courses must total 51 hours.
# PROGRAM—S6: BACHELOR OF SCIENCE WITH A MAJOR IN HOME ECONOMICS (Dietetic Internship)

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¹Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
²Non-Catholic students take an elective.
³May take Chm 200 with permission.
⁴May take Bio 303 with permission.
⁵May take Chm 420 if Chm 302 or 304 is elected.
⁶May take Educ 208 with permission.
PROGRAM—S7: BACHELOR OF SCIENCE WITH A MAJOR IN MATHEMATICS OR MATHEMATICAL STATISTICS

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**Specific Term Details**

**Freshman Year**

- **CHM 123-4**: General Chemistry (3-3-4)
- **CPS 247**: PL/I Programming (2-0-2)
- **MTH 128-9**: Analytic Geometry and Calculus (4-0-4)
- **MTH² 101-2**: First Year Basic Course (2-1-1)
- **PHL**: Philosophy² (3-0-3)
- **PHY 206**: General Physics (3-2-4)
- **Electives¹**: 3-0-3

**Sophomore Year**

- **MTH 228**: Analytic Geometry and Calculus (4-0-4)
- **MTH 229**: Differential Equations (3-0-3)
- **MTH² 201-2**: Second Year Basic Course (2-1-1)
- **Humanities³**: 3-0-3
- **Electives**: 6-0-6

**Junior Year**

- **Mathematics Elective³**: 3-0-3
- **Mathematics Elective**: 3-0-3
- **Mathematics Elective**: 3-0-3
- **Minor**: 3-0-3
- **Humanities³**: 3-0-3
- **Electives**: 3-0-3

**Senior Year**

- **Mathematics Elective**: 3-0-3
- **Mathematics Elective**: 3-0-3
- **Mathematics Elective**: 3-0-3
- **Minor**: 3-0-3
- **Humanities³**: 3-0-3
- **Electives**: 3-0-3

¹Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
³The 30 hrs. in Humanities should include 6 hrs. Theology for Catholic students and 6 hrs. Philosophy. Normally 12 hrs. should be concentrated in one area of the Humanities.
⁴The general requirement in communication skills should be satisfied as soon as possible.
⁵All students majoring in Mathematics or Statistics will elect Mth 361, 362, 421, 422 as core courses and twelve hours of other mathematics courses in consultation with the Chairman of the Department. Students minoring in Physics will elect Mth 403 when registering for Phy 303.
MEDICAL TECHNOLOGY

A twelve or thirteen month course in medical technology is offered by the Diagnostic Laboratories of St. Elizabeth Hospital, Good Samaritan Hospital, and Miami Valley Hospital. Affiliation with the University of Dayton permits a student to obtain the degree of Bachelor of Science in Medical Technology if the University's requirements are fulfilled. These schools are accredited by the Registry of Medical Technologists of the American Society of Clinical Pathologists through the Council on Medical Education and Hospitals of the American Medical Association, and qualify a student to take the examination given by the Registry of Medical Technologists.

The student receives practical and theoretical experience in the various branches of the clinical laboratory, after which he is qualified for positions in hospitals, clinics, research laboratories, and physicians' offices.

METHODS OF INSTRUCTION

After a preliminary concentrated introduction to medical technology, the student participates in the activities of the Diagnostic Laboratories, spending a specific time in each department. Instruction is under the supervision of the pathologist and his staff. Regular assignments in recognized textbooks and laboratory periodicals are given. Conferences and examinations are held throughout the year. Following a review period at the end of the prescribed course, a final examination, patterned after that of the Registry of Medical Technologists, is given.

ADMISSION REQUIREMENTS

In planning for the hospital experience, the student is required to arrange for an interview with the pathologist at the approved School of Medical Technology at the hospital. He should also plan to visit each hospital for the purpose of seeing the facilities of the diagnostic laboratories. His choice of school must be stated in writing to both the pathologist at the school of medical technology, and the advisor of the medical technology students at the University. This must be done no later than February 1, if he intends to begin training at the hospital in June. The University advisor will submit letters of recommendation to each school of medical technology in behalf of the student seeking the interview. The Registry requires 90 semester hours of academic work for admission to the clinical year in the hospital.
SENIOR YEAR SCHOLARSHIP
A full tuition scholarship is made available for the senior year. This includes room and board for the women students; it may not be possible to secure housing for male students. Students provide their own uniforms and textbooks.

LENGTH OF CLINICAL COURSE
The course of instruction covers a period of fifty-two to fifty-six consecutive weeks. If vacation period or leave of absence is granted, additional equivalent time must be made up in the school of medical technology. The hours of duty are from 8 a.m. to 5 p.m., five days a week. Special assignments for Sunday and holiday work are given with time off during the week. There is no night call for students.

Textbook assignments and extracurricular reading and study shall be done outside the regular hours. Written and oral examinations are held at regular intervals throughout the course.

GRADUATION AND REGISTRATION
After demonstrating a theoretical and practical proficiency in clinical laboratory procedures, the student is given a certificate by the hospital, and becomes eligible for the national examination for certification by the Registry of Medical Technology.

Students who are registered at the University of Dayton are eligible for the degree of Bachelor of Science in Medical Technology.

Examinations for Registration and the Certificate of M.T. (Medical Technologist) are given in July and November by the Registry of Medical Technologists in various cities. These are written examinations.
### PROGRAM-S8: BACHELOR OF SCIENCE WITH A MAJOR IN MEDICAL TECHNOLOGY

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¹Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
³May substitute depending on background and score on placement test.
⁴Phl 106 or Thl 110, 152, 153 or 154.
⁵Spe 101 and Psy, Soc, Eco, Hst. etc.
⁶Phl 206 or Thl 220.
⁷Women take EdP 112-3; men not taking R.O.T.C. take EdP 201-2.
⁸Thl electives 6 cr. hrs., non-Catholics take humanities electives.
⁹Spe 101.
¹⁰Other Bio, Chm, Mth, etc. as needed.
¹¹Of the 38 credits in the senior year, 24 must be completed before graduation. The remaining 14 are necessary to complete the program of the Hospital School of Medical Technology.
PROGRAM—S9: BACHELOR OF SCIENCE WITH A MAJOR IN PHYSICS

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1 Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. Lab or recitation and 3 hrs. credit.
3 Non-Catholic students take an elective. 
4 Women take EdP 112-3; men not taking R.O.T.C. take EdP 201-2.
5 Non-Catholic students take an elective.
6 Upper level courses in physics, math, or other approved subjects (see p. 239).
7 Non-Catholic students take an elective.
8 See p. 239.
PREMEDICAL AND PREDENTAL

This program meets the admission requirements of all approved medical schools as determined by the Council of Medical Education for the American Medical Association. The four year course leading to the degree, Bachelor of Science, is recommended whenever possible. In addition to the basic sciences, it should include an adequate study of the humanities, social science and foreign language. Students contemplating a career in medicine should realize that preference is given to candidates who have the most complete education, as well as good scholastic standing.

Recommendation of a student by his premedical school is of considerable importance for admission to medical or dental school. Recommendation is based on more than academic standing. Character, professional development, and personality qualities are also weighed. The membership of the board on premedical recommendations is as follows: Dr. Carl I. Michaelis, Chairman, Dr. Cletus C. Chudd, S.M., Dr. Peter J. Faso, Mariano Crivello, Russell A. Joly, S.M., Dr. George B. Noland, and Gertrude D. Shay.

Both the Medical College Admissions Test and the American Dental Aptitude Test are administered on this campus each year in the fall and spring semesters. Students are required by the graduate school to take this test, usually in the spring of their junior year. Applications for registration may be secured from the premedical advisor.

The increasingly high admission standard for medical and dental schools makes it desirable that the student in the premedical program give full time to study, and that he consider part time work to gain some financial advantage only as a last resort. Most medical schools do not admit college graduates with less than a 3.00 cumulative average. For this reason, students whose cumulative average after 2 years is not at least 2.7 should decide on a different major. He should consult the premedical advisor.
PROGRAM—S10: BACHELOR OF SCIENCE FOR PREMEDICAL AND PREDENTAL STUDENTS

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^1Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
^3May substitute depending on background and score on placement test.
^4Phil 106 or The 110, 152, 153 or 154.
^5Women take EdP 112-3; men not taking R.O.T.C. take EdP 201-2.
^6Thl 220, Phil 206, Psy, Soc, Pol, Eco, etc.
^7Eng, Hist, Psy, Soc, Pol, Phil, Thl, etc.
^8Bio, Chm, Phy, Mth as needed to meet specific admission requirements for professional school.
^9Must include Spe 101 if not taken earlier.
^10Non-Catholics may take electives in place of theology.
VII
School of Business Administration

WILLIAM J. HOBEN, Dean
JOSEPH F. UPDYKE, Assistant to the Dean

The School of Business Administration operates in accord with the educational philosophy and purposes of the University. It believes that Christian principles of thought and action are essential to the complete formation of a business man. Through instruction and related activities it aims to develop in the student a moral excellence and firmness along with a degree of professional competence. It proposes to enhance the student’s awareness of his obligation to himself, his family, society, and God—an awareness that is fundamental to his total development as a business man.

The School of Business Administration particularly seeks to develop that knowledge of business policies, problems and procedures which will enable the student to take a responsible place in the business and economic environment within which he must earn a livelihood.

In order to insure the breadth of background demanded of successful business and community leaders, the student must complete work in humanities and general studies as well as in professional business courses. This preparation is included in each of the programs offered.

DEGREE REQUIREMENTS

The School of Business Administration confers the degree of Bachelor of Science in Business Administration upon satisfactory completion of the following prescribed requirements:

1. Each candidate must complete successfully the Freshman-Sophomore Business Administration program, which is designed to give the student a broad and liberal education in preparation for more specialized training in Business Administration and Economics.

2. Each candidate must earn a cumulative grade point average of at least 2.00 in:
   a) The core courses required of all students enrolled in the School of Business Administration;
   b) The major field of concentration elected by the student.

3. Each candidate must complete a minimum of forty-two credits in 300-400 level courses in the School of Business Administration consisting of the following:
   a) Twenty-seven credits in the core courses required of all students enrolled in the Upper Division in the School of Business Administration;
   b) Fifteen credits (or more) in one of the Upper Division areas of concentration offered in the School of Business Administration.

4. Each candidate must earn a grade of at least “C” in Bus 423, Business Policies and Management.

5. Each candidate must earn twelve credits of electives in the upper division. These electives may be taken outside the School of Business Administration.

The responsibility of meeting the degree requirements in Business Administration rests with the student and not with the faculty and staff of the School of Business Administration.
Administration. The student should be thoroughly familiar with the course requirements and should keep his own record of courses completed and credit hours applicable to degree requirements.

**FRESHMAN-SOPHOMORE BUSINESS ADMINISTRATION PROGRAM**

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1 Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
2 Courses listed in italics may be taken in either the first or second term as directed by the program advisor.
4 Choose one of these courses: Bio 114, Chm 110, Geo 109, Phy 105.
6 Non-Catholic students consult General Curriculum Requirements.
7 In addition choose one of these courses: Hst 252; Eng 201, 202, 203, 204, 205 or 208; Pol 201; Soc 203; Spe 201. Chosen course may be taken in lieu of upper level elective.

**UPPER DIVISION**

Specialization in the School of Business Administration occurs in the Junior and Senior years.

It is possible to major in any one of the following areas: accounting, management, marketing, or economics.

Each curriculum is organized to include six to twelve credits of electives in the Junior and Senior years. Since the aim of the School of Business Administration is to provide breadth of education, these credits may be taken outside of the School of Business Administration. The electives may be concentrated in one area, or, if the student desires, they may be taken in more than one area.
ACCOUNTING

The profession of accountancy concerns itself with recording, classifying, summarizing, and analyzing financial data. The professional accountant prepares the reports and statements which business management uses for control of operations, and which investors and credit grantors depend upon.

In addition to the three basic courses, required of all business administration students, the accounting major must earn credit for seven upper level accounting courses. Five of these are required of all accounting majors; the other two may be selected by the student to fit his needs from elective accounting courses.

Successful completion of the prescribed program may lead to a career in public accounting, to employment in financial departments of business enterprises, or to service in agencies of the federal, state, or local government.

PROGRAM—B1: BACHELOR OF SCIENCE WITH A MAJOR IN ACCOUNTING

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¹Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
²Courses listed in italics may be taken in either the first or second term as directed by the program advisor.
³Non-Catholic students consult general curriculum requirements.
⁴Choose general electives.
⁵Select accounting courses in consultation with program advisor.
BUSINESS MANAGEMENT

The major of Business Management is designed, in conjunction with the business core requirements, to give the student the basic principles of the management area. In addition, through the proper selection of electives, the student may obtain a degree of specialization in either industrial management, or personnel management.

The following outline of courses constitutes the upper level work required for a Bachelor of Science with a major in Business Management.

PROGRAM—B2: BACHELOR OF SCIENCE WITH A MAJOR IN BUSINESS MANAGEMENT

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| Eco   | 340  | Micro Economic Analysis | 3-0-3    |          |          |
| Eco   | 342  | Money, Banking and Monetary Policy |      | 3-0-3    |          |
| Bus   | 423  | Business Policies and Mgmt. | 3-0-3    |          |          |
| Phl   | 402  | General Metaphysics      | 3-0-3    |          |          |
| Thl³  | —    | Theology electives       | 2-0-2    | 2-0-2    |          |
| Bus⁵  | —    | Business electives       | 6-0-6    | 3-0-3    |          |
| —⁴    | —    | Elective                 | 3-0-3    | 3-0-3    |          |
|       |      |                         | 17       | 17       |          |

¹Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
²Courses listed in italics may be taken in either the first or second term as directed by the program advisor.
³Non-Catholic students consult General Curriculum Requirements.
⁴Choose general electives.
⁵Select three business courses in consultation with the program advisor.
⁶May substitute Phl 460.
MARKETING

The program in Marketing is designed to develop competence in students in all or some part of the marketing process. Although the student often enters with interest in a single phase of marketing such as: selling, advertising, pricing, product planning, physical distribution, purchasing, market research, wholesaling, or retailing, the emphasis in the curriculum is on the marketing management concept. Thus, any specialized activity is studied as a part of a total marketing process which in turn must be integrated with the objectives of a business firm, the functioning of an economic system and the constraints of society.

The objective is to add limited specialization to a base made up of the general education required for graduation and a core of business administration courses required of all business students.

Within the marketing specialization the purpose is to:

1. Develop a student of marketing who has the tools and groundwork for continued study after graduation. Applications of the social sciences and quantitative techniques are stressed. Communications skills are emphasized. Understanding of institutions and nomenclature is essential.

2. Develop a practitioner of marketing with interests, attitudes, and sufficient understanding to be potentially productive at a responsible level of decision making.

3. Provide flexibility through choice of courses for marketing majors and provide some breadth of choice of marketing courses as electives for non-marketing majors both from within and without the School of Business Administration.

The Department of Marketing is represented through institutional or faculty memberships in the American Academy of Advertising, the American Collegiate Retailing Association, and the American Marketing Association. The courses and programs of the department are in accord with the recommendations of these professional groups.

Some of the options within the field of Marketing which have proved to be popular are:

Advertising

Students interested in advertising as a concentrated area of study take the following sequence of courses: Mkt 420 Marketing Communications, Mkt 421 Advertising, Mkt 430 Marketing Research.

A major in marketing requires three additional marketing courses selected in consultation with the chairman of the department.
Marketing Research

Students interested in marketing research as a concentrated area of study take the following sequence of courses: Mkt 315 Retail Merchandising, Mkt 405 Consumer Behavior, Mkt 430 Marketing Research.

A major in marketing requires three additional marketing courses selected in consultation with the chairman of the department.

Marketing Management

Students interested in marketing management as a concentrated area of study take the following sequence of courses: Mkt 315 Retail Merchandising, Mkt 335 Advanced Marketing, Mkt 430 Marketing Research.

A major in marketing requires three additional marketing courses selected in consultation with the chairman of the department.

Retailing

Students interested in retailing as a concentrated area of study take the following sequence of courses: Mkt 315 Retail Merchandising, Mkt 318 Retail Advertising and Sales Promotion, Mkt 417 Retail Buying and Merchandising.

A major in marketing requires three additional marketing courses selected in consultation with the chairman of the department.

Salesmanship

Students interested in salesmanship as a concentrated area of study take the following sequence of courses: Mkt 310 Salesmanship, Mkt 405 Consumer Behavior, Mkt 411 Sales Management.

A major in marketing requires three additional marketing courses selected in consultation with the chairman of the department.
### PROGRAM—B3: BACHELOR OF SCIENCE WITH A MAJOR IN MARKETING

<table>
<thead>
<tr>
<th>Dept.</th>
<th>No.</th>
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<td>303</td>
<td>Business Law I</td>
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<td>Mkt</td>
<td>305</td>
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<td>306</td>
<td>Epistemology</td>
<td></td>
<td>3-0-3</td>
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<tr>
<td>ACC</td>
<td>340</td>
<td>Fundamentals of Business</td>
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<tr>
<td>ENG</td>
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<td>Marketing electives</td>
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<td>THL⁵</td>
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<td></td>
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<td><strong>Senior Year</strong></td>
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<tr>
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<td>341</td>
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<tr>
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<td><em>Money, Banking, and Monetary Policy</em></td>
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<tr>
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<td>409</td>
<td><em>Business Communication and Report</em></td>
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<tr>
<td></td>
<td></td>
<td>Writing</td>
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</tr>
<tr>
<td>BUS</td>
<td>423</td>
<td>Business Policies and Management</td>
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<td>3-0-3</td>
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</table>

1 Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
2 Courses listed in italics may be taken in either the first or second term as directed by the program advisor.
3 PHIL 460 Business Ethics may be substituted.
4 Select three marketing courses in consultation with the program advisor.
5 Non-Catholic students consult General Curriculum Requirements.
6 Choose general electives.

### ECONOMICS

The Department of Economics offers courses in the core business curriculum and in a major concentration. Economics 201 and 202 serve as the foundation for all upper level business subjects including those taken by economics majors. Within the core business curriculum, the Department of Economics offers Macro Economic Analysis (Eco 341) and Money, Banking, and Monetary Policy (Eco 342). In addition, Micro Economic Analysis (Eco 340) is required of all economics majors.

The major program in economics is designed for those students seeking careers as economists in education, government, or business, or who wish to prepare for other specialized areas such as banking, finance, investment security analysis, or labor relations. To accomplish this objective, the Department of Economics emphasizes in its instruction the development and functioning of the economies of the United States and other countries. The student thus is equipped with the tools for the systematic analysis of the economic problems of the individual firm, the industry, the nation, and the world within their social, political, and legal contexts.
For admission to the major, a student must have completed Economics 201 and 202. To complete the major, fifteen hours of economics courses, in addition to Economics 340, 341, and 342, are required of the Business Administration student. After consultation with the Chairman of the Department, the major may select these fifteen hours to fit his own special needs or interests.

Candidates for the Bachelor of Arts degree who desire to major in economics will follow the program of the College of Arts and Science.

PROGRAM—B4: BACHELOR OF SCIENCE WITH A MAJOR IN ECONOMICS

<table>
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<tr>
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<td>Business Law I</td>
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<td>Mkt</td>
<td>305</td>
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</table>

¹Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
²Non-Catholic students consult General Curriculum Requirements.
³Choose general electives.
⁴Choose electives in Economics. Consult program advisor.

ASSOCIATE DEGREE IN BUSINESS ADMINISTRATION

The Associate Degree in the Business Administration program specializing in secretarial studies has been designed especially for those who plan to attend college for only two years.

University-trained secretaries with broad educational backgrounds are urgently needed in business. This cultural background, combined with competency in typewriting, shorthand, accounting, business machines, and office procedures, will prepare graduates for responsible positions in commerce and industry.
Although the Associate Degree is, in essence, a terminal degree, students may elect to continue work for the Bachelor of Science in Business Administration or the Bachelor of Science in Education.

PROGRAM—B5: ASSOCIATE DEGREE IN BUSINESS ADMINISTRATION

<table>
<thead>
<tr>
<th>Dept.</th>
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<td>Principles of Economics</td>
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<td>Intermediate Shorthand</td>
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<td>SEC</td>
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<td>SPE</td>
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<td>Fundamentals of Effective Speaking</td>
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Freshman Year

Sophomore Year

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|       |     |                                             | 13       | 16       |          |

1Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
2Courses listed in italics may be taken in either the first or second term as directed by the program advisor.
3Non-Catholic students take PHL 207.
4Non-Catholic students take PHL 402.
5Non-Catholic students take PHL 404.
6Refresher courses for qualified students with prior training.

EVENING PROGRAMS IN BUSINESS ADMINISTRATION

The University of Dayton, through its Evening Division, offers an Associate Degree in Business Administration, specializing in Accounting, General Business Management, or Personnel Management. Further information about these programs can be obtained from the office of the Director of the Evening Division.
In conformity with the University’s purposes, the School of Education endeavors to foster both (1) the development of those general capacities of the students which flow directly from his human nature and (2) the development of those particular capacities which enable him to become an effective practitioner in the field of professional education.

The general capacities of the student are developed through a broad and sound education of a general nature. It endeavors to acquaint the student with the major areas of knowledge, integrated through the disciplines of philosophy and theology, and provides planned opportunities for personal, social, and ethical development.

The particularized concern of the School is the professional preparation of teachers for the elementary and secondary schools. Provisions for professional competence are made: (1) through comprehensive study of specialized teaching fields, (2) through thorough study of the professional foundations which are common to all teaching, and (3) through specialized study of the principles underlying a particular type and level of teaching.

DEGREE REQUIREMENTS
Specific four-year course requirements for kindergarten-primary, elementary, secondary, and special (music, art, physical education, home economics, speech) certification are outlined in the following pages.

Toward the close of the Freshman year each student is required to file formal application for admission to the Sophomore class. At this point his work is reviewed by a faculty committee to determine the extent to which the applicant’s personal traits, academic work, etc., point toward likelihood of success as a professional teacher.

As a rule the School of Education will not recommend students for graduation unless these students can also qualify for teacher certification.

The responsibility for meeting the University and State requirements rests with the student. The student is cautioned to study the course requirements and to keep accurate count of the credit hours applicable to graduation. Students planning to teach in states other than Ohio should fulfill University requirements plus those of the State in which the candidate is destined to teach. (Consult the book, Requirements for Certification by Woellner, University of Chicago Press; this book is constantly available both in the Education Office, Room C-104, and in the Curriculum Materials Center, Room C-114.)
University requirements for graduation and for teacher certification are the following:

1. Evidence of such general scholarship, personal and moral qualities, as give promise of professional success.

2. Evidence of participation in a variety of planned field experiences essential to the development of the resourcefulness needed by teachers. (For information regarding minimum requirements in observation of teaching and other field experiences consult the Coordinator of Student Field Experiences, Room C-206, or request copy of instruction sheet from Education Office, Room C-104.)

3. Earn one hundred and thirty-two semester credit hours in approved courses.

4. Meet the following letter-grade requirements:
   a) Earn a grade-point average of 2.00 ("C" average) or better.
   b) Earn a grade-point average of 2.500 ("C+" average) or better in professional education courses and in one's principal teaching field.

5. Complete minimum requirements in psychology and professional education courses in accordance with the following pattern:

<table>
<thead>
<tr>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Nature of the Learner</td>
</tr>
<tr>
<td>B. Growth and Development</td>
</tr>
<tr>
<td>C. The Learning Process</td>
</tr>
<tr>
<td>D. The Elementary School: Purposes and Practices</td>
</tr>
<tr>
<td>The Secondary School: Purposes and Practices</td>
</tr>
<tr>
<td>E. Special Methods</td>
</tr>
<tr>
<td>F. Student Teaching</td>
</tr>
<tr>
<td>G. Philosophy of Education</td>
</tr>
</tbody>
</table>

With the possible exception of A and B above, all courses in the professional education sequence must be taken at the University of Dayton. Transfer credits from other institutions will not be accepted in substitution for courses C through G.

6. Complete the theology-philosophy sequence as follows:
   Catholic students, twenty-four semester hours: Thl 152, 220, and six (6) semester hours of theology electives; Phl 105, Phl 306, Phl 402, and EdF 419.
   Other students, twenty-one semester hours: EdF 109, Phl 103, 306, 402, 403, 404, and EdF 419.
   Students who have completed EdF 198 will be permitted to enter 300-400 philosophy courses without having taken Phl 207 Philosophical Psychology as one of the prerequisites. Students who succeed in having EdF 198 waived by reason of having had General Psychology or the equivalent should take Phl 207 instead of Phl 402.

7. Pass a comprehensive examination involving the following: General Education, Professional Education, and the principal teaching field. The Teacher Education Examination Program (TEEP) will be administered. (Consult the Education Office for dates.)

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3Combination of Psy 201 Introductory Psychology and Phl 207 Philosophical Psychology may be substituted.

4Students in Elementary Education follow special courses covering (a) Reading and Language Arts, (b) Arithmetic. Students in Kindergarten-Primary Education follow special courses in theory, methods, and materials on kindergarten-primary level.
COUNSELING
Each freshman education student chooses a counselor to whom he reports at least twice a term for an interview. Each upperclassman reports for proper guidance at least once every semester to his dean or to the chairman of the department in which he is majoring.

OFFICE OF COORDINATOR OF FIELD EXPERIENCES
This office functions to facilitate the gaining of planned field experiences by students prior to student teaching. The office makes appointments with the schools and other agencies, keeps records of all student field experiences, counsels students regarding proper procedures, promotes desirable balance between observation and direct participation.

STUDENT TEACHING
This consists of actual classroom teaching under competent supervision. During the semester of student teaching, the student is not permitted to carry more than six semester hours of additional course work. These additional hours are ordinarily scheduled outside the normal school day in order to keep intact the student teaching experience for the full school day. The student should arrange his financial obligations so that he need not continue with part-time employment during this semester.
The faculty of the School of Education screens each candidate who applies for student teaching on the basis of the following factors: (1) skill in communication arts, (2) quality point average in course work, (3) physical and emotional fitness, (4) desirable personal and moral traits, (5) completion of the prerequisite courses.

Prerequisites for candidacy for student teaching are: (1) official enrollment in a teacher education program at the University, (2) prospective completion of minimum residence requirement of thirty semester hours inclusive of student teaching, (3) completion of required clock hours in observation of teaching (consult sheet indicating "Total Hours of Observation for Each Student Classification" issued by the Education Office), (4) formal application for processing by screening committee; application must be submitted a term in advance of student teaching. (Application blanks may be secured from the Education Office, Room C-104.)

The campus supervisors have direct charge of the student teaching experience.
Once a week throughout the term a student teaching seminar is held on campus.
The time allotted to student teaching is an entire term involving full-day sessions. However, if a student teacher should evidence sufficient development before the termination of the semester, the campus supervisor may dismiss the student ahead of time.

Students may register for up to a maximum of twelve semester credit hours. In this case, however, their student teaching may not be terminated before the expiration of a full term.

Once a student has been approved and placed for student teaching, he may not withdraw from the program unless approved by his Department Chairman. A student who withdraws without this approval forfeits future placement in student teaching.

Student Teaching during the summer term is restricted to candidates who have had previous teaching experience. The applications of such students will be processed only with the express permission of the Dean.

TEACHER PLACEMENT
Students who qualify for teacher certification in the School of Education are aided in securing teaching positions through the School’s placement service located in Room C-214. This requires cooperation from the candidate in filling out the necessary papers and in submitting names for references. Interviews with prospective employers are conducted in the University Guidance Center and are announced in advance in the Weekly Calendar.

TEACHER CERTIFICATION
The School of Education is on the approved list of the State Department of Education and of the National Council for Accreditation of Teacher Education. NCATE accreditation is being used increasingly as the major basis for reciprocity between states in teacher certification. To date the following states grant regular certificates under practically all circumstances to teachers who have completed approved programs in institutions accredited by NCATE: Alabama, Arizona, Colorado, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Mississippi, Missouri, Nebraska, North Carolina, North Dakota, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Dakota, Tennessee, Texas, Utah, Vermont, Washington, West Virginia, and Wyoming.

In addition to preparing properly certified kindergarten-primary, elementary, and high school teachers, the School also enables students to qualify for special certification
in art, physical education, driver education, home economics, music, speech, and the teaching of slow learning children.

A curriculum in Home Economics Education has been established through the vocational division of the State of Ohio, Department of Education. Graduates of this curriculum are certified to teach *vocational* home economics as well as *non-vocational*.

**CORRECTIVE THERAPY CERTIFICATION**

Through the affiliation of the Veterans Administration Center's Corrective Therapy Clinical Training Program (Brown Hospital, Dayton) students who follow the School of Education's program in health and physical education have the opportunity to qualify for national certification as *Corrective Therapists* by satisfactorily completing 250 clock hours of directed corrective therapy clinical training and by passing the examination of the American Medical Association. This program as designed for University of Dayton students has the certified approval of the Veterans Administration Central Office, Washington, D.C.

**GRADUATE PROGRAMS**

The School of Education offers six graduate programs for in-service teachers leading to the *Master of Science in Education* degree; they are designed to prepare master high school teachers, master elementary teachers, school counselors, school psychologists, school administrators, and educational research specialists. (For details on the graduate programs request a copy of *The Graduate Catalog Issue*.)
PROGRAM—EI: BACHELOR OF SCIENCE IN ELEMENTARY EDUCATION

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1. Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
2. Courses listed in italics may be taken in terms other than listed. Consult program advisor.
5. Students may elect Eng 203, 204, or 205.
7. May substitute Pol 300 or Eco 201.
8. Non-Catholic students take Phil 402.
9. A minimum of 6 semester credit hours in Art and 6 semester credit hours in Music for the degree. Recommended courses include: Art 101, Art 281-2, Art 481 and Mus 101, Mus 103 and Mus 281-2.
13. Non-Catholic students take Phil 403.
14. Non-Catholic students take Phil 404.
15. These electives should be taken in one of the content areas (English, History, Language, etc.). With permission of the Dean, courses in Special Education may be chosen.
PROGRAM—E2: BACHELOR OF SCIENCE IN SECONDARY EDUCATION

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¹Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
²Courses listed in italics may be taken in terms other than listed. Consult program advisor. Language is optional and may be taken in the freshman year.
⁴Non-Catholic students take EdF 109.
⁵Take Mth 121-2 or Bio 101-2.
⁶Students may elect Eng 201, 202, 203, 204, or 205.
⁷Women take EdP 140; men not taking R.O.T.C. take EdP 201-2.
⁸Non-Catholic students take Phl 402.
⁹Non-Catholic students take Phl 403.
¹⁰Non-Catholic students take Phl 404.
¹¹Non-Catholic students take an elective.
REQUIREMENTS IN HIGH SCHOOL TEACHING FIELDS

Students following the program in secondary education are required to have at least two teaching fields with a minimum of thirty-six semester credit hours in the principal teaching field (i.e. the field in which the special methods course is taken) and the minimum hours listed below for the second teaching field; or, instead of two teaching fields, they may take a single comprehensive field totaling at least fifty-one semester credit hours. To facilitate placement, students are advised to select fields which are related, e.g., Speech and English, or Science and Mathematics.

In order to be recommended for certification, the student must earn a quality point average of at least 2.500 in each field for which he seeks certification. Certification is valid for teaching in grades seven through twelve.

Minimum requirements in semester credit hours for the second teaching field are as follows: (For detailed course requirements in each field, secure copy of checklist for each teaching field in the Education Office, Room C-104.)

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PROGRAM—E3: BACHELOR OF SCIENCE IN PHYSICAL EDUCATION (MEN)

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|       |     | **Sophomore Year**                          |          |          |          |
| EdP   | 205-6 | Anatomy and Physiology                      | 3:0:3    | 3:0:3    |          |
| EdF   | 207² | Human Growth and Development               | 3:0:3    |          |          |
| EdF   | 208  | Learning Process                           |          | 3:0:3    |          |
| EdP   | 203-4 | Physical Education Activities              | 0:4:1    | 0:4:1    |          |
| EdP   | 212  | Coaching Baseball, Track                   | 2:0:2    |          |          |
| EdP   | 213  | Principles of Physical Educ.               |          |          | 3:0:3    |
| EdP   | 251  | Org. and Admin. of Health Ed.              |          |          | 3:0:3    |
| Hist  | 101-2 | History of Civilization                    | 3:0:3    | 3:0:3    |          |
| Mil   | 201-2 | Military                                  | 2:1:1    | 2:1:1    |          |
| Phl   | 306  | Epistemology                               |          |          |          |
| Thl²  | 220  | Theology of Christ                         | 3:0:3    |          |          |
| EdP   | 119-20 | Officiating (elective)                    | 1:2:1    | 1:2:1    |          |

|       |     |                                      |          |          | 3        |

|       |     |                                      |          | 17       | 17       |

**Total for Freshman Year:** 17

**Total for Sophomore Year:** 17
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**Junior Year**

**Senior Year**

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1. Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
2. Courses listed in italics may be taken in terms other than listed. Consult program advisor.
3. May be waived on the basis of previous training.
5. Non-Catholic students may take Phl 402.
6. Non-Catholic students take Phl 404 and 403.
7. Non-Catholic students may take an elective.
8. Student may elect Eng 201, 202, 203, 204, or 205
10. Sec. Ed. students with principal or second teaching field in Phys. Ed. take EdF 418.
## Program - E4: Bachelor of Science in Physical Education (Women)

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| **Sophomore Year** |
| EDP   | 205-6 | Anatomy and Physiology                    | 3-0-3    | 3-0-3    |          |
| EDF   | 207*  | Human Growth and Development             | 3-0-3    | 3-0-3    |          |
| EDF   | 208   | Learning Process                          |          | 3-0-3    |          |
| EDP   | 203-4 | Physical Education Activities            | 0-4-1    | 0-4-1    |          |
| EDP   | 213   | Principles of Physical Educ.             | 2-0-2    |          |          |
| EDP   | 217   | Team Sports                               | 1-2-2    |          |          |
| EDP   | 219   | Community Health                          | 2-0-2    |          |          |
| EDP   | 245   | Modern Dance                              |          |          | 1-2-2    |
| EDP   | 251   | Org., Adminis. of Health Educ.           |          |          | 3-0-3    |
| HST   | 101-2 | History of Civilization                   | 3-0-3    | 3-0-3    | 3-0-3    |
| PHL   | 306   | Epistemology                              |          |          | 3-0-3    |
| THL⁴  | 220   | Theology of Christ                        |          | 3-0-3    | 3-0-3    |
| EDP   | 119-20| Officiating (elective)                    | 1-2-1    | 1-2-1    |          |
|       |       | **Total**                                 | 17       | 16       | 6        |
Junior Year

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|       |     |                                             | 16       | 17       |          |

Senior Year

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|       |     |                                             | 16       | 14       |          |

1Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
2Courses listed in italics may be taken in terms other than listed. Consult program advisor.
3May be waived on the basis of previous training.
4Non-Catholic students take EdF 109.
5Non-Catholic students take Phil 402.
6Non-Catholic students take Phil 404 and 403.
7Non-Catholic students take an elective.
8Student may elect Eng 201, 202, 203, 204, or 205.
9Sec. Ed. students with principal or second teaching field in Phys. Ed., take EdF 206 Adolescent Growth and Development.
10Sec. Ed. students with principal or second teaching field in Phys. Ed. take EdP 418.
### PROGRAM—E5: BACHELOR OF SCIENCE IN MUSIC EDUCATION

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**Freshman Year**

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**Junior Year**

**Senior Year**

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Ensembles (ref. p. 236) 4-6 credits

1. Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
2. Courses listed in italics may be taken in terms other than listed. Consult program advisor.
3. EdF 205 or 207 may be taken (see course description).
7. Women take EdP 140 (2nd term); men not taking R.O.T.C. take EdP 201-2.
11. Non-Catholic students take Pkl 403.
13. Required for those planning to teach instrumental music in secondary schools.
14. One half credit hour for each semester for participation in Choir, Glee Club, Band or Orchestra.
15. Non-Catholic students take an elective.
## PROGRAM—E6: BACHELOR OF SCIENCE IN ART EDUCATION

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1Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
3Courses listed in italics may be taken in terms other than listed. Consult program advisor.
4Non-Catholic students take EdF 109.
5Take Mth 121-2 or Bio 114 and Phy 105.
Courses with letter-number codes are taken at the Dayton Art Institute.
Women take EdP 140; men not taking R.O.T.C. take EdP 201-2.
Non-Catholic students take PHL 402.
7Take EdE 350 or EdS 351.
8Non-Catholic students take PHL 403.
9Non-Catholic students take PHL 404.
Craft elective: Art 261 Intro. Enameling or Art 263 Jewelry.
11Non-Catholics take an elective.
Electives from: Design, Drawing, Crafts, Graphics, Painting, Sculpture, following sequence and requirements of courses.
13Consult program advisor for appropriate course—Art 281, 282, 481, or 482.
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**Freshman Year**

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**Sophomore Year**

<table>
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<tr>
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<th>No.</th>
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<td>EdS</td>
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<td>Methods in Speech</td>
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<td>Persuasion</td>
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<td>313</td>
<td>Acting I</td>
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**Junior Year**

<table>
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<tr>
<td>EdF</td>
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<td>General electives</td>
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<td>4-0-4</td>
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</table>

**Senior Year**

1. Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
4. Courses listed in italics may be taken in either the first or second term as directed by the program advisor.
6. Students may elect Eng 201, 202, 203, 204, or 205.
7. Women take EdP 140 (1st term); men not taking R.O.T.C. take EdP 201-2.
8. Non-Catholic students take Phil 402.
9. Non-Catholic students take Phil 403.
10. Take Spe 204 or 302 and Spe 306.
11. Non-Catholic students take Phil 404.
12. Take Spe 401 or 424.
13. Non-Catholic students take an elective.
## PROGRAM—E8: BACHELOR OF SCIENCE IN HOME ECONOMICS EDUCATION

<table>
<thead>
<tr>
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<td>Language and Thought</td>
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<td>Introduction to Related Art</td>
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### Sophomore Year

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<td>HEC</td>
<td>225-29</td>
<td>Child Development I and II</td>
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<td>HEC</td>
<td>303</td>
<td>Nutrition and Health</td>
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<td>HEC</td>
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<td>Household Equipment</td>
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<tr>
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### Junior Year

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<tr>
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<td>HEC</td>
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<td>General Metaphysics</td>
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### Senior Year

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<td></td>
<td>18</td>
<td>15</td>
<td></td>
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</tbody>
</table>

1. Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
2. Courses listed in italics may be taken in either the first or second term as directed by the program advisor.
4. Non-Catholic students take PHL 402.
5. Non-Catholic students take PHL 403.
6. Non-Catholic students take an elective.
PROGRAM—E9: CERTIFICATION (POST-GRADUATE)

For graduates of the University of Dayton or of other accredited institutions who hold a non-professional degree (B.A., B.S., or equivalent) and who are interested in becoming certified teachers. The program involves a minimum of 30 semester credit hours and includes courses in professional education, courses needed to complete teaching field requirements, and supervised teaching. No assignment to student teaching can be made until all prerequisite courses have been taken in the School of Education, and application for certification will be made only after successful completion of an approved program.

To be admitted to the Certification Program the applicant must:
1. have a cumulative quality point-average on his non-professional degree of at least 2.5 (out of a possible 4.0);
2. submit a letter of recommendation from one of his former professors or from a responsible school official;
3. meet the standards which the School of Education uses for screening transfer students.

PROGRAM—E10: RETRAINING (POST-GRADUATE)

For students who have completed requirements for the Provisional High School Certificate or for the Provisional Special Certificate and who desire certification valid for Elementary Teaching.

A. The holder of a Provisional High School or Special Certificate may obtain a certificate valid for elementary teaching by completing the following hours of credit:

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr. Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The Elementary School: Purposes and Practices</td>
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<tr>
<td>2. Reading in the Elementary School</td>
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</tr>
<tr>
<td>3. Arithmetic in the Elementary School</td>
<td>3</td>
</tr>
<tr>
<td>4. Growth and Development or Child Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Such a certificate is designated as a "RETRAINING" certificate. It may be renewed upon evidence of the completion of 12 semester hours of additional credit in prescribed courses. Subsequent renewals may be gained without additional training.
PROGRAM—EI1: B.A. or B.S. DEGREE WITH TEACHER CERTIFICATION

For students who wish to qualify for a High School Teaching Certificate while working toward a B.S. or B.A. degree in the College of Arts and Sciences.

Students matriculating in the College of Arts and Sciences may enroll in the teacher education program (secondary school program) of the School of Education without transferring to the School of Education. For minimum requirements in professional education courses, see p. 112 of this Catalog; for minimum requirements in teaching fields, see p. 108.

Enrollment in this program is subject to the same admission requirements, counseling, maintenance of a unified system of records, screening, and other professional provisions standard for regular students of the School of Education working toward the B.S. in Education degree. This includes the maintenance of at least a 2.500 average in each teaching field and taking the comprehensive exam (TEEP). During the first semester of their enrollment, these students are given a regular orientation period suited to their special needs.

In order to finish in four years, a student in the College of Arts and Sciences will need to process his application for admission to the teacher education program during the third semester of his matriculation. He will need to begin his professional education sequence in his fourth semester. Failure to enroll on time would necessitate his going beyond the normal four years in order to qualify for teacher certification and graduation.

When the student has completed the proper course requirements in seven semesters, he may register for student teaching in the eighth semester (provided his application for student teaching is duly processed at the beginning of the semester directly prior to student teaching and, at that time, has passed the normal screening procedure).

When the duly enrolled student has completed all the requirements for teacher certification, he should make application for the standard State Teaching Certificate through the official recommending officer of the School of Education.

PROGRAM—EI2: SECOND DEGREE (POST-GRADUATE)

For non-professional degree holders who, in addition to certification (see Program—E9 above) desire a Bachelor of Science in Education as a second degree. The gaining of such a second degree offers as one of several advantages that of enabling the candidate to qualify under and to benefit from the national accreditation which the School of Education holds through the National Council for the Accreditation of Teacher Education (NCATE).

The requirements for admission to this program are the same as those for Program—E9 (see above).

To qualify for the Bachelor of Science in Education as a second degree the student must:

1. complete a minimum of 30 semester credit hours beyond the first degree;
2. qualify for the Provisional Elementary Certificate by completing a pattern of courses substantially equivalent to the curriculum outlined in Program—E1, OR qualify for the Provisional High School Certificate by completing a pattern of courses substantially equivalent to the curriculum outlined in Program—E2, including the prescribed minimum requirements for both a principal and a second teaching field;
3. complete the general curriculum requirements prescribed by the University for all undergraduate degrees.
GENERAL STATEMENT
The School of Engineering has as its purpose the implementation of the general purposes of the University of Dayton in the development of professional attitudes and competencies within its area of academic disciplines.

The engineering curricula in each of the fields of chemical, civil, electrical, industrial, and mechanical engineering are drawn up for a four year minimum period.

No effort is spared to acquaint the student thoroughly with fundamental principles and to give him a clear insight into the analysis of engineering problems. While emphasis is laid on fundamental theory, continued attention is paid to the solution of practical problems for the purpose of illustrating scientific principles and pointing out their industrial applications.

The broader responsibilities of the engineering profession demand that the professional training of an engineer include at least an acquaintance with the humanities in order that scientific discoveries and developments by engineers may result in the real advancement of man. To help the young engineer achieve his purpose in life, the University offers, in addition to the prescribed engineering subjects, a wide selection of courses in the arts and sciences.

ENGINEERING ORIENTATION LECTURES
All entering freshmen are required to attend a series of orientation lectures one hour a week for the first term of enrollment. These lectures are intended to acquaint the student with the School of Engineering, academic requirements, and the various fields of engineering.

ENGINEERING MATHEMATICS
Since a sound knowledge of mathematics is essential for success in engineering, the School of Engineering tries to place each entering student at the proper level. Freshmen who are qualified will be placed in Mth 118, Analytic Geometry and Calculus I. Those who are not qualified will be placed in a lower level mathematics course.
DEGREE REQUIREMENTS

The Degrees—Bachelor of Chemical, Civil, Electrical, Industrial, and Mechanical Engineering—are conferred at commencement if the following requirements have been fulfilled:

1) All prescribed courses outlined in the respective curricula must have been passed with a grade D or better;
2) The cumulative quality point average must be at least 2.0;
3) The student must have attended the School of Engineering at the University of Dayton during his senior year, and have carried at least thirty credit hours.

CURRICULUM FOR ALL ENGINEERING FRESHMEN

<table>
<thead>
<tr>
<th>Dept.</th>
<th>No.</th>
<th>Course</th>
<th>1st Term*</th>
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<th>3rd Term</th>
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<tbody>
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<td>CHM</td>
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<td>Fortran Programming</td>
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<td>Language &amp; Thought</td>
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</table>

\(^a\)Courses may be scheduled in terms other than listed. Consult program advisor.

\(^b\)Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.

\(^c\)Women take EdP 112; men not taking R.O.T.C. take EdP 101-2.

\(^d\)Freshmen elect from Thl 110, 152, 153, 154. Non-Catholics consult General Curriculum Requirements.

CHEMICAL ENGINEERING

The objective of the curriculum in chemical engineering is the training of students for design, construction and operation of chemical equipment. Chemical engineering applies the principles of the physical sciences, economics and human relations to fields that pertain to processes and process equipment in which matter is treated to effect a change in state, energy or composition.

The first part of the curriculum provides a firm foundation in mathematics, physics and chemistry. The chemistry background is stressed in chemical engineering. Courses include inorganic, organic, analytical and physical chemistry. The second part of the curriculum stresses chemical engineering topics such as transport phenomena, thermodynamics, kinetics, unit operations and processes, process control, materials of construction and design.

The Chemical Engineering department is located in Wohlleben Hall. Three stories of the north wing house the Unit Operations Laboratory. Experimental equipment includes units for the study of fluid flow, heat transfer, distillation extraction, filtration, evaporation and drying. The Process Control and Transport Phenomena Laboratories are located on the second floor. In addition to the instructional laboratories, the department has a wood working shop, pipe fitting shop, analytical laboratory and dark room. The department has its own analog computer and a Burroughs 220 digital computer is available for use in the Research Institute.
The curriculum in chemical engineering serves as basic training for graduate study or for positions in diverse areas of the chemical industry.

**PROGRAM—EN1: BACHELOR OF CHEMICAL ENGINEERING**

<table>
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¹Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
²Women take EdP 130-1; men not taking R.O.T.C. take EdP 201-2.
³Non-Catholic students consult General Curriculum Requirements. Students must satisfy prerequisites for all courses.
⁴After the Junior year in the Chemical Engineering curriculum, students who are academically qualified (cumulative point average of 3.00 or higher) may substitute Honors Courses for those indicated (H) in the Senior Year. Honors Courses can be on the undergraduate or graduate level. Those who intend to obtain a Master's degree at the University of Dayton must choose Honors Courses at the graduate level so that an additional year of Graduate School work would enable a student to obtain a Master of Science in Engineering degree.

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CIVIL ENGINEERING

The curriculum is designed to give a thorough education in the principles fundamental to the civil engineering profession, so that the graduate is prepared to pursue to advantage any field of civil practice or advanced study.

During the first two years, emphasis is placed on those subjects underlying all engineering—English, mathematics, chemistry, physics, drawing, surveying, mechanics. The third and fourth years are devoted principally to technical subjects relative to hydraulic, sanitary, structural, highway, and soils engineering.

Engineering projects, completed or under construction, are visited under the guidance of the instructors. The Student Chapter of the American Society of Civil Engineers is very active, and close association is maintained with the Dayton Section of the American Society of Civil Engineers.

PROGRAM—EN2: BACHELOR OF CIVIL ENGINEERING

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**Sophomore Year**

**Junior Year**

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1 Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit. 
Women take EdP 130W-1W; men not taking R.O.T.C. take EdP 201-2. 
Non-Catholic students consult General Curriculum Requirements. 
Select two courses from Ele 321, 322, Mee 301. 
Three weeks special summer schedule which does not conflict with regular third term. 
May select from list of elective courses or by departmental approval select courses listed in Graduate Catalog. 

**ELECTRICAL ENGINEERING**

The curriculum of electrical engineering is planned with the primary objective of providing a thorough knowledge of the fundamental laws of electricity and the application of these laws in electrical engineering. 

Courses are arranged to give students of electrical engineering an understanding of the basic principles and practices in the fields of electrical power and electrical communications. Some degree of specialization in these fields is provided according to the abilities and interests of the individual students. 

Proper attention is directed to an appreciation of the practical economic factors in the electrical world, and to the cultural and social qualities necessary for a successful career in the engineering profession.
# PROGRAM—EN3: BACHELOR OF ELECTRICAL ENGINEERING

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|       |      | **Junior Year**                             |          |          |          |
| EGM   | 301  | Dynamics                                    | 3-0-3    |          |          |
| ELE   | 312-3| Electronics I & II                          | 3-0-3    | 3-0-3    |          |
| ELE   | 331-2| Circuit Theory III & IV                     | 3-0-3    | 3-0-3    |          |
| ELE   | 333-4| Field Theory II & III                       | 3-0-3    | 3-0-3    |          |
| ELE   | 335L-6L| Electrical Engineering Laboratory I & II     | 0-2-1    | 0-2-1    |          |
| ELE   | 338L  | Electrical Engineering Laboratory III       | 0-2-1    |          |          |
| ELE   | 410B  | Seminar                                    | 1-0-0    | 1-0-0    |          |
| PHL   | 206  | Problems in Philosophy II                   |          |          | 3-0-3    |
| INE   | 313  | Engineering Law                            |          |          | 2-0-2    |
| THL²  |      | Elective                                   |          |          | 2-0-2    |

|       |      | **Senior Year**                             |          |          |          |
| CME   | 305  | Thermodynamics                               | 3-0-3    |          |          |
| ELE   | 410B-A| Seminar                                    | 1-0-0    | 1-0-1    |          |
| ELE   | 413  | Communication Engineering                   | 3-0-3    |          |          |
| ELE   | 431  | Energy Conversion                           | 3-0-3    |          |          |
| ELE   | 432  | Automatic Control Systems                   |          |          | 3-0-3    |
| ELE   | 435L-6L| Electrical Engineering Laboratory IV & V    | 0-2-1    | 0-2-1    |          |
| H-S   |      | Electives                                  | 3-0-3    | 3-0-3    |          |
| SCI¹  |      | Elective                                   |          |          | 3-0-3    |
| ELE   |      | Electives                                  |          |          | 3-0-3    |

1. Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
3. Non-Catholic students consult General Curriculum Requirements.
4. Advanced Physics or Computer Science.
INDUSTRIAL ENGINEERING

"Industrial Engineering is concerned with the design, improvement, and installation of integrated systems of men, materials, and equipment. It draws upon specialized knowledge and skill in the mathematical, physical, and social sciences together with the principles and methods of engineering analysis and design, to specify, predict, and evaluate the results to be obtained from such systems."

In accord with the purpose and goals of the University the Industrial Engineering Department has devised a specialized program in Industrial Engineering. It prepares students to use the quantitative, economic, and behavioral ingredients, and the processes of analysis and synthesis in design and decision making.

Students follow a program of study leading to broad and fundamental understanding of technology and of complex man and machine systems. Such a program is desirable for active participation as creative citizens and managers as well as for those who plan for other careers. However, the curriculum is especially designed for those preparing for a professional career in engineering. It includes chemistry, physics, mathematics, the engineering sciences, and courses in analysis and design. They lead to the application of knowledge to practical problems and decision making under economic constraints and uncertainty, and provide a balanced approach to lifelong career and educational development.

The curriculum recognizes understanding as being a desirable educational objective. To understanding it adds the social and technical design concepts needed by those who will be generating technological changes and the human interactions which have an even greater social impact.

Industry as used here means intelligent and purposeful human endeavor. Industrial Engineers, whose services were once largely restricted to manufacturing, now are engaged in organizations of all kinds: government, business, military, academic, financial. Industrial Engineering problems and practices are useful to all areas of human industry where employment is purposeful and systematic, where men give attention to achievement and are diligent in their attempts to accomplish objectives, and especially where land, capital, and labor meet and must be economically and efficiently related.

PROGRAM—EN4: BACHELOR OF INDUSTRIAL ENGINEERING

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²Official definition of the American Institute of Industrial Engineers.
MECHANICAL ENGINEERING

The curriculum of Mechanical Engineering is designed to give the student thorough training in the fundamental principles of the mechanical engineering profession and the application of these principles to pertinent problems.

The course sequence is arranged so that the student completes courses in mathematics and the sciences early in his program. Departmental courses are then taken which build upon this scientific training. The course of studies includes lectures, recitations and laboratory practice.

Every attempt is made to prepare the student to accept the responsibilities of the profession upon graduation. The curriculum is designed to prepare the student equally well to enter the practice of engineering upon graduation, or to pursue an advanced degree through further study.
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¹Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
²Women take EdP 130-1; men not taking R.O.T.C. take EdP 201-2.
³Non-Catholic students consult General Curriculum Requirements.
OBJECTIVES
The Technical Institute is a division of the School of Engineering and has as its objective the collegiate education of young men and women to be competent engineering and scientific technicians.

It is the philosophy of the Technical Institute that this objective is best accomplished by:

1. Providing specialized technical courses which emphasize the use of rational thinking and the application of scientific principles to the practical solution of technological problems.

2. Providing courses in mathematics and basic science sufficient to support the technical courses and to prepare the student for future growth.

3. Providing education to prepare the student to communicate intelligently and to take his place in society as a responsible Christian citizen.

THE ENGINEERING TECHNICIAN
An engineering technician is one who works in the engineering field. His work requires the application of established engineering knowledge and methods combined with technical skills in the support of engineering activities. He differs from the craftsman and the draftsman in his knowledge of engineering theory and methods. He also differs from the engineer in his more specialized background and his use of technical skills.

It should be noted that the engineering technician is concerned with the application of established scientific and engineering knowledge and methods. Therefore, Technical Institute programs consist of courses especially designed to emphasize the use of engineering knowledge. The engineering technician, as stated above, works in the support of engineering activities. He is usually involved in the design, testing, sales, and construction of products, and in some instances the supervision of craftsmen or other technicians. The engineering technician is a definite part of the scientific-engineering team. He works with the scientist who develops the theory, the engineer who seeks means of making effective use of this theory, and the skilled craftsman who works with tools to construct the finished product.

The current shortage of engineers has increased the use of engineering technicians by industry and engineering technicians themselves are in short supply. The need for competent engineering technicians educated at the college level is high and the future holds a bright prospect for those who are in this field.
PROGRAMS OFFERED

Associate Degree Curricula

The Technical Institute offers programs in chemical technology, electronic engineering technology, industrial engineering technology, and mechanical engineering technology leading to the associate degree. These programs are five terms in length and include specialized technical subjects, non-technical subjects, mathematics and science. Upon satisfactory completion of the prescribed courses in the programs outlined on the following pages the student is awarded the Associate in Technology degree. The holder of such a degree is prepared to enter industry as a beginning engineering technician.

Bachelor of Technology Degree

Since education is a lifelong process, some engineering technicians desire to continue their education. In particular, many wish to broaden their technical background to include areas other than their associate degree specialization. The objectives of the Bachelor of Technology program are to offer graduates from the associate degree programs the opportunity to broaden themselves technically as well as culturally. The requirements for this degree are outlined in the program on a following page.

GUIDANCE AND COUNSELING

The facilities of the Guidance Center are available for Technical Institute students. Staff members experienced in this type of program will be on hand before and during registration. Prospective students are encouraged to visit the campus or telephone for information regarding any of the programs offered.

CREDITS

All courses in the Technical Institute are evaluated on a semester hour basis. Recitation and similar classroom work generally require outside preparation, while laboratory or practice periods are usually self-contained.

CHEMICAL TECHNOLOGY

Chemical technology is designed to prepare students for technological services in chemical manufacturing plants and processing industries as well as for technical positions in chemical laboratories.

Emphasis is placed upon laboratory procedures for basic chemical analysis, especially quantitative analysis, certain non-technical subjects, mathematics, and physics.
TECHNICAL INSTITUTE

PROGRAM—TI: ASSOCIATE IN TECHNOLOGY WITH MAJOR IN CHEMICAL TECHNOLOGY

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Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.


Women take EdP 112-3; men not taking R.O.T.C. take EdP 201-2.

Catholic Freshmen elect from Thl 110, 152, 153, 154.

ELECTRONIC ENGINEERING TECHNOLOGY

Electronic engineering technology is designed to prepare students for services as engineering technicians in the modern industrial world. Emphasis is placed on the fundamentals of circuit-theory, electronics, and measurements in addition to related courses in mathematics, physics, and chemistry. The graduate is thus prepared to perform research

**PROGRAM—T2: ASSOCIATE IN TECHNOLOGY WITH MAJOR IN ELECTRONIC ENGINEERING TECHNOLOGY**

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³Non-Catholic students consult General Curriculum Requirements.
⁴Women take EdP 112-3; men not taking R.O.T.C. take EdP 201-2.
⁵Catholic Freshmen elect from Thl 110, 152, 153, 154.
INDUSTRIAL ENGINEERING TECHNOLOGY

The curriculum in industrial engineering technology has as its objective the implementation of the broad purposes of the University in a college program of technical education by:

1) Providing education to prepare students for subsequent development as responsible Christian citizens;

2) Providing education in mathematics and basic sciences sufficient to support the specialized technical portion of the curriculum and to increase the student's awareness of fundamental scientific principles in order to facilitate his future growth in an advancing technology;

3) Providing specialized education designed to prepare students primarily for technological services to management in such industrial engineering areas as production, operations and control. It also covers the essentials of management with which foremen, supervisors, and administrative personnel in general are concerned.

Emphasis is placed on courses in motion and time study, production control, plant layout, quality control, and cost control. An E.C.P.D. accredited Engineering Technology curriculum.
### PROGRAM—T3: ASSOCIATE IN TECHNOLOGY WITH MAJOR IN INDUSTRIAL ENGINEERING TECHNOLOGY

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<td>English Composition</td>
<td>3-0-3</td>
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<tr>
<td>STI</td>
<td>134</td>
<td>Effective Speaking</td>
<td>2-0-2</td>
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<tr>
<td>STI</td>
<td>234</td>
<td>Report Writing</td>
<td>2-0-2</td>
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<td>THL⁵⁵</td>
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#### Freshman Year

<table>
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<tr>
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<th>No.</th>
<th>Course</th>
<th>1st Term</th>
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<th>3rd Term</th>
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<tr>
<td>ITI</td>
<td>108</td>
<td>Production Methods &amp; Control</td>
<td>3-0-3</td>
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<tr>
<td>ITI</td>
<td>203</td>
<td>Elements of Supervision</td>
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<td>2-0-2</td>
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<tr>
<td>ITI</td>
<td>215</td>
<td>Elements of Cost Control</td>
<td>2-0-2</td>
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<tr>
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<td>216</td>
<td>Quantitative Methods in Ind. Eng. Tech.</td>
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<td>217</td>
<td>Industrial Economic Analysis</td>
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<td>ITI</td>
<td>250</td>
<td>Motion and Time Study I</td>
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<td>MIL³</td>
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<td>MII</td>
<td>213</td>
<td>Industrial Mechanisms</td>
<td>3-0-3</td>
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<tr>
<td>STI</td>
<td>122</td>
<td>Industrial Chemistry</td>
<td>3-3-4</td>
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<tr>
<td>STI</td>
<td>213</td>
<td>Physics: Electricity</td>
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<td>2-2-1½</td>
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<td>STI</td>
<td>214</td>
<td>Physics: Heat, Light &amp; Sound</td>
<td>2-2-1½</td>
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<tr>
<td>STI</td>
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<td>Economics of Industry</td>
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<td>THL⁴</td>
<td>220</td>
<td>Theology of Christ</td>
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#### Sophomore Year

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<td>ITI</td>
<td>305</td>
<td>Labor &amp; Wage Administration</td>
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<td>ITI</td>
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<td>Statistical Quality Control</td>
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<tr>
<td>ITI</td>
<td>331</td>
<td>Motion and Time Study II</td>
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<td>ITI</td>
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<td>Plant Layout</td>
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<td>PHL</td>
<td>206</td>
<td>Problems in Philosophy II</td>
<td>3-0-3</td>
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<td>STI</td>
<td>252</td>
<td>American Political Ideas</td>
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#### Junior Year

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<th>2nd Term</th>
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</table>

¹Under "Term," 3-0-3 means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.
⁵Non-Catholic students consult General Curriculum Requirements.
⁴Women take EdP 112-3; men not taking R.O.T.C. take EdP 201-2.
⁶Catholic Freshmen elect from Thl 110, 152, 153, 154.
MECHANICAL ENGINEERING TECHNOLOGY

This curriculum is designed to give the student a practical knowledge of the modern fundamental principles of mechanical engineering technology as they are applied in industrial and scientific endeavor.

Emphasis is placed on courses in applied mechanics; strength of materials; mechanism; thermodynamics; fluid mechanics; electronic technology; industrial automation actuation; dies, jig and fixture design; machine design, and basic technical courses such as technical drawing, physics, mathematics and chemistry which prepare a graduate to perform successfully as an aide to scientists and professional engineers.

The non-technical courses English, speech and report writing are specially designed to teach a student how to formulate and deliver technical communications, both oral and written.

Typical mechanical engineering technician assignments are research and development laboratory technician, board designer, technical report writer, erection and maintenance technician, field service and customer relations technician, plant engineering technician and industrial automation actuation technician. An E.C.P.D. accredited Engineering Technology curriculum.
### PROGRAM—T4: ASSOCIATE IN TECHNOLOGY WITH MAJOR IN MECHANICAL ENGINEERING TECHNOLOGY

<table>
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<tr>
<th>Dept.</th>
<th>No.</th>
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<th>2nd Term</th>
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<td>Industrial Organization &amp; Production</td>
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<td>ITI</td>
<td>104</td>
<td>Industrial Materials &amp; Processes</td>
<td>3-0-3</td>
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<td>MILa</td>
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<td>First Year Basic Course</td>
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<td>Technical Drawing</td>
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<td>Orientation</td>
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<td>PHL</td>
<td>106</td>
<td>Problems in Philosophy I</td>
<td>3-0-3</td>
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<td>STI</td>
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<td>Technical Institute Mathematics</td>
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<td>Physics: Mechanics</td>
<td>2-2-2½</td>
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<td>STI</td>
<td>122</td>
<td>Industrial Chemistry</td>
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<td>STI</td>
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<td>Theology elective</td>
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</table>

**Freshman Year**

**Sophomore Year**

**Junior Year**

\[1\text{Under "Term," } 3-0-3 \text{ means 3 hrs. class, 0 hrs. laboratory, and 3 hrs. credit.}\]

\[2\text{Women take EdP 110-1; men not taking R.O.T.C. take EdP 101-2.}\]

\[3\text{Non-Catholic students consult General Curriculum Requirements.}\]

\[4\text{Women take EdP 112-3; men not taking R.O.T.C. take EdP 201-2.}\]

\[5\text{Catholic Freshmen elect from Thl 110, 152, 153, 154.}\]
BACHELOR OF TECHNOLOGY

The curriculum is designed to provide the opportunity for those who hold the Associate in Technology degree to continue their education. Emphasis is placed upon broadening the student's technical knowledge. Flexibility in the curriculum permits the student with his advisor's consent to plan an individual program based on his needs, interests, educational background and occupational objectives.

PROGRAM—T5: BACHELOR OF TECHNOLOGY

Degree requirements for the Bachelor of Technology:

A. Completion of the requirements for the Associate in Technology degree.

B. Completion of a minimum of 45 additional credit hours distributed as follows:

<table>
<thead>
<tr>
<th>Dept.</th>
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<th>Course</th>
<th>Credits</th>
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<td>English electives</td>
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<tr>
<td>STT</td>
<td>305</td>
<td>Advanced Technical Institute Math.</td>
<td>3</td>
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<tr>
<td>PSY</td>
<td>201</td>
<td>Introductory Psychology</td>
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<tr>
<td>THL²</td>
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<td>Theology elective</td>
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<td>—</td>
<td>—</td>
<td>Non-Technical electives</td>
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<td>—</td>
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<td>Approved Technical electives</td>
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</tbody>
</table>

²Non-Catholics consult General Curriculum Requirements.
Courses of Instruction

Accounting (Acc)

Edward W. Rodgers, Acting Chairman
Professor: Hoben
Associate Professors: Fioriti, Kriegbaum, Zulauf
Assistant Professors: Clark, Eley, Ellis, Rawie, Rodgers, Slonaker, Wagner, Winger
Part-time Instructors: Grismer, Johnson, Luthman, Paulick, Sanders, Wiggins.

Acc 203. Survey of Accounting       THREE CREDIT HOURS
An introduction to the basic principles and concepts of accounting and of the financial statements, with emphasis on understanding accounting terminology and the reasons for accounting conventions and practices; includes an introduction to management uses of accounting data and reports. This course is intended to furnish non-business graduates with a foundation in accounting necessary for graduate business study.

Acc 207-208. Principles of Accounting   SIX CREDIT HOURS
An introduction to accounting terminology, concepts, and conventions, for the business student. Develops an understanding of the purposes of all financial statements, including conventional published reports as well as other special reports for use by business managers. This is a prerequisite for all upper level accounting courses.

Acc 303. Cost Accounting       THREE CREDIT HOURS
An introduction to the purposes and methods of cost accounting. Embraces methods for determining product costs, but emphasizes procedures for effecting control of costs and the use of cost accounting data for managerial decision making.

Acc 304. Advanced Cost Accounting       THREE CREDIT HOURS
This course explores the literature of cost accounting and managerial accounting, emphasizing concepts and the theoretical or philosophical basis of cost accounting methodology, and reconciles divergent views on controversial subjects. The relationship of cost accounting to economics and management concepts is also emphasized.

Acc 305-306. Intermediate Accounting I & II       SIX CREDIT HOURS
A deeper study of the elements of financial statements, along with coverage of alternative accounting procedures and practices. Emphasizes accounting concepts and principles, and relies upon current professional pronouncements. Gives comprehensive coverage of the most essential theories and practices as a basis for advanced accounting study.

Acc 308. Advanced Accounting       THREE CREDIT HOURS
This course introduces the student to some of the more specialized accounting subjects such as special sales procedures, insolvencies, estates and trusts, branch and home office, and consolidated statements.
Acc 312. Governmental Accounting THREE CREDIT HOURS
Accounting for institutions, municipalities, and for state and federal governments; organization; procedure, budget, accounts and records, reports.

Acc 340. Fundamentals of Business Data Processing THREE CREDIT HOURS
Prerequisite Acc 207-208 and Bus 101. A course designed to give the student an understanding of the relationship between business systems and data processing equipment. Emphasis is placed upon the use of the data processing equipment and related techniques as tools in the over-all management information system.

Acc 341. Management Information Systems THREE CREDIT HOURS
Prerequisite Acc 209 or Acc 340. A study of comprehensive management information systems including electronic data processing applications and the evolution toward integrated systems; introduction of decision making functions into automated systems is emphasized.

Acc 405. Auditing Principles TWO CREDIT HOURS
Introduction to standards for auditing procedures: accountants' reports and their implications; emphasis is on ethics and other aspects of public accounting practice, and on application of generally accepted accounting principles.

Acc 407. Federal Income Tax Accounting THREE CREDIT HOURS
An interpretation of the income tax portions of the current Revenue Act. The preparation of the individual, partnership and corporation income tax returns.

Acc 408. Federal, State, and Local Taxes THREE CREDIT HOURS
An interpretation of the social security, estate, gift and excise tax portions of the current Revenue Act. A study of income, franchise, property, sales and payroll taxes currently typical in states (particularly Ohio) and municipalities.

Acc 413. Advanced Accounting Problems THREE CREDIT HOURS
A comprehensive review of accounting principles with training in the techniques of applying these principles to the solution of specific problems. Designed as a guide for preparation for the C. P. A. examination.

Acc 414. Seminar in Accounting THREE CREDIT HOURS
Course consists of a study of current topics by individual reports, student panel discussions, open class discussions, case studies, and outside professional speakers. Recommended to seniors in accounting.

Biology (Bio)

Dr. George B. Noland, Chairman
Professor: Noland
Associate Professors: Cooney, Faso, Geiger, Jaffee, Joly, Lachapelle, MacMahon, Shay
Assistant Professors: Bajpai, Chantell, Hayat, Laufersweiler, McDougall, Ramsey, Willis
Instructor: Trigg
BIO 101. General Biology I
A study of the more important biological processes and principles through analysis and synthesis. Deals primarily with the organizational aspects of living matter.

BIO 101L. General Biology Laboratory I
Course to accompany Bio 101. One three-hour laboratory per week in which the investigational and experimental approach is stressed.

BIO 102. General Biology II

BIO 102L. General Biology Laboratory II (Honors)
Course to accompany Bio 102. One three-hour laboratory period per week.

BIO 114. Biological Science
An introduction to the various biological sciences for non-science majors. Stresses those principles which apply to all forms of life, taking examples from plant, animal and microbial life.

BIO 114L. Biological Science Laboratory
Laboratory course to demonstrate and emphasize those principles discussed in lecture. One two-hour lab per week.

BIO 209. Comparative Anatomy of the Vertebrates
A study of the similarities and the differences in the anatomy of the different organ systems of the various vertebrate groups. Embryology, histology, and morphology play an important role in this study. Prerequisites: Bio 101-102.

BIO 209L. Comparative Anatomy Laboratory
Course to accompany Bio 209 lecture. Two three-hour periods per week.

BIO 303. Physiology
A study of the mammalian systems. Sufficient anatomy is introduced to give at least an elementary knowledge of the organs and organ systems. Prerequisites: Bio 101-102, Chm 123-124. Chm 313-314 recommended.

BIO 303L. Physiology Laboratory
Course to accompany Bio 303 lecture. One three-hour period per week.

BIO 310. Microtechnique and Histology
Fundamentals of cell morphology, microscopic structure of tissues and organs, and discussion of techniques in their study. Prerequisite: Bio 101-102.

BIO 310L. Microtechnique and Histology Laboratory
Fundamentals of fixing and processing various tissues in the preparation of slides; aims at recognition of microstructure of normal tissues. Prerequisite: Bio 101-102.

BIO 312. General Genetics
A study of the principles of variation and heredity in plants and animals, with stress on the inheritance of human characteristics. Prerequisites: Bio 101-102 and Mth 121.

BIO 312L. General Genetics Laboratory
Course to accompany Bio 312. One two-hour period per week.
Bio 325. Parasitology  
Two credit hours  
An introduction to the morphology, life history and significance of those organisms deriving their sustenance from the tissues of others. Prerequisite: Bio 101 and 102.

Bio 325L. Parasitology Laboratory  
One credit hour  
Course to accompany Bio 325 lecture. One three-hour period per week. Stress the recognition of common parasites.

Bio 340. Cell Biology  
Three credit hours  
A study of cell structure and function including ultrastructure, physical and chemical organization, metabolic processes in relation to structure, growth and specialization. Prerequisites: Bio 101-102.

Bio 342. Developmental Biology  
Three credit hours  
Plant and animal ontogeny and morphogenesis; roles of genetic and environmental factors in growth and development; differentiation; aggregation; hormonal and other biochemical mechanisms of control and coordination. Prerequisites: Bio 101-102.

Bio 344L. Advanced Biology Laboratory I  
One credit hour  
Laboratory to supplement Bio 312 and 340. One three hour lab. per week. Prerequisites: Bio 101-102, Bio 340 and Bio 312. The latter may be taken concurrently.

Bio 345L. Advanced Biology Laboratory II  
One credit hour  
Laboratory to supplement Bio 342 and Bio 440. One three hour lab. per week. Prerequisites: Bio 101-102, Bio 340. The latter may be taken concurrently.

Bio 361. Invertebrate Zoology  
Two credit hours  
A course designed to give the student a general knowledge of the structure, activities, life histories and relationships of the invertebrate animals, with some emphasis on their origin and development. Prerequisites: Bio 101, 102.

Bio 361L. Invertebrate Zoology Laboratory  
Two credit hours  
Course to accompany Bio 330 lecture. Two three-hour laboratory periods per week.

Bio 407. Embryology  
Three credit hours  
The course considers the early stages of animal development, paying special attention to the study of the development of the chick and the pig. Prerequisites: Bio 101, 102 and 209.

Bio 407L. Embryology Laboratory  
Two credit hours  
Course to accompany Bio 407 lecture. One four-hour period per week.

Bio 411. General Bacteriology  
Three credit hours  
An introductory course in bacteriology stressing the physiology, cultivation, and classification of bacteria. Their role in medicine, agriculture and industry is emphasized. Prerequisites: Bio 101-102 and Chm 123-124. Chm 313-314 recommended.

Bio 411L. General Bacteriology Laboratory  
Two credit hours  
Course to accompany Bio 411 lecture. Two two-hour periods per week.

Bio 416. Pathogenic Bacteriology  
Three credit hours  
A brief survey of the bacteria which cause disease in man. Host-parasite relationships in resistance and infection are stressed. Prerequisite: Bio 411.
Bio 416L. Pathogenic Bacteriology
A course to accompany Bio 416 lecture. One two-hour period per week.

Bio 420. Seminar
Practice in development, presentation, and discussion of papers dealing with biological problems. Prerequisite: Jr. and Sr. standing.

Bio 421. Biological Problems (Honors) (laboratory work)

Bio 422. Biological Problems (library work)

Bio 434. Higher Plants
A study of structure, function, reproduction and interrelations of tracheophyte plants.

Bio 434L. Higher Plants Laboratory
Course to accompany Bio 434. One three-hour laboratory per week.

Bio 436. Lower Plants
A course to provide familiarity with basic processes, structures, distribution and reproduction of Thallophyte and Bryophyte plants.

Bio 436L. Lower Plants Laboratory
Course to accompany Bio 436. One three-hour laboratory per week.

Bio 440. Environmental Biology
Ecosystems; cycles of energy and material; food chains; ecological aspects of natural selection; influences of physical environment, homeostasis and selection; populations and communities.

Bio 454. Neuroanatomy
Study of neurological structure and function and its influence on sensation, perception, learning, and adjustment. Prerequisite: Bio 207. Accredited also in Psychology.

Bio 462. Advanced Genetics
The nature of genes and gene action. The role of nucleic acids in protein synthesis. Molecular aspects of genotype and phenotypic expression. Prerequisite: Organic Chemistry.

Bio 462L. Advanced Genetics Laboratory
Course to accompany Bio 462. One three-hour laboratory per week.

Bio 466. Pathogenic Bacteriology and Serology
The nature of infectious diseases, host-parasite relationships in resistance and infection, defense mechanisms (antigen-antibody response) and a brief survey of the bacteria causing disease in man will be considered. Prerequisite: Bact 411 and 411L. 2 hours per week.

Bio 466L. Pathogenic Bacteriology and Serology Lab
Laboratory to accompany Bio 416. 4 hours per week. Laboratory experiments to demonstrate immunological, serological, determinative and medical bacteriology.
Business Management (Bus)

Barth J. Snyder, Chairman

Professors: Snyder, George

Associate Professors: Bosshart, Kreider, Walden

Assistant Professors: Buckenmyer, Fuszara, Kussman, May, Marrinan, Miller, Office, VonderEmbbe

Part-time Instructors: Andrews, Baughan, Cleland, Davis, Dixon, Hamilton, Hellwig, Montgomery, Pitts, Pryor, Quinn, Stephenson, Yaross

BUS 101. INTRODUCTION TO BUSINESS
Three credit hours
A survey of the environment of business. Historical determinants and present day influences on the business climate.

BUS 110-111. QUANTITATIVE ANALYSIS FOR BUSINESS
Six credit hours
A study of the fundamental operations of algebra, including equations, inequalities, matrices, progressions, exponents and logarithms; compound interest and annuities; and introduction to calculus.

BUS 210-211. QUANTITATIVE ANALYSIS
Six credit hours
A course in applied statistics covering the broad areas of probability, statistical inference, time series, regression and correlation, and sampling methods. Prerequisite: Bus 110-111.

BUS 215. PRINCIPLES OF MANAGEMENT
Three credit hours
A basic course in the managerial functions of planning, organizing, assembling resources and directing operations for a business.

BUS 301. CORPORATION FINANCE
Three credit hours
Principles of financial organizations. A study of corporate securities; financial structures; financing of new and established corporations; management of corporate funds; corporate expansions, mergers and reorganizations.

BUS 303. BUSINESS LAW I: CONTRACTS
Three credit hours
The basic course in business law treating the nature and classification of law, the courts and court procedure and considering in some detail the law of contracts and agency.

BUS 304. BUSINESS LAW II: SALES AND NEGOTIABLE INSTRUMENTS
Three credit hours
A consideration of the law of sales and negotiable instruments. Prerequisite: Bus 303.

BUS 313. BUSINESS STATISTICS
Three credit hours
A survey of statistical methods including sampling, tabulations, graphics, averages, dispersions, index numbers, time series, trends, and simple correlations.

BUS 314. PERSONNEL MANAGEMENT
Three credit hours
A study of managerial principles and practices as they pertain to the total work force. Including selection, training, compensation, employee services and industrial relations.

BUS 315. PRINCIPLES OF MANAGEMENT
Three credit hours
A basic course in the managerial functions of planning, organizing, assembling resources and directing operations for a business.
BUS 316. Production Management 
Place of management, factors underlying management decisions; product designs, physical facilities, location, layout; job evaluation, classification; plant operation, output; control of purchases and inventories. Prerequisite: Bus 315.

BUS 318. Human Relations for Management 
Analysis of reactions, interactions, attitudes and activities of individuals and groups within a goal-seeking organization. Includes leadership, morale and goal oriented behavior.

BUS 322. Work Systems Design 
Approaches to Motion and Time study, work flow analysis, work and system analysis and related areas.

BUS 324. Labor Legislation 
A study of the National Labor Relations Act as amended.

BUS 401. Investments 
A study of the basic features and principles underlying sound investments. Short term as well as long term investments, the bond and stock markets are considered.

A treatment of the law of partnerships and corporations and the law of property. Prerequisite: Bus 303.

BUS 409. Business Communication and Report Writing 
The principles of letter writing and report writing are studied and applied in conformity with the best current practices in business.

BUS 412. Wage and Salary Administration 
A discussion of role of wages and salaries for individual, firm and society. Problems in determination of wage levels, structures, methods of compensation, fringe benefits, and general aspects of compensation. Prerequisite: Bus 314 or permission of instructor.

BUS 415. Production Methods and Control 
Principles and techniques used in production; current practices in production planning, routing, scheduling and dispatching; study of production standards, labor efficiency and costs; quantity and quality control. Prerequisite: Bus 316 or permission of instructor.

BUS 419. Collective Bargaining, Mediation and Arbitration 
Meaning, practices, principles and organization of collective bargaining; techniques of mediation and agencies for effecting mediation; major economic problems involved in the adjustment of labor disputes.

BUS 423. Business Policies and Management 
Coordination and integration of knowledge and techniques acquired in previous courses in Business Administration. The case method is used. Prerequisite: Seniors only.

BUS 450. Business Management Honors Seminar (Honors) 
A course in research upon a subject within the student's major. The course is open only to those who have attained a cumulative grade point average of 3.00 or above in their Sophomore and Junior years.
BUS 455. Business Ethics
Application of philosophy in the area of employee discipline with emphasis on rights, duties, and the purpose of discipline. Examination of arbitration cases in discipline.

Chemical Engineering (CME)

Dr. Michael A. Bobal, Chairman
Professor: Bobal
Associate Professor: Willis
Assistant Professor: Keith
Instructor: Olinger

CME 203. Material and Energy Balances
An introduction to chemical engineering with lectures and problems on material and energy balances as applied to industrial processes. Prerequisites: Chm 125, Mth 118.

CME 215. Quantitative Analysis
Theory and techniques of gravimetric and volumetric analysis. Prerequisite: Chm 125.

CME 215L. Quantitative Analysis Laboratory
Laboratory course to accompany Cme 215. One three hour laboratory period per week.

CME 305. Thermodynamics
Development of the fundamental principles of thermodynamics, particularly with respect to chemical engineering processes. Prerequisite: Mth 218.

CME 306. Kinetics
Reaction kinetics, catalysis and adsorption. Prerequisite: Cme 305.

CME 315-6. Organic Chemistry
A study of aliphatic, aromatic and heterocyclic compounds. Prerequisite: Chm 125.

CME 315L-6L. Organic Chemistry Laboratory
Laboratory course to accompany Cme 315 and Cme 316. One three hour laboratory period per week.

CME 324. Transport Phenomena I
Topics include viscosity, shell momentum balances, isothermal equations of change, thermal conductivity, shell energy balances, non-isothermal equations of change, diffusivity, concentration profiles. Prerequisite: Mth 219. Corequisite: Cme 381.

CME 325. Transport Phenomena II
Topics include friction factor, dimensionless correlations, isothermal macroscopic balances, Bernoulli's Equation, heat transfer coefficients, heat transfer correlations, heat exchangers, non-isothermal macroscopic balances. Prerequisite: Cme 324.
Experiments cover viscosity, velocity profiles, temperature profiles, heat transfer coefficients, diffusivity, compressibility factors for gases. Prerequisite: Cme 324. Corequisite: Cme 325.

**CME 333-4. PHYSICAL CHEMISTRY**
A study of the laws of chemistry and physics as applied to gases, liquids, and solutions. Prerequisite: Mth 218.

**CME 333L-4L. PHYSICAL CHEMISTRY LABORATORY**
Laboratory course to accompany Cme 333-4. One three hour laboratory period per week.

**CME 381. APPLIED MATHEMATICS FOR CHEMICAL ENGINEERS**
This course is designed to supply the mathematics to support transport phenomena and process control. Topics include vector calculus, solution of partial differential equations and Laplace transforms. Prerequisite: Mth 219.

**CME 411. UNIT OPERATIONS I**
Topics include fluid mechanics, transportation of fluids, flow of heat, evaporation, filtration and mixing. Prerequisites: Cme 324-325.

**CME 412. UNIT OPERATIONS II**
Continuation of Cme 411. Distillation, extraction, gas phase mass transfer, gas absorption, drying and crystallization. Prerequisite: Cme 411.

**CME 413L. UNIT OPERATIONS LABORATORY**
This course is designed to acquaint the students with Unit Operations equipment and its utilization. Prerequisite: Cme 324.

**CME 414L. UNIT OPERATIONS LABORATORY**
Continuation of Cme 413L. Prerequisite: Cme 325.

**CME 421. SEMINAR**
Presentation of subjects relative to industrial practice. Attendance required by all Chemical Engineering Junior and Senior students, with only Seniors registering for credit.

**CME 430. CHEMICAL ENGINEERING DESIGN**
Study of the principles of process development, plant design and economics. Prerequisite: Cme 411.

**CME 452. PROCESS CONTROL**
Topics include block diagrams, system transfer functions, feedback, transient and steady state response, root locus method, frequency response, Bode diagrams, analog computer. Prerequisite: Cme 381.

**CME 453L. PROCESS CONTROL LABORATORY**
Experiments cover analog computer programming, analog solution of differential equations, frequency response, Bode diagrams, computer simulation, open and closed loop system response. Report writing emphasized. Prerequisites: Cme 452, Ele 322.
Chemical Engineering Electives

CME 499. Special Problems in Chemical Engineering (Honors)  TWO TO SIX CREDIT HOURS
Particular assignments to be arranged and approved by Chairman of the Department. Credit hours to be determined.

Chemistry (CHM)

Dr. John J. Lucier, S.M., Chairman

Professors: Chudd, Eveslage, Lucier, Michaelis
Associate Professor: Katchman
Assistant Professors: Antony, Fox, Fratini, Meiser, Rogers, Vance, Walsh
Part-time Instructors: Becker, DeSando, March, Semmelman

CHM 110. General Chemistry  THREE CREDIT HOURS
Fundamental principles of chemistry including a brief treatment of organic chemistry. Three class periods each week.

CHM 110L. General Chemistry Laboratory  ONE CREDIT HOUR
Course to accompany Chm 110 lecture. One two-hour laboratory period per week.

CHM 123-124. General Chemistry  SIX CREDIT HOURS
A comprehensive treatment of the fundamentals of general chemistry. Three class periods per week. Prerequisite: high school Chemistry.

CHM 123L-124L. General Chemistry Laboratory  TWO CREDIT HOURS
Course to accompany Chm 123-124 lecture. The laboratory work is devoted to semimicro qualitative analysis. One three-hour laboratory period per week.

CHM 125. General Chemistry  THREE CREDIT HOURS
A terminal course for engineering students. Three class periods per week. Prerequisite: high school Chemistry.
CHM 125L. **General Chemistry Laboratory**
Course to accompany Chm 125. One three-hour laboratory per week.

**CHEMISTRY**

CHM 200. **Organic Chemistry**
A brief course in the fundamentals of Organic Chemistry. Three class periods each week.
Prerequisite: Chm 110 or Chm 123.

CHM 200L. **Organic Chemistry Laboratory**
Course to accompany Chm 200 lecture. One two-hour period per week.

CHM 201. **Quantitative Analysis**
A course intended for premedical, predental, and medical technology students. Two class periods per week. Prerequisite: Chm 124.

CHM 201L. **Quantitative Analysis Laboratory**
Course to accompany Chm 201 lecture. One four-hour laboratory period per week.

CHM 215. **Quantitative Analysis**
A course for chemistry majors and chemical engineers. The fundamental theory and techniques of gravimetric and volumetric analysis is treated. Two class periods per week.
Prerequisite: Chm 124, one semester of college mathematics.

CHM 215L. **Quantitative Analysis Laboratory**
Course to accompany Chm 215 lecture. Two three-hour laboratory periods per week.

CHM 217L. **Quantitative Analysis Laboratory**
A short course for chemical engineers. To accompany Chm 215 lecture. One three-hour laboratory period per week.

CHM 302. **Physical Chemistry**
A short course especially designed for premedical, predental, or biology majors. Three lectures per week. Prerequisite: Chm 124.

CHM 303-304. **Physical Chemistry**
For chemistry majors and chemical engineers. Three lecture hours each week. Prerequisite: Chm 215 or equivalent. Corequisite: Mth 218.

CHM 308L-304L. **Physical Chemistry Laboratory**
Course to accompany Chm 308 lecture. One three-hour laboratory period each week.

CHM 308. **Chemical Literature**
The use of chemical literature, indexing methods, and patent procedure. Prerequisite: Ger 101-102.

CHM 313-314. **Organic Chemistry**
This course is designed for premedical, predental, and medical technology students. A strong grounding in the fundamentals of Organic Chemistry is given. Three class periods per week. Prerequisite: Chm 124.

CHM 313L-314L. **Organic Chemistry Laboratory**
Course to accompany Chm 313-314 lecture. One three-hour laboratory period each week.
CHM 315-316. ORGANIC CHEMISTRY
A study of aliphatic, aromatic, and heterocyclic compounds, including typical preparations, and basic techniques of organic chemistry; for chemistry majors and chemical engineers. Prerequisite: Chm 215.

CHM 315L-316L. ORGANIC CHEMISTRY LABORATORY
Course to accompany Chm 315-316. Two three-hour laboratory periods each week. Prerequisite: Chm 215.

CHM 400. BIOCHEMISTRY
A one semester course for Home Economics students. Prerequisite: Chm 200 or equivalent.

CHM 400L course to accompany Chm 400 lecture. One three-hour laboratory period per week.

CHM 404. SPECIAL TOPICS IN PHYSICAL CHEMISTRY
A thorough treatment is given to certain topics surveyed in Chm 303-304 such as macromolecules, spectroscopy, photochemistry and radiation chemistry. Prerequisite: Chm 304.

CHM 405. QUALITATIVE ORGANIC ANALYSIS
A systematic study of the reactions of functional groups and of the physical properties which lead to the identification of organic compounds. One class period per week. Prerequisite: Chm 315-316, or Chm 313-314.

CHM 405L. QUALITATIVE ORGANIC ANALYSIS LABORATORY
Course to accompany Chm 405 lecture. Two three-hour laboratory periods per week.
CHM 412. INTERMEDIATE ORGANIC CHEMISTRY
This course provides an understanding of the modern theory of organic chemistry with emphasis on reaction mechanisms. Prerequisite: Senior standing. **Three credit hours**
First Term, Each Year

CHM 415. ANALYTICAL CHEMISTRY
Methods of analysis based on modern instrumentation. Prerequisites: Chm 215, 215L, 304. **Two credit hours**
First Term, Each Year

CHM 415L. ANALYTICAL CHEMISTRY LABORATORY
This course accompanies Chm 415. Two three-hour laboratory sessions each week. Prerequisites: Chm 215, 215L, 304. **Two credit hours**
First Term, Each Year

CHM 416. EXPERIMENTAL INORGANIC CHEMISTRY
The preparation, separation, and characterization of inorganic compounds; special emphasis on modern techniques of coordination chemistry. One lecture hour each week. Prerequisite: Chm 415. **One credit hour**
Second Term, Each Year

CHM 416L. INORGANIC SYNTHESIS LABORATORY
The laboratory course which accompanies Chm 416. One four-hour lab each week. Corequisite: Chm 416. **Two credit hours**
Second Term, Each Year

CHM 417. INORGANIC CHEMISTRY
Electron distribution in atoms, nature of the chemical bond, periodicity, nucleus and its reactions, coordination compounds. Prerequisite: Chm 303-304. **Three credit hours**
Second Term, Each Year

CHM 420. BIOCHEMISTRY
A course dealing with the fundamentals of biochemistry and designed for science students other than chemistry majors. Prerequisite: Chm 314 or 316. **Three credit hours**
Second Term, Each Year

CHM 497. SEMINAR
Required of all chemistry majors. One meeting each week. **One credit hour**
First Term, Each Year

CHM 499. RESEARCH (HONORS)
An elective for Chemistry majors. Permission of Chairman of Department required. Prerequisite: Senior standing. **Three credit hours**

Civil Engineering and Engineering Mechanics

Seymour J. Ryckman, Chairman
Professors: Chamberlain, Driscoll, Ryckman
Assistant Professors: Bahramian, Kraft, Payne
Instructors: Shaw, Weiss

Civil Engineering (CIE)

CIE 205L. SURVEYING FIELD PRACTICE
Field work and computation in topography, highway surveying, triangulation, level net, celestial observations, evaluation of errors, and preparation of plans. Five eight-hour days a week for three weeks. Prerequisite: Cie 208. **Three credit hours**
Summer
Cie 207. Surveying I
Theory of Measurements, computation and instrumentation. Boundary and construction surveys, celestial observations, triangulation and level net adjustments, elementary geodesy, and state coordinate systems. Corequisite: Mth 118. First Term, Each Year

Cie 208. Surveying II
Study of photogrammetry, circular and spiral curves, vertical curves, grade lines, earthwork and mass diagram, slope and grade stakes, contour grading, and use of aerial photographs. Prerequisite: Cie 207. Second Term, Each Year

Cie 213. Plane Table Surveying
General Principles of Surveying with emphasis on plane table mapping. Designed for students in Geology. Prerequisite: Mth 101.

Cie 213L. Plane Table Surveying Laboratory
Field and laboratory work in application of principles of Cie 213. Corequisite: Cie 213.

Cie 306. Theory of Structures
The analytical and graphical methods of stress determination in statically determinate structures, together with a study of influence lines. Prerequisite: Egm 303. First Term, Each Year

Cie 307. Hydraulics
Principles of liquid statics and fluid flow including similitude, measuring devices, channel and pipe flow, turbines and pumps. Corequisites: Cie 307L, Egm 301. First Term, Each Year

Cie 307L. Hydraulics Laboratory
Laboratory experiments and problems associated with Cie 307. Corequisite: Cie 307. First Term, Each Year

Cie 310L. Civil Engineering Laboratory
Experiments and studies relating the engineering properties of certain materials to their fundamental nature and composition. Prerequisite: Egm 303. Second Term, Each Year

Cie 312. Soil Mechanics
Principles of soil structures, classification, capillarity, permeability, flow nets, shear strength, consolidation, stress analysis, slope stability, lateral pressure, bearing capacity, and piles. Corequisites: Cie 312L, Egm 304. Second Term, Each Year

Cie 312L. Soil Mechanics Laboratory
Laboratory test to evaluate and identify soil properties for engineering purposes. Design problems are included. Corequisite: Cie 312. Second Term, Each Year

Cie 313. Hydraulics
Principles of liquid statics and fluid flow including similitude, measuring devices, channel and pipe flow, turbines and pumps. Corequisites: Cie 313L, Egm 301. Third Term, Each Year

Cie 313L. Hydraulics Laboratory
Laboratory experiments and problems associated with Cie 313. Corequisite: Cie 313. One Credit Hour
CIVIL ENGINEERING 163

CIE 314. Theory of Structures  
Four Credit Hours  
The analytical and graphical methods of stress determination in statically determinate structures, together with a study of influence lines. Prerequisite: Egm 303.

CIE 402. Structural Design II  
Two Credit Hours  
Concentrated loads on slabs, beams; composite construction, rigid frames, flat slabs as rigid frames, plastic design of rectangular and tee beams. Prerequisites: Cie 407, Cie 415. Corequisite: Cie 402L.  
Second Term, Each Year

CIE 402L. Structural Design Laboratory II  
Two Credit Hours  
Assigned problems illustrating and affording practice in the design covered in Cie 402. Corequisite: Cie 402.  
Second Term, Each Year

CIE 405. Highway Engineering  
Three Credit Hours  
Fundamentals of highway design, construction maintenance, and economics with illustrative practical problems. Prerequisites: Cie 208, Cie 310L.  
First Term, Each Year

CIE 406. Indeterminate Structures  
Three Credit Hours  
The determination of stresses and deflections of statically indeterminate frames and trusses by the classic and modern methods, including Castigliano's Theorem, least work, moment and shear distribution. Prerequisite: Cie 407.  
Second Term, Each Year

CIE 407. Reinforced Concrete  
Four Credit Hours  
The first course in the theory and design of reinforced concrete structures; the study of earth pressure; design of retaining walls and footings. Prerequisites: Cie 306, or Cie 314.  
First Term, Each Year

CIE 408A. Seminar  
One Credit Hour  
Practice in the presentation and discussion of papers; lectures by staff and prominent engineers. Attendance required by Civil Engineering second term seniors only.

CIE 408B. Seminar  
Zero Credit Hours  
Practice in the presentation and discussion of papers; lectures by staff and prominent engineers. Attendance required by Civil Engineering sophomores, juniors, and first term seniors.

CIE 415. Structural Design I  
Three Credit Hours  
A study of rolled beams, plate girders, columns and steel trusses with emphasis on typical connections and splices both riveted and welded, together with assigned problems. Prerequisite: Cie 306 or Cie 314. Corequisite: Egm 304.  
First Term, Each Year

CIE 433. Sanitary Engineering I  
Three Credit Hours  
An integrated study of the principles of water sanitation, water supply, stream pollution abatement and waste water disposal systems. Prerequisites: Cie 307, Cie 307L, or Cie 313, Cie 313L.  
First Term, Each Year

CIE 434. Sanitary Engineering II  
Three Credit Hours  
A continuation of Cie 433 and with brief considerations of municipal and rural sanitation. Prerequisite: Cie 433.  
Second Term, Each Year
Civil Engineering Electives

In addition to courses listed below, students may select with departmental approval Civil Engineering and Engineering Mechanics courses in the five hundred series listed in Graduate School Catalog including such courses as: experimental stress analysis, advanced soil mechanics, advanced structural analysis, traffic engineering, prestressed concrete, and foundation design.

CIE 421. Construction Engineering
Organization, planning and control of construction projects. Includes: a study of the use of machinery, economics of equipment, methods, materials, estimates, cost controls, and fundamentals of Cpm and Pert.

CIE 499. Special Problems in Civil Engineering
Particular assignments to be arranged and approved by Chairman of the Department. Credit hours to be determined.

Engineering Mechanics (EGM)

EGM 101. Mechanics I
The principles of mechanics; force systems, free body diagrams, resultants and equilibrium, centroids and centers of gravity; application to trusses, frames, and beams; friction; moments of inertia. Prerequisites: Phy 196. Corequisite: Mth 119.

EGM 202. Statics
The principles of mechanics; force systems, resultants and equilibrium; centroids and centers of gravity; application to trusses, frames, and beams; friction; virtual work; moments of inertia. Prerequisite: Phy 206. Corequisite: Mth 218.

EGM 301. Dynamics
Kinematics, including translation, rotation, plane motion, and relative motion; kinetics of particles and bodies by the methods of force-mass-acceleration, work-energy, and impulse-momentum. Prerequisite: Egm 101 or Egm 202.

EGM 303. Strength of Materials
The study of stresses and strains in tension, compression, shear, flexure and torsion; riveted and welded joints; shear and moment diagrams; stresses and deflections of beams and analysis of columns. Prerequisite: Egm 101 or Egm 202.

EGM 303L. Strength of Materials Laboratory

EGM 304. Advanced Strength of Materials
Stresses and strains at a point; shear center; unsymmetrical bending; curved beams; approximate analysis of flat plates; torsion of non-circular bars; thick-walled cylinders. Prerequisite: Egm 303.
Communication Arts

George C. Biersack, Chairman
Professor: Staats
Associate Professors: Biersack, Gilvary, Jukes, Knittel
Assistant Professors: Henderson, Youngman
Instructors: Devine, Dougherty, McGlade, Harwood, Johenning, Kiernan
Part-time Instructors: Bennington, Vlahos

The course requirement for Communication Arts majors is 24 upper level credit hours distributed as follows:

FOR GENERAL MAJOR IN COMMUNICATION ARTS:

(1) Speech 101 and 200 (Introduction to Mass Communications).
(2) At least one upper level course in each of the following: Speech, Theatre, Broadcasting, Journalism, and Allied Areas, and electives in the field selected through consultation with the Department Chairman.
(3) Seminar in Communication Arts.

FOR CONCENTRATED MAJOR IN COMMUNICATION ARTS:

(1) Speech 101 and appropriate 200 level course.
(2) 21 credit hours of upper level courses with a minimum of 15 hours in Speech, Theatre, or Broadcasting-Journalism.
(3) Seminar in Communication Arts.

Minors in Communication Arts must have Spe 101 plus 12 hours of upper level courses selected through consultation with the department counselors.

The department sponsors three co-curricular activities, the University Players, the University Debaters, and the Flyer News.

SPEECH

Spe 101. FUNDAMENTALS OF EFFECTIVE SPEAKING
Introductory course in fundamental skills of speaking. Self-confidence is developed through speaking opportunities, with special attention given to poise, vocal variety, physical animation, and the communication of ideas.

Spe 201. SPEAKING TECHNIQUES
Covers area of oral communication in professional situations. Adapts principles of effective speaking to specific audiences and occasions. Student prepares and delivers informational, problem-solving, good-will, and special occasion speeches.

Spe 300. VOICE AND DICTIO
Course treating the four phases of speech production: proper breathing, phonation, resonance, and articulation. Projection, quality, and clarity of speech are emphasized. Student's voice is analyzed through tape recordings.
Spe 301. Speech Composition
Study of speech structure and composition. Critical analysis of model speeches, in conjunction with the preparation and presentation of original speeches on current public questions.

Spe 302. Fundamentals of Debate
Application of the principles of argument through extensive practice in several forms of debate. Consideration of analysis, evidence, reasoning, inference and fallacy.

Spe 307. Conference and Discussion
The guiding principles used by participants and leaders in the preparation and conducting of conferences and discussions. Exploratory, problem-solving, and policy-making conferences are staged.

Spe 310. Interpretative Reading I
Oral interpretation of poetry and prose. Combines a study of vocal modulations, pitch, inflection, and tone color with intellectual and emotional analysis of selections to develop a deeper appreciation of literature.

Spe 312. Persuasion
Analysis of the motivations which lead to belief and action of individuals and audiences. Study in the techniques of achieving persuasive purposes. Delivery of speeches in the application of the theory.

Spe 320. Interpretative Reading II
A continuation of Spe 310, with a deeper penetration into the field of oral interpretation. Individual problems are given more particular attention. Impromptu reading. Prerequisite: Spe 310.

Spe 400. Speech Correction
Investigates the theory of speech and hearing handicaps in elementary and secondary school pupils. Examples of such defects are explored clinically and methods of correction applied. Includes demonstrations with children.

Spe 401. Public Speaking II
A more intensive development of the goals sought in Spe 301. Students are required to demonstrate facility in holding audience attention through longer speeches. Prerequisite: Spe 201 or permission.

Spe 402. Forensics
A course designed to employ the values inherent in competitive speaking, and to relate those values in an alert, aggressive citizenship. Classroom experience in the various forms of debate, discussion, original oratory.

Spe 430. Seminar in the Speech Arts
Individual research and report on a problem in the field of speech, theater, or broadcasting. Students will do research in the area of his interest. Communication Arts majors or minors only, with permission.

THEATER
All Communication Arts majors with an emphasis in Drama are encouraged to participate in U.D. Players productions.
Spe 204. **Introduction to the Theater**

Analyzes the nature of theater, its origin and development, from the standpoint of the play, the physical theater, and its place in our culture.

Spe 304. **Theatre Production Workshop**

Principles and practical application of theatre production: including play analysis, stagecraft, lighting, stage blocking, and rehearsal process. Students work on selected plays and with full stage and shop facilities.

Spe 313. **Acting I**

Affords study and practice in the fundamentals of acting, with stress upon the physical, mental, and emotional background of characterization. Prerequisite: 204 or permission.

Spe 323. **Acting II**

A further development and practice of fundamental principles set down in the elementary course in acting, Spe 313. Emphasis is placed on more specialized character portrayal. Prerequisite: Spe 313, or with permission.

Spe 414. **Stagecraft and Lighting**

Presents fundamentals of designing, constructing, and painting stage scenery. Explores basic applications of stage lighting. Includes construction of scenery and plotting of lighting charts for specific plays. Prerequisite: Spe 204.

Spe 415. **History of the Theater I**

A survey of the history of theater from Aeschylus to Miller, with emphasis on plays, playwrights, and play productions that lead up to the representational theater of today. Prerequisite: Spe 204 or permission.

Spe 424. **Play Directing**

Treats the basic functions of a Director in the production of a play; blocking of scenes, timing, characterization, and continuity. Includes all aspects of production and direction of a one-act play.

Spe 425. **History of the Theater II**

Plays, players, and movements in recent and current theater, including realistic and nonrealistic styles. Function of community theater and commercial and professional theater. Prerequisite: Spe 204 or permission.

**Broadcasting**

Spe 306. **Radio Fundamentals**

A workshop course in microphonic technique as applied to straight announcing, commercials, and newscasting. Development of articulation and tone for broadcasting purposes is emphasized. Station organization is discussed.

Spe 309. **Fundamentals of Television**

Principles and practices of television broadcasting, studio layout, equipment, personnel, organization of channels, and networks, educational and closed circuit television. Students participate in various programming projects.
**Spe 316. Radio Workshop**
Three credit hours
Designed to develop voice, articulation, and reading skills. Exercises in microphone techniques. Development of radio stations' staff requirements and responsibilities. Project shows are taped for analysis.

**Spe 409. Television Production**
Three credit hours
Intensive practice in preparation and production of TV programs. Camera technique, floor set-ups, and direction of crews and talent demonstrated through actual participation in TV shows. Prerequisite: Spe 309, or with permission.

**JOURNALISM**

Majors in Journalism must take Jrn 200 plus 18 semester hours in Jrn and Com 300-400 courses, plus 6 semester hours from 300-400 offerings in the Department of English, selected in consultation with the Chairman. Minors in Journalism 12 semester hours from 300-400 courses.

**Jrn 200. Introduction to Mass Communications Media**
Three credit hours
Covers nature and purpose of mass communicative field. Emphasis on newspapers, television and radio, occupational opportunities, organizational structure of modern newspaper and news facets of television and radio.

**Jrn 300. Reporting and Writing for News Media**
Three credit hours
Determining news values. Structure of a news story. Techniques of gathering news for all media and how this material is applied to newspapers, television and radio. Prerequisite: Jrn 200.

**Jrn 301. Advanced News Story Writing**
Three credit hours
Advanced reporting and news writing. Analysis of feature story techniques and structure in all areas, especially columns and specialized reporting. Prerequisites: Jrn 200 and 300.

**Jrn 302. The Law and News Media**
Three credit hours

**Jrn 400. Editing and Copyreading**
Three credit hours
The copy desk on large and small newspapers, editing, headline writing, page makeup, use of pictures and type. Prerequisite: Jrn 300 or permission of instructor.

**Jrn 401. Editorial Writing**
Three credit hours
Study of the methods used in preparing and writing newspaper editorials—editorial conferences to discuss topics, research necessary.

**Jrn 404. Newspaper Management Problems**
Three credit hours
Non-editorial operations—problems of business, circulation, advertising and printing departments as they affect operations of the news department. Special emphasis on small dailies and weeklies.

**Jrn 430. History of Journalism**
Three credit hours
Critical study of development of the English language press. Emphasis on the American press and its role in political and economic progress of this country. The outstanding editors and their newspapers.
ALLIED AREAS

COM 301. PRODUCTION OF AUDIO-VISUAL AIDS
Two Credit Hours
Production of various types of audio-visual aids used in communications. Designing and producing audio-visual aids will be required.

COM 302. USES OF AUDIO-VISUAL AIDS
Two Credit Hours
Investigates areas of communication where audio-visual aids are used to great advantage. Deals primarily with developing techniques and skills in using audio-visual aids.

COM 303. FREE-LANCE WRITING
Three Credit Hours

COM 304. ADVERTISING
Three Credit Hours
Nature and functions of advertising; preparation of layouts, writing of copy; selection and evaluation of media. Coordination of advertising with other marketing efforts. Social implications of advertising. (See Mkt 421.)

COM 305. PROPAGANDA ANALYSIS
Three Credit Hours
Use and abuse of propaganda. Editorial persuasion. Propaganda devices and techniques. An application of the principles of Aristotelian logic to the field of mass communication.

COM 306. REPORT WRITING
Three Credit Hours
The principles of letter writing and report writing are studied and applied in conformity with the best current practices in business. (See Bus 409.)

COM 307. TECHNICAL WRITING
Three Credit Hours

COM 401. PUBLICITY AND PUBLIC RELATIONS
Three Credit Hours
For students (business, education, personnel management, etc.) who expect to direct publicity campaigns or write news releases in their future work. Explains nature, organization, and problems of newspaper publishing.

Computer Science (CPS)

Thomas A. Schoen, S.M., Chairman
Associate Professors: Jehn, Schoen
Assistant Professors: Cada, Kester
Instructors: Criss, KralI
Part-time Instructors: Brunswick, McAdams, Lokai, Scheidt

CPS 203. DATA PROCESSING SYSTEMS
Two Credit Hours
Languages applicable to data processing problems; magnetic tape systems; applications requiring use of peripheral equipment.
CPS 232. COBOL PROGRAMMING  
Two Credit Hours
General programming techniques; grammar and syntax of the COBOL compiler; programming data processing problems in COBOL. Corequisite: MTH 101 or equivalent.

CPS 233. FORTRAN PROGRAMMING  
Two Credit Hours
General programming techniques; grammar and syntax of the FORTRAN IV compiler; programming mathematical and engineering problems in FORTRAN. Corequisite: MTH 101 or equivalent.

CPS 241. ALGOL PROGRAMMING  
Two Credit Hours
General programming techniques; grammar and syntax of the ALGOL 60 compiler; programming mathematical and scientific problems in ALGOL. Corequisite: MTH 101 or equivalent.

CPS 247. PL/I PROGRAMMING  
Two Credit Hours
General programming techniques; grammar and syntax of the PL/I compiler; programming scientific and data processing problems in PL/I. Corequisite: MTH 101 or equivalent.

CPS 314. ELECTRONICS FOR SCIENTISTS  
Three Credit Hours
Terminal behavior of vacuum tube and semi-conductor devices; application to basic rectifier, amplifier, oscillator and control circuits; incorporation of these circuits in measuring and control devices. Prerequisite: MTH 219 or 229, PHY 207.

CPS 314L. ELECTRONICS FOR SCIENTISTS LABORATORY  
One Credit Hour
Laboratory construction and testing of the basic vacuum tube and solid-state electronic circuits. Corequisite: CPS 314.

CPS 345. PROGRAMMING LANGUAGES  
Three Credit Hours
Programming in machine language and with an assembler; input-output techniques; introductory topics in the construction of compilers. Prerequisite: CPS 233, 241 or 247.

CPS 350. APPLIED NUMERICAL METHODS  
Three Credit Hours

CPS 351. NUMERICAL ANALYSIS  
Three Credit Hours
Discrete functions; interpolation and approximation theory, including Chebyshev, trigonometric, and least squares methods; solution of equations. Prerequisite: CPS 233, 241 or 247, MTH 219 or 229.

CPS 367. STATISTICAL METHODS  
Three Credit Hours
Probability distributions, confidence intervals, tests of hypotheses, goodness of fit, correlation, regression, analysis of variance, distribution free methods, computer simulation techniques. All topics to be oriented toward use of computer. Prerequisite: CPS 233, 241 or 247, MTH 218 or 228.
CPS 383. Logic and Set Theory
Propositional and predicate calculus, formal and informal proofs, basic concepts of set theory, operations on sets, relations, functions. Corequisite: Mth 119 or 129.

CPS 387. Logical Design
Minimization of Boolean functions, error detecting and error correcting codes; principles of design for arithmetic operations, including a survey of functional units for implementation; memory devices, central processing units, and input-output equipment. Prerequisite: Cps 233, 241 or 247, Mth 218 or 228.

CPS 405. Computer Techniques for Business Applications
PERT, factor analysis, linear programming, multiple regression analysis, time series analysis, breakeven analysis and simulation using Monte Carlo methods, exponential smoothing, and other topics. Prerequisite: Cps 233, 241 or 247, Mth 362, Cps 367 or equivalent.

CPS 414. Advanced Electronics for Scientists
High frequency techniques, modulation and detection, pulse generators, special circuits; application to counters, computer circuits, and experimental instrumentation and control problems. Prerequisite: Cps 314.

CPS 414L. Advanced Electronics for Scientists Laboratory
Individual student projects in the electronic instrumentation of problems in the physical, biological, and computer sciences. Corequisite: Cps 414.

CPS 441-442. Advanced Programming
Analysis of compilers and their construction; programming techniques discussed in the current literature; advanced computer applications in both mathematical and non-numeric areas. Prerequisite: Cps 345.

CPS 455-456. Advanced Numerical Analysis
Quadrature methods and the numerical solution of ordinary differential equations; matrices and large scale linear systems; norms and spectral radii of matrices; modern iterative matrix methods, including the successive overrelaxation method; numerical solution of partial differential equations. Prerequisite: Cps 351.

CPS 481. Mathematical Logic
Formalization of propositional calculus, first order theories including predicate calculi, formal number theory, recursive functions, Goedel's incompleteness theorem. Prerequisite: Cps 383 or Mth 390.

CPS 482. Automata Theory
Finite automata, sequential machines, Turing machines, computability, existence of self-reproducing machines. Prerequisite: Cps 481.

CPS 498. Problems in (Named Area)
Individual readings and research in specialized areas (see Cps 499.) May be taken more than once for additional credit. Prerequisite: permission of the department.

By arrangement
Cps 499. (Special Topics)  
Lectures and/or laboratory experience in the specialized areas listed below. May be taken more than once for additional credit. Prerequisite: permission of the department.  
By arrangement

1. analog computers  
2. artificial intelligence  
3. formal languages  
4. information retrieval  
5. linguistic analysis  
6. logical design  
7. numerical analysis  
8. programming languages  
9. sequential machines  
10. simulation languages  
11. supervisory systems  
12. utility programs

Economics (Eco)

Dr. George E. Matlin, Chairman
Professor: Matlin
Associate Professors: Louis, Vikor, Dailey
Assistant Professors: Berger, Schade, Gelson, Kumar, Weiler
Instructors: Sciantarelli, Gupta
Part-time Instructor: Suttman

Eco 201-202 are prerequisites for all advanced courses in Economics. Minors are required to take Eco 340, 341, 342, and one elective.

Eco 201. Principles of Economics I  
Basic economic principles. Analyzes American economy—business organization, industrial relations, the economic role of government, money and banking in the productive process, determination of aggregate level of national income and employment.

Eco 202. Principles of Economics II  
Examines pricing of production factors under conditions of perfect and imperfect competition. Considers distribution of income, principles of international trade, problems of economic development, and alternative economic systems.

Eco 340. Micro Economic Analysis  
Analyzes theory of consumer behavior; production theory; equilibrium of the firm; market structures; monopoly, monopolistic competition, and oligopoly; allocation of resources; distribution of income.

Eco 341. Macro Economic Analysis  
National income and determination of level of income and employment. Keynesian vs. classical systems. Role of government in economy; foreign trade and price levels; theory of economic growth; Keynesian and post-Keynesian theory.

Eco 342. Money, Banking, and Monetary Policy  
Considers principles of money and monetary systems; commercial banking and role of the Federal Reserve System; monetary theory and policy; the mechanism of international payments.
Eco 343. **Public Finance and Taxation**

Studies major types of taxation and expenditure problems of local, state, and especially federal government. Emphasizes shifting, incidence, equity, and policy of different types of taxes together with fiscal administration and public debt.

Eco 360. **International Economics**

Studies international trade theory, issues, and problems. Examines national income and trade, foreign exchange, balance of payments, trade barriers, international economic organizations, and recent movements toward free trade.

Eco 371. **Labor Economics**

Primarily for Economics majors; sequel to Eco 370. Considers wage theory, determinants of wage rates and employment. Examines union policy, economic stability and growth. Analyzes the economics of private governmental welfare and security programs.

Eco 430. **History of Economic Thought**

Surveys early philosophers. Examines various schools and systems of economic thought (Mercantilists, Physiocrats, Classicals, Historicals, Marginalists, Neo-classicals, Keynesians) and current economic theories with emphasis upon American developments.

Eco 441. **Econometrics**

Discusses the questions with which quantitative economics and operations research are concerned. Subject matter considered includes: Linear programming, the optimum path, input-output analysis, econometric macromodels, economic forecasts, concept of a strategy, game theory, queues, and the statistical specification of economic relations and the consumer's dollar. Prerequisites: Quantitative Analysis 110-111, and Quantitative Analysis 210-211.

Eco 450. **Comparative Economic Systems**

Analyzes principal types of economic systems in the world today. Stresses their development in the United Kingdom, the Soviet Union, China, and India. Contrasts foreign systems with American capitalism.

Eco 460. **Economic Development and Growth**

Inquires into the nature of economic growth in both pre-industrial and industrial societies within their individual institutional framework. Analyzes theories of growth, domestic and international policy issues.

Eco 480. **Current Economic Problems**

Analyzes current economic issues including the problems of agriculture, employment and economic growth, inflation, budgetary policy, public debt, international balance of payments, and underdeveloped economies.
Directed readings and research in selected fields of Economics for senior Economics majors who have a cumulative point average of 3.0. The course will require a department-approved treatise and/or comprehensive examination. Prerequisites: 12 hours in economics and permission of the Chairman of the Economics Department.

Education

Foundations of Education (EdF)

Sr. M. Audrey Bourgeois, Chairman
Professors: Panzer, Faerber
Associate Professors: Bourgeois, Britt
Assistant Professors: Anderson, Emling
Part-time Instructors: Wening, Werner

EdF 101. INTRODUCTION TO EDUCATION
An introduction to the study of education as a discipline. The meaning of commitment in teaching in relation to the purposes of the School of Education and the University of Dayton is stressed. Attendance at each session is mandatory.

EdF 109. MORAL AND SPIRITUAL VALUES
A study of the basic religious and moral values inherent in the American tradition. Stresses the importance of such values for the teacher and emphasizes their role as integrating factor in the educative process.

EdF 198. NATURE OF THE LEARNER
General psychology emphasizing concepts from the standpoint of both science and philosophy. Focuses attention on fundamental equipment of man as a learner. (A combination of Psy 201 and Phl 207 may substitute.)

EdF 205. CHILD GROWTH AND DEVELOPMENT
Professional education course designed to study growth and development in childhood with emphasis on the elementary school child. Knowledge gained will be made relevant for successful classroom practice in the elementary school. Prerequisite: EdF 198 or equivalent.

EdF 206. ADOLESCENT GROWTH AND DEVELOPMENT
Professional education course designed to study growth and development in adolescence with emphasis on the junior and senior high school student. Content will be made relevant for successful classroom practice in the high school. Prerequisite: EdF 198 or equivalent.

EdF 207. HUMAN GROWTH AND DEVELOPMENT
Professional education course designed to study growth and development in childhood and adolescence. Intended for the teacher, the knowledge will be made relevant for successful classroom practice. Prerequisite: EdF 198 or equivalent.
EdF 208. Educational Psychology II: The Learning Process  THREE CREDIT HOURS
The aim of this course is two-fold: (1) to treat the learning process; and (2) to treat topics dealing with factors which vitally affect the learning process. Prerequisites: EdF 198, EdF 207 or equivalents.

EdF 419. Philosophy of Education  THREE CREDIT HOURS
Culminating education course. By interrelating the principal concepts pertaining to man, society, and the school, the student should develop a constructive philosophy of education. Accredited in Philosophy. Prerequisites: EdF 198 or equivalent; EdF 205, EdF 206, or EdF 207; and EdF 208.

EdF 423. Philosophy of Education: Catholic  THREE CREDIT HOURS
The educand, the aims and agencies of education, the philosophy of the curriculum are studied in the light of Catholic theology and philosophy. The course may be taken in lieu of EdF 419. Prerequisite: EdF 198 or equivalent.

EdF 440. Honors Seminar  TWO CREDIT HOURS
Concerns itself with the great issues and problems of education. Offered as an elective for junior and senior members of the Education Honor Society. Second Term, Each Year

Elementary Education (EdE)

Dr. Simon Chavez, Chairman
Professors: Chavez, O'Donnell
Assistant Professors: Frye, Klein, Klosterman, Mathews, Miles, Thomas, Traen, Waters, Windell
Instructor: Fuchs
Part-time Instructors: Adams, Blackford, Carroll, Hackman, Rudolph, Weaver

EdE 219. Kindergarten—Primary Instruction  THREE CREDIT HOURS
Deals both with the theory and the necessary practical skills to meet the needs of children in the Kindergarten. Observation in Kindergarten is included. Required for Kindergarten-Primary certification.

EdE 303. Reading in the Elementary School  THREE CREDIT HOURS
Treats reading-readiness, experience reading, methods of meeting individual differences, functional reading, diagnosis in reading, and remedial measures. Prerequisite: EdF 205. Restricted to students who have had teaching experience in an Elementary School. Summer

EdE 320. Reading and Language Arts in Elementary School  FIVE CREDIT HOURS
An integrated language arts course with reading as its core subject. Acquisition of a certificate in handwriting required. One half day per week devoted to field experience. Prerequisite: EdF 205.

EdE 324. Language in the Elementary School  TWO CREDIT HOURS
Stresses the expressional phase of elementary school language, including oral and written expression, spelling and handwriting. Also treats instructional methods. Acquisition of certificate in handwriting is required. Prerequisite: EdE 303. Summer
EdE 325. Social Studies in the Elementary School  Three credit hours
Function of the social studies in the elementary school; appraisal of teaching procedures in the field; formulation of definite principles; testing the results of instruction. Prerequisite: EdF 208.

EdE 330. Religion in CCD (Elementary)  Two credit hours
Principles and techniques for the effective teaching of religion. Prepares the student to teach Catholic pupils from the public elementary schools. Prerequisite: Four semester hours of Theology.

EdE 333. Religious Instruction in CCD Program  Two credit hours
Designed to prepare the student to teach Catholic pupils from the public elementary schools. Prerequisite: Eight semester hours of Theology.

EdE 350. The Elementary School: Purposes and Practices  Three credit hours
Deals with objectives, organization, curricula, community relationships, and the practical aspects of teaching in the elementary schools. Visitation of schools for observation. Prerequisites: EdF 205, EdF 208 or equivalents.

EdE 352. The Elementary School: Parochial  Three credit hours

EdE 360. Children's Literature  Three credit hours
Treats the history of children's literature, poetry for different age levels, folk tales, story telling. Required of and limited to students in Elementary Education.

EdE 400. Religion in the Elementary School  Two credit hours
Methods and materials of instruction; employment of the principles of adaptation to the practical needs of elementary school children in the Catholic schools. Observation of teaching. Prerequisites: EdF 205, EdF 208.

EdE 403. Mathematics in the Elementary School  Two-three credit hours
Deals with distribution of content according to grade levels; methods of presentation; diagnosis of number difficulties; remedial instruction; testing. Directed observation of teaching. Prerequisite: Mth 141-142.

EdE 412. Student Teaching—Summer  Six credit hours
Supervised teaching in actual classroom situations during the summer period. A seminar on campus twice a week. Restricted to students who have had previous full-time teaching experience. Prerequisite: Special permission of the Dean.

EdE 413. Student Teaching (Elementary)  Six-twelve credit hours
Consists of teaching in actual classroom situations for full semester under close supervision. A seminar is held once a week. Prerequisite: Formal admission to student teaching a full semester in advance; also EdE 320, EdE 350 or 352, and EdE 403.

EdE 431. Visual and Other Sensory Aids in Education  Two credit hours
Studies the aims and psychological bases of the use of visual and other sensory aids in the classroom. Includes demonstration lessons applying sensory methods to the subjects of the curriculum. Involves laboratory experience.
EdE 451. **Advanced Kindergarten-Primary Instruction**
Three credit hours
Deals with problems and practices as they relate to the whole school program for teachers of kindergarten through the third grade. Prerequisite: EdE 219.

EdE 460. **Science in the Elementary School**
Three credit hours
Understanding the challenge of the newer developments of science for the elementary school program. Study of the objectives of elementary science and of the selection and grade placement of subject matter.

EdE 480. **The Psychology of Slow Learning Children**
Two credit hours

EdE 484. **Language Arts for Slow Learning Children**
Two credit hours
Practical measures for taking care of the language and reading needs of mentally retarded children in special classes. Diagnosis of unique problems combined with practice and program development. Prerequisite: EdE 480.

EdE 485. **Social Studies for Slow Learning Children**
Two credit hours
Curriculum planning and program development for the integration of social studies in the education of mentally retarded children in special classes. Prerequisite: EdE 480.

EdE 486. **Mathematics for Slow Learning Children**
Two credit hours
Deals with the special adjustments and techniques required in developing basic arithmetic skills in mentally retarded children in special classes. Prerequisite: EdE 480.

EdE 487. **Occupational Orientation and Job Training**
Two credit hours
Designed to acquaint teachers with the problems and challenges involved in a program positively attuned to the limited occupational opportunities for mentally retarded children. Prerequisite: EdE 480.

EdE 488. **Materials of Instruction for Slow Learning Children**
Two credit hours
This course deals with the preparation, selection, and adaptation of instructional materials for slow learning children at the primary, intermediate, and secondary level. It points out the imperative need to use materials that meet the special needs of slow learners, a need that is not adequately met by using materials that exist for a specific grade level. This course is required for state certification in Ohio for beginning teachers of slow learners.

**Secondary Education (EdS)**

Dr. Ellis Joseph, *Chairman*

*Professor*: Joseph

*Associate Professors*: Edgington, John Jansen, Powers, Morton

*Assistant Professor*: Joseph Jansen

*Instructor*: Landis

*Part-time Instructors*: Levin, Campbell
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Description</th>
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<tbody>
<tr>
<td>EdS 327</td>
<td><strong>Business Education in the Secondary School</strong></td>
<td>Two</td>
<td>Principles and techniques of teaching business education subjects in high school, including both the social business and secretarial subjects. Students should be prepared to devote one half a day each week to practicum experiences. Prerequisite: EdF 208.</td>
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<td><strong>First Term, Each Year</strong></td>
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<tr>
<td>EdS 331</td>
<td><strong>Religion in CCD (High School)</strong></td>
<td>Two</td>
<td>Concentrates on principles and techniques of religious instruction for high school students and follows the program of the Confraternity of Christian Doctrine. Prerequisite: Eight semester hours of Theology.</td>
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<td></td>
<td><strong>Ways and Means of Teaching Religion</strong></td>
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<tr>
<td>EdS 333</td>
<td><strong>Religious Instruction in CCD Program</strong></td>
<td>Two</td>
<td>Designed to prepare the student to teach Catholic pupils from the public secondary schools. Prerequisite: Eight semester hours of Theology.</td>
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<td><strong>First and Second Term, Each Year</strong></td>
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<td>EdS 351</td>
<td><strong>The Secondary School: Purposes and Practices</strong></td>
<td>Two</td>
<td>Purposes, organization, curricula, community relationships, and the practical aspects of teaching in Junior and Senior High Schools. Students should be prepared to devote one evening each week to practicum experiences. Prerequisites: EdF 206, EdF 208 or equivalents.</td>
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<td><strong>First Term, Each Year</strong></td>
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<tr>
<td>EdS 353</td>
<td><strong>The Secondary School: Marianist</strong></td>
<td>Two</td>
<td>Covers the basic course content of EdS 351 treated in terms of the Marianist traditions and concepts of teaching as revealed through Marianist educational literature. May be taken in lieu of EdS 351. Prerequisites: EdF 206, EdF 208.</td>
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<td><strong>First and Second Term, Each Year</strong></td>
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<tr>
<td>EdS 405</td>
<td><strong>English in the Secondary School</strong></td>
<td>Two</td>
<td>Ways and means whereby the teacher can make his teaching more functional in the lives of students. Students should be prepared to devote one half a day each week to practicum experiences. Prerequisite: EdS 351 or EdS 353.</td>
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<td><strong>First and Second Term, Each Year</strong></td>
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<tr>
<td>EdS 406</td>
<td><strong>Social Studies in Secondary School</strong></td>
<td>Two</td>
<td>Aims and values of social studies in high school. General method and special techniques in the social studies field. Students should be prepared to devote one half a day each week to practicum experiences. Prerequisite: EdS 351 or EdS 353.</td>
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<td><strong>First and Second Term, Each Year</strong></td>
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<tr>
<td>EdS 407</td>
<td><strong>Speech Methods in the Schools</strong></td>
<td>Two</td>
<td>Designed to prepare teachers for speech work on the high school level. Demonstrates how to arrange syllabi and prepare and administer assignments that will enrich speech classes. Students should be prepared to devote one half a day each week to practicum experiences. Prerequisites: EdS 351 or EdS 353.</td>
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<td><strong>First Term, Each Year</strong></td>
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<tr>
<td>EdS 408</td>
<td><strong>Modern Language in the Secondary School</strong></td>
<td>Two</td>
<td>Considers the functions and values of language study; courses of study; organization of materials; conventional and progressive methods. Students should be prepared to devote one half a day each week to practicum experiences. Prerequisite: EdS 351 or EdS 353.</td>
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<td><strong>Second Term, Evening</strong></td>
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<tr>
<td>EdS 409</td>
<td><strong>Mathematics in the Secondary School</strong></td>
<td>Two</td>
<td>The objectives of high school mathematics; sequence and correlation of subject matter; methods of teaching. Students should be prepared to devote one half a day each week to practicum experiences. Prerequisite: EdS 351 or EdS 353.</td>
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<td><strong>Second Term, Each Year</strong></td>
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EdS 410. RELIGION IN THE SECONDARY SCHOOL   TWO CREDIT HOURS
Presented the teacher of religion with modern methods of instruction with view to the practical needs of adolescents. Prerequisite: EdS 351 or EdS 353.

EdS 411. SCIENCE IN THE SECONDARY SCHOOL  TWO CREDIT HOURS
Deals with instructional methods and materials in the modern science program. Includes the selection of objectives on the basis of reliable criteria, and the development of an integral science program. Students should be prepared to devote one half a day each week to practical experiences. Prerequisite: EdS 351 or EdS 353. Second Term, Each Year

EdS 412. STUDENT TEACHING—SUMMER  SIX CREDIT HOURS
Supervised teaching in actual classroom situations during the summer period. A seminar on campus twice a week. Restricted to students who have had previous full-time teaching experience. Prerequisite: Special permission of the Dean.

EdS 414. STUDENT TEACHING (SECONDARY)  SIX-TWELVE CREDIT HOURS
Consists of teaching in actual classroom situations for full semester under close supervision. A seminar is held once a week. Prerequisite: Formal admission to student teaching a full semester in advance.

EdS 415. STUDENT TEACHING (SPECIAL)  SIX-TWELVE CREDIT HOURS
Consists of teaching under close supervision in the specialized subject area in both elementary and high school grades for a minimum of twelve weeks. A seminar is held once a week. Prerequisite: Formal admission to student teaching a full semester in advance.

EdS 416. THE TEACHING INTERNSHIP  NINE CREDIT HOURS
For beginning Marianist teachers in Marianist secondary schools. Supervised experiences under an administrator and a master teacher. Prerequisite: EdS 351.

EdS 455. PRACTICUM IN HIGH SCHOOL READING IMPROVEMENT  TWO CREDIT HOURS
Diagnosis and cause of reading disabilities. Study of techniques applicable to delayed readers. Implementing the high school developmental reading program. Prerequisite: EdS 405. First Term, Each Year

Physical and Health Education (EdP)

James B. LaVanche, Chairman

Philip Stanley, Director of Men's Division
Associate Professor: LaVanche
Assistant Professors: Stanley, Schleppi
Instructors: Cathell, Donoher, Frericks, McVay, Landis, Jones

Doris Drees, Director of Women's Division
Associate Professor: Drees
Assistant Professor: Siciliano
Instructors: Bowman, Dean, Balata, Weingart, Jeremiah, Sherwood
General Program (Men)

EdP 101. Sports Appreciation
Lecture course concerning the philosophy of sports, especially activities, functions, and personalities of sports in our culture. Required of all those excused from ROTC. Open as an elective to all students.

EdP 102. Health
Personal health knowledge for college students. Required of all those excused from ROTC. Open as an elective to all students.

EdP 201-202. Physical Education Activities
Provision of fundamental skills and knowledge of sports activities for those excused from ROTC and for non-medical reasons. Open as an elective to all students.

EdP 201A-202A. Adaptive Physical Education
Provision of fundamental skills and knowledge of sports activities for those limited in participation by ruling of University Health Service.

General Program (Women)

EdP 112. Health and Physical Education
The teaching of skills and knowledge of outdoor and individual sports. The health lectures will consist of knowledge and attitudes concerning infectious diseases.

EdP 113. Health and Physical Education
The teaching of fundamental skills and knowledge of dance, recreational, and individual activities. Five weeks of health instruction.

EdP 130-131. Physical Education
Fundamentals of Physical Activities. The program includes knowledges and skills of team and individual sports, gymnastics, dance and body mechanics.

EdP 130A-131A. Adaptive Physical Education
The teaching of recreational skills and limited motor activity. Designed for the student not able to take part in the regular activities course. (Medical recommendation from Health Center required.)

EdP 140. Personal and Community Health
Lectures and discussions concerning personal and community health.

Professional Program—Men's Division

EdP 103-104(M). Fundamentals of Physical Education Activities
Fundamentals of physical activities for physical education majors. Development of skills and knowledge needed to teach team and individual sports. Prerequisite to EdP 200.

EdP 203-204(M). Fundamentals of Physical Education Activities
Continuation of EdP 103-104(M). Prerequisite to EdP 200 and EdP 324.
EdP 116(M). Personal Health
The course aims to establish and promote individual health and proper health habits through a study of the fundamentals of physical well-being. Second Term, Each Year

EdP 119-120(M). Theory and Techniques of Officiating (elective)
A development of knowledge of rules of football, wrestling, basketball, baseball, and track and the application of the knowledge to actual game situations. Students are required to officiate intramural sports.

EdP 200. Methods in Team and Individual Sports
Skills and methods needed to teach soccer, volleyball, touch football, archery, golf, badminton, bowling, etc. Observation required. Second Term, Each Year

EdP 212. Coaching Baseball and Track
One-half the time will be spent on the theory and practice of each sport. Form and not athletic achievement will be stressed considering the abilities to be acquired. Second Term, Each Year

EdP 311. Coaching Football and Basketball
Study of theory, strategy, generalship, styles of offense and defense, methods of organizing practice and handling men. Demonstration and practice in fundamentals for all positions. First Term, Each Year

EdP 433(M). Gymnastics
Methods in conditioning, tumbling, horses, bucks, low and high bar, pyramid building, wrestling, trampoline, stunts with and without equipment.

Professional Program—Women’s Division

EdP 103-104(W). Fundamentals of Physical Education Activities
Fundamentals of physical activities for physical education majors. Development of skills, knowledge and strategy needed to teach team and individual sports.

EdP 203-204(W). Fundamentals of Physical Education Activities
Continuation of EdP 103-104. Prerequisite to EdP 217 and EdP 324.

EdP 116(W). Personal Health
The course aims to establish and promote individual health and proper health habits through a study of the fundamentals of physical well-being. First Term, Each Year

EdP 119-120(W). Theory and Techniques of Officiating
Rules and techniques of officiating hockey, volleyball, basketball, tennis and softball.

EdP 217. Team Sports
Skills and methods needed to teach hockey, soccer, speedball, volleyball, softball and basketball. Observation required. First Term, Each Year
EdP 245. Modern Dance
Techniques involved in modern dance with emphasis on composition.  
Second Term, Each Year

EdP 334. Individual Sports
Skills and methods needed to teach archery, bowling, badminton, tennis, golf, and fencing.  
First Term, Each Year

EdP 346. Problems in Physical Education for Women
Theory and practice in the organization and administration of drill teams, cheerleading groups, and Girls Athletic Associations.

EdP 433(W). Gymnastics
Methods and skills needed to teach stunts, tumbling, trampoline, calisthenics, balancing, free exercise, rope stunts and other self-testing activities.  
Second Term, Each Year

Professional Program (Men and Women)

EdP 117. Recreational Leadership (elective)
Study and practice of the basic skills essential in planning and conducting a recreational program.

EdP 205-206. Human Anatomy and Physiology
A study of the human body with emphasis on the interlocking relationships of structure and function. (Bio 101-102 prerequisite) Prerequisite to EdP 350 and EdP 408.

EdP 213. Principles of Physical Education
A study of the aims, scope, and biological aspects of physical education with special treatment of its place in education.

EdP 219. Community Health
Health and prevention of disease in the family, school, and community; relation of community health to disease control; important communicable diseases and their control.  
First Term, Each Year

EdP 251. Organization and Administration of Health Education
The organization and administration of a school health program with specific reference to principles of health education, health services, healthful school living and health instruction.  
Second Term, Each Year

EdP 309. Methods and Materials of Health Education
Application of principles of methodology to health education in the elementary and secondary schools. Develops standards and techniques for selecting suitable source material to be used in health teaching. Observation required.  
First Term, Each Year

EdP 324. Principles and Practices of Physical Education in the Elementary School
Principles and practices of teaching physical education in the elementary school. Relating the needs and abilities of children and youth to the physical education program. Observation required.  
First Term, Each Year
EdP 325. **Fundamental Rhythms**

Methods and techniques of rhythmic routines and activities for elementary and secondary schools through participating and teaching of social, round, folk, and square dancing.

*Second Term, Each Year*

EdP 336. **Safety Education and First Aid**

The study of the preventive aspects of accidents and injuries in the home, school, community and athletics. Practice in First Aid technique and treatment. Qualifying for the Red Cross First Aid Instructor’s Certificate.

EdP 348. **Organization and Administration of Recreation**

Study of the philosophy, leadership, standards and facilities of recreation, including outdoor education in various-sized communities.

*Second Term, Each Year*

EdP 350. **Kinesiology**

The study of human movement. Body mechanics, posture, motor efficiency, sports, and the influence of growth and development upon motor performance are studied. Prerequisite: EdP 205-206.

First Term, Each Year

EdP 402. **Organization and Administration of Physical Education**

Problems of organization and administration of physical education with added emphasis on the supervision of required and elective courses, intramural athletics and interschool athletics.

EdP 405. **Tests and Measurements in Physical Education**

Critical analysis of existing testing methods in physical education. Study of current tests from the practical and theoretical viewpoint. The use of tests in the physical education program.

EdP 407. **Modern Problems in Public Health**

Study of current health problems; special emphasis on preventive medicine, epidemiology, and organization for health. Introduction to seminar study.

EdP 408. **Physiology of Exercise**

Detailed study of the effects of exercise on the respiratory, circulatory, and muscular systems. Specific consideration will be given to the physiology of fatigue, staleness, training, and conditioning. Prerequisite: EdP 205-206.

EdP 410. **Adaptive Physical Education**

A study of the atypical child in order to organize and administer a program which will meet each individual’s needs.

*Second Term, Each Year*

EdP 413. **Health Education in the Elementary School**

Study of school health services, school environment and health instruction essential for maintaining and promoting the growth and well-being of the elementary school student. The standard first aid course offered.

EdP 414. **Physical Education in the Elementary School**

Designed to equip the classroom teacher with methods and activities for conducting a physical education program for elementary students.
EdP 417. **Student Teaching (Comprehensive and Special) six-twelve credit hours**
Consists of teaching under close supervision in the specialized subject area in both elementary and high school grades for a minimum of twelve weeks. A seminar is held once a week. Prerequisite: Formal admission to student teaching, a full semester in advance.

EdP 418. **Student Teaching (Principal Teaching Field) six-twelve credit hours**
Consists of teaching under close supervision in the specialized subject area in high school grades only for a minimum of twelve weeks. A seminar is held once a week. Prerequisite: Formal admission to student teaching a full semester in advance.

EdP 418. **Aquatics (elective) two credit hours**
The American Red Cross Senior Life Saving and the Water Safety Instructor’s Course. Prerequisite: Advanced Swimming. Offered upon demand.

EdP 420. **Driver Education three credit hours**
Teacher preparation with practical teaching experience in Driver and Traffic Safety Education.

EdP 450. **Selected Studies in Health and Physical Education one-three credit hours**
Investigating, analyzing, and reporting on a problem in the areas of physical education, recreation or health education. Open to senior major students in physical education with permission of the chairman of the department.

EdP **Corrective Therapy Clinical Training no credit**
Corrective therapy clinical training program is offered students who major in health and physical education. Involves 250 clock hours of directed clinical training at the Veterans Administration Center, Dayton.

**Counselor Education (EdC)**

Rev. Bernard Stueve, S.M., Chairman  
Professor: Campanelle  
Associate Professor: Stueve  
Assistant Professors: Diethorn, Anderson  
Part-time Instructor: Apt

Courses are listed in the Graduate Catalog Issue of the Bulletin.

**School Administration (EdA)**

Dr. John O’Donnell, Chairman  
Professor: O’Donnell  
Associate Professors: Edgington, Morton  
Part-time Instructor: Sigmund

Courses are listed in the Graduate Catalog Issue of the Bulletin.
Electrical Engineering (Elec)

Bro. Louis H. Rose, S.M., Chairman

Professors: Holian, Morgan, Rose, Schmidt

Assistant Professors: Evers, Kubach, Lewis, Moon, Tsui

Elec 205. Alternating Current Circuits

Elec 231. Circuit Theory I
Basic principles of linear circuit theory. Network equations and topology, phasor algebra, resonance and the analysis of transient and steady state behavior of simple circuits. Prerequisite: Mth 119.

Elec 232. Circuit Theory II
Network theorems and network equivalence, magnetically coupled circuits, polyphase circuits and Fourier Series and Integral with circuit applications. Prerequisite: Ele 231.

Elec 233. Field Theory I
Vector relations, static electric fields, dielectric materials, boundary conditions, field mapping, steady electric currents and their magnetic fields, motion of charged particles. Prerequisite: Mth 119.

Elec 307. Electrical Measurements
A basic course covering both DC and AC measurements; errors of measurements; deflection and null methods; bridge analysis; wave forms and AC meters; square law movements. Corequisite: Ele 205.

Elec 307L. Electrical Measurements Laboratory

Elec 309. Electrical Transients
Application of the LaPlace Transform; poles and zeros; transient and steady-state response. Fourier series, integral, and transforms. Prerequisite: Mth 219.

Elec 310. Circuit Analysis
Network theorems; wave filters; impedance transformation; long line theory; equalization. Prerequisite: Ele 312.

Elec 310L. Circuit Analysis Laboratory
Experiments to accompany topics outlined in Ele 310. Corequisite: Ele 310.

Elec 312. Engineering Electronics I
A basic course with emphasis on terminal behavior of vacuum tubes and transistors. Prerequisite: Ele 232.

Elec 312L. Engineering Electronics Laboratory I
Receiving tube and transistor characteristics, electronic instruments, basic amplifier circuits, power supplies, waveshaping circuits. Corequisite: Ele 312.
**ELE 313. ENGINEERING ELECTRONICS II**

THREE CREDIT HOURS

A course in linear electronic circuits; network theorems; single and multistage amplifiers; transient response of electronic circuits and feedback amplifiers. Prerequisite: Ele 309. Corequisite: Ele 310.

**ELE 313L. ENGINEERING ELECTRONICS LABORATORY II**

ONE CREDIT HOUR

Single and multistage amplifiers, DC amplifiers, transistor amplifier configurations, feedback amplifiers, electronic timing and switching circuits. Corequisite: Ele 313.

**ELE 318. MACHINERY I**

THREE CREDIT HOURS

The theory, construction and characteristics of series, shunt and compound generators and motors; the theory of commutation and armature reaction; transformers. Prerequisite: Ele 205.

**ELE 321. BASIC ELECTRIC THEORY**

THREE CREDIT HOURS

For Chemical, Civil, Mechanical and Industrial Engineering students. Fundamental methods of analysis in DC and AC circuits. Prerequisites: Phy 207, Mth 218.

**ELE 322. FUNDAMENTAL ENGINEERING ELECTRONICS**

TWO CREDIT HOURS


**ELE 322L. FUNDAMENTAL ENGINEERING ELECTRONICS LABORATORY**

ONE CREDIT HOUR

Experiments, tests and measurements paralleling lectures in Ele 322. Basic receiving tube and transistor characteristics, electronic instruments, basic amplifier circuits, power supplies, wave-shaping circuits. Corequisite: Ele 322.

**ELE 331. CIRCUIT THEORY III**

THREE CREDIT HOURS

LaPlace transform analysis, zero-pole structure of network impedance functions. Foster's reactance theorem, synthesis of simple networks. Prerequisites: Ele 232, Mth 219.

**ELE 332. CIRCUIT THEORY IV**

THREE CREDIT HOURS


**ELE 333. FIELD THEORY II**

THREE CREDIT HOURS

Ferromagnetic materials, time changing electric and magnetic fields, Maxwell's equations, relations between field and circuit theory, plane waves, Poynting vector, energy relations. Prerequisite: Ele 233.

**ELE 334. FIELD THEORY III**

THREE CREDIT HOURS

Boundary value problems, retarded potentials, radiation and propagation in unbounded media. Prerequisite: Ele 333.

**ELE 335L. ELECTRICAL ENGINEERING LABORATORY I**

ONE CREDIT HOUR

Theory and range of application of electrical instruments; measurement of resistance, inductance, capacitance, and impedance at audio frequencies. Prerequisite: Ele 232.
ELE 336L. ELECTRICAL ENGINEERING LABORATORY II  
Study of electric circuits including resonant circuits, currents and voltage loci, coupled 
circuits, polyphase circuits and power measurements, network theorems and circuit tran-
sients. Prerequisites: Ele 312, Ele 335L.

ELE 338L. ELECTRICAL ENGINEERING LABORATORY III  
Determination of terminal characteristic of vacuum, gaseous, and solid state electron 
devices; non-sinusoidal wave form frequency analysis; power supplies, three-phase recti-
fiers, single stage amplifiers. Prerequisite: Ele 312.

ELE 403. MACHINERY II  
Theory, construction and characteristics of polyphase induction motors, synchronous 
generators and motors, single phase motors and rotary converters. Selected topics on 
energy conversion. Prerequisite: Ele 318.

ELE 408L. MACHINERY LABORATORY  
Experiments covering series, shunt and compound DC machines. Transformer voltage 
regulation and efficiency. Polyphase operation of transformers. Synchronous generators 
and motors, single phase motors. Corequisite: Ele 403.

ELE 410A. SEMINAR  
Presentation of papers by the students and lectures by engineers in active practice. 
Attendance required by second term seniors only.

ELE 410B. SEMINAR  
Presentation of papers by the students and lectures by engineers in active practice. 
Attendance required by Electrical Engineering juniors and first term seniors.

ELE 411. ELECTRIC AND MAGNETIC FIELD THEORY  
Mathematical theory of classical electricity and magnetism with an introduction to 
electromagnetism and Maxwell's equations. Prerequisite: Mth 219.

ELE 413. COMMUNICATION ENGINEERING  
Treatment of Fourier series; Fourier transform, frequency and time domain; modula-
tion; random signal theory; basic information theory; noise in communication system. 
Prerequisite: Ele 332.

ELE 414. ADVANCED ELECTRONICS  
Electron ballistics; theory of metals and semiconductors; electron emission, space charge 
flow, fundamental gas processes; modern electron devices. Prerequisite: Mth 219.

ELE 431. ENERGY CONVERSION  
Properties and theory of magnetic circuits as applied to electro-mechanical energy con-
version. Non-linear magnetic devices. Introduction to rotating machine analysis. Field 
and circuit concepts of rotating machines. Rotating fields. Synchronous and induction 
machines. Prerequisites: Ele 232, Ele 233.

ELE 432. AUTOMATIC CONTROL SYSTEMS  
Closed-loop control systems; Routh's and Nyquist stability criterion; attenuation fre-
quency methods. The root-locus approach; relationship between steady-state and tran-
sient performance. Prerequisite: Ele 413.
ELE 435L. ELECTRICAL ENGINEERING LABORATORY IV
Tube and transistor multistage amplifiers and broadbANDING; audio frequency power
amplifiers. Prerequisites: ELE 313, ELE 338L.

ELE 436L. ELECTRICAL ENGINEERING LABORATORY V
Amplitude modulation; demodulation of a modulated wave; production of shaped wave-
forms; switching and control circuit applications; design and evaluation of a single-
frequency oscillator; filters. Transmission line parameters. Prerequisite: ELE 435L.

Electrical Engineering Electives

ELE 415. MICROWAVE THEORY AND PRACTICE
Maxwell’s equations; transmission lines, wave guides, cavity resonators; transmission,
reflection, and absorption in media; microwave generators; applications of microwaves.
Prerequisite: ELE 313.

ELE 417. THESIS
Independent project in a field selected by the student and approved by the faculty.
Open to seniors in the second semester.

ELE 419. SERVOMECHANISMS
Closed-loop control systems; Routh’s and Nyquist stability criterion; attenuation-
frequency methods. The root-locus approach; relationship between steady-state and
transient performance. Prerequisite: ELE 331.

ELE 440. ADVANCED ELECTRONICS
Electron ballistics; theory of metals and semiconductors; electron emission, space charge
flow, fundamental gas processes; modern electron devices. Prerequisite: ELE 332.

ELE 499. SPECIAL PROBLEMS IN ELECTRICAL ENGINEERING
Particular assignments to be arranged and approved by Chairman of the Department.

English (Eng)

Dr. B. J. Bedard, Chairman

Professors: Bedard, Boll, Lees, O’Donnell

Associate Professors: Kohles, McCarthy, Means, Sturm

Assistant Professors: Arons, August, Cameron, Cochran, Deboo, Henninger, Horst,
Labadie, Macklin, Means, Murphy, Patrouch, Rougier, Ruff, Stockum, Tiernan.

Instructors: Columbus, Deinlein, Farrelly, Hamilton, Kleine-Kreutzmann, Lauer,
Marré, McNally, Palumbo, Pici, Walsh

Eng 101 and Eng 106 are normally prerequisites for all courses listed as 200 or above.
Students who pass Eng 103 with a grade of C or better take a 200 level course to
complete their freshman requirement. In addition to 12 hrs. of freshman and sophomore
courses majors must take 316, 318, or 428; 405 or 431; 490; a semester of Shakespeare; a
period survey each from sequence 412 to 435 and 438 to 442; a semester of American
literature from the sequence 450 to 456; and one additional elective from 300-400 level offerings. Majors should consult the departmental chairman for advisor assignment. In addition to Freshman and Sophomore courses minors must take one course from the 300 level and three from the 400 level. Minors should consult the departmental chairman regarding the program of study when there is a question involved.

The Department sponsors one co-curricular activity. *The Exponent*, the literary magazine of the University.

Students for whom English is a second language, in their first term, will be required to enroll in English 90, *A Review of American English*, offered through the Office of Special Sessions before their initial enrollment in Eng 101, unless they demonstrate sufficient proficiency in an examination given during Orientation Week.

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**Eng 101. Language and Thought**

An analysis of the logical and linguistic structure of exposition and argument. Practical application aimed at developing perceptive readers and responsible writers. Required conferences. Required of every student.

**Eng 103. Advanced Placement English Composition**

This course, designed for the freshman whose ability in written communication is superior, includes a study of various techniques of writing. Prerequisites: Superior score in entrance exams.

*First Term, Each Year*

**Eng 105. Language and Literature**

An analysis of the major literary forms with emphasis on precision in the use of language. Papers required involve the student with problems of language and structure. Required conferences. Prerequisite: Eng 101.

**Eng 106. Topics in Composition**

Exploration of subjects in composition or related problems in developing writing skills. This course may be substituted for Eng 101 or Eng 106 under special circumstances.

**Eng 201. Poetry and the Novel**

A study of representative examples of two major literary genres. Prerequisite: Six hours in English or Eng 103.

**Eng 202. Drama and Short Fiction**

A study of representative examples of two major literary genres. Prerequisite: Six hours of English or Eng 103.

**Eng 203. Major British Writers**

A study of four or five writers representative of the principal periods in English literature. Prerequisite: Six hours of English or Eng 103.

**Eng 204. Major American Writers**

A study of four or five writers representative of the principal periods in American literature. Prerequisite: Six hours of English or Eng 103.

**Eng 205. Major World Writers**

An examination of significant writings from the Western world, exclusive of English and American literature. Prerequisite: Six hours of English or Eng 103.
ENG 208. TOPICS IN LITERATURE
Three Credit Hours
Exploration of varying approaches to the study of literature. This course may, under special circumstances, be substituted for the other 200 level courses in fulfilling a sophomore requirement. Prerequisite: Six hours of English or Eng 103.

ENG 240H-241H. SOPHOMORE HONORS
Three to six Credit Hours
A seminar in which selected works from the literature of western civilization would be studied. Prerequisite: Sophomore standing in Arts. By invitation only.

ENG 315. DEVELOPMENT OF GRAMMAR
Three Credit Hours
Studies in grammatical structure of modern English in the light of historical development. Traditional and modern linguistic points of view considered. Prerequisite: Twelve hours of English or Eng 103 and six hours.

ENG 316. ADVANCED COMPOSITION
Three Credit Hours
Offers intensive practice in the standard forms of theme writing, with emphasis on the formal, rhythmic, and thought patterns of the sentence, the paragraph, and the total composition. Prerequisites: Twelve hours of English or Eng 103 and six hours.

ENG 318. CREATIVE WRITING
Three Credit Hours
The principles for writing the short story, the informal and formal essay, and the biographical sketch. Prerequisite: Eng 316 or permission.

ENG 321. EUROPEAN LITERATURE OF THE MIDDLE AGES
Three Credit Hours
A consideration of selected literary masterpieces of Western civilization in the Middle Ages. Prerequisite: Twelve hours of English.

ENG 322. WORLD LITERATURE
Three Credit Hours
A survey of the literature of continental Europe and of Asia, from its beginning up to the twentieth century. Not open to students who have had Eng 205. Prerequisite: Twelve hours of English.

ENG 323. DANTE
Three Credit Hours
A comprehensive study of the three Canticles of the Divine Comedy: Inferno, Purgatorio, and Paradiso. Prerequisite: Twelve hours of English.

ENG 329. SHORT STORY
Three Credit Hours
A study of the techniques employed in the writing of the short story. Various models of the short story will be analyzed. Not open to students who have had Eng 202. Prerequisite: Twelve hours of English.

ENG 330. DEVELOPMENT OF DRAMA
Three Credit Hours
A study of the historical development of the drama from its beginnings in the Classic Age to the nineteenth century. Selected plays from each significant period are read and analyzed. Not open to students who have had Eng 202. Prerequisite: Twelve hours of English.

ENG 332. MODERN DRAMA
Three Credit Hours
A selected number of dramas, representing the best of world theater by the foremost playwrights of the modern period. Prerequisite: Twelve hours of English.
Eng 352. Topics in Modern Literature
A study of selected Continental, English, and American writers with a background of discussion of the significant forces shaping the literature of the twentieth century. Prerequisite: Twelve hours of English.

Eng 362. Shakespeare
A study of selected plays of Shakespeare. Some of these are discussed intensively in class; others are assigned for outside reading. Not open to students who have had Eng 423, 424, or 425. Prerequisite: Twelve hours of English.

The primary objective of this course is to cultivate a consciousness of the "philosophical habit of the mind," as set forth by Cardinal Newman in the Discourses on the Idea of a University. Prerequisite: Twelve hours of English.

Eng 370. Francis Thompson
A study of his poems toward the discernment of their manifold spiritual and autobiographical implications.

Eng 382. Directed Readings
A program of professionally oriented readings and reports in humanities and social sciences, utilizing seminars and individual conferences. Required of Juniors in Business Administration. Prerequisite: Six hours of English.

Eng 395H. Junior Honors Tutorial
Independent directed study on special topics for selected students. May be repeated when topic or instructor changes. Permission required.

Eng 403. History of the English Language
Stages in the development of the English language and influences shaping its development are studied to show what happened to the English language from the beginning to the present time. Prerequisite: Twelve hours of English.

Eng 405. Chaucer
A study of the life, the times, and the language of Chaucer. The main concentration is on The Canterbury Tales as rendered in Middle English. Prerequisite: Twelve hours in English.

Eng 407. Medieval English Literature
A study of the dominant types in the literature of England from the beginning to 1500. Prerequisite: Twelve hours in English.

Eng 412. Early Renaissance Literature
A survey of the non-dramatic literature of the sixteenth century from Thomas More to Sidney and Spenser. Prerequisite: Twelve hours in English.

Eng 413. Later Renaissance Literature
A survey of the non-dramatic literature of the early seventeenth century from Bacon, Jonson, and Donne, to Marvell, exclusive of Milton. Prerequisite: Twelve hours in English.
ENG 420. Renaissance Drama
A study of the drama of the Elizabethan, Jacobean, and Caroline periods, exclusive of Shakespeare. Prerequisite: Twelve hours in English.

ENG 423. Tragedies of Shakespeare
All of the tragedies of Shakespeare are read; some are taken through in detail in the lecture periods and the rest assigned for out of class reading. Not open to students who have had Eng 362. Prerequisite: Twelve hours of English.

ENG 424. Comedies of Shakespeare
The same procedure as followed for Eng 423. Some of the Comedies may be omitted at the discretion of the professor. Not open to students who have had Eng 362. Prerequisite: Twelve hours of English.

ENG 425. Histories of Shakespeare
The same procedure as followed for Eng 423. All of the Histories are taken. Not open to students who have had Eng 362. Prerequisite: Twelve hours of English.

ENG 428. Literary Criticism
A study of the history and development of literary criticism. It includes a study of fundamental principles of literary structure and style, together with the various theories advanced. Prerequisite: Twelve hours of English.

ENG 431. Milton
A study of the major and minor poems and of selected prose of Milton. Prerequisite: Twelve hours of English.

ENG 434. Age of Wit and Satire
A study of the major and minor poems and of selected prose of Milton. Prerequisite: Twentieth century. The concern of the course is with the literature from Dryden to Pope, Addison, and Steele. Prerequisite: Twelve hours of English.

ENG 435. English Literature of the Eighteenth Century
A study of the most representative works in prose and poetry from Swift to Johnson. Prerequisite: Twelve hours of English.

ENG 437. The English Novel
A study of the development of the English novel from its beginning in the middle of the eighteenth century to the end of the nineteenth century. Prerequisite: Twelve hours of English.

ENG 438. The Age of Romanticism
A study of the major poets and critics of the Romantic Age. Prerequisite: Twelve hours of English.

ENG 441. The Victorian Age I
A study of the major English poets from Tennyson to Housman. Prerequisite: Twelve hours of English.
ENG 442. The Victorian Age II
English prose writers from Carlyle to Pater. Eng 441 is not a prerequisite. Prerequisite: Twelve hours of English.

ENG 445. Modern British Fiction
A consideration of significant developments in the novel and short fiction from Joyce to the present day. Prerequisite: Twelve hours of English.

ENG 446. Modern English Poetry
A study of tradition and innovation in English poetry from Yeats to the present day. Prerequisite: Twelve hours of English.

ENG 450. Nineteenth Century American Poetry and Prose
A survey of the significant developments in American literature, exclusive of fiction, from Bryant and Poe to Whitman and Henry Adams. Prerequisite: Twelve hours of English.

ENG 452. American Fiction of the Nineteenth Century
A study of developments in the novel and short fiction from Washington Irving to Mark Twain and Stephen Crane. Prerequisite: Twelve hours of English.

ENG 454. Modern American Fiction
A treatment of significant movements in the novel and in the theory of fiction in twentieth century American literature. Prerequisite: Twelve hours of English.

ENG 456. Modern American Poetry
A study of the technique of modern poetry in America from Robinson, Jeffers, and Frost to the present. Prerequisite: Twelve hours of English.

ENG 490. Seminar
Concentration on one literary figure, genre, or period for purposes of research and analysis. Reports are read at sessions. Required of all majors in English. With permission. Prerequisite: Thirty hours of English.

ENG 495H. Senior Honors Tutorial
Independent directed study on special topics for selected students. May be repeated when topic or instructor changes. Permission required.

Fine Arts (Art)

Edward R. Burroughs, Chairman
Associate Professor: Burroughs
Assistant Professors: Plogman, Weber
Part-time Instructors: Barrish, Carmichael, Dreisbach, Martino, McNett, Riesing, Smith, Stanley

The Fine Arts Department offers three degreed programs:
1. Bachelor of Fine Arts
2. Bachelor of Arts with a Major in Fine Arts
3. Bachelor of Science in Art Education
Minors are required to take 19 credit hours in art, 4 hours of which must be in upper level courses. All art students, regardless of their programs, are required to take Art 101-102 Introductory Drawing, and Art 111-112 Principles of Design.

ART 101-102. Introductory Drawing        FOUR CREDIT HOURS
Introduction to drawing from a variety of objects, as well as from the imagination, as a means of visual communication. Contact with a wide range of drawing media is encouraged to develop capabilities. One two-hour course each week.

ART 111-112. Principles of Design        FOUR CREDIT HOURS
A study of the underlying elements and principles of design as they are applied to surface pattern. Color theories and their use in creative design are a part of the course. One two-hour course each week.

ART 191-192. Lettering and Calligraphy   FOUR CREDIT HOURS
The same rules governing other aspects of art apply also to lettering. Application of the drawn letter and the designed letter to poster, books, inscriptions and manuscripts through class assignments and projects will be required. One two-hour course each week.

ART 208-209. Intermediate Drawing        FOUR CREDIT HOURS
Studio course offering further disciplined study in various drawing media such as pencil, crayon, charcoal, and ink as a means of expression. One two-hour course each week.

ART 217-218. Three Dimensional Design    FOUR CREDIT HOURS
The application of the principles of design and aesthetic factors to the development of form; creative use of a wide variety of materials experimentally; development of the knowledge, skills, and techniques necessary to design within limitations imposed by materials. Art 101-102 Introductory Drawing, and Art 111-112 Principles of Design are prerequisites for this course.

ART 226-227. Introductory Painting       FOUR CREDIT HOURS
Painting in oil and water color from still life, landscape and floral subjects. Emphasis is placed on composition and application of art theories. Use of imaginative subject matter will also be encouraged. One two-hour course each week.

ART 231-232. Sculpture                   FOUR CREDIT HOURS
Consideration of forms as a means of developing an understanding of mass, shape, and control of medium. Direct use of the widest possible range of materials with special emphasis on the integration of their characteristics with the expression. One two-hour course each week.

ART 251-252. Graphic Arts                FOUR CREDIT HOURS
The principal processes of the graphic arts are studied as they pertain to contemporary expression in the fine arts and advertising. One two-hour course each week.

ART 261-262. Introductory Enameling       FOUR CREDIT HOURS
Basic principles and techniques of enameling on copper are studied. The student works out original pieces employing elementary processes. In the second term the student progresses into other enameling processes. The course prerequisites are Art 101-102
Introductory Drawing, and Art 111-112 Principles of Design. One three-hour course each week.

ART 263. JEWELRY: INTRODUCTORY CASTING  
TWO CREDIT HOURS
A complete experience in designing original pieces, making wax models, burning out, casting, and finishing pieces. The course prerequisites are Art 101-102 Introductory Drawing, and Art 111-112 Principles of Design. One three-hour course each week.

ART 281. PRACTICAL ARTS: KINDERGARTEN THROUGH PRIMARY GRADES  
TWO CREDIT HOURS
Art teaching methods and experiences geared to the primary grade level. Problems and projects are assigned with meaningful theory. Required course for all primary school teachers. One two-hour course each week.

ART 282. PRACTICAL ARTS: INTERMEDIATE GRADES  
TWO CREDIT HOURS
Same as Art 281, adjusted to the maturity of children in the intermediate grades. Emphasis placed on creative teaching techniques. Required of all intermediate elementary school teachers. One two-hour course each week.

ART 303-304. ADVANCED DRAWING  
FOUR CREDIT HOURS
Observational and expressive drawing. The use of accumulated knowledge from previous drawing experiences in the introductory program, to assist in the development of an individual creativity and original style. One two-hour course each week.

ART 317-318. INTERMEDIATE DESIGN  
FOUR CREDIT HOURS
Principles and practices in the application of design to the Fine Arts as well as the Practical Arts. The assignments are designed to motivate the student in design solutions of projects requiring research into original concepts. The project-oriented program includes assignments in the areas of graphic design, and product design. One two-hour course each week.

ART 321-322. ADVANCED PAINTING  
FOUR CREDIT HOURS
A Continuation of Art 221-222 Introductory Painting, with increased emphasis on the personal interpretation of the subject. The use of various painting media are encouraged, such as oils, water color, opaque water color, and synthetic paints. One two-hour course each week.

ART 331-332. ADVANCED SCULPTURE  
FOUR CREDIT HOURS
Contemporary consideration of sculptural form. Individual expression, employing the use of modern techniques and experimental as well as traditional materials. One two-hour course each week.

ART 371. HISTORY OF ANCIENT ART  
THREE CREDIT HOURS
A Study of great art and the masters of art and the influences upon their work beginning with the ancient period and continuing through the medieval and Gothic periods.

ART 372. RENAISSANCE ART  
THREE CREDIT HOURS
A continuation of Art 271, beginning with the Renaissance and continuing through the Baroque and Rococo periods.
ART 411-412. Advanced Design

The widest possible latitude for experimentation and development of the student's own direction is provided during this third year of study. At this time the student is considered mature enough to have developed certain convictions about his work. One two-hour course each week.

ART 471. Development of Modern Art

New art forms are studied in the development of art history in the late 18th Century and the complete flowering in the 19th Century throughout Europe and the Americas.

ART 472. Art in the Twentieth Century

The development of twentieth century art from 1900 to the present, covering the early cubistic movement, abstract expressionism, and the various aspects of other minor art movements to the present.

ART 481. Creativity in Teaching Art

Use of art elements and principles as the basis for creative approach; organization of units of work, including drawing, painting, design, color, modeling, block printing, lettering, and the mural. Accredited in Education. One two-hour course each week.

ART 482. Teaching Art in Secondary Schools

Basic principles of teaching art more creatively at the secondary school level. The elements of teaching techniques, art student learning processes, creative personality involvement, and creative art performance will be explored. The course is required of all prospective secondary school art teachers and is open to interested art teachers in service. One two-hour course each week.

ART 483W. Elementary School Art

A workshop designed to give the regular classroom teacher on the elementary level new and practical ideas on the employment of art materials and techniques in relation to seasonal interests of pupils and to holiday observances. Summer

ART 484W. Creativity in Teaching High School Art

Intended primarily for the art teacher on the high school level: creative art expression, use of materials, study of handwork and organization of units of work. May substitute for 481. Summer

ART 400. Special Problems

Advanced courses all on the 400 level for Seniors. Students are to consult the art staff for advanced problems and investigations in such areas as drawing, painting, design, graphics, crafts, sculpture, and art research. Hours to be determined by the art staff.

Honors Program. Each year a group of high school seniors, outstanding in art, is invited to take art courses at the University of Dayton. The courses may be offered at various times of the year and are taught by the Fine Arts Staff. The purpose of the program is to further develop and encourage art talent prior to the students' entering either the University of Dayton, or other accredited art institutions offering work beyond high school levels. It is, in effect, a modified advanced placement program, originated to advance highly talented high school seniors in art at the University of Dayton.
Geology (Geo)

George H. Springer, Chairman

Professors: Springer
Assistant Professors: Horvath, Gray
Instructors: Ritter, Murtaugh
Part-time Instructor: Herron

Geo 103. Principles of Geography  THREE CREDIT HOURS
An analysis of the physical factors of the earth's environment: weather, climate, rocks, land forms, oceans. Does not satisfy science requirement for Arts and Sciences.

Geo 109. General Geology  THREE CREDIT HOURS
An introduction to the earth as a planet, its composition, structure, and evolutionary development; a brief consideration of the life of the past. Designed for the non-science major.

Geo 109L. General Geology Laboratory  ONE CREDIT HOUR
Course to accompany Geo 109. Two hours per week.

Geo 115. Physical Geology  THREE CREDIT HOURS
An introductory course in geologic principles; the composition and structure of the earth, its land forms, and the agencies active in their production.

Geo 115L. Physical Geology Laboratory  ONE CREDIT HOUR
Course to accompany Geo 115. Two hours per week.

Geo 116. Historical Geology  THREE CREDIT HOURS
A comprehensive study of earth history as interpreted from the rocks of the crust. Prerequisite: Geo 115.

Geo 116L. Historical Geology Laboratory  ONE CREDIT HOUR
Course to accompany Geo 116. Two hours per week.

Geo 201. Mineralogy  THREE CREDIT HOURS
An introduction to the study of minerals; their chemical and physical properties; their associations and occurrences.  
First Term, Each Year

Geo 201L. Mineralogy Laboratory  ONE CREDIT HOUR
Course to accompany Geo 201. Three hours per week.  
First Term, Each Year

Geo 204. Optical Mineralogy  TWO CREDIT HOURS
Mineral determination through the use of the petrographic microscope employing crushed grains and thin sections. Prerequisite: Geo 201.  
Second Term, Each Year

Geo 204L. Optical Mineralogy Laboratory  TWO CREDIT HOURS
Course to accompany Geo 204. Four hours per week.  
Second Term, Each Year

Geo 218. Engineering Geology  THREE CREDIT HOURS
A comprehensive study of geologic principles applicable to civil engineering practices.  
Second Term, Each Year
# GEO 301. Structural Geology
The origin and development of structural features of the earth's crust; folding, faulting, volcanism, mountain building, and metamorphism. Prerequisites: Geo 115, 116, 201, 204.  
*First Term, 1969-1970*

# GEO 301L. Structural Geology Laboratory
Course to accompany Geo 301. Two hours per week.  
*First Term, 1969-1970*

# GEO 302. Glacial Geology
The origin of mountain and continental glaciers; their depositional features and erosive activity; history of glaciation in geologic past with special emphasis upon North American Pleistocene ice advances. Prerequisites: Geo 115, 116.  
*Second Term, 1969-1970*

# GEO 302L. Glacial Geology Laboratory
Course to accompany Geo 302. Two hours per week.  
*Second Term, 1969-1970*

# GEO 303. Field Geology
Six weeks summer study of structural and age relationship problems in areas containing abundant crystalline and sedimentary exposures. Prerequisites: Geo 115, 116, and 301.  
*Summer*

# GEO 307. Geomorphology
A detailed study of landforms and the erosional processes that develop them. Prerequisites: Geo 115, 116, and 301.  
*Second Term, 1968-1969*

# GEO 307L. Geomorphology Laboratory
Course to accompany Geo 307. Two hours per week.  
*Second Term, 1968-1969*

# GEO 309. Petrography
A study of the composition of igneous, sedimentary, and metamorphic rocks through the use of thin sections and hand specimens. Prerequisite: Geo 204.  
*First Term, 1969-1970*

# GEO 309L. Petrography Laboratory
Course to accompany Geo 309. Four hours per week.  
*First Term, 1969-1970*

# GEO 310. Stratigraphy
The interpretation of specific lithotypes and the synthesis of the stratigraphic record. Prerequisites: Geo 116, 301.  
*Second Term, 1968-1969*

# GEO 310L. Stratigraphy Laboratory
Course to accompany Geo 310. Two hours per week.  
*Second Term, 1968-1969*

# GEO 401. Paleontology
A study of animal life of the geologic past as shown by the fossil record.  
*First Term, 1968-1969*

# GEO 401L. Paleontology Laboratory
Course to accompany Geo 401. Two hours per week.  
*First Term, 1968-1969*
**Geo 403. Sedimentation**

Three Credit Hours

Detailed study of sediments; their sources, environments of deposition, and methods of consolidation. Sedimentary rock classifications and analyses. Prerequisites: Geo 201, 204, 301.

First Term, 1968-1969

**Geo 403L. Sedimentation Laboratory**

One Credit Hour

Course to accompany Geo 403. Two hours per week.

First Term, 1968-1969

**Geo 404. Problems in Geology**

Three Credit Hours

A consideration of special problems involving advanced work in the laboratory and library; arranged to meet the needs of individual students.

**Geo 411. Igneous Petrology**

Three Credit Hours

A study of the formation of igneous rocks. Prerequisites: Geo 201, 204, 309.

Second Term, 1969-1970

**Geo 411L. Igneous Petrology Laboratory**

One Credit Hour

Course to accompany Geo 411. Two hours per week.

Second Term, 1969-1970

**Geo 415-416. Micropaleontology**

Six Credit Hours

A study of microfossils with special attention given to index fossils characteristic of various geologic horizons. Prerequisites: Geo 310, 403.

Full Year Course, 1968-1969

**Geo 415L-416L. Micropaleontology Laboratory**

Two Credit Hours

Course to accompany Geo 415-416. Two hours per week.

Full Year Course, 1968-1969

## History (Hst)

Dr. Wilfred J. Steiner, *Chairman*

Dr. Rocco M. Donatelli, *Assistant Chairman*

*Professors:* Beauregard, Ruppel, Steiner

*Associate Professors:* Donatelli, King, Maras, Sha

*Assistant Professors:* Bannan, Eid, Grant, Hehn, Isaacs, Jegen, Mathias, Rhee, Soffer, Taylor

*Instructors:* Gorie, Pugach, Yaple

History courses in the 100-200 series are prerequisite courses and may not be applied toward a major or a minor.

The course requirement for History majors is 26 credit hours, distributed as follows:

1. Four courses from Groups I, II, III, with at least one course in each group—a total of 12 credit hours;
2. Two courses from Group IV and two from Group V—a total of 12 credit hours;
3. History 401—2 credit hours.
4. Honors Colloquium course may replace any 300-400 course except History 401.
The course requirement for History minors is 12 credit hours. Two courses should be selected from Groups I, II, and III, and two courses from Groups IV and V.

<table>
<thead>
<tr>
<th>GROUP I</th>
<th>GROUP II</th>
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<th>GROUP IV</th>
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<td>442</td>
<td>495</td>
<td>492</td>
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</table>

**Hst 101. History of Civilization**

A survey of mankind from earliest times to 1660 A.D. The course stresses the social and cultural aspects of the prehistoric, ancient, medieval, and early modern eras.

**Hst 102. History of Civilization**

A survey of mankind from 1660 A.D. to the present. Emphasis on the Old Regime, the French Revolution and Napoleonic Age, the Era of Nationalism and Liberalism, the New Industrialism and Imperialism.

**Hst 120. History of England**

This course is designed to acquaint undergraduate students with the major forces and trends in the history of England from earliest times to the present.

**Hst 125. History of Russia**

The development of the Russian state from earliest times to the present. This course is concerned with the origins of the Russian state, political and economic growth, and the development of the modern Soviet state.

**Hst 130. History of the Far East**

Brief review of the early historical development of the Far East, and a study of China and Japan in the 19th and 20th centuries. Emphasis on political, religious, cultural, and economic growth of China and Japan.

**Hst 135. History of Africa**

Attuned to the new approach to African history, this survey, covering early times to the present, aims to display Africa's significance by examples of political grandeur, commercial ingenuity, intellectual ferment, and religious revolutions.

**Hst 251. American History to 1865**

A general survey of the development of the American nation from colonial times to 1865. Due consideration is given to political trends, but the economic and social foundations of American institutions are also emphasized.
Hst 252. American History Since 1865  THREE CREDIT HOURS
This course carries forward the story of the nation and its development after the Civil War. Stress is on those social, economic, and political problems, a knowledge of which is essential to an understanding of contemporary America.

Hst 260. Social and Cultural History of the United States  THREE CREDIT HOURS
Social and cultural development of the American people. Emphasis upon the growth of national spirit, the impact of expansion, conflict over slavery, and problems of industrialization and urbanization.

Hst 265. Diplomatic History of the United States  THREE CREDIT HOURS
Beginning with an explanation of the foundations of American foreign policy this course continues with the diplomacy of continental expansion through the 19th century. Emphasis is placed on diplomatic problems since 1898.

Hst 270. Economic History of the United States  THREE CREDIT HOURS
A survey of the economic theories and institutions peculiar to the United States with special reference to their influence on social and political development.

Hst 275. Latin American Republics  THREE CREDIT HOURS
A survey of the development of the Latin American republics from independence to the present. Stress will be placed on political, economic, and social development.

Hst 300. Roman History  THREE CREDIT HOURS
A survey of the political, cultural, religious, and socio-economic history of the Roman Republic and Empire, 509 B.C. to 476 A.D. A study of early Christianity and the Byzantine Empire is included.  
First Term, 1968-1969

Hst 301. Medieval Europe  THREE CREDIT HOURS
The development of European history from the 4th to the 14th century. Topics include: birth of Middle Ages; Christianity; Byzantine, Islamic, and Carolingian Empires; feudalism; manorialism; Crusades; growth of national states.  
First Term, 1968-1969

Hst 302. Renaissance and Reformation  THREE CREDIT HOURS
The development of European history from the 14th to the middle of the 17th century. Emphasis on the economic, political, social, and religious aspects of the Renaissance, Protestant Revolution, and Catholic Reformation.  
Second Term, 1968-1969

Hst 303. Expansion of Europe  THREE CREDIT HOURS
A study of European imperialism from the 15th to the 20th century. Stress is laid on the reasons for the beginning of the movement, the theory and practice of colonialism, and the manner in which imperialism influenced Europe.  
Second Term, 1968-1969

Hst 304. The Age of Enlightenment  THREE CREDIT HOURS
Designed to bridge the gap between the later Reformation and the era of the French Revolution. Intellectual and cultural developments will be covered, with emphasis on political, economic and social trends of the Old Regime.  
Second Term, 1969-1970

Hst 306. Intellectual and Cultural History of Modern Europe  THREE CREDIT HOURS
Close analysis of men, ideas, and principal cultural developments in the period beginning with the Renaissance and extending into the 20th century.  
Second Term, 1968-1969
This course touches upon the evolving concept and philosophy of war, the development and inter-relationships of weapons, tactics and strategy, and the role of military affairs in politics.

**Hst 310. Military History Since 1789**

This course touches upon the evolving concept and philosophy of war, the development and inter-relationships of weapons, tactics and strategy, and the role of military affairs in politics.

**Hst 318. French Revolution and Napoleonic Era**

Concentration on the ideological, economic, social and political background of the Revolution; an analysis of the Revolutionary governments; the resulting international wars; the rise and fall of Napoleon.

**Hst 319. France Since 1815**

A study of French history from the Bourbon Restoration to the establishment of the 20th century Fourth Republic, with special emphasis on the intellectual, social, economic, political, and diplomatic trends.

**Hst 328. History of Eastern Europe**

The course surveys the history of the nations lying between Germany and the Soviet Union, the Baltic and Aegean Seas. Medieval and early modern background will be stressed as a foundation for understanding the profound trends of contemporary history.

**Hst 333. North Africa in Modern Times**

A study of Morocco, Algeria, Tunisia, and Libya since the 16th century. Stress is placed on the institutional histories of these countries which enabled them ultimately to expel European imperialism.

**Hst 334. South Africa in Modern Times**

The establishment of the Bantu people and institutions and their subjection to assaults by Boers and British. Such study seeks to illuminate the present dominant governmental policy of apartheid.

**Hst 335. West Africa in Modern Times**

West Africa's significance since the 18th century, with special reference to the slave trade, the commercial revolution, religious ferment, imperialistic rivalry, and the recent independence movement.

**Hst 340. The Revolutionary Era, 1789-1918**

A historical analysis of the European nations and peoples emphasizing the themes of War and Revolution. The course covers the revolutions of the period as well as ideological, scientific, and technological developments.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>HST 351</td>
<td>American Colonial History</td>
<td>Three</td>
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<td>A study of the foundations of American Nationality: European background of America, development of the colonial system, transplanting of ideas and institutions from the Old World, growth of democratic tendencies.</td>
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<td>Second Term, 1968-1969</td>
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<tr>
<td>HST 356</td>
<td>Latin America: The Colonial Period</td>
<td>Three</td>
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<td>The Indian civilizations, the Spanish and Portuguese conquest, the colonial period and the movements for independence are covered. Special emphasis is placed on the blending of Iberian, Indian, and African cultures.</td>
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<td>First Term, 1969-1970</td>
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<tr>
<td>HST 364</td>
<td>History of Ohio</td>
<td>Three</td>
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<td></td>
<td>Political, economic, and cultural history of the state will be explained in relation to the parallel growth of the United States. Recommended for elementary and secondary school teachers.</td>
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<td>First Term, 1969-1970</td>
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<tr>
<td>HST 370</td>
<td>The Age of Jefferson and Jackson</td>
<td>Three</td>
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<td></td>
<td>Emphasizes the whole range of historical, cultural, social and political trends that are traditionally associated with the presidencies of Jefferson and Jackson. The period covered extends from the 1790's to the 1850's.</td>
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<td>Second Term, 1968-1969</td>
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<tr>
<td>HST 374</td>
<td>The Gilded Age, 1877-1900</td>
<td>Three</td>
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<td>A study in the political, diplomatic, economic, social, and cultural developments of the age. The rise of big business, organized labor, and the Populist revolt will be studied.</td>
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<td>Second Term, 1968-1969</td>
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<tr>
<td>HST 375</td>
<td>The Progressive Period (1900-1920)</td>
<td>Three</td>
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<td>A study in depth of the major historical trends that dominated these years which saw the universal acceptance of America's claim to world power. Due attention will be placed on cultural as well as political developments.</td>
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<td>First Term, 1969-1970</td>
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<tr>
<td>HST 391</td>
<td>History of Canada</td>
<td>Three</td>
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<td>A general survey of Canadian History from early settlement to the present, with stress placed on the years after 1867.</td>
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<td>First Term, 1968-1969</td>
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<tr>
<td>HST 396</td>
<td>History of the Negro in the New World</td>
<td>Three</td>
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<td>A study of the role of the Negro in the history of the New World, stressing the problems of integration, race relations, and the achievements and contributions of the Negro.</td>
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<td>First Term, 1969-1970</td>
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<tr>
<td>HST 397</td>
<td>History of Civil Liberties in the U.S.</td>
<td>Three</td>
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<td>The issues of religious liberty, discrimination, defendants' rights and individual rights will be studied with an overview of the historical development of all human rights in the U.S.</td>
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<td>Second Term, 1968-1969</td>
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<tr>
<td>HST 401</td>
<td>Pro-Seminar in History</td>
<td>Two</td>
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<td></td>
<td>An introduction to historiography and the study of research and writing in History. A term paper is required. Prerequisite: 6 credit hours of upper level history.</td>
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HST 403. History of Modern Communism
A historical treatment of modern communism and the growth of Communist parties after 1917. Marxism, Leninism, Stalinism, and Maoism will be considered in their historical settings and in the light of Christian principles. Second Term, 1968-1969

HST 409. Europe Since 1918
Topics included: causes and outcome of World War I; internal policies of nations between the two World Wars; diplomatic actions leading to World War II; and the impact of World War II.
First Term, 1969-1970

HST 413. Diplomatic History of the Far East Since 1840
A survey of the diplomatic relations of China, Korea, and Japan among themselves and with other powers. The course selects major diplomatic events from 1840 to the present.
First Term, 1968-1969

HST 415. Soviet Union Since 1917
A detailed survey and analysis of the historical development of the USSR from the Revolution of 1917 to the present time.
First Term, 1969-1970

HST 421. History of England Since 1688
A study of England and Great Britain from the Restoration to the present time. The aim of the course is to study the economic, political, and cultural developments of the Hanoverian, Victorian and modern periods.
First Term, 1968-1969

HST 422. English Constitutional History
A historical approach to the study of the origin and development of English legal, constitutional and institutional history.
Second Term, 1968-1969

HST 429. Modern Germany
Analysis of the development of the German state from 1848 through the period of unification, Second Empire, Weimar Republic, Third Reich, the post World War II Germanies.
First Term, 1968-1969

HST 433. Social and Cultural History of the Middle East
Social and cultural development of the Middle-Eastern people. Emphasis upon the growth of national spirit, the impact of westernization and industrialization, stressing transition and innovation in social and cultural traits.
Second Term, 1969-1970

HST 435. The Middle East, 19th and 20th Centuries
A survey of the Ottoman Empire, Iran, Egypt, and the modern states of the Middle East, emphasizing the development of nationalism and the place of the Middle East in international politics.
First Term, 1968-1969

HST 442. Modern China
A survey of the political, cultural and international developments in China from the eighteenth century to the present.
Second Term, 1969-1970
HST 446. Southeast Asia
A survey of the cultural and political history of Southeast Asian countries, emphasizing recent developments.  
First Term, 1969-1970

HST 451. Civil War and Reconstruction
Remote and immediate causes of the Civil War, especially from 1850 to 1861: problems of North and South during the war; consequences of the war; efforts to create a new Union, 1865 to 1877; problems created by those efforts.  
Second Term, 1969-1970

HST 458. Intellectual and Cultural History of the U.S.
An attempt to trace the evolution of a distinctive American civilization through a study of American thought and its expression in the fine and utilitarian arts. There will be parallel treatment of fine arts and technological developments.  
Second Term, 1968-1969

HST 459. U.S. Constitutional History
A historical analysis of the origin and evolution of the American Constitution, constitutional theory and constitutional practice.  
First Term, 1968-1969

HST 460. Caribbean Since 1801
Study of the cultural, social, economic and political history of the islands and the northern shore of South America in modern times, stressing areas that have gained independence or autonomy.  
First Term, 1968-1969

HST 461. The History of Mexico
Study of Mexican history since 1820. Origins of revolution of 1910 and its development to the present emphasize Mexico's struggle for democracy. Diplomatic and cultural relations between Mexico and the U.S. are considered.  
First Term, 1969-1970

HST 462. The A-B-C Powers
The historical role of Argentina, Brazil, and Chile. Internal problems are considered in a detailed study of national histories. 20th century developments are stressed. The place of these powers in international politics is analyzed.  
First Term, 1968-1969

HST 470. The Catholic Church in the U.S.
This course begins with the establishment of the first Catholic missions in the U.S. The influence of the Church on the cultural, political, economic and religious customs of the American people is explained.  
First Term, 1969-1970

HST 481. Recent American History
A study of the immediate background of contemporary political, social and economic problems. Topics discussed: "Normalcy," Depression and New Deal, impact of World War II on the United States, and World Communism.  
Each Term, 1968-1969

HST 490. The Westward Movement
A history of the expansion of settlement in the U.S. since 1783. Topics include explorations, Indian relations, land policy, transportation, types of frontier settlements, and Western influence on American ideals and institutions.  
Each Term, Each Year
HST 492. EMINENT AMERICANS
A study in depth of the work of Americans who have had an enduring effect on our history; e.g., Washington, Franklin, Hamilton, Jefferson, Lincoln, and the Roosevelts.

HST 495. AMERICAN HISTORIANS
Intensive readings and discussion to foster understanding of American history, as written and interpreted in various periods and intellectual environments. Second Term, 1969-1970

HST 497. HONORS COLLOQUIUM I (HONORS)
A course devoted to the study of a special topic in American History to be selected by the instructor. Applicants will be admitted on the basis of academic record. Limited to ten students.

HST 498. HONORS COLLOQUIUM II (HONORS)
A course devoted to the study of a special topic in Non-American History to be selected by the instructor. Applicants will be admitted on the basis of academic record. Limited to ten students.

Home Economics (Hec)

Elizabeth L. Payne, Chairman
Associate Professor: Payne
Assistant Professors: Bernhard, Ittelson, Metzger, Smallwood

HEC 101. CLOTHING I
A study of clothing selection and construction of simple garments using commercial patterns. Emphasis is on short-cut methods of construction, fitting, dressmaking, details and finishing procedures. Two lecture periods per week.

HEC 101L. CLOTHING I LABORATORY
A course to accompany Hec 101 lecture. One three-hour period per week.

HEC 102. FOODS I
Basic principles and practices in food planning, preparation, preservation and serving. Two lecture periods per week.

HEC 102L. FOODS I LABORATORY
A course to accompany Hec 102 lecture. One three-hour period per week.

HEC 105. INTRODUCTION TO RELATED ART
A study of the fundamentals of design and color and their application in selection and arrangement. Three lecture periods per week.

HEC 201. FOODS II
Continuation of Foods I. Two class periods per week. Prerequisite: Hec 102 or equivalent.

HEC 201L. FOODS II LABORATORY
Course to accompany Hec 201 lecture. One three-hour laboratory period per week.
Hec 211. Clothing II
Detailed emphasis on principles of fitting and creative construction. Two lecture periods per week. Prerequisite: Hec 101 or equivalent.

Hec 211L. Clothing II Laboratory
Course to accompany Hec 211 lecture. One three-hour laboratory period per week.

Hec 214. Textiles I
A study of the natural thermoplastic and non-thermoplastic fibers for the use and care of finished fabrics. Three class periods per week. Second Term, Each Year

Hec 221. Home Management I
A study of home management and use of resources to promote the development of home and family life. Three class periods per week. First Term, Each Year

Hec 225. Child Development I
Developmental study of prenatal, infancy and early childhood. Observation and work in nursery school arranged. Two lecture periods per week. First Term, Each Year

Hec 303. Nutrition and Health
Fundamental principles of human nutrition, including requirements of the body for the nutritive essentials, the composition of foods and the planning of adequate diets for health. Three class periods per week.

Hec 304. Quantity Cookery
The planning, preparing and serving of foods in large quantities. Use and care of equipment for quantity cookery. One class period per week.

Hec 304L. Quantity Cookery Laboratory
Course to accompany Hec 304 lecture. Hours arranged.

Hec 308. Institutional Buying
Selection and methods of purchasing institutional food and equipment. Three class periods per week. As Needed

Hec 309. Household Equipment
A study of the principles involved in the selection, construction, operation and care of household equipment and its relation to the well-being of the family. Three lecture periods per week. Prerequisites: Hec 102, 201 or equivalent.

Hec 318. Family Living
A consideration of the factors necessary for the establishment and maintenance of a home in its changing context. Three lecture periods per week. Second Term, Each Year

Hec 323. Demonstration Methods
A study of lecture-demonstration techniques. Stress is placed on giving lecture-demonstrations. Two class periods per week.

Hec 327. Food Preservation and Experimental Cookery
The experimental application of food principles, theory and procedures in food handling. Two lecture periods per week. Prerequisite: Hec 201. Second Term, Each Year
HEC 327L. Food Preservation in the Home Laboratory
Course to accompany Hec 327 lecture. One three-hour laboratory period per week.

Second Term, Each Year

HEC 328. Home Furnishings and Housing
A study of housing and selection of furnishings for the home, including arrangements, furniture styles and decorative details. Three lecture periods per week. Prerequisite: Hec 105.

Second Term, Each Year

HEC 329. Child Development II
An evaluation of the growth of children; case study and nursery school participation arranged. Two lecture periods per week. Prerequisite: Hec 225. Second Term, Each Year

HEC 401. Advanced Nutrition
Aims to extend the student’s knowledge of the science of nutrition, stressing the metabolism of food constituents and the recent advances in the field of nutrition. Three class periods per week. Prerequisites: Hec 303, Chm 400.

Second Term, Each Year

HEC 402. Diet in Disease
Metabolic processes of the body in diseased conditions and dietary modifications. Three class periods per week. Prerequisite: Hec 303.

As Needed

HEC 405. Teaching of Home Economics in Schools
A study of Vocational Home Economics philosophies and Techniques of Teaching. Planning, preparing, and presenting units and lessons for different grade levels. Three class periods per week.

First Term, Each Year

HEC 406. Home Management II
Planning experience in maintaining a home on a minimum budget. One lecture period per week. Prerequisite: Hec 221.

HEC 406L. Home Management II Laboratory
Course to accompany Hec 406 lecture.

Two Credit Hours

HEC 407. Institutional Organization and Management
Principles and problems of feeding institutional groups, including personnel management, organization and administration. Three class periods per week. As Needed

HEC 415. Tailoring
Tailoring construction as applied in the making of coats and suits. One lecture period per week. Prerequisites: Hec 105, 211 or equivalent.

Second Term, Each Year

HEC 415L. Tailoring Laboratory
Course to accompany Hec 415 lecture. Two two-hour periods per week.

Second Term, Each Year

HEC 430. Problems in Home Furnishings
Problems of making slip covers and draperies; individual problems of refinishing furniture and upholstering. Two class periods per week. Prerequisite: Hec 105.

First Term, Each Year

HEC 430L. Home Furnishings Laboratory
Course to accompany Hec 430 lecture. One three-hour period per week.

First Term, Each Year
HEC 436. SPECIAL PROBLEMS
Problems chosen for individual study in various areas of the field of Home Economics.
Two periods per week.

HEC 436L. SPECIAL PROBLEMS LABORATORY
Course to accompany Hec 436 lecture. One two-hour laboratory.

HEC 437. MEAL MANAGEMENT
To develop the ability to plan, prepare and serve palatable, nutritious and attractive meals at various economic levels. Gourmet and foreign cookery is also included. Two lecture periods per week. Prerequisite: Hec 201.

HEC 437L. MEAL MANAGEMENT LABORATORY
Course to accompany Hec 437 lecture. One two-hour period per week.

Industrial Engineering (INE)

Robert I. Mitchell, Chairman
Professors: Schmid, Gephart
Associate Professor: Mitchell

INE 201. INDUSTRIAL ENGINEERING FUNDAMENTALS
A study of the development of industrial engineering, the scope of its function, its relationship to other professions, organizing for industrial engineering, and methods for utilizing industrial engineering techniques.*

INES 202. ENGINEERING ECONOMY
Emphasizes rational, scientific methods of economic analysis for engineering and management decision-making. Prerequisite: Mth 118.*

INE 301. PERSONNEL ADMINISTRATION
A study of the contributions of the behavioral sciences to the design of complex management systems which require effective integration of human resources.

INE 303. WAGE ADMINISTRATION
A study of financial remuneration; theory, philosophy, and practice. An interdisciplinary approach involving economics, psychology, sociology, engineering and management as they are related to the design of management systems.

INE 310-311. ENGINEERING SYSTEMS DESIGN I AND II
Emphasizing the total systems concept for solving engineering design problems reasoning from general principles or laws to their application to achieve specific objectives. Prerequisite: Mth 118.*

INE 318. ENGINEERING LAW
Legal principles applied to engineering.*

*Recommended to students from other departments as appropriate elective.
INE 320-321. MANAGEMENT SYSTEMS DESIGN I AND II
SIX CREDIT HOURS
The application of design concepts to the development of simple systems which involve purposeful human industry with special attention to the integration of scientific and engineering methods with those of the applied psychologists or social scientists.*

INE 332. STATISTICAL CONTROL AND SYSTEMS DESIGN
THREE CREDIT HOURS
Sampling theory, tests of hypotheses, analysis of variance, regression and correlation, experimental design, and factor analysis with examples from quality control and process design, analysis and control. Prerequisite: Mth 331.*
First Term, Each Year

INE 341. WORK DESIGN I
THREE CREDIT HOURS
Introduction to design and analysis of work systems. Application of models to work study. Study of symbolic chart models, physical analog models, mathematical and statistical models. Prerequisites: Cps 233, Ine 332.

INE 403. TIME AND MOTION STUDY I
TWO CREDIT HOURS
A study of the job analysis techniques including process charts, right and left hand charts, the laws of motion economy, man-machine charts and a survey of micromotion techniques.

INE 403L. TIME AND MOTION STUDY LABORATORY I
ONE CREDIT HOUR
A series of laboratory problems based on the above. Corequisite: Ine 403.

INE 404. TIME AND MOTION STUDY II
TWO CREDIT HOURS
A study of advanced problems in establishing standard time data, progressive operations, application of statistics, micromotion study with practical problems. Prerequisite: Ine 403.
Second Term, Each Year

INE 404L. TIME AND MOTION STUDY LABORATORY II
ONE CREDIT HOUR
A series of laboratory problems based on the above. Corequisite: Ine 404.
Second Term, Each Year

INE 405. PRODUCTION PLANNING
THREE CREDIT HOURS
A study of the practices in production scheduling, routing, dispatching and inventory control; including an analysis of mechanized systems and current practices.
Second Term, Each Year

INE 406. PLANT LAYOUT AND MATERIAL HANDLING
TWO CREDIT HOURS
The design of a plant for a specified product. Includes: structure; power requirements; heat; light; sound; and ventilation; transportation facilities, material handling requirements and equipment. Prerequisite: Mee 106L
First Term, Each Year

INE 406L. PLANT LAYOUT LABORATORY
ONE CREDIT HOUR
The complete design of a light manufacturing plant including choice of site, building, equipment and organizational structure. Corequisite: Ine 406.

INE 408. ADMINISTRATION AND ORGANIZATION
THREE CREDIT HOURS
Social relationships, achievements, goals, objectives of organizations. Processes, functions, techniques, and tasks of management. Theories and practices utilized in the dispersion and concentration of authority and responsibility.*

INE 410. SEMINAR
ONE CREDIT HOUR
Required of advanced industrial engineering students. The preparation and presentation of a paper on current industrial engineering practices and topics.

*Recommended to students from other departments as appropriate elective.
### INE 411. PERSONNEL ADMINISTRATION

A study of the contributions of the behavioral sciences to the design of complex, management systems which require effective integration of human resources. Prerequisite: Ine 320 or Ine 408.

#### THREE CREDIT HOURS

### INE 412. WAGE ADMINISTRATION

A study of financial remuneration; theory, philosophy, and practice. An interdisciplinary approach involving economics, psychology, sociology, engineering and management as they are related to the design of management systems. Prerequisites: Ine 320 and 321, or Ine 408.

#### THREE CREDIT HOURS

### INE 421. RELIABILITY THEORY

Applications of statistical theory to engineering reliability design. Testing methods for determining reliability. Design of components and assemblies for reliability. Prerequisite: Mth 331.*

*Second Term, Each Year*

### INE 422. RELIABILITY APPLICATION

The application of reliability theories to the design of complex, integrated systems. Prerequisite: Ine 421.*

*First Term, Each Year*

### INE 430. ENGINEERING SYSTEMS DESIGN I

Emphasizing the total systems concept for solving engineering design problems reasoning from general principles or laws to their application to achieve specific objectives. An introduction to the theory of control with emphasis upon general principles as contrasted with a detailed study of specific control systems. Prerequisite: Mth 331.

#### THREE CREDIT HOURS

### INE 431. ENGINEERING SYSTEMS DESIGN II

The use of industrial engineering concepts in research and development undertakings including the design of products, programming of effort, assigning probabilities to events, time or cost schedules. Prerequisite: Ine 430.

#### THREE CREDIT HOURS

### INE 442. WORK DESIGN II

Advanced studies of work systems. Development and analysis of techniques to standardize and measure work. Development of standards through the use of MTM, time study and WMS. Development of standard data and applications of its use in production control and work systems. Prerequisite: Ine 341.

#### TWO CREDIT HOURS

### INE 442L. WORK DESIGN LABORATORY II

Practice in the application of MTM, time study, and WMS. Development of rating and its application to time study. WMS and work sampling. Studies conducted under both actual and simulated industrial conditions. Corequisite: Ine 442.

#### ONE CREDIT HOUR

### INE 443. WORK DESIGN III

Application of work design techniques to the development of work systems. Studies of computerized techniques to design and control work systems. Application of simulation and O.R. optimizing techniques to production scheduling, inventory control and plant layout problems. Prerequisites: Ine 442, 442L.

#### TWO CREDIT HOURS

### INE 443L. WORK DESIGN LABORATORY III

Practice in the development and application of models (mainly, but not limited to, computerized statistical models) to the solution of typical industrial problems in work design. Corequisite: Ine 443.

#### ONE CREDIT HOUR

*Recommended to students from other departments as appropriate elective.
Program of Judaic Studies

Liaison: Fr. John Kelley, S.M.

The Program of Judaic Studies brings Jewish scholars to our campus for specialized offerings relative to the literature of the Hebrew scriptures, the archaeology and history of Israel, the Hebrew language and culture.

Visiting Instructors: Rabbi Herbert Brichto, Rabbi Alvin Reines, Dr. Ellis Rivkin, Rabbi Ezra Spicehandler, Dr. Samuel Greengus

Jud 320. History of Israel
A survey of the history of the chosen people from Abraham unto modern times with stress on biblical history and the contemporaneous resurgence of a national state.
First Term

Jud 321. Biblical View of History
Seminar dealing with the biblical view of history.
First Term

Jud 330. Judaic Literature
An introduction to and overview of the field of Judaic literature with emphasis upon literary forms.
Third Term

Jud 331. Selected Texts from Jewish Literature
Seminar discussing selected texts of Judaic literature.
Third Term

Jud 340. Archaeology and the Bible
An historical and synthetic analysis of the development of archaeology in Palestine and the subsequent impact upon the understanding of the culture of Judaism.
Second Term

Jud 341. Seminar: Modern Developments in Archaeology
One credit hour
Second Term

Jud 350. Martin Buber, Life and Work
An overview of the life and writings of Martin Buber and the significance of his work for philosophy, sociology and psychology, as well as his contribution to the dialog of Christian and Jew.
Third Term

Jud 351. Seminar: Selected Writings of Martin Buber
Examination of texts from I and Thou and other writings.
Third Term

Jud 360. Judaism and Islam
An historical and comparative analysis of the development of Islam from Judaic and Christian elements; a survey of the Koran in its literary dependence on scripture.
To be announced

Jud 361. Seminar: The Bible and the Koran
One credit hour
To be announced

Jud 370. The World of the Psalmist
A general course on the psalms in the world of the Hebrew bible. The conceptual world of the Hebrew scriptures reflected in the book of Psalms, and the relation of the psalms to religious life today.
Second Term
JUD 371. SEMINAR: PROBLEMS OF THE PSALMS
Selection of passages in the psalms which present special difficulties in understanding the sacred songs. (No student will be permitted to take JUD 371 without taking JUD 370.)

Languages

Dr. James M. Ferrigno, Chairman
Professors: Ferrigno, Perz
Associate Professor: McKenzie
Assistant Professors: Bartholomew, Boenninghofen, Castelló, Darby, Frazier, Galeano,* Rus, Saquel, Sory, Walter, Zeinz
Instructors: Baumann, Conard, Elefant, Franklin, Greely, Hager, Lôbo, Rock, Sarmiento, Treacy, Walker
Part-time Instructors: Dean, Fox, Nassif

A language major may arrange his courses, with the approval of the department chairman, in one of these two forms of concentration: (A) Major in a single language, requiring 24 hours in upper level courses (300-400); (B) Composite major, requiring a minimum of 18 hours in each of two languages (any level).

It is recommended that students of either category elect a minor in languages as well. For a language minor, students in category A are required to do 12 hours of upper level work not in their major language, and students in category B are required to add 18 hours (any level) preferably in a language or languages other than those of their composite major.

A composite major in Classical Languages (Greek and Latin) may be earned by completing the following program:
(a) minimum of 24 credit hours of courses in the Latin Language at the 300-400 level;
(b) minimum of 12 credit hours of courses in the Greek Language at any level;
(c) electives to minimum total of 42 credit hours, such electives to be chosen from courses in Greek or Roman History, Ancient Philosophy, Greek, or Latin.

French (FRN)

FRN 101. ELEMENTARY FRENCH
Elements of French, including pronunciation, reading, translation, grammar, dictation and conversation. THREE CREDIT HOURS

FRN 102. ELEMENTARY FRENCH II
Continuation of Elementary French 101. Prerequisite: FRN 101. THREE CREDIT HOURS

FRN 107. ELEMENTARY FRENCH
Elements of French, including pronunciation, reading, translation, dictation and conversation. Six class hours. This course is given only at Wright-Patterson Air Force Base. FIVE CREDIT HOURS

FREN 201. **Intermediate French**
Grammar review, selected readings from modern authors, exercises in composition and conversation. Prerequisite: FRN 102.

**THREE CREDIT HOURS**

FREN 202. **Intermediate French II**
Continuation of Intermediate French 201. Prerequisite: FREN 201.

**THREE CREDIT HOURS**

FREN 207. **Intermediate French**
Composition and conversation, selected readings. Six class hours. Prerequisite: FRN 107 or equivalent. This course is given only at Wright-Patterson Air Force Base.

**FIVE CREDIT HOURS**

FREN 307. **Advanced French Composition and Conversation**
Practice in composition based on area material. Intensive drill in the aural and oral use of the language.

**THREE CREDIT HOURS**

First Term, Each Year

FREN 308. **Advanced French Composition and Conversation**
Continuation of Advanced French Composition and Conversation, FREN 307.

**THREE CREDIT HOURS**

Second Term, Each Year

Note: French 307 and French 308 are prerequisites for all other upper level courses in French.

FREN 309. **Rapid Reading in French**
A course designed to improve and accelerate reading ability and to develop understanding and appreciation of the great works of French literature. Readings, reports and discussions.

**THREE CREDIT HOURS**

First Term, 1968-1969

FREN 310. **Rapid Reading in French**
Continuation of Rapid Reading in French 309.

**THREE CREDIT HOURS**

Second Term, 1968-1969

FREN 311. **French Literature to 1700**
A survey of French literature from the earliest beginnings to the eighteenth century, with special emphasis on the principal authors and works of the seventeenth century. Lectures, discussions and reports on area material.

**THREE CREDIT HOURS**

First Term, 1969-1970

FREN 312. **French Literature to 1700**
Continuation of French Literature to 1700, FREN 311.

**THREE CREDIT HOURS**

Second Term, 1969-1970

FREN 405. **French Literature of the Twentieth Century**
A survey of the literary movements, outstanding authors and works of the present century. Lectures, discussions and reports on assigned readings.

**THREE CREDIT HOURS**

First Term, 1969-1970

FREN 406. **French Literature of the Twentieth Century**
Continuation of French Literature of the Twentieth Century, FREN 405.

**THREE CREDIT HOURS**

Second Term, 1969-1970

FREN 407. **French Literature of the Eighteenth and Nineteenth Centuries**
A survey covering the literary movements, outstanding authors and works of this period. Lectures, discussions and reports on assigned readings.

**THREE CREDIT HOURS**

First Term, 1968-1969
### French Literature of the Eighteenth and Nineteenth Centuries

**FRN 408. French Literature of the Eighteenth and Nineteenth Centuries**

Continuation of French Literature of the Eighteenth and Nineteenth Centuries, FRN 407.

**German (GER)**

**GER 101. Elementary German**

Elements of German, including pronunciation, reading, translation, grammar, dictation and conversation.

**GER 102. Elementary German II**

Continuation of Elementary German 101. Prerequisite: GER 101.

**GER 107. Elementary German**

Elements of German, including pronunciation, reading, translation, dictation and conversation. Six class hours. This course is given only at Wright-Patterson Air Force Base.

**GER 201. Intermediate German**

Grammar review, selected readings from modern authors, exercises in composition and conversation. Prerequisite: GER 102.

**GER 202. Intermediate German**

Continuation of Intermediate German 201. Prerequisite: GER 201.

**GER 207. Intermediate German**

Composition and conversation, selected readings. Six class hours. Prerequisite: GER 107 or equivalent. This course is given only at Wright-Patterson Air Force Base.

**GER 301. German Literature till 1800**

A survey of German literature from the earliest times to the period of Romanticism. A study of literary movements, outstanding authors and works. Lectures, discussions and reports on assigned readings.

**GER 302. German Literature till 1800**

Continuation of German Literature till 1800, GER 301.

**GER 303. Introduction to German Literary Studies**

Introduction into the systematic study of masterpieces of German literature. Readings, interpretations and discussion of major works. Prerequisite: German 308 or permission of Department.

**GER 304. Introduction to German Literary Studies**

Continuation of German 303.

**GER 308. Advanced German Conversation and Composition**

Intensive drill in the oral and aural use of the language, based on area material. Practice in composition.
GER 309. **German Civilization**
A survey of the German people, its geographical, historical and political background. German art and folklore.

**Three Credit Hours**
*Second Term, Each Year*

GER 407. **German Literature of the Twentieth Century**
A survey of the outstanding authors and works of the present century. Lectures, discussions and reports on assigned readings.

**Three Credit Hours**
*First Term, 1968-1969*

GER 408. **The Classical Period**
A study of the principal authors and works of this period. Lectures, discussions and reports on assigned readings.

**Three Credit Hours**
*Second Term, 1968-1969*

GER 409. **German Literature of the Nineteenth Century**
A survey of nineteenth century German literature, including a study of literary movements, outstanding authors and works. Lectures, discussions and reports on assigned readings.

**Three Credit Hours**
*First Term, 1969-1970*

GER 410. **German Literature of the Nineteenth Century**
A continuation of German Literature of the Nineteenth Century, Ger 409.

*Second Term, 1969-1970*

**Greek (GRK)**

GRK 101. **Elementary Greek**
A study of the essentials of classical Greek grammar with exercises and readings.

**Three Credit Hours**

GRK 102. **Elementary Greek**
Continuation of Elementary Greek 101. Prerequisite: Grk 101.

**Three Credit Hours**

GRK 201. **Intermediate Greek**
Continuation of the study of grammar. Readings from Herodotus, Xenophon, and Plato. Prerequisite: Grk 102.

**Three Credit Hours**
*First Term, Each Year*

GRK 303. **Plato**
The Apologia is read and selections from the rest of Plato's works. Plato's contribution to the history of ideas as emphasized and illustrated through extensive supplementary reading in Jowett.

**Three Credit Hours**

GRK 304. **Homer**
Readings from the Iliad and the Odyssey.

**Three Credit Hours**
*Second Term, Each Year*

GRK 305. **The Septuagint**
Extensive readings. Comparison with the Vulgate. Excursions into the field of Biblical science.

**Three Credit Hours**
*To be announced*

GRK 306. **The New Testament**
Similar to Grk 305. Comparison of the Greek and Latin texts with modern renditions.

**Three Credit Hours**

GRK 403. **Greek Drama**
Readings of Sophocles' Oedipus Rex and Antigone with a study of the origin and development of Greek drama.

**Three Credit Hours**
Hebrew (Heb)

Heb 101. Elementary Hebrew
Brief history of the language. Basic grammar: nouns and adjectives with their pronominal suffixes; regular verbs in the seven ordinary conjugations; prepositions and their suffixes. Reading, translation, writing, and conversation. Three Credit Hours
First Term, Each Year

Heb 102. Introduction to Classical Hebrew
Further study of the verb. Chapters read from all portions of the Old Testament with emphasis on the Pentateuch. Oral reading and conversation in the spirit of Classical Hebrew. Translation of poetic portions. Prerequisite: Heb 101. Three Credit Hours
Second Term, Each Year

Italian (ITA)

ITA 101. Elementary Italian
Elements of Italian, including pronunciation, reading, translation, grammar, dictation and conversation. Three Credit Hours

ITA 102. Elementary Italian
Continuation of Elementary Italian 101. Prerequisite: Ita 101. Three Credit Hours

ITA 201. Intermediate Italian
Grammar review, selected readings from modern authors, exercises in composition and conversation. Prerequisite: Ita 102. Three Credit Hours

ITA 202. Intermediate Italian
Continuation of Intermediate Italian 201. Prerequisite: Ita 201. Three Credit Hours

ITA 301. Masterpieces of Italian Literature
Major works from Dante to Tasso, presented in literary-historical perspective. Prerequisite: Ita 202 or permission of the Department. First Term, 1968-1969

ITA 302. Masterpieces of Italian Literature
The major works from Marino to D'Annunzio presented in literary-historical perspective. Prerequisite: Ita 202 or permission of the Department. Second Term, 1968-1969

ITA 307. Advanced Italian Composition and Conversation
Practice in composition based on area material. Intensive drill in the aural-oral aspects of the language. Discussions, reports, debates. Three class hours and two laboratory hours. Prerequisite: Ita 202 or permission of the Department. First Term, 1969-1970

ITA 308. Advanced Italian Composition and Conversation II
Continuation of Ita 307. Three Credit Hours
Second Term, 1969-1970

Latin (Lat)

Lat 101. Elementary Latin
A college course in Latin fundamentals. Three Credit Hours
LAT 102. ELEMENTARY LATIN
A continuation of Elementary Latin 101. Prerequisite: Lat 101.

LAT 201. INTERMEDIATE LATIN
Second year course in Latin. Readings from classical authors of the pre-Christian periods. Prerequisite: Lat 102.

LAT 202. INTERMEDIATE LATIN
A continuation of Intermediate Latin 201. Prerequisite: Lat 201.

LAT 301. LATIN COMPOSITION AND CONVERSATION
This course aims to give an intensive review of inflections and syntax with emphasis on original style and fluency of expression.

LAT 302. INTENSIVE LATIN
An intensive course in Latin Composition and Conversation with special emphasis on philosophical and ecclesiastical Latin. Prerequisite: Latin 301.

LAT 304. VERGIL
A survey of the work of Vergil, with special attention to the literary art of the Aeneid and the nature and development of the Roman epic.

LAT 305. MEDIEVAL LATIN
An outline of the main course of Latin literature from 400 A.D. to 1500 A.D., with special attention being given to the classical heritage of the Middle Ages.

LAT 306. HORACE
Readings of selected Odes and Epodes, and the Ars Poetica of Horace; a study of his lyric quality, workmanship, and meters.

LAT 307. READINGS IN LATIN LITERATURE
This course embraces the reading of excerpts from a wide range of Latin authors.

LAT 309. CICERO
A study of De Amicitia and De Senectute or other works of Cicero.

LAT 310. SELECTED LETTERS OF PLINY
A study of the Latin letter as a literary form. The men and the world of the times of Pliny are revealed by his letters.

LAT 313. OVID
Intensive readings in the Metamorphoses with emphasis on the influence of the mythological epic on some of the modern literatures.

LAT 314. LIVY
This course comprises readings from Books I, XXI, and XXII of Livy’s History and an examination of his historical method and literary form.

LAT 335. ROMAN SATIRE
Origins, development and influence of Roman satire. Reading in the original of selections from the chief writers of Roman satire, with emphasis on Horace and Juvenal.

First Term, 1969-1970
LAT 401. Advanced Latin Composition
An intensive course in Latin composition, with special attention to the classical type of Cicero.

LAT 403. Seneca
A study of Seneca's philosophical style and the ethical teaching of Stoicism as revealed in his Moral Epistles and Essays.

LAT 405-406-407. Philosophical Latin
Translation of Latin philosophical works. Lat 405: Logica et Ontologia; Lat 406: Cosmologia et Psychologia; Lat 407: Theodicaea et Ethica.

LAT 412. Ecclesiastical Latin
The object of this course is to acquaint students for the priesthood with the Latin of theologians.

LAT 413. The Confessions of St. Augustine
Excerpts are taken from the first Nine Books.

LAT 414. Patristic Latin
Selections from St. Augustine, Tertullian, St. Cyprian, Lactantius, St. Ambrose, St. Jerome, and other Fathers.

Russian (Rus)

RUS 101. Elementary Russian
Designed to familiarize the beginner with the essentials of the spoken and written language. Vocabulary practice, simple sentence structure, conversational drills, and reading, stress on pronunciation and handwriting.

RUS 102. Elementary Russian II
Continuation of Russian 101. Prerequisite: Rus 101.

RUS 107. Elementary Russian
Elements of Russian, including pronunciation, reading, translation, dictation and conversation. Six class hours. This course is given only at Wright-Patterson Air Force Base.

RUS 201. Intermediate Russian
Review of the essentials of grammar, intensive conversational and comprehension exercises, reading of graded modern and contemporary prose and poetry. Prerequisite: Rus 101-102, or equivalent.

RUS 202. Intermediate Russian II
Continuation of Russian 201. Prerequisite: Rus 201.

RUS 203. Scientific Russian
This course is given only at Wright-Patterson Air Force Base. Prerequisite: Rus 101-102, or equivalent.
RUS 204.  SCIENTIFIC RUSSIAN
Continuation of Scientific Russian, RUS 203.

RUS 207.  INTERMEDIATE RUSSIAN
Composition and conversation, selected readings. Six class hours. Prerequisite: RUS 107 or equivalent. This course is given only at Wright-Patterson Air Force Base.

RUS 301.  RUSSIAN READING AND CONVERSATION
For students who possess a general knowledge of Russian, but lack practical experience of the spoken language. Conversation is based on more advanced reading material. Prerequisite: RUS 201-202, or equivalent.

RUS 302.  RUSSIAN READING AND CONVERSATION
Continuation of RUS 301.

RUS 303.  ADVANCED RUSSIAN GRAMMAR AND COMPOSITION
Phonology and Morphology. A thorough treatment, entirely in Russian, of pronunciation and the parts of speech including a basic treatment of the verb. Recommended for future teachers or graduate students.

RUS 304.  ADVANCED RUSSIAN GRAMMAR AND COMPOSITION
Specialized Morphology. Syntax. A treatment, like that of RUS 303, of verb aspects, word structure and sentence structure. Entirely in Russian. May be taken independently of RUS 303.

RUS 305.  RUSSIAN CULTURE AND CIVILIZATION
Survey in Russian of the country's history, politics, religion, music, art, geography and literature. Emphasis on key ideas and basic terminology. Useful as background for other Russian courses or as summation of courses, readings. Third term (I), each year. Prerequisite: RUS 202 or equivalent.

RUS 403.  EARLY RUSSIAN LITERATURE
Short review of the beginnings of Russian literature, the early forms of literature, the post-Peter I period, and the outstanding authors. Introduction to techniques of translation. Conducted in Russian.

RUS 404.  LATER RUSSIAN LITERATURE
The literature of the late 18th Century. Reading of outstanding works. Literature of 19th and 20th Centuries (outstanding works and authors). Scientific translation. Course conducted in Russian.

RUS 405.  PUSHKIN
Survey of Pushkin's life, work and influence. Extensive readings in his works and readings in selected authors, contemporary or later, who show his influence. Course conducted in Russian.

RUS 406.  L. N. TOLSTOY
Survey of Tolstoy's life, work and influence. Extensive readings in his works and readings in selected authors, contemporary or later, who show his influence. Course conducted in Russian.

THREE CREDIT HOURS (FIVE CREDIT HOURS)

First Term, Each Year

Second Term, Each Year

First Half, Third Term

First Term, 1969-1970

Second Term, 1969-1970

First Term, 1968-1969

Second Term, 1968-1969
Spanish (SpN)

SpN 101. ELEMENTARY SPANISH
Elements of Spanish, including pronunciation, reading, translation, grammar, dictation and conversation. THREE CREDIT HOURS

SpN 102. ELEMENTARY SPANISH II
Continuation of Spanish 101. Prerequisite: Spn 101. THREE CREDIT HOURS

SpN 107. ELEMENTARY SPANISH
Elements of Spanish, including pronunciation, reading, translation, dictation and conversation. Six class hours. This course is given only at Wright-Patterson Air Force Base. FIVE CREDIT HOURS

SpN 201. INTERMEDIATE SPANISH
Grammar review, selected readings from modern authors, exercises in composition and conversation. Prerequisite: Spn 102. THREE CREDIT HOURS

SpN 202. INTERMEDIATE SPANISH
Continuation of Intermediate Spanish 201. Prerequisite: Spn 201. THREE CREDIT HOURS

SpN 207. INTERMEDIATE SPANISH
Composition and conversation, selected readings. Six class hours. Prerequisite: Spn 107 or equivalent. This course is given only at Wright-Patterson Air Force Base. FIVE CREDIT HOURS

SpN 301. SPANISH LITERATURE
A survey of Spanish literature, with special emphasis on the Golden Age and the modern period. Lectures, discussions and reports on assigned readings. THREE CREDIT HOURS

SpN 302. SPANISH LITERATURE
A continuation of Spanish Literature, Spn 301. THREE CREDIT HOURS

SpN 303. SPANISH-AMERICAN LITERATURE
A study of the principal authors and works of the colonial, revolutionary and modern periods. Lectures, discussions and reports on assigned readings. THREE CREDIT HOURS

SpN 304. SPANISH-AMERICAN LITERATURE
A continuation of Spanish-American Literature, Spn 303. THREE CREDIT HOURS

SpN 307. ADVANCED SPANISH COMPOSITION AND CONVERSATION
Practice in composition based on area material. Intensive drill in aural and oral use of the language. THREE CREDIT HOURS

SpN 308. ADVANCED SPANISH COMPOSITION AND CONVERSATION II
Continuation of Spn 307. THREE CREDIT HOURS

Note: Spanish 307 and Spanish 308 are prerequisites for all other upper level Spanish courses.

SpN 403. MODERN SPANISH DRAMATISTS
A study of the important dramatists from 1830 to the present time. Lectures, discussions and reports on assigned readings. THREE CREDIT HOURS
SPN 404. DRAMA OF THE GOLDEN AGE
A study of the significance and principal works of the great dramatists of the sixteenth and seventeenth centuries. Lectures, discussions and reports on assigned readings.

Second Term, 1969-1970

SPN 405. SPANISH LITERATURE OF THE TWENTIETH CENTURY
A study of the principal Spanish and Spanish-American authors and works of the present century. Lectures, discussions, and reports on assigned readings.

First Term, 1968-1969

SPN 406. SPANISH NOVELISTS OF THE NINETEENTH CENTURY
A study of the more important works of the principal novelists of this period. Lectures, discussions and reports on assigned readings.

Second Term, 1968-1969

Marketing (Mkt)

Harry C. Murphy, Chairman
Professor: Murphy
Associate Professor: Comer
Assistant Professors: Densmore, Jain, Kline, Royer
Part-time Instructor: Somers

Mkt 305. PRINCIPLES OF MARKETING
The general principles and practices underlying the processes of marketing. An analysis of the problems of the manufacturer, wholesaler, retailer and other marketing agencies. Principles, trends, methods and policies with relation to marketing efficiency.

Three credit hours

Mkt 310. SALESMANSHIP
A study of the basic principles underlying all selling and their practical application to specific cases.

Three credit hours

Mkt 315. RETAIL MERCHANDISING
Surveys basic merchandising principles and problems of large and small retail stores. Includes organization, location, buying and selling, cost reductions, current practices and trends. Prerequisite: Mkt 305.

Three credit hours

Mkt 318. RETAIL ADVERTISING AND SALES PROMOTION
Principles and practices of retail advertising and other sales promotion activities; where, when, and what to promote; budgeting and planning of special events and activities; emphasis upon coordination. Prerequisite: Mkt 315.

Three credit hours

Mkt 335. ADVANCED MARKETING
Applications of the principles of marketing; marketing policies of manufacturers and/or wholesalers; analysis of current problems and literature relating to marketing efficiency. Prerequisite: Mkt 305.

Three credit hours

Mkt 340. INDUSTRIAL MARKETING
Fundamental basis and problems of marketing industrial goods and services. Analysis of the industrial market, channels of distribution, industrial sales, promotional practices, research, and marketing policies. Illustrative case studies utilized. Prerequisite: Mkt 305.

Three credit hours
Mkt 405. Consumer Behavior

The consumer-firm relationship studied in terms of concepts drawn from contemporary social sciences as related to present and prospective business activities.

Mkt 411. Sales Management

The structure of the sales organization, determination of sales policies, the selection, training, and motivation of salesmen, the establishing of sales territories and quotas. Prerequisite: Mkt 305.

Mkt 417. Retail Buying and Merchandising

Determining what to buy, how much, market resources, and model stocks, as well as the mathematic principles involved in purchase planning, planning initial markup, terms and dating, stockturn, inventory methods. Prerequisite: Mkt 315.

Mkt 420. Marketing Communications

Problems of marketing considered as problems of effective communication in such functional areas as advertising, personal selling, packaging, research, display and pricing. Prerequisite: Mkt 305.

Mkt 421. Advertising

Nature and functions of advertising; the preparation of layouts; the writing of copy; selection and evaluation of media. The coordination of advertising with other marketing efforts. Social implications of advertising are discussed.

Mkt 430. Marketing Research

A study of the application of the scientific method to the definition and solution of marketing problems. Examines the range of activities and the problems faced in market research. Prerequisite: Mkt 305.

Mkt 450. Market Development, Programming and Policies

Marketing responsibilities approached from the managerial perspective utilizing the systems view of today's complex business organization. Comprehensive discussion of cases involving a variety of products and environmental circumstances. Prerequisites: Six hours of Marketing including Mkt 305.

Mkt 499H. Problems in Marketing (Honors Credit)

A study of one or more specific aspects of the marketing process with emphasis on individual student reading and research. Subject matter to be determined by the instructor on the basis of interest and need of the student. Enrollment limited.

Mathematics (Mth)

Dr. Kenneth C. Schraut, Chairman

Professors: Bellmer (on leave), Schraut

Associate Professors: Back, Esser, Peterson, T. Schoen, Stander

Assistant Professors: Cada, Friel, T. Gantner, McCloskey, Mushenheim, Rice, Steinlage, Shaughnessy

Instructors: Kauflin (on leave), Tobias, H. Schoen, C. Gantner

Part-time Instructors: Caulfield, Baccus
MTH 101. PRECALCULUS MATHEMATICS
Four credit hours
For students whose achievement in mathematics is insufficient to profit from instruction in Mathematics 112, Mathematics 118, or Mathematics 128. Topics from algebra and trigonometry chosen to satisfy the needs of the class.

MTH 111. MATHEMATICS AND ITS CULTURAL ASPECTS
Three credit hours
Historical development of mathematics, the axiomatic approach, various mathematical systems, applications. Three class periods a week. Prerequisite: One and one-half years of high school algebra and a year of high school geometry.

MTH 112-113. INTRODUCTORY MATHEMATICAL ANALYSIS
Three credit hours
Sets, systems of numbers, functions and the mapping process, sequences, limits, continuous functions, derivative function, exponential and logarithmic functions, definite integral, applications to life sciences and behavior sciences. Prerequisite: Satisfactory score on prescribed placement test.

MTH 118. ANALYTIC GEOMETRY AND CALCULUS I
Four credit hours
Fundamentals of analytic geometry, differentiation of algebraic functions with applications to geometry and physics, indefinite and definite integrals with application to geometry and physics and engineering. A more applied presentation than is followed in Mth 128. Prerequisite: Satisfactory score on prescribed placement test.

MTH 119. ANALYTIC GEOMETRY AND CALCULUS II
Four credit hours
Continuation of Math 118. Conic sections, differentiation of transcendental functions with applications to geometry and physics, indefinite and definite integrals with applications to geometry and physics and engineering. Prerequisite: Mth 118.

MTH 128. ANALYTIC GEOMETRY AND CALCULUS I
Four credit hours
The material in this course is equivalent to Mth 118. It is presented with greater rigor and is designed for students in the mathematical and physical sciences. Prerequisite: Satisfactory score on prescribed placement test.

MTH 129. ANALYTIC GEOMETRY AND CALCULUS II
Four credit hours
Continuation of Mth 128. Essentially the material is equivalent to Mth 119, but presented with a greater degree of abstraction. Prerequisite: Mth 128.

MTH 204. MATHEMATICAL CONCEPTS I
Three credit hours
Concepts necessary for an understanding of the structure of arithmetic and its algorithms. Prerequisite: One year of high school algebra and one year of high school geometry.

MTH 205. MATHEMATICAL CONCEPTS II
Three credit hours
Concepts necessary for an understanding of operations and structure of algebra and geometry. Prerequisite: Mth 204.

MTH 215. BASIC STATISTICS FOR THE BIOMEDICAL SCIENCES
Three credit hours
A discussion of probability, sample, normal distribution, confidence intervals, tests of hypotheses, proportions, chi-square test, F-distribution, regression & correlation. Prerequisite: Mth 112 or consent of instructor.
Mth 218. Analytic Geometry and Calculus III
Continuation of Mth 119. Improper integrals, infinite series, expansion of functions, solid analytic geometry, partial differentiation, multiple integrals. Prerequisite: Mth 119.

Mth 219. Applied Differential Equations
Linear differential equations of higher order with constant coefficients, power series solutions, Bessel's equation. Legendre's equation, the Laplace transformation, applications to problems in engineering. Prerequisite: Mth 218.

Mth 228. Analytic Geometry and Calculus III
Continuation of Mth 129. The material is essentially equivalent to Mth 218, but presented with a greater degree of abstraction. Prerequisite: Mth 129.

Mth 229. Differential Equations
Equations of the first order and first degree, Linear equations of higher order with constant coefficients, method of Frobenious, Euler's equations and other special equations. Prerequisite: Mth 218 or Mth 228.

Mth 331. Statistics for Engineers
Probability distributions including binomial, hypergeometric, Poisson, normal. Estimation of mean and standard deviation. Sampling distributions. Quality control procedures including acceptance and inspection sampling. Confidence intervals and tests of hypotheses using t, chi-square, and F statistics. Prerequisite: Mth 218 or Mth 228.

Mth 332. Industrial and Engineering Applications of Statistics

Mth 351. Numerical Analysis
See Cps 351. Prerequisite: Mth 218 or Mth 228, and Cps 233 or 241.

Mth 361. Introduction to Abstract Algebra
Introductory treatment of the various number systems of elementary algebra, fundamental concepts of groups, rings, integral domains and fields. Prerequisite: Mth 218 or 228.

Mth 362. Introduction to Linear Algebra and Matrices
Fundamental concepts of vector spaces, systems of linear equations, determinants, linear transformations and matrices. Prerequisite: Mth 218 or Mth 228.

Mth 370. Introduction to Higher Geometry
Euclidean, projective, affine, and metric geometries using synthetic and analytic methods. Prerequisite: Mth 218 or Mth 228.

Mth 383. Logic and Set Theory
See Cps 383. Corequisite: Mth 119 or 129.
MTH 390. *Introduction to the Foundations of Mathematics* **THREE CREDIT HOURS**
Introduction to mathematical logic and set theory, the history and development of the various schools of mathematical thought. Offered in alternate years. Prerequisite: Mth 218 or 228 and Mth 361.

MTH 403. *Applied Analysis I* **THREE CREDIT HOURS**
Introduction to vector integral calculus, line and surface integrals, Stokes' theorem, the divergence theorem. The Sturm-Liouville problem. Orthogonal functions. Prerequisite: Mth 219 or 229.

MTH 404. *Applied Analysis II* **THREE CREDIT HOURS**
Introduction to functions of a complex variable, conformal mapping, solution of real integrals by contour integration. Special functions. Calculus of variations. Prerequisite: Mth 403.

Mathematical probability, stochastic variables, joint distributions, Bayes' theorem, moments, Chebyshev's inequality, limit theorems including the laws of large numbers and Central limit theorem. Prerequisite: Mth 218 or Mth 228.

MTH 412. *Probability and Statistics II* **THREE CREDIT HOURS**
Random sampling, estimation of parameters including maximum likelihood, methods of moments, and Bayes' estimate, confidence intervals, tests of hypotheses, regression, sampling from a normal population. Prerequisite: Mth 411.

MTH 413. *Probability and Statistics III* **THREE CREDIT HOURS**
Statistical decision theory, partitioning of sums of squares, analysis of variance, regression on several independent variables, multiple regression approach to analysis of variance, design of experiments. Prerequisite: Mth 412.

MTH 421. *Advanced Calculus I* **THREE CREDIT HOURS**
The number system, sequences and series, functions of a real variable, functions of several variables. Prerequisite: Mth 218 or 228. *First Term, Each Year*

MTH 422. *Advanced Calculus II* **THREE CREDIT HOURS**
The definite integral, improper integrals, line integrals, multiple integrals, and uniform convergence. Prerequisite: Mth 421. *Second Term, Each Year*

MTH 455-456. *Advanced Numerical Analysis* **SIX CREDIT HOURS**
See Cps 455-456. Prerequisite: Mth 351.

MTH 461. *Introduction to the Theory of Functions of a Complex Variable* **THREE CREDIT HOURS**
Fundamental concepts, Cauchy integral theorem, analytic functions, analytic continuation, conformal transformations, the calculus of residues, applications to physics and engineering. Prerequisite: Mth 218 or 228. *First Term, Each Year*
MTH 471. **TOPOLOGY**
Calculus of point sets. Hausdorff and other topological spaces. Completeness, compactness, metrics, Euclidean spaces, connectedness, partial ordering, axiom of choice, homeomorphisms and continuous functions. Prerequisite: Mth 218 or 228.

*Second Term, Each Year*

MTH 481. **MATHEMATICAL LOGIC**
See Cps 481. Prerequisite: Cps 383 or Mth 390.

*First Term, Each Year*

MTH 482. **AUTOMATA THEORY**
See Cps 482. Prerequisite: Mth 481.

### Mechanical Engineering (Mee)

**Howard Smith, Chairman**

**Professor:** Csaky

**Associate Professors:** Nielsen, Ray, Smith, Thorne

**Assistant Professors:** Boehman, Bornhorst, Chuang, Minardi, Schwartz

**Instructors:** Bauer, Scott

**Mee 106L. ENGINEERING GRAPHICS I**
TWO CREDIT HOURS
Fundamentals of engineering graphics and the part that graphical communication plays in engineering.

**Mee 207L. ENGINEERING GRAPHICS II**
TWO CREDIT HOURS
Training in the analysis and graphical solution of fundamental problems involving three dimensions and the application of these solutions to engineering problems. Prerequisite: Mee 106L.

**Mee 211. MATERIALS AND PROCESSES**
TWO CREDIT HOURS
Atomic structure, crystalline nature of solids, bonding and imperfections in crystals. Wear in metal cutting and tool life, economics of machining. Cold working processes. Prerequisites: Chm 125, Mee 106L, Phy 196; Corequisite: Mee 211L.

**Mee 211L. MATERIALS AND PROCESSES LABORATORY**
ONE CREDIT HOUR
Study of machining processes and machine tools; shaping and planing, drilling, turning, milling, broaching and grinding. Basic experiments in metal cutting. Experiments in workshop metrology. Corequisite: Mee 211.

**Mee 221. THEORY OF MACHINES**
TWO CREDIT HOURS
Kinematic and dynamic analysis of mechanisms and machines; study of machine elements such as linkages, cams, gears, differentials, analog computing mechanisms; balancing; flywheels. Prerequisite: Egm 301; Corequisite: Mee 221L.

**Mee 221L. THEORY OF MACHINES LABORATORY**
TWO CREDIT HOURS
Laboratory exercises based on the principles covered in Mee 221. Prerequisite: Egm 301; Corequisite: Mee 221.
MEE 301-302. THERMODYNAMICS I AND II
THE GENERAL LAWS OF THERMODYNAMICS; PROPERTIES AND PROCESSES OF GASES, VAPOR, AND GAS-VAPOR MIXTURES; CYCLES; THE FLOW OF FLUIDS. THE APPLICATION OF THERMODYNAMICS TO MACHINES SUCH AS ENGINES, TURBINES AND COMPRESSORS. PREREQUISITES: MTH 218, PHY 208.

MEE 303. METALLURGY
ELECTRONIC STRUCTURE, BONDING, CRYSTAL STRUCTURE, IMPERFECTIONS IN CRYSTALS, STRENGTHENING MECHANISMS, PHASE TRANSFORMATIONS, EQUILIBRIUM DIAGRAMS, HEAT TREATMENT, MECHANICAL BEHAVIOR AND CORROSION. PREREQUISITE: MEE 211.

MEE 303L. METALLURGY LABORATORY
HEAT TREATMENT, HARDNESS TESTING, PREPARATION OF SPECIMENS FOR METALLURGICAL EXAMINATIONS, USE OF METALLOGRAPH, EXAMINATION OF METALLIC STRUCTURES, THERMAL ANALYSIS. COREQUISITE: MEE 303.

MEE 305L. MECHANICAL ENGINEERING LABORATORY I
PURPOSE AND PLANNING OF EXPERIMENTAL PROJECTS; MEASUREMENTS, DATA ANALYSIS AND ERROR ESTIMATION; TECHNIQUES OF SELECTION, APPLICATION AND CALIBRATION OF INSTRUMENTS USED FOR THE MEASUREMENT OF FUNDAMENTAL QUANTITIES, SUCH AS PRESSURE, TEMPERATURE, SPEED, FLOW RATE, TORQUE, POWER AND AREA. COREQUISITE: PHY 208.

MEE 308. FLUID MECHANICS
LAWS AND THEORY RELATIVE TO COMPRESSIBLE AND INCOMPRESSIBLE FLUIDS; MOMENTUM RELATIONS FOR STEADY FLOW; RESISTANCE OF IMMERSED BODIES; DYNAMIC LIFT AND PROPULSION; LUBRICATION; PUMPS; TURBINES; FLUID COUPLINGS; FLUID POWER AND CONTROL SYSTEMS. PREREQUISITE: MEE 301.

MEE 310. THERMAL ENGINEERING I
STEAM POWER PLANTS; FOSSIL AND NUCLEAR FUELS; INTRODUCTION TO POWER REACTORS, GAS TURBINE POWER PLANTS, TOTAL ENERGY CONCEPT AND DIRECT ENERGY CONVERSION DEVICES. PREREQUISITE: MEE 301; COREQUISITE: MEE 308.

MEE 312L. MECHANICAL ENGINEERING LABORATORY II
DETERMINATION OF THERMODYNAMIC AND PHYSICAL PROPERTIES OF FUELS AND LUBRICANTS, STUDY OF ENERGY RELEASE OR TRANSFER MECHANISMS, SUCH AS, COMBUSTION AND DIRECT ENERGY METHODS. COREQUISITE: MEE 310.

MEE 407-408. MACHINE DESIGN I AND II
ANALYSIS AND DESIGN OF MACHINE MEMBERS AND MECHANICAL SYSTEMS. DEVELOPMENT OF CREATIVE ABILITY AND ENGINEERING JUDGMENT. PREREQUISITES: EGM 303, MEE 221, COREQUISITES: EGM 304, MEE 407L-408L.

MEE 407L-408L. MACHINE DESIGN LABORATORY I AND II
DESIGN PROBLEMS BASED ON FOREGOING PRINCIPLES. COREQUISITES: MEE 407-408.

MEE 410. HEAT TRANSFER
LAWS OF CONDUCTION, RADIATION AND CONVECTION; HEAT TRANSFER TO BOILING LIQUIDS AND CONDENSING VAPORS; STEADY STATE AND VARIABLE FLOW HEAT TRANSFER. PREREQUISITES: MEE 301, MEE 308, MTH 219.
MEE 414A. Seminar
Presentation of papers by students and lectures by engineers in active practice. Registration required by all students in their last term prior to graduation.

MEE 414B. Seminar
Presentation of papers by the students and lectures by engineers in active practice. Registration required by all junior and senior students not registered in Mee 414A.

MEE 416. Mechanical Vibrations
Undamped free vibration; damped free vibration; forced vibration; vibration isolation and absorption; vibration of systems with several degrees of freedom; mechanical and electrical models of vibration systems. Prerequisites: Mee 221, Mth 219.

MEE 417. Thermal Engineering II
A study of combustion and energy release processes; theoretical flame temperature, degree of dissociation and ionization, reaction rates. Applications to spark and compression ignition systems, thermal jet and rocket engines, gas turbine power plants; fuel requirements for each. Engine testing. Prerequisites: Mee 302, Mee 310; Corequisite: Mee 312L.

MEE 418. Advanced Fluid Mechanics
Dynamics of fluid flow. Compressible fluids. Theorems of conservation of mass and momentum. Laws of thermodynamics as applied to fluid flow. One dimensional isentropic flow; normal shock; friction; heat transfer. Prerequisites: Mee 301, Mee 308, Mth 219.

MEE 419. Mechanical Engineering Analysis
The application of mathematics to the solution of engineering problems. Prerequisite: Mth 219.

MEE 420. Environmental Control
Application of thermodynamics, heat flow and fluid flow to the investigation and design of thermal environmental control systems and subsystems. Prerequisite: Mee 302; Corequisite: Mee 410.

MEE 426L. Mechanical Engineering Laboratory III
Testing of selected devices or machines which employ engineering principles; such as, turbines, combustion engines, pumps, fans, and heat exchangers. Corequisites: Mee 410, Mee 417.

Mechanical Engineering Electives

MEE 421. Turbo-Machinery
Theory applicable to turbines, compressors and pumps. Dimensional analysis concepts; energy transfer in centrifugal and axial flow turbines, compressors and pumps. Thermodynamic relationships in turbomachinery processes. Prerequisites: Mee 302, Mee 308.
MEE 431. ADVANCED DYNAMICS OF MACHINERY
Application of vector analysis to kinematics and dynamics. Advanced problems in mechanisms and dynamics of mechanical systems. Vibrations analysis. Prerequisites: Egm 303, Mee 221.

MEE 499. SPECIAL PROBLEMS IN MECHANICAL ENGINEERING
Particular assignments to be arranged and approved by Chairman of the Department.

Medical Technology (MET)

Dr. Abramson, Chairman (St. Elizabeth Hospital)
Dr. McMillan, Chairman (Good Samaritan Hospital)
Dr. Oosting, Chairman (Miami Valley Hospital)

The work of the senior year in Medical Technology is done at Miami Valley Hospital, St. Elizabeth Hospital, Good Samaritan Hospital or Kettering Hospital. The courses are conducted by the respective hospital faculties.

MET 481. INTRODUCTION TO MEDICAL TECHNOLOGY
A study of basic hospital and laboratory routine, Medical Terminology, Laboratory Ethics, Laboratory Mathematics.

MET 482. URINALYSIS AND RENAL FUNCTION
Instruction in various methods of performing these tests with correlation based on anatomical and physiological functions of the organs.

MET 483. HEMATOLOGY
Instruction in the morphology of the blood and blood-forming tissues and practice in the association studies. Correlation of findings based on anatomical and physiological functions of the cellular components of the blood.

MET 484. BACTERIOLOGY, PARASITOLOGY, MYCOLOGY
Instruction in various methods of microbiological examination of the body tissues, fluids, secretions, and excretions; tests for reaction of the body to specific diseases; tests for and study of various parasites found as pathologic organisms in the human body.

MET 485. CHEMISTRY AND GASTRIC ANALYSIS
Instruction in biochemical analysis and the chemical changes in the body due to disease; procedures for analyzing gastric fluid.

MET 486. HISTOLOGY AND CYTOLOGY
Instruction in various methods of preparation for sectioning and staining of tissues in preparation for microscopic examination.
MET 487. SEROLOGY AND SPINAL FLUID THREE CREDIT HOURS
Instruction in antigen-antibody reaction in vitro and the performance of the associated tests; procedures for analyzing cerebrospinal fluid.

MET 488. BLOOD BANKING THREE CREDIT HOURS
Instruction in blood typing and crossmatching of blood for administration of transfusions. Techniques in withdrawing blood from donors is included.

MET 489. LABORATORY MANAGEMENT NO CREDITS
The student familiarizes himself with the ordering of supplies, office procedures, and with basal metabolism techniques.

MET 490. NORMAL AND PATHOLOGIC PHYSIOLOGY NO CREDITS
A series of lectures stressing the correlation of theory and practical laboratory testing as it relates to disease states.

Military Science (Mil.)

Col. Uel W. French, Chairman
Professor: French
Assistant Professors: R. L. Anderson, R. M. Anderson, Barker, Crocker, Dawson, Gordon, Hoerning, Johanknecht, Kosty, Lovelace, O'Brien, McCollum, Myers, Murley, Ondecker, Renn, Smith
Part-time Instructors: Brendza, Christman, Daigle, Ensley, Feely, Fiolek, Gibson, Hale, McGuire, Ruppe, Sheehan

MIL 101-102. FIRST YEAR BASIC COURSE TWO CREDIT HOURS
Training provided in those subjects common to all branches of the Army, such as U.S. Army and National Security; individual weapons and marksmanship; organization of Army and R.O.T.C.; counterinsurgency; leadership laboratory.

MIL 201-202. SECOND YEAR BASIC COURSE TWO CREDIT HOURS
Continuation of above course. Subjects include: American military history; map and aerial photograph reading; basic tactics; counterinsurgency; leadership laboratory. Prerequisite: Mil 101-102.

MIL 301-302. FIRST YEAR ADVANCED COURSE FOUR CREDIT HOURS
Subjects: Military teaching principles; service branches; tactics-communications; precamp orientation; counterinsurgency; leadership; summer camp. Prerequisites: Mil 101, 102, 201, 202, pass physical, selection.

MIL 401-402. SECOND YEAR ADVANCED COURSE FOUR CREDIT HOURS
Continuation of above. Subjects: Logistics; Army administration; military justice; operations; service orientation; U.S. in world affairs; counterinsurgency; leadership. Prerequisites: Mil 301-302 and Summer Camp.
Music (Mus)

Maurice R. Reichard, Chairman

Professors: Reichard, Thomas
Associate Professors: Tagg, Zech
Assistant Professors: Ritter, Weaver
Instructor: Faust

Part-time Instructors: Blagg, Christopher, Enoch, Heisey, Katz, Minton, Odum, Reger, Schneider, Wiggenhorn

Mus 101. Fundamentals of Music
TWO CREDIT HOURS
For the student with no previous experience with the theory of music. Notation of music, key and time signatures, fundamental harmonic progression, and an introduction to the piano keyboard. Elementary ear training and dictation.

Mus 103. Music Appreciation
TWO CREDIT HOURS
A study of the masterpieces of music with special reference to the listener: includes compositions of value to the classroom teacher. For students in elementary education. Not open to students who have credit for Mus 108.

Mus 108. Introduction to Music Literature
TWO CREDIT HOURS
A study of the masterpieces in music aimed at developing a broad understanding and an intelligent discrimination of music. For music majors and students in Music Education. Not open to students who have credit for Mus 103.

Mus 151-152. First Year Theory
EIGHT CREDIT HOURS
Formation of scales and intervals; progression of triads and seventh chords; simple modulation; basic technique of dictation, sight singing, and rhythmic reading. Prerequisite: Knowledge of the fundamentals of music.

Mus 183. Teaching Music in Parochial Schools—Primary Grades
THREE CREDIT HOURS
Reading and notation of music is developed along with key signatures, sight singing in major and minor modes, ear training and dictation. Materials for grades 1, 2, 3, and their presentation.

Mus 231. Teaching Music in Grades 1, 2, and 3
TWO CREDIT HOURS
Materials to be used in music for the first three grades and their presentation; problems and possibilities of the primary school music program. Prerequisite: Knowledge of the fundamentals of music equivalent to Mus 141.

Mus 232. Teaching Music in Grades 4, 5, and 6
TWO CREDIT HOURS
Materials to be used in music for the intermediate grades and their presentation; problems and possibilities of the elementary school music program. Prerequisite: Equivalent of Mus 141.

Mus 235-236. Voice Class
FOUR CREDIT HOURS
Principles of good singing; development of the voice; vocal literature. May be repeated to a total of eight credit hours. Minimum of four students required for class. Prerequisite: Permission of the instructor.
MUS 251. **Second Year Theory**

Continuation of Mus 151-152; more advanced sight-singing and dictation; analysis and writing of advanced seventh chords, modulation. Non-harmonic tones, and altered chords. Prerequisite: Mus 152.

**Four Credit Hours**

*Mus 262. Musical Form*

A study of the structural designs used in musical composition; a study of all polyphonic, homophonic, and the larger forms. Prerequisite: Mus 251.

**Two Credit Hours**

*Mus 272. Keyboard Harmony*

A study of diatonic chord progressions, including simple modulations, at the keyboard; their use in accompaniment of melodies; improvisation; modern chord terminology. Prerequisite: Mus 251; four credit hours in Piano.

**Two Credit Hours**

*Mus 283. Teaching Music in Parochial Schools—Intermediate Grades*

Continued note reading, modulation to dominant and subdominant, introduction to the piano keyboard, two- and three-part singing. Materials for grades 4, 5, 6, and their presentation. Prerequisite: Mus 183.

**Three Credit Hours**

*Mus 301. History of Music I*

Development of music, instruments, forms, sacred and secular, from the earliest records through the Classical period. The relationship of music to the other arts and to broad movements in society and civilization.

**Three Credit Hours**

*Mus 302. History of Music II*

Music of the nineteenth century; Romanticism; impressionism; nationalism; beginnings of the modern period. Relationship of music to social and cultural trends in Europe and America during the last one hundred and fifty years.

**Three Credit Hours**

*Mus 303. Modern Music*

A survey of contemporary music; its relationship to modernism in the other arts and to present-day society; American music.

**Two Credit Hours**

*Mus 311-312. Eighteenth Century Counterpoint*

A study of the contrapuntal technique of the eighteenth century particularly as used in the instrumental works of Johann Sebastian Bach. Original compositions in the forms of the Invention and the Fugue. Prerequisite: Mus 251.

**Four Credit Hours**

*Mus 315. The Opera*

A survey of operas written in classical, romantic, and modern periods; particular attention is given to works currently performed by major opera companies.

**Three Credit Hours**

*Mus 322. Instrumentation and Orchestration*

Scoring for instruments in small combinations and full orchestra and symphonic band; emphasis on the needs of school music organizations. Prerequisite: Junior standing in music and permission of the instructor.

**Three Credit Hours**

*Mus 325. Stringed Instruments*

Class instruction in stringed instruments; teaching of stringed instruments in the schools.

**Two Credit Hours**
MUS 326. Reed and Woodwind Instruments
Class instruction in reed and woodwind instruments; teaching of reeds and woodwinds in the schools.

MUS 327. Brass Instruments
Class instruction in brass instruments; teaching brass instruments in the schools.

MUS 328. Percussion Instruments
Class instruction in percussion instruments; teaching of percussion instruments in the schools.

MUS 331. Vocal Music in the High School
Materials used in the general music class and their presentation; glee club, choir, voice class, vocal ensembles. Prerequisite: Junior standing in Music Education.

MUS 332. The School Band and Orchestra
A general course in the organization and teaching of instrumental music in the schools; materials; survey of equipment and facilities necessary for the instrumental music program. Prerequisite: Junior standing in Music Education.

MUS 335. Music in the Elementary Grades
The music education program in the elementary grades; materials and their presentation; problems and responsibilities of the music teacher. Prerequisite: Sophomore standing in music education.

MUS 341. Conducting
Methods of controlling tempo and the dynamic elements of musical performance groups; practical experience in experimental campus organizations. Prerequisite: Junior standing in Music; permission of the instructor.

MUS. 361. Piano Pedagogy I
A systematic preparation for the development of piano technique and tone: a survey and study of graded teaching material of Grades I and II. Prerequisite: Four terms of piano study or the equivalent.

MUS. 362. Piano Pedagogy II
A continuation of Piano Pedagogy I through the material of Grades III and IV. Prerequisite: Piano Pedagogy I or five terms of piano study or equivalent.

MUS 383. Teaching Music in Parochial Schools—Junior High School
Repertoire in three and four parts which exploits the musical skills developed in the first six grades. Procedure for handling the problem of the boy's changing voice.

MUS 411-412. Musical Composition
Prerequisites: Mus 251, Mus 311-312 or Mus 417-418; other prerequisites to be determined in consideration of the aims and objectives of the student; permission of the instructor.
Mus 415-416. 19th and 20th Century Styles
Analysis of the harmonic and contrapuntal devices used after Bach with special emphasis on contemporary music and composers. Prerequisite: Junior standing in music; permission of the instructor.

Mus 417-418. Sixteenth Century Counterpoint
A study of the medieval modes and the vocal polyphony of the motet and the Mass, up to and including five-part writing; original student compositions. Prerequisite: Permission of the instructor.

Mus 421-422. Laboratory in Orchestration
Advanced work in orchestration; special problems in scoring for full orchestra, symphonic band or dance orchestra; transcription of orchestral works for band. Prerequisite: Mus 322, permission of instructor.

Mus 425-426. Problems in Instrumental Music
Practical problems and experience in instrumental music in teaching or other professional situations approved by the Department of Music. Prerequisite: Senior standing in Music or in Music Education.

Mus 429. Marching Band Techniques
Materials and methods of organization and instruction for the Marching Band.

Mus 431-432. Problems in Vocal Music
Practical problems and experience in vocal music in teaching or other professional situations approved by the Department of Music. Prerequisite: Senior standing in Music or in Music Education.

Mus 441-442. Laboratory in Composition
Advanced work in musical composition; writing multi-movement forms of both vocal and instrumental music. Prerequisite: Mus 411 and 412; permission of the instructor.

Mus 451-452. Chamber Music and Symphony
Formal and harmonic analysis of Chamber Music and the symphonies of the Classicists, the Romanticists, and the Impressionists. Prerequisite: Mus 251, 262.

Mus 470W. Music in the Primary Grades
The workshop treats phases of the child's music needs and considers appropriate materials and methods for the regular classroom teacher. Opportunities given for participation in music activities. For primary teachers.

Summer

Applied Music
Credit for private instruction in piano, organ, violin, voice, stringed or wind instruments is allowed at the rate of two credit hours per lesson a week.

In order to register for credit toward a major in Applied Music, students must have studied sufficient preparatory material. In piano, this should include ability to play major and minor scales in a moderate tempo in parallel motion, ability to play major and minor triads in arpeggio form in all keys. The student should have studied Hanon,
Vol. I; Pischna; Czerny, Op. 299, or their equivalent; some of the Mozart and Haydn sonatas; Mendelssohn "Songs Without Words"; Little Preludes and Fugues or Two- and Three-part Inventions by Bach; "Lyric Pieces" by Grieg, or their equivalent. To study organ, the student should have previous study in piano amounting to the Two- and Three-part Inventions by Bach; Sonata No. 1 in f Minor, Op. 2, by Beethoven; Nocturne in f Minor, Op. 55, by Chopin or their equivalent.

APPLIED MUSIC FEES:
Piano, Organ, Voice, Orchestral or Band instrument studied with full-time member of University Faculty. Term fee is included with term tuition.
• Piano, Organ, Voice, Orchestral or Band instrument studied with full-time member of University Faculty. Term fee for part-time students .................................................. $20.00
** Violin, Cello, Bass, term fee ............................................. 40.00 to 64.00
** Reed, Woodwind Instruments, term fee .............................. 40.00

ENSEMBLES
Orchestra (Dayton Philharmonic Training Orchestra)
Band (Marching Band, Concert Band)
Choir (Mixed Chorus)
Glee Clubs (Men's Glee Club, Women's Glee Club)
Ensembles (Brass Choir, String, Vocal, Woodwind Ensembles)

Credit may be earned in Orchestra, Band, Choir, Glee Club and Ensembles by students enrolled in music courses. Credit will be allowed at the rate of one-half credit per semester in each organization, and is required of students majoring in Music or qualifying for degrees of Bachelor of Music or Bachelor of Science in Music Education. Students do not register for credit in musical ensembles and no grades are given. Granting of such credit, however, will entail attendance at rehearsals and performances in conformity with policies applying to regular academic courses. The amount of credit required is to be determined by the needs and experience of the student, and/or State requirements in music education. Maximum: Toward Music major in B.A. degree, or as elective in other degrees: four credit hours; toward B.M. or B.S. in Music Education degrees, six credit hours. Prerequisite: Permission of the Director.

**"Laboratory fee" of $20.00 is paid in addition to regular credit hour tuition.
** Fees for instruction in instruments of the Orchestra or Band are based on the private instruction fee of the individual instructor. With permission of the Chairman of the Department of Music, these fees may be paid directly to the instructor and not included in the amounts paid to the University treasurer at the time of registration.
Philosophy (PHL)

Dr. Richard R. Baker, Chairman

Professors: Baker, Dieska
Associate Professors: Baltazar, Rhodes
Assistant Professors: Bloemer, Cartagenova, Chrisman, Dombro, Edelenyi, Greene, Hoy, Kunkel, Nersoyan, Nichols, O'Brien, Opalek, Petritz, Seman, Sorelle, Thomp-son, Ulrich
Instructors: Monasterio, Rinderly, Wening

Courses required for a major: Phl 106, 206, 303, 304, 306, 402, 403, 404, electives (3).
Students should consult the chairman concerning electives.
Phl 106 and Phl 206 are prerequisites for all 300 and 400 courses.

PHL 106. Problems in Philosophy I
An introduction to the problem of the nature of philosophic inquiry, the problem of knowledge, the problem of being, and the problem of God.

PHL 206. Problems in Philosophy II
An introduction to the problem of man, the problem of morality, and to such problems in politics, aesthetics, education, etc., as chosen by the instructor.

PHL 303. Cosmology
The nature and properties of mobile being; the hylomorphic theory of bodies; nature of quantity; the analysis of physical motion; qualities of bodies; space and time; origin and destiny of the universe.

PHL 304. Philosophical Psychology
Nature of life in general; plant soul; brute animal soul; knowledge and appetite in man; human intellect and will; intellectual and moral habits; nature, origin and immor-tality of the human soul.

PHL 306. Epistemology
A critical examination of the validity of sensory and intellectual knowledge; the problem of the trustworthiness of the senses; the problem of the universal; skepticism, idealism and subjectivism.

PHL 402. General Metaphysics
An analysis of real being; analogy of being; transcenditals; application of act and potency to essence and existence, substance and accident, the one and the many, causality; special classes of being.

PHL 402H. Honors Course in Metaphysics
An investigation of such special problems as the possibility and conditions of metaphysical inquiry, the proper object of metaphysics, and the methodology proper to metaphysics. By permission of the chairman.
PHL 403. Natural Theology  
The existence and nature of God as discoverable by natural reason; the divine causality; the relation of the universe to God; the problem of evil; criticism of the arguments advanced by the atheist and the agnostic.

PHL 404. Ethics  
Happiness and ultimate end of man; human act; norms and determinants of morality; eternal and natural law; conscience; moral virtues; rights and duties. Required of all non-Catholics.

PHL 406. History of Greek Philosophy  
A survey of the beginnings and later development of philosophical speculation by the Greek philosophers from Thales to Plotinus.

PHL 407. History of Medieval Philosophy  
A survey of the course of philosophical thought from the Patristic Period to the end of the Scholastic era in the 14th century.

PHL 408. History of Modern Philosophy  
A consideration of the rise and development of modern philosophic thought from the Renaissance to the 20th century.

PHL 409. Recent Philosophy  
A consideration of the trends in philosophy since 1900, especially viewed as a logical outgrowth of the thought of Kant and of Hegel. Among the trends to be considered are Positivism, Mathematical Logic, Analytic Philosophy, Phenomenology and Existentialism.

PHL 410. History of Political Philosophy  
A study of the principal political opinions of the Western philosophers; Plato, Aristotle, and the leading Roman, medieval, and modern political philosophers. Required of all political science majors.

PHL 414. Philosophy of Law  
Nature of law; natural and positive law; implications and juridical origin and effect of law; justice; genetic origin of law.

PHL 430. Philosophy of Plato  
The purpose of the course is to give an insight into the philosophy of Plato by reading, analyzing and commenting on four of Plato's dialogues: Phaedo, Symposium, Protagoras and the Republic.

PHL 432. Philosophy of Aristotle  
Readings and classroom discussion of selections from the basic works of Aristotle, including the Physics, Metaphysics, Ethics and Politics.

PHL 434. St. Thomas Aquinas  
This course offers St. Thomas' teachings on God, Creation, Man, Law, Grace, Habit, Virtue and kindred subjects, derived from the Summa Theologica and the Summa Contra Gentiles.
PHL 450. PROBLEMS IN PHILOSOPHY

The objective of this seminar is to gain insight into the perennial and contemporary problems of philosophy. Permission to take this course must be obtained from the instructor.

PHL 455. PHILOSOPHY OF ART

An analysis of the nature of art, beauty, and the aesthetic judgment in the light of the philosophical principles and distinctive conditions found in each. A discussion of the permanent and inward relationship of the values of truth, goodness and beauty.

PHL 456. THE PHILOSOPHY OF CREATIVITY

An effort at a more adequate understanding of the process of artistic creation. Such concepts as "inspiration," "genius," "creative imagination," etc., are examined, together with an investigation of methods, techniques, and suggestions for enriching the creative dimension of one's life. Prerequisite: Consent of Instructor.

PHL 460. BUSINESS ETHICS

Application of philosophy in the area of employee discipline with emphasis on rights, duties, and the purpose of discipline. Examination of arbitration cases in discipline.

Physics (PHY)

Dr. Joseph J. Kepes, Chairman

Professors: L. Mann, Bueche

Associate Professors: Kepes, Schick

Assistant Professors: Cothern, Crivello, Frank, Graham, Hieber, Kreitman, R. Mann, O'Hare, Schneider, Yaney

Instructor: Tyson

A major in Physics should have completed as a minimum 24 hours (15 hours from Group I below and 9 hours from Group II) of upper level course work in Physics plus at least 12 hours of course work in a minor field. In particular circumstances, substitutions in other disciplines can be made in the Group II courses with permission of the Department Chairman. Students may also fulfill the minor requirement by taking at least 12 hours from the Group II and III courses below. Normally students going to do graduate study in Physics will follow this latter program, i.e. courses in Groups I, II, III (Recommended open electives in Mathematics are listed in Group IV).

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<th>Group I</th>
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<th>Group IV</th>
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<td>Phy 301</td>
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The minor can be chosen from any Department in the University with the provision that the student have the permission of the Physics Chairman and the Chairman in the minor field. This should be done some time in the Sophomore year. It is recommended that students choosing a minor use the open electives where feasible to strengthen their background in either Physics or in the minor.

**PHY 105. The Physical Sciences**

Four credit hours

Applies fundamental principles of nature to physics, chemistry, astronomy, meteorology. Gives the student a broad understanding of man's physical environment. Four class periods per week. Does not satisfy science requirement in Arts and Sciences.

**PHY 151. General Physics**

Three credit hours

Designed to give (non-science) students an appreciation of physics, and approaches mechanics and heat from a point of view with a minimum of mathematics. Three class periods per week. Prerequisite: Elementary algebra.

*First Term, Each Year*

**PHY 151L. General Physics Laboratory**

One credit hour

A course designed to accompany Phy 151. Designed to verify and apply theory through a selected program of experiments. Corequisite: Phy 151. One two-hour period per week.

*First Term, Each Year*

**PHY 152. General Physics**

Three credit hours

This course is a continuation of Phy 151 and includes electricity, light and sound with some discussion of the most recent developments of physics. Three class periods per week. Prerequisite: Phy 151.

*Second Term, Each Year*

**PHY 152L. General Physics Laboratory**

One credit hour

A course designed to accompany Phy 152. Designed to verify and apply theory through a selected program of experiments. Corequisite: Phy 152. One two-hour period per week.

*Second Term, Each Year*

**PHY 196. General Physics I Mechanics**

Three credit hours

An introductory course in Mechanics using the calculus. Three lectures, one and ¼ hours recitation per week. Corequisite: Mth 128.

**PHY 196L. General Physics Laboratory I**

One credit hour

Introduction to laboratory methods, handling of data, analysis, experiments in classical mechanics for students in Science. One three hour period per week. Corequisite: Phy 196.

**PHY 201. General Physics**

Three credit hours

A discussion of mechanics and heat without the formalism of the calculus. Three class periods per week.

**PHY 201L. General Physics Laboratory**

One credit hour

Accompanying laboratory course to Phy 201. Designed to verify and apply theory, and to teach scientific techniques. One two-hour period per week.

**PHY 202. General Physics**

Three credit hours

A continuation of Phy 201, covering the fields of magnetism, electricity, sound and light. Three class periods per week. Prerequisite: Phy 201.
The basic principles of electricity and magnetism are studied. Three lectures, one and 1/4 hours recitation per week. Prerequisite: Phy 196, Mth 128.

PHY 207. General Physics II Electricity and Magnetism
The basic principles of electricity and magnetism are studied. Three lectures, one and 1/4 hours recitation per week. Prerequisite: Phy 196, Mth 128.

PHY 207L. General Physics Laboratory II
Experiments in mechanics and electricity and magnetism. One three hour period per week. Prerequisite: Phy 196L; Corequisite: Phy 207.

PHY 208. General Physics III Mechanics of Waves
Introduction to wave phenomena including sound, light and matter waves leading to basic concepts in Modern Physics. Three lectures per week. Prerequisite: Phy 207, Mth 129.

PHY 208L. General Physics Laboratory III
Experiments emphasize Modern Physics. One three hour period per week. Prerequisite: Phy 207L; Corequisite: Phy 208.

PHY 210. Readings in Physics
A reading course to acquaint the student with the historical and philosophical background of Modern Physics. Readings of original papers, review articles, etc., assigned and discussed. One meeting per week. Second Term, Each Year

PHY 301. Thermodynamics
The general laws of the thermodynamics; entropy, isothermal and adiabatic processes, the cycles: flow of fluids. Three class periods per week. Corequisite: Mth 229. First Term, Each Year

PHY 303. Intermediate Mechanics I
The fundamental concepts of mechanics. The topics covered include virtual work, kinemetics, and particle dynamics. Three class periods per week. Corequisite: Mth 229. First Term, Each Year

PHY 304. Intermediate Mechanics II
A continuation of Phy 303. Topics include dynamics of systems of particles, rigid bodies, central forces, accelerating systems, and the mechanics of continua. Three class periods per week. Prerequisite: Phy 303. Second Term, Each Year

PHY 314. Electronics for Scientists
Terminal behavior of vacuum tube and semi-conductor devices; application to basic rectifier, amplifier, oscillator and control circuits. Prerequisites: Phy 208, Mth 301 or 341; Corequisite: Phy 314L.

PHY 314L. Electronics for Scientists Laboratory
Laboratory construction and testing of the basic vacuum tube and solid-state electronic circuits. Three hours per week.
PHY 351. Introduction to Astronomy THREE CREDIT HOURS
History of astronomy, apparent motions of celestial bodies, planetary systems, spectral classifications, multiple systems, variable stars, structure of the Universe. Prerequisites: Mth 228, Phy 208.

PHY 361. Principles of Reactor Physics THREE CREDIT HOURS
Chain reactors. Slowing down theory, diffusion equations, space distribution, criticality, group theories. Laboratory experiments accompany the lecture. Prerequisites: Phy 208.

PHY 390. Introduction to Quantum Mechanics THREE CREDIT HOURS
Basic postulates of Quantum Mechanics, applications made to atomic physics. Prerequisite: Phy 395, or consent of instructor.

PHY 404. Physical Optics THREE CREDIT HOURS
This course discusses the wave theory of light, interference, diffraction, dispersion, polarization, velocity of light and electromagnetic theory of light. Three class periods per week. Prerequisite: Phy 208; Corequisite: Mth 229.

PHY 408. Intermediate Electricity and Magnetism I THREE CREDIT HOURS
Electrostatics, Coulomb's and Gauss' laws and the Laplace and Poisson equations, dielectrics, electrostatic energy methods, scalar and vector potential. Three class periods per week. Prerequisite: Phy 207.

PHY 409. Intermediate Electricity and Magnetism II THREE CREDIT HOURS

PHY 411. Theoretical Physics I THREE CREDIT HOURS
Calculational techniques in Modern Physics, complex variable theory, dispersion relations, linear vector spaces, operators, matrix mechanics, eigenvalue equations. Prerequisites: Mth 403-4, or consent of department.

PHY 412. Theoretical Physics II THREE CREDIT HOURS
Orthogonal functions, Dirac delta function, Laplace's equation, Poisson's equation, D'Alembert's equation, transformation theorems, Green's function. Prerequisites: Mth 403-4, or consent of department.

PHY 414. Advanced Electronics for Scientists THREE CREDIT HOURS
Continuation of Phy 314. High frequency techniques, modulation and detection, pulse generators, special circuits; application to counters, computer circuits, and experimental instrumentation and control problems. Prerequisites: Phy 314; Corequisite: Phy 414L.

PHY 414L. Advanced Electronics for Scientists ONE CREDIT HOUR
Individual student projects in the electronic instrumentation of problems in the physical, biological, and computer sciences. Corequisite: Phy 414.

PHY 420. Introduction to Solid State THREE CREDIT HOURS
Classification of solids, definition of crystals and crystal structures, survey of lattice properties. Free electron theory, band theory of solids, semi-conductors and crystal imperfections. Prerequisite: Phy 390 or consent of department.
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<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Phy 421</td>
<td>Nuclear Physics</td>
<td>THREE CREDIT HOURS</td>
<td>Radioactivity, particle accelerators, the interaction of nuclear radiation with matter, particle detection, fission, and cosmic rays. Three class periods a week. Prerequisites: Phy 390 or consent of instructor.</td>
</tr>
<tr>
<td>Phy 430</td>
<td>Advanced Laboratory I</td>
<td></td>
<td>A laboratory course in basic electronic circuit elements and devices. One four hour period per week.</td>
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<tr>
<td>Phy 431</td>
<td>Advanced Laboratory II</td>
<td>TWO CREDIT HOURS</td>
<td>A laboratory course in which the student performs advanced experiments in optics, mechanics, electricity and magnetism, and modern physics. One four-hour period per week. Corequisite: an advanced course in physics.</td>
</tr>
<tr>
<td>Phy 432</td>
<td>Advanced Laboratory III</td>
<td>TWO CREDIT HOURS</td>
<td>A continuation of Phy 431 but may be taken without having had Phy 431. One four-hour period per week. Corequisite: an advanced course in physics.</td>
</tr>
<tr>
<td>Phy 433</td>
<td>Advanced Laboratory IV</td>
<td>TWO CREDIT HOURS</td>
<td>A continuation of Phy 431, 432, but may be taken without having had either. One four-hour period per week. Corequisite: an advanced course in physics.</td>
</tr>
<tr>
<td>Phy 437</td>
<td>Modern Physics for Engineers</td>
<td>THREE CREDIT HOURS</td>
<td>Basic postulates of Quantum Mechanics, Special Relativity with practical application to Atomic, Nuclear and Solid State Physics. Prerequisite: Phy 208.</td>
</tr>
<tr>
<td>Phy 440</td>
<td>X-Rays</td>
<td>THREE CREDIT HOURS</td>
<td>Nature, production and properties of x-rays and their interaction with matter. Applications and x-ray spectroscopy. Three class periods per week. Prerequisite: Phy 390 or consent of instructor.</td>
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<tr>
<td>Phy 441</td>
<td>Topics in Modern Physics</td>
<td>THREE CREDIT HOURS</td>
<td>Includes elements of Modern Optics, Solid State and other selected subjects. Prerequisite: Phy 390.</td>
</tr>
<tr>
<td>Phy 450</td>
<td>Advanced Astronomy</td>
<td>THREE CREDIT HOURS</td>
<td>Orbits, celestial mechanics, spectroscopic theory and analysis, ionization theory, radiation transfer, nuclear reactions, atmospheres, star models. Three class periods per week. Prerequisites: Mth 229, Phy 301, 303, 351, 390.</td>
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<tr>
<td>Phy 460</td>
<td>Seminar</td>
<td>ONE CREDIT HOUR</td>
<td>Weekly meetings of students and members of the staff for the presentation of papers by students and lectures by invited physicists. Two class periods per week for Juniors and Seniors.</td>
</tr>
<tr>
<td>Phy 499</td>
<td>Special Problems (Honors)</td>
<td>ONE-SIX CREDIT HOURS</td>
<td>Laboratory or library work in various topics of physics. Given with the permission of the chairman of the department.</td>
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</table>
Police Administration (PAD)

Dr. Norbert C. Brockman, S.M., Coordinator

A major in Police Administration, for the Associate degree, requires sixteen hours, which is to include Pad 200. A major for the Bachelor of Social Science requires twenty-four hours, which is to include Pad 200, Pad 301, and Pad 313. Police Administration is not an acceptable major for the B.A. degree, but students in the B.A. programs may minor in Police Administration. A minor requires fourteen hours, which is to include Pad 200 and Pad 313.

PAD 101. POLICE PHYSICAL TRAINING
FIVE CREDIT HOURS
Replaces Phc 101-102, 201-202 for police officers who have completed an approved police academy program. Elements of first aid and health, Judo instruction, and general physical training.

PAD 150. POLICE OPERATIONS
THREE CREDIT HOURS
The process of law enforcement from detection of crime to parole, evaluation of police services, patrol functions.

PAD 200. INTRODUCTION TO POLICE ADMINISTRATION
TWO CREDIT HOURS
Principles of organization and management as applied to police administration. Emphasis on management process rather than structures.

PAD 250. POLICE SYSTEMS
THREE CREDIT HOURS
Study of the organization of police agencies at national, state, and local levels, with consideration of areas of cooperation and relationships with other areas of administration.

PAD 301. CRIMINALISTICS
THREE CREDIT HOURS
The application of scientific principles to police work. Students will become familiar with laboratory procedures and basic chemical tests.

PAD 305. TRAFFIC ADMINISTRATION
TWO CREDIT HOURS
Problems of traffic administration and public safety. Accident prevention, licensing, safety education, and traffic engineering.

PAD 309. CRIMINAL INVESTIGATION
TWO CREDIT HOURS
The application of various investigatory techniques to criminal situations. Some consideration of accident investigation.

PAD 313. CRIMINAL LAW AND PROCEDURE
THREE CREDIT HOURS
Principles of criminal liability, preparation of case materials, court procedures and case disposition, and basic rules of evidence are considered.

PAD 320. LAW OF EVIDENCE
TWO CREDIT HOURS
A comprehensive study of the rules of evidence; evaluation of evidence and proof; physical evidence; testimony.

PAD 350. READINGS IN POLICE ADMINISTRATION
TWO CREDIT HOURS
Directed readings in police administration, with emphasis on problems of supervision and recent legal developments.
PAD 360. Juvenile Procedures  
A study of juvenile problems and the role of police in their management and control, and the modification of police procedures in juvenile crime prevention.

PAD 401. Advanced Police Administration  
Principles of supervision and control procedures. Teaching of police academy programs. Comparative study of police training systems.

PAD 410. Correctional Administration  
The administration of correctional institutions and other detention facilities. Special problems of the mentally disturbed. Rehabilitation and parole administration.

PAD 425. Community Relations  
Contemporary problems of police-community relations; policy development and implementation; training programs.

PAD 450. Practicum in Police Administration  
Intensive studies of particular practical problems in police administration. Field trips, lectures, and readings are combined to give both a practical and theoretical orientation.

PAD 460. Research in Police Administration  
Directed research on specific problems, enabling the student to take responsibility for investigating an area of particular interest to him. A field project will be required.

PAD 470. Seminar in Police Administration  
A coordinating seminar to integrate the studies in Police Administration with contemporary social science, with a focus on community mobilization for crime prevention.

Political Science (Pol)

Dr. Norbert C. Brockman, S.M., Chairman  
Professors: Rose, Steinbicker  
Associate Professor: Liebler  
Assistant Professors: Abbott, Brockman, Kerns, Patyk  
Lecturer: Carrell  
Part-time Instructors: Franklin, Makley

A major in Political Science includes Pol 101 and Pol 201, plus eight advanced courses. One course must be chosen from each of the following areas, and residents of Ohio must choose Pol 302 as part of the major sequence. A minor in Political Science includes Pol 201 and any four advanced courses.

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<td>Government</td>
<td>International</td>
<td>Theory</td>
<td>Research</td>
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<td>302 312 410</td>
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<td>414 471</td>
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<td>303 360 411</td>
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<td>310 401 450</td>
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POL 101. INTRODUCTION TO POLITICAL SCIENCE  
Three Credit Hours  
An introduction to political phenomena from a number of approaches: behavioral, institutional, and normative.

POL 101H. INTRODUCTION TO POLITICAL SCIENCE (HONORS)  
Three Credit Hours  
By permission only. Limited enrollment.

POL 201. AMERICAN NATIONAL GOVERNMENT  
Three Credit Hours  
A functional study of the origin, organization, and operations of the national government with a rapid survey of the American system of state and local governments.

POL 201H. AMERICAN NATIONAL GOVERNMENT (HONORS)  
Three Credit Hours  
By permission only. Limited enrollment.

POL 300. PRINCIPLES OF GOVERNMENT  
Three Credit Hours  
An advanced survey of American governmental systems, with emphasis on the federal establishment. Not open to majors or minors in Political Science, nor to students who have taken Pol 201.

POL 301. INTRODUCTION TO LAW  
Three Credit Hours  
A study of the American legal system, with emphasis on the courts and the bar. The criminal and civil legal processes are taken in detail.

POL 302. OHIO GOVERNMENT—STATE AND LOCAL  
Three Credit Hours  
An examination of the state and local governments of Ohio with special reference to Montgomery County and the City of Dayton.

POL 303. STATE AND LOCAL GOVERNMENT  
Three Credit Hours  
A comparative survey of the governments of the states and their local jurisdictions, with emphasis on current developments and issues. Local government is treated within the context of the federal system.

POL 306. INTERNATIONAL LAW  
Three Credit Hours  
An analysis of the development of international law, its theory and application to the various phases of international relations.

POL 310. POLITICAL PARTIES  
Three Credit Hours  
A descriptive analysis of the nature and interaction of parties, pressure groups, and the functioning of public opinion on the national and state level. Prerequisite: Pol 201.

POL 312. NATIONAL LEGISLATIVE PROCESS  
Three Credit Hours  
A detailed treatment of the organization, powers, functions, procedures of, and influences on Congress in federal legislation. Prerequisite: Pol 201.

POL 314. INTERNATIONAL RELATIONS  
Three Credit Hours  
An exposition of the dynamic forces influencing nations in their conduct of world affairs.

POL 314H. INTERNATIONAL RELATIONS (HONORS)  
Three Credit Hours  
By permission only. Limited enrollment.
POL 316. INTERNATIONAL ORGANIZATIONS
THREE CREDIT HOURS
A study of origins and evolution of organized international collaboration with an emphasis on the United Nations.

POL 360. URBAN POLITICS
THREE CREDIT HOURS
Examination of contemporary urban problems and the response of the governmental and political system. Locus of power and decision-making: community mobilization; citizen participation.

POL 401. THE AMERICAN PRESIDENCY
THREE CREDIT HOURS
An expository approach to the United States Presidency, as the most powerful elective political office in the world today. Prerequisite: Pol 201.

POL 402. WESTERN EUROPEAN GOVERNMENTS
THREE CREDIT HOURS
A comparison of the governments of the United Kingdom, France, Germany, and others. Operation of legislative, administrative and judicial institutions.

POL 403. RUSSIA AND EAST EUROPE
THREE CREDIT HOURS
A study of the philosophy, structure, and practical operation of the political and economic institutions of the Soviet Union and other countries with a similar system.

POL 407. POLITICAL GEOGRAPHY
THREE CREDIT HOURS
This program proposes to include the geopolitical aspects of land, sea, outer space, communications, transportation, military strategy and the contributions of geography to international problems.

POL 408. AMERICAN FOREIGN POLICY
THREE CREDIT HOURS
An analytic study of policies and methods followed by the State Department in its relations with other countries in its conducting of United States relations. Prerequisite: Pol 201.

POL 410. PUBLIC ADMINISTRATION
THREE CREDIT HOURS
A study of basic principles of organization and management in executive departments of government at all levels. Questions of planning, leadership, and control are also considered. Prerequisite: Pol 201.

POL 411. THE AMERICAN CONSTITUTION
THREE CREDIT HOURS
An exposition of the fundamental principles inherent in the Constitution, Common Law, delegated powers of government, and other areas, with application to contemporary situations. Prerequisite: Pol 201.

POL 414. PHILOSOPHY OF LAW
THREE CREDIT HOURS
Nature of law; natural and positive law; implications and juridical origin and effect of law; justice; origin of law; legal reasoning.

POL 416. LATIN AMERICAN GOVERNMENTS
THREE CREDIT HOURS
An examination of the social, cultural, and political systems of the American states with special consideration of recent developments.

POL 417. HISTORY OF POLITICAL PHILOSOPHY
THREE CREDIT HOURS
Principal political opinions of the Western philosophers drawn from original sources. Political doctrines of Plato and Aristotle, leading Roman and Medieval thinkers, and modern political philosophies. Accredited in Philosophy.
POL 417H. HISTORY OF POLITICAL PHILOSOPHY (HONORS)  THREE CREDIT HOURS
By permission only. Limited enrollment.

POL 421. GOVERNMENT SEMINAR  THREE CREDIT HOURS
Research and conferences in (a) International Affairs or (b) National Government Areas. Prerequisite: Permission of chairman.

POL 422. READINGS AND PROBLEMS IN NATIONAL GOVERNMENT  THREE CREDIT HOURS
This is essentially a course to supplement the other courses in the national field. Prerequisite: Pol 201.

POL 431. RESEARCH IN POLITICAL SCIENCE  THREE CREDIT HOURS
Individual research on selected topics, under the direction of a member of the faculty. Prerequisite: Permission of the Chairman.

POL 431H. RESEARCH IN POLITICAL SCIENCE (HONORS)  THREE CREDIT HOURS
By permission only.

POL 450. CIVIL LIBERTIES  THREE CREDIT HOURS
An analytical examination of civil liberties in the United States with special emphasis upon the Supreme Court as arbiter in the endless conflict between the demand for individual liberty and the needs of constitutional authority. Prerequisite: Pol 201.

POL 460. GOVERNMENT AND POLITICS OF THE FAR EAST  THREE CREDIT HOURS
A study of the political systems of Japan and China, with some consideration of the smaller states of the Far Eastern area.

POL 465. AFRICAN POLITICAL SYSTEMS  THREE CREDIT HOURS
A survey of the governments and politics of Africa, with emphasis on Black Africa. Some consideration is given to Pan-African movements.

POL 467. POLITICS OF THE NEAR EAST  THREE CREDIT HOURS
Study of the political systems, problems, and philosophies of the Near East. Problems of Arab unity and Middle East international relations are considered.

POL 471. CATHOLIC POLITICAL THOUGHT  THREE CREDIT HOURS
A study of basic Catholic social doctrine, with emphasis on the teachings of recent Popes on political and economic questions and movements, in the light of contemporary Catholic theology.

POL 475. AMERICAN POLITICAL THOUGHT  THREE CREDIT HOURS
A careful study of the significant ideas that have shaped the American political system as it is today. Concentration on the impact of puritanism, the American Revolution, Hamiltonianism, Jeffersonianism, racism, nativism, social Darwinism, the New Deal and contemporary liberalism and conservatism.

POL 480. POLITICAL BEHAVIOR  THREE CREDIT HOURS
A survey of the important literature and an analysis of the relevant concepts and techniques in the behavioral approach to political science. Emphasis on the importance of surveys, quantitative analysis and the psychology of political relationships.
POL 495. INTERNSHIP
THREE CREDIT HOURS
Supervised experience in government agencies and programs. Pre-law students are assigned to law firms and judicial chambers. Prerequisite: permission of supervising professor.

Psychology (Psy)

Dr. Samuel M. Bower, Acting Chairman
Mr. L. T. Kemple, Administrative Assistant to Chairman
Professor: Rancurello
Associate Professor: Noland
Assistant Professors: Bower, Davis, Rosa, Shine, Snide
Instructors: Kalmanek, Kempel, Rueth, Waybright
Part-time Instructors: Bradley, Gallico, Hanes, Kuntz, Matthews, Riley, Stevens, Watkins

Psychology majors must complete the required courses as follows: Psy 201, 302, 303, and 308. In addition to these basic courses, the student must elect in consultation with his advisor, elective credits in Psychology corresponding to the program he selects. Majors will be assigned to individual advisors. They should contact the department chairman for assignments as soon as possible. A Psychology major will be advised to follow one of three psychology programs. The first leads to a B.S. degree, the second to a B.S. degree with Biology emphasized, and the third to a B.A. degree which provides general training and allows for an allied minor in an Arts & Sciences department. Students with a minor in Psychology are required to complete a minimum of 15 credit hours in psychology courses, including Introductory Psychology.

All 400 level courses are open for graduate credit to candidates for a Master's degree in Psychology upon permission of advisor, but not to exceed six (6) credit hours.

PSY 201. INTRODUCTORY PSYCHOLOGY
THREE CREDIT HOURS
Studies man as an integrated personality including development, motivation, emotion, adjustment, learning, perception, thinking, and the general application of psychological principles to personal, social, and industrial problems. Required of all Psychology majors.

PSY 302. ELEMENTARY STATISTICS
THREE CREDIT HOURS
Measures of central tendency, dispersion, and correlation. Basic concepts involved in estimating parameters and testing hypotheses. Presumes usual high school training in mathematics. Required of all Psychology majors. Prerequisite: Psy 201 or equivalent.

PSY 303. EXPERIMENTAL DESIGN AND INFERENCE
THREE CREDIT HOURS
Develops rationale for the design and interpretation of experiments, including analysis of variance, correlational analyses, and data transformations. Required of all Psychology majors. Prerequisite: Psy 302 or equivalent.
Psy 304. Adolescent Psychology
Treats interrelated physical, social, and emotional development of adolescents. Child Psychology is recommended as a prerequisite though not required. Prerequisite: Psy 201 or equivalent.

Psy 306. Child Psychology
A longitudinal study of childhood from birth to 12 years stressing the importance of developmental sequences in motor, emotional, social, language, intelligence and imaginative life. Concentrates on recent research findings in this field. Prerequisite: Psy 201 or equivalent.

Psy 308. Experimental Psychology
Introduces the student to the basic concepts of scientific methods as applied to psychological problems. Prerequisite: Psy 302. Required of all Psychology majors.

Psy 308L. Experimental Psychology Laboratory
Experiments are conducted to familiarize student with the application of scientific methodology to the study of psychological processes of man. Must be taken with lecture course. One two-hour laboratory period each week.

Psy 311. Dynamics of Adjustment
Explains the continuous adjustment process through an examination of psychological, social, biological, philosophical and other interrelated conceptions. Emphasizes personality dynamics and effective behavior. Prerequisite: Psy 201 or equivalent.

Psy 313. Behavior Disorders
Examines patterns of disordered behavior. Discusses cultural, social, psychological and biological relationships and approaches to behavior modification. Prerequisite: Psy 311.

Psy 314. Cognitive Processes
Continuation of Psy 308 with emphasis on the application of scientific methods to the study of cognitive processes in general. Prerequisite: Psy 308.

Psy 315. Personality
Introduction to the scientific study of personality as reflected in both clinical and experimental findings. Prerequisite: Psy 311.

Psy 321. Human Factors Engineering
Designed to provide engineer and psychologist with essential psychological concepts and methods to optimize use of men and equipment. Principles governing design of equipment which account for the capacities and limitations of human processes are outlined, and discussed within the framework of prevailing man-machine systems. Prerequisite: Psy 201.

Psy 321L. Human Factors Engineering Laboratory
Selected experiments on displays and other equipment to illustrate the application of human factors principles to design of equipment. Must be taken with lecture course. One two-hour laboratory period each week.
PSY 402. Psychological Tests and Measurements
Three Credit Hours
Historical background of testing and the ethics involved. Concentrates on the requirements of acceptable tests in general. Reviews principal tests of intelligence, personality, and aptitude. Prerequisite: Psy 302 or equivalent.

PSY 406. Community Problems and Psychology
Three Credit Hours
A more advanced course in the practical application of psychology to the home, industry, marketing and advertising, law, criminology, social relations, medicine, music, art and warfare. Prerequisite: Psy 201.

PSY 407. Psychology of Exceptional Children
Three Credit Hours
An evaluation of the field of atypicalities existing throughout childhood. This includes intellectual superiority and mental retardation. Stress is placed on deviations existing because of organic pathology resulting in varying kinds of mental and physical aberrations. Etiology, diagnosis, and testing techniques are included. Prerequisite: Psy 306.

PSY 408. Social Psychology
Three Credit Hours
Presents systematic treatment of social forces affecting human behavior. Emphasizes methods of social psychology. Prerequisite: Psy 201.

PSY 409. History of Psychology
Three Credit Hours
Considers modern psychology from the vantage point of its origins in philosophy and science. Emphasizes an evaluation of systems and schools in the history of psychology. For seniors in psychology or with permission of instructor.

PSY 412. Interviewing and Counseling
Three Credit Hours
Theories and techniques of interviewing and counseling are discussed and evaluated. Practice provided by role playing and by case study. Permission of the instructor or chairman is required. For seniors only.

PSY 415. Small Group Dynamics
Two Credit Hours
Experimental and experiential analysis of the dynamics of small group behavior. Interpersonal behavior at various levels and in differing settings will be investigated, e.g., school, work, family; formal and informal organization. Introduction to sensitivity training and group therapy. Permission of instructor required.

PSY 415L. Laboratory in Small Group Dynamics
One Credit Hour
Designed to provide demonstrations and experiences in group dynamics, group therapy, sensitivity training and the diagnosis and restructuring of group behavior. Limited to ten students. One two-hour lab period per week.

PSY 420. Industrial Psychology
Three Credit Hours
Introduces modern efforts to improve human performance in industrial organization and society. Studies selection and placement of employees, morale, training, and incentives. Prerequisite: Psy 302.

PSY 451. Differential Psychology
Three Credit Hours
Discusses the problems, methods and results of differential psychology, including the nature and distribution of individual differences, role of heredity and environment, organization of psychological traits, sex differences, and characteristics of racial, national and other common groupings.
The conscious and unconscious mental processes which together modify the religious experience: the rational, irrational, personal and social characteristics of religious experience and the manner in which this experience emanates from a total psychic entity. Prerequisite: 311 or 315.

Psv 490. Special Problems in Psychology (Honors)  
Research problems of special interest to the student are investigated under direction of psychology staff members. Permission of department chairman is required. May be taken more than one time.

Psv 491-492. Readings in Psychology (Honors)  
Directed readings in some specific phase of Psychology are done under the supervision of a staff member. A written or oral report will be required. Permission of instructor or department chairman is required.

Secretarial Studies (Sec)  
Velma M. Miller, Chairman  
Associate Professors: M. Civille, V. Miller  
Instructors: S. Houghtling, J. Webster

During registration week, the department of Secretarial Studies offers tests in both shorthand and typewriting to assist in proper placement of students desiring to continue work in either or both fields. These tests are required of all students who have had prior work in shorthand or typewriting and expect to continue in these fields, whether for teaching purposes, professional reasons, or personal use.

Sec 101. Fundamental Shorthand  
Gregg Shorthand is the method employed in this course. Using the Diamond Jubilee series, the entire theory is covered during the first semester. Transcription is introduced. Five class periods a week.

Sec 101A. Fundamental Shorthand (Refresher)  
Shorthand Review. Emphasis is placed upon the mastery of the basic principles, brief forms, and phrasing of Gregg Diamond Jubilee shorthand through immediate reading and writing practice. Transcription is introduced. Five class periods a week.

Sec. 102. Intermediate Shorthand  
Gregg theory is reviewed. Reading practice continues but transcription is emphasized. Five class periods a week.

Sec 103. Elementary Typewriting  
The keyboard is mastered. Additional emphasis is placed on the function and care of
various models and makes of typewriters. Manuscript writing, tabulation, and letter writing are introduced. Five class periods a week.

**Sec 103A. Fundamental Typewriting (Refresher)***

**THREE CREDIT HOURS**

Typewriting Review. A thorough review of the keyboard and its operative parts is followed by a careful analysis of typewriting techniques and work habits. Manuscript writing, tabulation, and letter writing are introduced. Five class periods a week.

**Sec 104. Intermediate Typewriting***

**THREE CREDIT HOURS**

The development of further basic skill in the operation of the typewriter. Introduces basic office typing problems and stresses fundamentals needed in office employment. Five class periods a week.

**Sec 105. Secretarial Accounting***

**THREE CREDIT HOURS**

A short course in accounting especially designed for private secretaries; covers the fundamental principles of accounting as applied to mercantile and personal service enterprises operated by sole proprietors. Three class periods a week. Prerequisite: Sec 110 (Secretarial Mathematics) or equivalent.

**Sec 106. Secretarial Accounting***

**THREE CREDIT HOURS**

This course develops further the accrual basis of accounting for mercantile enterprises, with emphasis on partnership transactions, but with an introduction to corporation accounting. Three class periods a week.

**Sec 107. Personal Typewriting***

**TWO CREDIT HOURS**

Students are taught typing for personal use—this includes knowledge of the typewriter, preparing outlines, manuscript writing, business letters, fill-in forms, rough drafts, etc. Three class periods a week.

**Sec 110. Secretarial Mathematics***

**THREE CREDIT HOURS**

Review and practice of essential mathematical computations common to business offices; development of proficiency in these functions.

**Sec 201. Dictation and Transcription***

**THREE CREDIT HOURS**

Gregg principles are reviewed. Rapid reading is emphasized. Sustained writing periods are increased. Practical office dictation speeds are employed. Five class periods a week.

**Sec 202. Advanced Dictation and Transcription***

**THREE CREDIT HOURS**

This course is intended to develop greater competency in dictation and transcription. It qualifies the student for high-level positions of responsibility. Five class periods a week.

**Sec 203. Advanced Typewriting***

**THREE CREDIT HOURS**

Prepares for employment in the office occupations. Stresses advanced typing problems and emphasizes techniques, knowledges, and skills involved in office work. Five class periods a week.

**Sec 204. Production Typewriting***

**THREE CREDIT HOURS**

Specifically designed for job preparation in high-level office employment. Five class periods a week.
SEC 205. SECRETARIAL PRACTICE  
**THREE CREDIT HOURS**
A study of filing techniques and duplicating processes. Dictating-transcribing machines are used; principles of data processing are introduced. Four class periods a week. Prerequisite: Intermediate Typewriting.

SEC 206. ADVANCED SECRETARIAL PRACTICE  
**THREE CREDIT HOURS**
Advanced training in duplication processes, dictating-transcribing machines, and communications. Four class periods a week. Prerequisite: Sec 205 (Secretarial Practice).

SEC 207. BUSINESS MACHINES  
**THREE CREDIT HOURS**
The student is given the opportunity to become acquainted with and correctly use the principal types of ten key adding machines, full-bank adding machines, printing calculators, and key-driven calculators. Three class periods a week. Prerequisite: Sec 110 (Secretarial Mathematics) or equivalent.

Sociology and Anthropology

Dr. Mary Jo Huth, Chairman
Professor: E. Huth
Associate Professor: M. Huth
Assistant Professors: Fakhouri, Meiser, Thomas
Part-time Instructors: Culbertson, Hair, Hepola, Dandridge, Heineman, Hubbard, Curran, Lieberman, Barr, Rubin

**STATEMENT OF PURPOSE:** The curriculum of the Department of Sociology and Anthropology is organized around eight major fields: anthropology, pre-professional social work, social organization, social disorganization, social change, population and ecology, methods, and sociological theory. The department's objectives are: (1) to promote understanding of the social character of human life in both primitive and advanced societies through an analysis of social structures, interaction processes and institutions; (2) to present a balanced perspective of current social issues and problems; and (3) to encourage the objective study of society by instruction in scientific research methods. Courses in the Department of Sociology and Anthropology are designed for various groups of students: (1) those desiring scientific knowledge of social relationships as a part of their general equipment for living; (2) those planning to enter a public service profession such as nursing, medicine, dentistry and law; (3) those expecting to engage in a form of public relations work that will require a broad grasp of the nature of society, public opinion, and social change; (4) those anticipating a career in social research and planning; (5) those looking forward to the teaching of social studies, sociology or anthropology; and (6) those intending to pursue graduate training in social work, sociology or anthropology.

**REQUIREMENTS FOR MAJORS AND MINORS**
Major or Minor in Sociology: Majors and Minors in Sociology should consult the chairman of the department in planning their course programs. They must complete, during their Freshman and Sophomore years, the general requirements for the B.A.
degree. Majors must complete 30 hours of course work in the department, including Sociology 203, 401-2, 415, 420, and 422. Electives are selected from the 300 and 400 courses. Minors must complete 15 hours in the department: Sociology 203 and four 300 and/or 400 level courses.

**Major in Social Work:** The Department of Sociology and Anthropology is a Constituent Member of the Council on Social Work Education, an international accrediting agency for schools of social work in the United States and Canada. The Epsilon Chapter of Phi Alpha, National Social Work Honor Society, is under the jurisdiction of the department. Majors in Social Work should consult the chairman of the department in planning their course programs. They must complete, during their Freshman and Sophomore years, the general requirements for the B.A. degree. Thirty (30) hours of course work must be completed in the department, including Sociology 203, 305, 306, 401-2, 418, 424, and 432. Electives are selected from the 300 and 400 courses.

**Major or Minor in Anthropology:** Majors and Minors in Anthropology should consult the chairman of the department in planning their course programs. They must complete, during their Freshman and Sophomore years, the general requirements for the B.A. degree. Majors must complete 30 hours of course work in the department, Sociology 203, 320, 322, 401-2, 403, and 408. Electives are selected from the 300 and 400 courses. Minors must complete 15 hours in the department: Sociology 203, 320, 322, 403, and 408.

**SOC 203. INTRODUCTION TO SOCIOLOGY**
THREE CREDIT HOURS
The basic course in the principles of sociology; an introduction to the fundamental concepts of sociology. A prerequisite for all advanced courses in the department.

**SOC 300. CONTEMPORARY SOCIAL PROBLEMS**
THREE CREDIT HOURS
The study of the extent, causes, prevention and treatment of abnormal conditions affecting contemporary society.

**SOC 301. MARRIAGE AND THE FAMILY**
THREE CREDIT HOURS
A functional course concerned with mate selection, husband-wife relationships, parenthood, family disorganization and rehabilitation.

**SOC 303. POPULATION**
THREE CREDIT HOURS
The study of population growth, composition, distribution, problems and theory, with special reference to the United States.
*First Term, Each Year*

**SOC 305. INTRODUCTION TO SOCIAL WORK**
THREE CREDIT HOURS
A comprehensive survey of social work, including social casework, social group work, community organization, social research, social action, and social administration. A prerequisite for specialized courses in Social Work.
*First Term, Each Year*

**SOC 306. CASEWORK**
THREE CREDIT HOURS
An introduction to the basic principles and processes involved in helping people solve their problems; the techniques of interviewing and history-making; the relationship between caseworker, client and community; a critical evaluation of referral and treatment plans. Required of Social Work Majors.
*First Term, Each Year*
Soc 307. Criminology and Penology
The study of crime: its extent, etiology, prevention and treatment; probation and parole; punishment theory and practice in historical perspective; prison reform and the objectives of modern penology.

Soc 313. Juvenile Delinquency
Analysis of the relationship of the home, school, church, peer group, neighborhood, mass media and other elements in the community—the child guidance clinic, detention home, and juvenile court—to delinquency as regards its causes, prevention and treatment.

Soc 315. Industrial Sociology
An analysis of the characteristics of industrial society: occupational roles and relationships; technological progress and its repercussions; industrial relations problems.

Soc 318. Social Stratification
Status, class, and social mobility in selected societies; conditions affecting the flexibility of a society's stratification system; the influence of class position on life habits; implications for research and social policy.

Soc 320. Introduction to Anthropology
The study of the physical, social and cultural development of human beings since their appearance on earth. A prerequisite for specialized courses in anthropology.

Soc 322. Culture and Personality
The development of personality in relation to patterns of culture and subcultures in which one grows up; materials are drawn from both literate and non-literate societies. Required of Anthropology Majors and Minors.

Soc 325. American Ethnic and Racial Minorities
The study of the cultures of the major immigrant and racial groups in this country and of their assimilation into the dominant culture.

Soc 328. Collective Behavior
The nature of crowds, mobs, manias, panics, fashions, fads, social movements, reforms, and revolutions; consideration of public opinion and propaganda in relation to these phenomena.

Soc 401-2. Social Research Methods and Statistics
Central methodological issues, and basic statistical techniques in social research. Required of Sociology, Social Work and Anthropology Majors.

Soc 403. Primitive Religion
Comparative study of the religious beliefs and practices of nonliterate peoples of the world. Required of Anthropology Majors and Minors.

Soc 406. Social Change
Processes of social changes in the modern world; culture lag and conflict of norms; individual and social problems arising from conflicting systems of values and norms.
Soc 408. Cultural Area Studies
Three credit hours
One major cultural area of the world—North America, South America, the Middle East, Africa, Asia, or Oceania—is studied each time the course is offered. Required of Anthropology Majors and Minors.

Soc 412. School and Society
Three credit hours
Teacher-student, teacher-administration, and school-community relationships; educational processes, deviant behavior in schools, education for social responsibility.

Soc 415. Senior Seminar in Sociology
Three credit hours
Individual and group projects developed around such topics as: Marriage and Family Problems, Urban Renewal, and Deviant Behavior. Required of Sociology Majors.

Soc 418. Community Organization
Three credit hours
The mobilization of community resources to meet community needs; methods for developing, maintaining, extending, and coordinating social welfare agencies. Required of Social Work Majors.

Soc 420. Classical Sociological Theory
Three credit hours
Examination of the important questions concerning man’s relationship to society, drawing upon the classical literature of the Western tradition. Required of Sociology Majors.

Soc 422. Contemporary Sociological Theory
Three credit hours
Consideration of leading sociological theorists’ works and of major trends in sociological thought during the 19th and 20th centuries. Required of Sociology Majors.

Soc 424. Group Work
Three credit hours
Principles and concepts of group work as a method of social work; role of the worker with groups and individuals in groups; understanding the group process; use of program media. Required of Social Work Majors.

Soc 426. Urban Sociology
Three credit hours
Physical and social characteristics of urban areas; urban ecology; major problems of urban life; urban planning and renewal.

Soc 432. Social Work Field Experience
Three credit hours
The opportunity for practical application of social work principles is afforded all social work majors through placement in local private and public social work agencies. Required of Social Work Majors.

Soc 435W. Human Relations Workshop
Six credit hours
The objective of this workshop is to provide an opportunity for gaining greater knowledge and understanding of the principles and techniques leading to good human relations. Causes of tension and conflict in American society are examined and effective solutions for interpersonal and intergroup problems will be studied and evaluated. Lectures by the workshop staff and by community leaders, discussions in small groups, individual projects, demonstration of audio-visual materials, field trips, library research, daily lunch together and a picnic are all considered integral facets of the workshop process.

Third Term, Second Part, Each Year
SOC 439. **Seminar in Community Development**

This seminar will introduce the student to the basic concepts of community, with a focus on their application to community planning and action.

**Three Credit Hours**

Second Term, Each Year

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**Theological Studies (THL)**

Rev. Matthew F. Kohmescher, S.M., Chairman

*Professor:* Cole

*Associate Professors:* Burns, Kohmescher, Middendorf

*Assistant Professors:* Buby, Brady, Fox, Harrington, Kelley, Kelly, McDonald, Vrasdonk, Weber


The Department of Theological Studies, while not neglecting the scientific requirements of the intellectual discipline known as theology, purposes to meet actual needs of Christian students preparing for life in the 20th century. Hence, the Department strives in its curriculum of courses to offer the student that "broad knowledge" and to foster those "basic intellectual habits" in Theology which are relative to, and fundamental for, a Christian intellectual life.

Twelve credits in theology are required of all Catholic students. Freshmen elect from Thl 110, 152, 153, 154. Sophomores take Thl 220. Transfer students who do not have the equivalent of these courses must take them here. In addition Catholic students elect 6 credits in 300-400 courses, including at least one course on the 400 level.

Majors (24 credits in upper level courses) and minors (12 credits in upper level courses) should consult the chairman. With permission specific courses from the Program of Judaic Studies and also Pol 471 may be counted. A recommended distribution of credits is given in the following table. Thl 195H, 295H, 395H, 495H may replace any required or recommended course.

**Recommended Distribution of Credits**

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1. Thl 311, 312; Pol 471; Judaics
2. Thl 352, 353, 354, 452, 453, 454, 459
3. Thl 360, 361, 362, 365, 380, 400, 460, 474, 476, 478
4. Thl 226, 402, 415, 425, 430, 435, 440
5. Thl 403, 404, 481
THEOLOGICAL STUDIES 259

THL 110. INTRODUCTION TO THEOLOGY  
A study of the nature, sources and method of theology and its place in the Church today. Includes a practicum, i.e., an investigation of the theological process as it relates to selected current issues and problems.

THL 152. INTRODUCTION TO SACRED SCRIPTURE  
The Bible studied 1) As the Word of God in the words of men; and 2) As the chronicle of God’s saving action in history. Place of the Bible in the Church, in Theology, in Christian living. Selected readings.

THL 153. INTRODUCTION TO OLD TESTAMENT  
Survey of the Old Testament—history of Israel, archaeology, institutions, literary traditions, nature of inspiration, literary forms. Selected readings.

THL 154. INTRODUCTION TO THE NEW TESTAMENT  
Survey of the writings of the New Testament with a special emphasis on modern developments in Bible studies. Selected readings.

THL 195H. THEOLOGY HONORS I  
A seminar in which selected topics in theology are studied. By permission only.

THL 220. THEOLOGY OF CHRIST  
Study of Christ as the fulfillment of the Divine Plan—His coming, His life, His mission. Christ—the central mystery of Christianity. Required of all sophomores.

THL 226. THE SACRAMENTS  
Scriptural approach to the notion of sacramentality; sacramental types and sacrifices of the Old Testament; sacraments of the New Testament; contemporary developments in sacramental theology. Offered at Marianist College and Regina Heights.

THL 291. MISSION OF THE CHURCH  
Call of the Popes for social-moral reconstruction, the Church as an instrument of salvation, role of the layman in the Church, lay spirituality, Catholic Action and the problems of the social order. Offered at Marianist College.  
Second Term, Each Year

THL 295H. THEOLOGY HONORS II  
A seminar in which selected topics in theology are studied. By permission only.

THL 301. SURVEY IN CATECHETICS  
Historical survey of the development of catechetical theology in the Church from the early Church to the present. Presentation of a developing continuum in catechetics. Offered at Marianist College.

THL 302. CATECHETICAL METHOD  
Content, organization and method of kerygmatic catechesis. Practical exercises based on biblical, liturgical and theological themes. Offered at Marianist College.

THL 311. HISTORY OF WORLD RELIGIONS I  
An historical survey of the origins, literature, beliefs and practices of significant eastern Mediterranean religions including Christianity, Judaism, Gnosticism, Islam and others.  
First Term, Each Year
THL 312. History of World Religions II  
Three credit hours  
An historical survey of the origins, literature, beliefs and practices of important Far Eastern religions including Hinduism, Buddhism, Confucianism, Shinto and others.  
Second Term, Each Year

THL 352. The Pentateuch  
Two credit hours  
A critical, historical study of the books of the Pentateuch with special emphasis on their formation and with a consideration of pertinent problems and themes, especially from Genesis, Exodus and Deuteronomy.

THL 353. The Prophets  
Two credit hours  
A study of the prophetic movement in Israel with special treatment of selected prophets.

THL 354. The Wisdom Literature  
Two credit hours  
A study of the setting, development and insights of the wisdom movement in Israel. Selected writings of the Hebrew sages will be examined in light of their relevance for the Christian of today.

THL 360. Christian Morality  
Two credit hours  
Basic Christian morality seen as the personal response to the redemptive Word of God.

THL 361. Christian Morality  
Three credit hours  
Basic Christian morality seen as the personal response to the redemptive Word of God. Offered at Marianist College.

THL 362. Faith Hope Charity: Dynamics of Christian Living  
Two credit hours  
Detailed examination of the three theological virtues and their place in the life of the Christian today. Special emphasis on contemporary problems in this area and on recent theological developments.

THL 365. Theology of Marriage  
Two credit hours  
Analysis of the sanctifying dignity of Christian marriage as sacrament and commitment to share in the divine creative plan.

THL 380. God—The Layman and the World  
Two credit hours  
Role of layman in the church; a complete ecclesiology.

THL 381. Theology of Lay Life  
Two credit hours  
Role of layman in the temporal order; theology of various spheres of man's life.

THL 395H. Theology Honors III  
Three credit hours  
A seminar in which selected topics in theology are studied. By permission only.

THL 400. Special Problems in Theology  
One or two credit hours  
Investigation and discussion of current problems in Christian belief and living, and of theology as an integrating factor in life. May be taken more than once.

THL 402. Questions in Theology  
Two credit hours  
A detailed treatment of specific areas of Catholic theology. Topics covered can vary from term to term. May be taken more than once.
THL 403. **Great Theologians**
A study of the life, thought and times of a selected theologian. May be taken more than once.

THL 404H. **Readings in Theology (Honors)**
Directed readings in a specific area of theology are done under the supervision of a staff member. A written or oral report is required. Permission of the chairman is needed. May be taken more than once.

THL 415. **God: The Evolving Dialectic**
A study of some recent contributions made by theology, philosophy, psychology and the humanities to the current discussion of God's existence, nature and relationship to man.

THL 425. **Sacraments**
Principle of sacramentality in religion; the sacraments as the human mode of encounter with God.

THL 430. **Theology of the Church**
Biblical roots of the church; nature of the church; role of authority; role of intellectual understanding; mission of the church.

THL 435. **Theology of Liturgy**
Nature and sources of the liturgy; rites; worship life of the church (sacrifice and sacraments); prayer life of the church; development of the liturgy.

THL 440. **Theology of Mary**
Study of the place of the Mother of God in the great truths of faith with emphasis on her own special functions and privileges.

THL 452. **Understanding the Gospels**
Findings of modern Bible scholars and recent pronouncements of the Church applied to the questions: How historical are the Gospels? What is their message? How relevant are they? Readings in Matthew, Mark and Luke-Acts.

THL 453. **Studies in St. John**
The Fourth Gospel, 1 John and the Apocalypse will be studied in detail with special emphasis on style, literary characteristics, plan, symbolism, message and theology.

THL 454. **New Testament Epistles**
The epistle as a literary form, divisions, principles and problems of interpretation. Includes a study of selected Pauline epistles and I Peter.

THL 459. **Biblical Themes**
An essay, i.e., an initial effort, in Biblical theology; an ordered tracing of themes as they develop through the Old and the New Testaments. Themes selected may vary from term to term. May be taken more than once.

THL 460. **The Virtues**
Study of the theological and moral virtues and their place in the life of a Christian today. Emphasis on contemporary problems in this area and on recent theological developments. Offered at Marianist College.
THL 474. **Christian Social Principles**
Two credit hours
Study of Christian social principles from papal documents and their application to the socio-economic problems of today.

THL 476. **The Church and World Peace**
Two credit hours
Study of order among men in society and the principles needed for relationships between governments for the establishment of a world community.

THL 478. **The Church and the Modern World**
Two credit hours
A careful study of the attitudes of the Christian of the future toward the world and its problems.

THL 481. **Modern Catholic Thought**
Two credit hours
Reading and discussion of representative modern Catholic writers in the field of theology.

THL 481H. **Modern Catholic Thought (Honors)**
Two credit hours
Reading and discussion of representative modern Catholic writers in the field of theology. By permission only.

THL 495H. **Theology Honors IV**
Three credit hours
A seminar in which selected topics in theology are studied. By permission only.

**Technical Institute**

*Director:* James L. McGraw
*Instructor:* Lawless

**Chemical Technology (Cti)**

*Assistant Professor:* Loughran
*Instructor:* Lawless

Cti 101. **Inorganic Chemistry**
Three credit hours
A comprehensive treatment of the fundamentals of general chemistry, with emphasis on their application to the essential groups of elements in the periodic table. Laboratory work is devoted to semi-micro qualitative analysis. Prerequisite: Sti 122.

Cti 101L. **Inorganic Chemistry Laboratory**
One credit hour
To accompany Cti 101. Three hours of laboratory a week.

Cti 202. **Quantitative Analysis**
Three credit hours
The fundamental principles and techniques involved in exact analysis. Gravimetric, volumetric, and colorimetric analyses are stressed along with the techniques that accompany these operations such as weighings and separations. Prerequisite: Cti 101.

Cti 202L. **Quantitative Analysis Laboratory**
Two credit hours
To accompany Cti 202. Six hours of laboratory a week.

Cti 203. **Physical Chemistry**
Three credit hours
A short course for chemical technicians. Application of the properties of matter in its different states. Covers chemical equilibrium; thermochemistry; electrochemistry; reaction kinetics; phase rule. Prerequisites: Cti 202, Sti 106.
Cti 203l. Physical Chemistry Laboratory
To accompany Cti 203. Three hours of laboratory a week.

Cti 206. Instrumentation
Study of various specialized instruments used in industry for analysis. Prerequisite: Cti 202.

Cti 208. Organic Chemistry I
A systematic study of the aliphatic classes of organic compounds. Prerequisite: Cti 101.

Cti 208L. Organic Chemistry Laboratory I
To accompany Cti 208. Three hours of laboratory a week.

Cti 209. Organic Chemistry II
A systematic study of the aromatic classes of organic compounds. Prerequisite: Cti 208.

Cti 209L. Organic Chemistry Laboratory II
To accompany Cti 209. Three hours of laboratory a week.

Cti 301. Metallurgy
An introduction to the basic fundamentals of metallurgy and metallurgical applications. Includes study of metallurgical processing, extractive metallurgy, and foundry technology.

Cti 302. Chemical Engineering Technology
Designed to acquaint the student in chemical technology with the fundamentals of chemical engineering including process variables, material balances, energy balances, and equilibrium conditions.

Cti 302L. Chemical Engineering Technology Laboratory
Designed to acquaint the student with Unit Operations equipment and its utilization. To accompany Cti 302.

Cti 307. Applied Chemistry
Practical applications of chemistry in various industries. Emphasis will be placed on plastics, powdered metallurgy, paper and other units as required. Prerequisite: Cti 206.

Electronic Engineering Technology (Eti)
Richard R. Hazen, Chairman
Associate Professor: Hazen
Assistant Professor: Hanneman
Instructors: Farren, Rooney

Eti 102. Elements of Electrical Technology I
Practical concepts of D.C. Circuits; resistance, resistivity, power and magnetism. Circuit calculations using basic formulas. Prerequisite: Sti 105.

Eti 103. Elements of Electrical Technology II
Practical concepts of A.C. Circuits; inductance, capacitance, reactance, impedance, phase, power and power factor. Circuit calculations utilizing vectors and complex quantities. Prerequisite: Eti 102, Sti 106.
Eti 103L. Electrical Circuits Laboratory
To accompany Eti 103. Three hours of laboratory a week.

Eti 107. Electrical Code
A study of the National Electrical Code to provide safe practices in the installations of electrical equipment in buildings.

Eti 201. Fundamentals of Electronic Technology

Eti 203. Electrical Measurements
Fundamentals of direct and alternating current measuring instruments and methods of measurement, with particular emphasis on industrial applications. Prerequisite: Eti 103; Corequisite: Sti 205.

Eti 203L. Electrical Measurements Laboratory
To accompany Eti 203. Three hours of laboratory a week.

Eti 204. Electrical Measurements
Fundamentals of direct and alternating current measuring instruments and methods of measurement, with particular emphasis on industrial applications. Corequisite: Eti 103, Sti 205.

Eti 204L. Electrical Measurements Laboratory
To accompany Eti 204. Three hours of laboratory a week.

Eti 205. Electronic Measurements

Eti 205L. Electronic Measurements Laboratory
To accompany Eti 205. Three hours of laboratory a week.

Eti 206. Electron Devices I
Fundamentals of vacuum tubes, gas tubes, semi-conductor diodes and their associated circuits. Prerequisite: Eti 103, Sti 205.

Eti 206L. Electron Devices I Laboratory
To accompany Eti 206. Three hours of laboratory a week.

Eti 210. Electrical Machinery
Fundamentals of the construction and application of direct current and alternating current machines and apparatus to industrial uses. Prerequisite: Eti 103. Evening classes only.

Eti 210L. Electrical Machinery Laboratory
To accompany Eti 210. Three hours of laboratory a week. Evening classes only.

Eti 211. Motor Control
Industrial uses of standard controllers for electric motors. Prerequisite: Eti 210. Evening classes only.
Standards and symbols used on electrical blueprints and wiring control circuits. Three hours of laboratory a week. Prerequisite: Mti 101. Evening classes only.

Eti 213L. Electrical Blueprints and Diagrams
An introduction to drawing with emphasis upon standards and symbols used on electrical blueprints and wiring diagrams primarily for control circuits. Six hours of laboratory a week. Evening classes only.

Eti 222L. Electronic Circuit Diagrams
Standards and symbols used on electronic circuit diagrams. Three hours of laboratory a week.

Eti 226. Introduction to Analog Computers and Servomechanisms
Fundamentals and design of synchros and related error detectors, rate generators, magnetic amplifiers and friction dampers. Prerequisite: Eti 206.

Eti 226L. Analog Computer and Servomechanism Laboratory
To accompany Eti 226. Three hours of laboratory a week.

Eti 300. Seminar
An exchange of ideas in the area of electronics which includes student lectures, guest lectures, and industrial visitations. Required of all Eti students enrolled in, or who have taken Eti 103.

Eti 306. Electronic Devices II
Fundamentals of transistors, photoelectric devices, silicon controlled rectifiers and their associated circuits. Prerequisite: Eti 206.

Eti 306L. Electronic Devices II Laboratory
To accompany Eti 306. Three hours of laboratory a week.

Eti 324. Digital Computer Fundamentals
Fundamental theory and techniques of electronic data-processing to include binary arithmetic, switching theory (Boolean algebra) and basic circuitry (gates, adders, registers and memory). Prerequisite: Eti 201 or Eti 206.

Eti 324L. Digital Computer Laboratory
To accompany Eti 324. Three hours of laboratory a week.

Eti 327. Pulse Circuits
Selected topics relating to radar, television, and computer circuits including integrators, differentiators, blocking oscillators, multivibrators and time-base generators. Prerequisite: Eti 206.

Eti 328. Electronic Communications
Principles of operation of filters, modulators, demodulators and converters. Prerequisite: Eti 206.
Eti 328L. ELECTRONIC COMMUNICATIONS LABORATORY
To accompany Eti 328. Three hours of laboratory a week.

Eti 330. SPECIAL ELECTRICAL PROJECTS
Laboratory work and outside reading associated with a phase of electricity selected by the student and approved by Chairman of the Department. Prerequisite: Eti 206.

Industrial Engineering Technology (Iri)

Raymond B. Puckett, Chairman
Associate Professors: McGraw, Puckett
Instructor: Staudter

Iri 101. INDUSTRIAL ORGANIZATION AND PRODUCTION
A survey of the operational, financial, marketing and accounting activities of industrial organization. Also included is a detailed survey of the duties of management as related to the production function of planning, control, personnel and human factors.

Iri 104. INDUSTRIAL MATERIALS AND PROCESSES
A study of modern industrial materials with emphasis on their chemical and physical properties, and methods by which they may be processed.

Iri 108. PRODUCTION METHODS AND CONTROL
Principles and the techniques used in production; current practices in production planning, routing, scheduling and dispatching; study of production standards, labor efficiency and costs; quantity and quality control. Prerequisites: Iri 101 and Iri 104.

Iri 203. ELEMENTS OF SUPERVISION
A study of the supervisor's relation to his men and his place in developing an effective production team. Prerequisites: Iri 101.

Iri 215. ELEMENTS OF COST CONTROL
A survey of the methods of breakdown and cost analysis of labor, material and overhead. All related to modern industrial practices. Prerequisite: Iri 101.

Iri 216. QUANTITATIVE METHODS IN I.E.T.
An introduction to the application of mathematics to decision-making in industry. Prerequisite: Sti 106.

Iri 217. INDUSTRIAL ECONOMIC ANALYSIS
An introduction to the economics of tools, equipment and machinery, including an elementary study of compound interest and depreciation. Prerequisite: Sti 106.

Iri 230. MOTION AND TIME STUDY I
Fundamentals of work simplification and motion economy using the techniques of motion and time study for the development of effective methods of production. Prerequisites: Iri 101 and Sti 105.

Iri 230L. MOTION AND TIME STUDY LABORATORY I
To accompany Iri 230. Three hours of laboratory a week.
IIT 305. LABOR AND WAGE ADMINISTRATION  
Three credit hours
Brief history of labor unionism and labor legislation. Survey of collective bargaining contracts, grievances and arbitration. Wage administration including job evaluation, wage structures, wage incentives and employee evaluation. Prerequisite: IIT 101.

IIT 318. STATISTICAL QUALITY CONTROL  
Three credit hours
An introduction to the techniques of industrial process control using statistical methods. Prerequisite: Sti 105.

IIT 331. MOTION AND TIME STUDY II  
Two credit hours
A study of the techniques used in work measurement and in setting time standards; including stop watch time study, and work sampling. An introduction to predetermined time systems and to standard data. Prerequisites: IIT 230.

IIT 331L. MOTION AND TIME STUDY LABORATORY II  
One credit hour
To accompany IIT 331. Three hours of laboratory a week.

IIT 332. PLANT LAYOUT  
Two credit hours
A study of the economical arrangement of stocks, machines and layout of aisles for efficient material handling and production. Prerequisites: IIT 108 and MTI 101 or MTI 103L.

IIT 332L. PLANT LAYOUT LABORATORY  
One credit hour
To accompany IIT 332. Three hours of laboratory a week.

Mechanical Engineering Technology (MTI)

Jesse H. Wilder, Chairman
Professor: Wilder
Associate Professor: Golden
Assistant Professors: Morgana, Wolff
Instructors: Kretzler, Mott, Rolle

MTI 103L. TECHNICAL DRAWING  
Two credit hours
An introduction to technical drawing with emphasis on orthographic projection and conventional industrial practices in producing technical sketches and completed detail drawings. Six hours of laboratory a week.

MTI 104L. GRAPHICAL COMPUTATIONS  
Two credit hours
Principles of descriptive geometry. Intersections and developments of planes and solids; layout of objects in space and clearance. Six hours of laboratory per week. Prerequisites: MTI 101 or MTI 103, Sti 103 or Sti 105.

MTI 106L. TESTING AND MEASUREMENTS  
One credit hour
The use of measuring instruments and standard mechanical testing equipment. Three hours of laboratory a week. Corequisite: IIT 104, Sti 114.

MTI 107L. MACHINE TOOL OPERATION  
One credit hour
The use of hand tools and standard production machine tools. Three hours of laboratory a week. Prerequisites: MTI 103L or MTI 101, Sti 105, Sti 104.
Mt 213. **Industrial Mechanisms**

Applications and mechanical advantages of gears, cams, pulleys, linkages and levers as used in industrial work simplification devices. For industrial engineering technology. Prerequisite: Sti 114.

Mt 220. **Mechanics: Statics and Dynamics**

Principles of applied engineering mechanics. Three hours of class per week. Prerequisites: Sti 106 and Sti 114.

Mt 221. **Strength of Materials**

Principles of applied strength of materials primarily with reference to mechanical design. Three hours of class per week. Prerequisite: Mt 220 or Mt 224, Sti 206.

Mt 224. **Statics**

Force systems, resultants and equilibrium, centroids of areas and centers of gravity of bodies, trusses, frames, beams, friction and moments of inertia of areas and bodies. Two hours of class per week. Prerequisite: Sti 114.

Mt 225. **Dynamics**

Principles of applied engineering dynamics. Two hours of class per week. Corequisite: Mt 224.

Mt 226L. **Mechanism**

Motions, displacements, velocities, friction wheels, flexible connectors, cams, linkages and gears. One hour of class and three hours of laboratory a week. Prerequisite: Mt 103L; Corequisite: Mt 220 or Mt 225.

Mt 230. **Thermodynamics**

General laws of thermodynamics, properties and processes of gases, vapor and gas-vapor mixtures; cycles; and the flow of fluids, application of thermodynamics to machines such as engines. Corequisites: Sti 206 and Sti 214.

Mt 231. **Fluid Mechanics**

Property of fluids, hydrostatic and buoyant forces, Bernoulli's equation, energy equation, flow of real fluids in pipes, friction losses, measurement flow. Corequisites: Mt 230 and Sti 206.

Mt 321L. **Dies, Jigs and Fixtures**

Design calculation and sketching, of dies, jigs and fixtures used in industrial production. One hour of class and three hours of laboratory a week. Corequisite: Mt 221.

Mt 323. **Machine Design**

Analytical design of springs, shafts, couplings, bearings, gears; applying laws governing simple, variable and combined stresses. Two hours class and three hours laboratory a week. Prerequisites: Mt 221, Mt 226L, Mt 231 and Sti 206 or Sti 207.

Mt 328. **Industrial Automation Actuation**

Application of hydraulic, pneumatic and electric actuators in the design of industrial automation for production systems. Two hours class and three hours laboratory a week. Prerequisites: Mt 226L, Mt 231. Corequisite: Sti 213.
SERVICE COURSES

Associate Professor: Averdick
Assistant Professors: Fehlmann, Patrick, Staub, Strange
Instructor: Croy

STI 100. TECHNICAL INSTITUTE SURVEY
A general view of the engineering technician and his place on the engineering team. Also includes such subjects as "How to Study," use of the slide rule and general University orientation. One hour of class a week.

STI 101. INDUSTRIAL MATHEMATICS
A review of the fundamentals of arithmetic and a study of selected topics from geometry and algebra with application to industrial problems.

STI 105. TECHNICAL INSTITUTE MATHEMATICS
Fundamental processes of algebra to include factoring, fractions, exponents and radicals, linear and quadratic equations, determinants, and logarithms. Introduction to trigonometry to include angular measure, interpolation, identities, and graphs.

STI 106. ADVANCED TECHNICAL INSTITUTE MATHEMATICS
Additional topics in trigonometry to include: solution of right triangles, solution of oblique triangles, and functions of composite angles. Selected topics in analytic geometry and differential calculus. Prerequisite: STI 105.

STI 114. PHYSICS: MECHANICS
A study of the laws of simple machines, forces, linear and angular motion, conditions of equilibrium and fluids. Corequisite: STI 106.

STI 114L. PHYSICS: MECHANICS LABORATORY
To accompany STI 114. Two hours of laboratory a week.

STI 122. INDUSTRIAL CHEMISTRY
A survey of the general principles of chemistry including elements and their simpler compounds. Special emphasis on topics of importance in industrial activities.

STI 122L. INDUSTRIAL CHEMISTRY LABORATORY
To accompany STI 122. Three hours of laboratory a week.

STI 130. ENGLISH COMPOSITION
An intensive review of basic principles of grammar, spelling, punctuation and sentence structure, with special emphasis on composition.

STI 134. EFFECTIVE SPEAKING
Organization and presentation of spoken materials with special emphasis on voice and physical delivery and audience reaction.

STI 205. MATHEMATICS FOR ELECTRICAL TECHNOLOGY
Practical applications of selected topics of calculus and differential equations to Electrical Technology. Prerequisite: STI 106.
STI 206. Mathematics for Mechanical Engineering Technology  Three credit hours
Practical applications of selected topics in differential and integral calculus to Mechanical Technology. Prerequisite: STI 106.

STI 213. Physics: Electricity  Two credit hours
The basic principles of electricity and their application in industry. Prerequisite: STI 114.

STI 213L. Physics: Electricity Laboratory  One-half credit hour
To accompany STI 213. Two hours of laboratory a week.

STI 214. Physics: Heat, Light and Sound  Two credit hours
The elementary principles of heat, light, and sound with particular emphasis on industrial application. Prerequisite: STI 114.

STI 214L. Physics: Heat, Light and Sound Laboratory  One-half credit hour
To accompany STI 214. Two hours of laboratory a week.

STI 234. Report Writing  Two credit hours
The preparation and presentation of industrial reports. Prerequisite: STI 130.

STI 251. Economics of Industry  Three credit hours
Basic economic principles as applied to major industrial problems.

STI 252. American Political Ideas and Practices  Three credit hours
Fundamentals of democratic processes in government and the practices in which they function.

STI 305. Advanced Technical Institute Mathematics II  Three credit hours
Selected topics from ordinary differential equations with an emphasis on operational methods of solution. Stresses problems encountered in engineering technology. Prerequisite: STI 205 or STI 206.
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<td>Bud T. Cochran, <em>Chairman</em>; Dr. Anthony Debons, Dr. Mary Jo Huth, Dr. Joseph J. Kepes, Rev. Robert M. Maloy, S.M., Dr. Frank F. Mathias, Dr. John W. McCloskey, John B. Steinbruegge, Dr. Esther R. Walden, Bro. Raymond H. Nartker, S.M., Ex officio, John B. Vigle, Ex officio.</td>
</tr>
<tr>
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<td>Rev. Charles J. Lees, S.M., <em>Chairman</em>; Respective Dean, Respective Chairman.</td>
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</tbody>
</table>
EMERITI
Belz, S.M., Charles John, Civil Engineering, Professor—B.S., University of Dayton, 1912; B.C.E., University of Dayton, 1928; M.C.E., Catholic University of America, 1934; Reg. Prof. Eng.
Geisler, S.M., J. George, Chemistry, Professor—B.S., University of Dayton, 1921; Lic. Sc., University of Fribourg, 1924.
Hagenhoff, Sister Mary Pelagia, M.S.C., Education, Associate Professor—A.B., Villanova University, 1927; M.A., Villanova University, 1935; Ph.D., Catholic University of America, 1946.
Poitras, S.M., Thomas Leo, Languages, Professor—B.S., University of Dayton, 1907; A.B., University of Dayton, 1911; B.S. Music, Extension Conservatory of Chicago, 1928; M.A., The Catholic University of America, 1934; Diplome de professeur de francais a l'Etranger, The Sorbonne (Paris), 1938; Diplome d'Etudes francaises superieures, University of Besancon, 1938; Diplome d'Etudes de Civilisation francaise, The Sorbonne, 1939.
Price, S.M., Thomas J., English, Professor—A.B., University of Dayton, 1911; M.A., Catholic University of America, 1935.
Ruhlman, S.M., Francis, Library, Associate Professor—B.A., University of Dayton, 1924; M.A., Our Lady of the Lake, 1936.
Schad, S.M., Bernard T., Civil Engineering, Professor—B.S., University of Dayton, 1924; M.S.E., University of Michigan, 1927; D.Sc., University of Michigan, 1935; Ph.D., University of Fribourg.
Weber, S.M., Andrew R., Mechanical Engineering, Professor—B.S., University of Dayton, 1919; B.M.E., University of Dayton, 1927; M.M.E., Catholic University of America, 1936; Fellow, O.A.S.; Reg. Prof. Eng.

RANKED FACULTY
Abbott, Lyndon E. (1966), Political Science, Assistant Professor—B.A., Ohio Wesleyan University, 1931; M.A., University of Wisconsin, 1932.
Anderson, Gladys M. (1960), Education, Assistant Professor—B.S., Ball State Teachers College, 1945; M.A., Indiana University, 1946.
Arons, Peter L. (1965), English, Assistant Professor—A.B., New York University, 1957; M.A., Yale University, 1958; Ph.D., Yale University, 1964.
August, Eugene R. (1966), English, Assistant Professor—B.A., Rutgers University, 1958; M.A., University of Con-
Back, Stanley J. (1959), Mathematics, Associate Professor—B.S., University of Dayton, 1957; M.S., Purdue University, 1959.


Bajpai, Prapulla K. (1964), Biology, Assistant Professor—B.V.Sc. & Am., Agra University, 1958; M.V.Sc., Agra University, 1960; M.Sc., Ohio State University, 1963; Ph.D., Ohio State University, 1965.

Baker, Richard R. (1947), Philosophy, Professor—A.B., University of Notre Dame, 1931; M.A., University of Notre Dame, 1934; Ph.D., University of Notre Dame, 1941.


Baltazar, Eulalio E. (1962), Philosophy, Associate Professor—B.S., University of Philippines, 1945; M.A., Berchmans College, 1952; Ph.D., Georgetown University, 1962.


Bartholomew, S.M., Rev. James W. (1942), Languages, Assistant Professor—A.B., University of Dayton, 1929; M.A., Catholic University of America, 1942.

Bauer, Paul T. (1967), Mechanical Engineering, Instructor—B.S., Parks College of St. Louis University, 1963; M.S. in M.E., Oklahoma State University, 1965.

Baumann, Rev. Remi (1966), Languages, Instructor—B.A., Ober-Gymnasium, Germany, 1929.

Beauregard, Erving E. (1947), History, Professor—A.B., University of Chicago, 1942; M.A., University of Massachusetts, 1944.


Bellmer, S.M., William J. (1927), Mathematics, Professor (On leave) B.A., University of Dayton, 1921; M.A., Catholic University of America, 1932.


Bernhard, Martha V. (1956), Home Economics, Assistant Professor—B.S., University of Arizona, 1927; M.A., Columbia Teachers College, 1932.

Biersack, George G. (1952), Communication Arts, Associate Professor—B.S., University of Dayton, 1952; M.A., Miami University, 1956.

Bobal, Michael A. (1962), Chemical Engineering, Professor—B.S., University of Dayton, 1934; M.S., Ohio State University, 1945; Ph.D., Ohio State University, 1947; Reg. Prof. Eng.

Boehm, Joseph E. (1959), Business Management, Associate Professor—B.S., University of Dayton, 1982; M.A., Northwestern University, 1939.


Bower, Samuel M. (1966), Psychology, Assistant Professor—B.A., Mexico City College, 1957; Ph.D., Vanderbilt University, 1968.


Bridgewater, Marion J. (1966), Library, Instructor—A.B., Trinity College, 1939; B.S., Carnegie Institute of Technology, 1940.

Britt, John F. (1966), Education, Associate Professor—B.A., St. Paul Seminary, 1950; M.A., St. Louis University, 1954; Ph.D., St. Louis University, 1962.


Bueche, Frederick J. (1961), Physics, Professor—B.S., University of Michigan, 1944; Ph.D., Cornell University, 1948.


Burroughs, Edward R. (1938), Fine Arts, Associate Professor—Graduate, Maryland Institute of Fine and Applied Art, 1926.

Cada, S.M., Lawrence J. (1962), Mathematics and Computer Science, Assistant Professor—B.S., University of Dayton, 1959; M.A., Catholic University of America, 1961; Ph.D., Catholic University of America, 1964.

Cameron, Alex J. (1964), English, Assistant Professor—A.B., University of Notre Dame, 1959.


Cartagenova, Gonzalo C. (1965), *Philosophy, Assistant Professor—Ph.L., Catholic University of Quito, 1953; S.T.B., Woodstock College, 1960; Ph.D., Pontifical Catholic University, 1966.

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Chamberlain, Jr., Joseph J. (1937), *Civil Engineering, Distinguished Lecturer with rank of Professor—C.E., Cornell University, 1911; M.C.E., Harvard University, 1912; Reg. Prof. Eng.

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