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COLLEGE OF THE HOLY CROSS

A College of Arts and Sciences

Worcester, Massachusetts



CATALOGUE

With Announcements for 1958-1959

Published, February 1958

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in the city of Worcester."*

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ACADEMIC CALENDAR

SEPTEMBER 1958 - JUNE 1959

Fall Term

Sept. 11	Thursday	Registration for Freshmen.
Sept. 15	Monday	Registration for Sophomores.
Sept. 16	Tuesday	Registration for Juniors and Seniors. Annual Retreat begins at 8:00 P.M.
Sept. 22	Monday	Classes begin. Mass of the Holy Ghost.
Oct. 13	Monday	Columbus Day, a holiday.
Nov. 1	Saturday	Feast of All Saints.
Nov. 26	Wednesday	Thanksgiving recess begins at 10:30 A.M.
Dec. 1	Monday	Classes resumed.
Dec. 8	Monday	Feast of the Immaculate Conception, a holiday.
Dec. 17	Wednesday	Christmas recess begins after last class.
Jan. 5	Monday	Classes resumed.
Jan. 19	Monday	Term examinations begin.

Spring Term

Feb. 2	Monday	Second semester classes begin. Announcement of Prize Essays.
Feb. 11	Wednesday	Ash Wednesday.
Feb. 23	Monday	Washington's Birthday, a holiday.
Mar. 4-12	Wed.-Thurs.	Novena of Grace.
Mar. 22	Sunday	Senior Retreat begins.
Mar. 25	Wednesday	Easter recess begins at 10:30 A.M.
Mar. 29	Sunday	Easter Sunday.
Apr. 6	Monday	Classes resumed.
Apr. 20	Monday	Patriot's Day, a holiday.
May 7	Thursday	Ascension Thursday, a holiday.
May 8	Friday	Senior Thesis due in Dean's Office.
May 18	Monday	Senior-Junior Term Examinations begin.
May 25	Monday	Sophomore-Freshman Term Examinations begin.
May 30	Saturday	Memorial Day.
Jun. 6	Saturday	Alumni Day.
Jun. 9	Tuesday	Baccalaureate Exercises.
Jun. 10	Wednesday	Commencement Day.

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REV. THOMAS J. WALSH, S.J. <i>Associate Professor of Religion</i>	Fenwick Hall
PAUL A. WHELAN, CAPT., USAF. <i>Instructor in Air Science</i>	106 Beverly Road
PRENTIS K. WILL, CAPT., USN. <i>Professor of Naval Science</i> <i>Commanding Officer of NROTC Unit</i>	Route 31, North Spencer
JACQUES J. ZEPHIR, Ph.D. <i>Visiting Assistant Professor of French</i>	16 Lowell Street

One Hundred and Fifteenth Year
COLLEGE OF THE HOLY CROSS
WORCESTER 10, MASS.

Conducted by the Fathers of the Society of Jesus

Founded in 1843

ACT OF INCORPORATION

An act of the Legislature of Massachusetts, date March 24, 1865, reads as follows:

COMMONWEALTH OF MASSACHUSETTS

IN THE YEAR ONE THOUSAND EIGHT HUNDRED AND SIXTY-FIVE

AN ACT

to incorporate the Trustees of the College of the Holy Cross

Be it enacted by the Senate and House of Representatives in General Court assembled and by the authority of the same, as follows:

SECTION 1. James Clarke, Charles Fulmer, James C. Moore, Charles F. Kelly, Livy Vigilante, their associates and successors, are hereby constituted a body corporate by the name of the Trustees of the College of the Holy Cross, in the city of Worcester, and they and their successors and such as shall be duly elected members of such corporation, shall be and remain a body corporate by that name forever; and for the orderly conducting of the business of said corporation, the said trustees shall have power and authority, from time to time, as occasion may require, to elect a President, Vice-President, Secretary, Treasurer, and such other officers of said corporation as may be found necessary, and to declare the duties and tenures of their respective offices, and also to remove any trustee from the corporation when in their judgment he shall be rendered incapable, by age or otherwise, of discharging the duties of his office, or shall neglect or refuse to perform the same, and also from time to time to elect new members of said corporation; provided that the number of members shall never be less than five nor more than eleven.

SECTION 2. The said corporation shall have full power and authority to determine at what times and places their meetings shall be holden, and the manner of notifying the trustees to convene such meetings, and also from time to time to elect a President of said College, and such professors, tutors, instructors and other officers of the said College, as they shall judge most for the interest thereof, and to determine the duties, salaries, emoluments, responsibilities and tenures of their several offices; and the said corporation is further empowered to purchase or erect and keep in repair such houses and other buildings as it shall judge necessary for said College, and to confer

such degrees as are conferred by any college in this Commonwealth, except medical degrees; provided nevertheless, that no corporate business shall be transacted at any meeting unless a majority of the trustees are present.

SECTION 3. Said corporation may have a common seal which it may alter or renew at pleasure, and all deeds sealed with the seal of said corporation and signed by its order, shall, when made in the corporate name, be considered in law as the deeds of said corporation, and said corporation may sue and be sued in all actions, real, personal, or mixed, and may prosecute the same to final judgment and execution, by the name of the Trustees of the College of the Holy Cross; and said corporation shall be capable of taking and holding, in fee simple or any less estate, by gift, grant, bequest, devise or otherwise, any lands, tenements, or other estate real or personal, to an amount not exceeding three hundred thousand dollars.

SECTION 4. The clear rents and profits of all the estate, real and personal, of which the said corporation shall be seized and possessed, shall be appropriated to the endowment of said College, in such manner as shall best promote virtue, piety, and learning in such of the languages and of the liberal and useful arts and sciences as shall be recommended from time to time by the said corporation, conforming, however, to the will of any donor or donors in the application of any estate which may be given, devised, or bequeathed, for any particular object connected with the College; and no misnomer of the said corporation shall defeat or annul any donation, gift, grant, devise or bequest, to or from the said corporation.

SECTION 5. The Legislature of this Commonwealth may alter, limit, restrain, or annul, any of the powers, vested by this act in the said corporation, as shall be deemed necessary, and more especially may appoint overseers, or visitors of the said College, with all necessary powers for the better aid, preservation and government thereof.

SECTION 6. The granting of this Charter shall never be considered as any pledge on the part of the Commonwealth that pecuniary aid shall hereafter be granted to the College.

House of Representatives, March 21, 1865.

Passed to be enacted, Alex. H. Bullock, Speaker.

In Senate, March 23, 1865.

Passed to be enacted, I. E. Field, President.

March 24, 1865.

Approved.

JOHN A. ANDREW,
Governor

ACT OF INCORPORATION

(Chapter 149.)

THE COMMONWEALTH OF MASSACHUSETTS

IN THE YEAR ONE THOUSAND NINE HUNDRED AND TWENTY-SEVEN

AN ACT

Authorizing the Trustees of the College of the Holy Cross to hold
Additional Real and Personal Estate.

*Be it enacted by the Senate and House of Representatives in General Court
assembled and by the authority of the same, as follows:*

Section three of chapter ninety-nine of the acts of eighteen hundred and sixty-five is hereby amended by striking out, in the twelfth and thirteenth lines, the words, "to an amount not exceeding three hundred thousand dollars,"—so as to read as follows:—

SECTION 3. Said corporation may have a common seal, which it may alter or renew at pleasure, and all deeds sealed with the seal of said corporation, and signed by its order, shall, when made in the corporate name, be considered in law as the deeds of said corporation; and said corporation may sue and be sued in all actions, real, personal or mixed, and may prosecute the same to final judgment and execution by the name of the Trustees of the College of the Holy Cross; and said corporation shall be capable of taking and holding in fee simple or any less estate, by gift, grant, bequest, devise, or otherwise, any lands, tenements, or other estate, real or personal.

House of Representatives, March 16, 1927

Passed to be enacted, John C. Hull, Speaker.

In Senate, March 17, 1927

Passed to be enacted, Wellington Wells, President.

March 23, 1927

Approved.

ALVAN T. FULLER,
Governor.

THE COMMONWEALTH OF MASSACHUSETTS

Office of the Secretary

Boston, March 25, 1927.

A True Copy

Witness the Great Seal of the Commonwealth.

(Signed) F. W. Cook,
Secretary of the Commonwealth.

THE COLLEGE

The College of the Holy Cross is situated in Worcester, Massachusetts, the second largest city in the state, with a population of over 200,000.

The campus contains one hundred and sixty-three acres and is conveniently located at the southern end of the city, approximately two miles from the business district, at an elevation of 693 feet above the sea. It commands an extensive and most delightful view of the city and of the neighboring hills.

HISTORY

The College of the Holy Cross was founded in the year 1843 by the Most Rev. Benedict Joseph Fenwick, second Bishop of Boston, and is the oldest Catholic College in New England. It had long been a cherished desire of Bishop Fenwick to establish in his diocese, which then included the City of Worcester, an institution for the higher education of Catholic young men. In bringing about the realization of this desire he was aided by the Rev. James Fitton, who had, as early as 1838, established the Seminary of Mt. St. James on the hill which now bears that name, but was then known as Pakachoag, "Hill of Pleasant Springs." This institution Father Fitton presented to the Bishop in 1843, and on this site the distinguished prelate determined to build his college. He gave it the name of his Cathedral, with the motto and emblem of the Boston Diocese. — a cross in the heavens, as it appeared to the Emperor Constantine, with its historic legend.

In order to secure for New England students the benefits of that unique plan of collegiate instruction, the *Ratio Studiorum*, which had been for over two centuries the invigorating pattern of continental education, Bishop Fenwick invited the founders of that system, the Fathers of the Society of Jesus, whose missionary and educational activities on the North American continent began as early as 1610, to organize the courses of study according to the curricula of their college at Georgetown in the District of Columbia, and to take entire charge of the teaching. On the second day of November, 1843, the first classes were organized, and were held in the seminary structure until the completion of the first college building in January, 1844.

The generous patronage and zealous interest of Bishop Fenwick continued unflinchingly, and a few days before his death on the 6th of August, 1846, he ceded to the Jesuit Fathers full possession of the institution, land and buildings unencumbered.

A disaster that threatened its existence visited the young college in July, 1852, when the whole of the central building was destroyed by fire. Through the sympathetic cooperation of Most Rev. John B. Fitzpatrick, who had succeeded to Bishop Fenwick's See, only a single scholastic year was lost, for the college, enlarged and remodeled, reopened on the 3rd of October, 1853.

BUILDINGS

Fenwick Hall, named for the Founder of Holy Cross College, is the oldest of the college buildings. In the spring of 1875 the remnant spared by the fire of 1852 was raised and extended toward the east. The central span houses the offices of the administration on the first floor, faculty living quarters on the second and third, and student dormitories on the fourth. The east frontage is occupied, on the first floor, by the faculty refectory, while the upper part of the building contains the Community Chapel. The infirmary is located in a small wing adjoining this part of the building at its south end.

O'Kane Hall, named for a former beloved Rector of Holy Cross, stands at the summit of Linden Lane facing the campus. It was built in 1895 and is a lively center of undergraduate activity. On the first floor is a spacious, comfortably furnished foyer and reception hall. Two floors of the south wing and a part of the west are occupied by the Department of Chemistry; on the second floor is the Chemistry reference library. Six laboratories are in constant use by the students. The Fenwick assembly hall is located in the O'Kane building and features a large and well-equipped stage for dramatic productions. On the upper floors of the building are located several corridors of pleasantly situated students' quarters.

Alumni Hall, erected in 1905 through generosity of former students, is a thoroughly modern, fireproof building. The upper floors contain nearly one hundred student living rooms, extensively renovated in 1940. The rest of the building is devoted to the purposes of the Physics Department. Here are situated the lecture rooms, apparatus rooms, reference library and laboratories where students of this branch of science are instructed in theory and trained in practice.

Beaven Hall, gift of the late Most Rev. Thomas D. Beaven, D.D., and the clergy of the Springfield diocese, opened to its first occupants in September, 1913. Modern in every detail, the three upper floors, renovated in the summer of 1941, provide comfortable living quarters. Classrooms and offices are located on the first floor.

Carlin Hall. In the month of October of the year 1941, the Board of Trustees of the College of the Holy Cross unanimously resolved to change the name of Loyola Hall to Carlin Hall. This change of name is intended to perpetuate the memory of the Very Reverend James J. Carlin, S.J., President of the College of the Holy Cross from 1918 to 1924, under whose direction the building was erected in 1922. The upper floors provide living rooms. Classrooms, faculty offices and accounting laboratories are located on the lower floors.

Wheeler Hall, dedicated to the memory of the Rev. John D. Wheeler, S.J., for many years active in the administration of the College, was opened in January, 1940. The upper floors provide living rooms. Five classrooms are located on the lower floor.

Hanselman Hall, one of the two new student dormitory buildings opened in September 1954, is a modern three and one half story building with accommodations for one hundred and eighty-two students and eight faculty members. A spacious student lounge is located on the first floor. The building is named after the Reverend Joseph F. Hanselman, S.J., President from 1901 to 1906.

Lehy Hall, the second of the two new student dormitory buildings opened in September 1954, stands on the west side of Hanselman Hall and is similar to it in design and construction. It will accommodate one hundred and seventy-four students and eight faculty members. It is named after the Reverend John F. Lehy, S.J., President from 1895 to 1901.

Campion Hall, a small homelike building opened in 1936, provides living quarters for a limited number of students.

Dinand Library, situated on the terraced slope between O'Kane and Beaven Halls, exemplifies the best tradition of the architecture of the Italian Renaissance. It was dedicated in November, 1927, and named after the Most Reverend Joseph N. Dinand, S.J., D.D., twice President of the College of the Holy Cross. The number of volumes owned are approximately 200,000 and they represent to a satisfactory degree every major classification of the Library of Congress, according to which system the Holy Cross collection is catalogued. Hundreds of classified pamphlets, periodicals and manuscripts in various fields increase the students' reference resources.

In the Reading Room is found the principal reference collections, encyclopedias, dictionaries, bibliographies, year books, concordances and other utensils, both general and special.

Occupying the entire lower floor of the east wing is the Browsing Room, designed for comfortable light reading and listening to classical music.

The Periodical Room is above and co-extensive with the Browsing Room. Over three hundred and fifty periodicals, from daily newspapers to annuals, both foreign and domestic, and in several languages, are received on subscription.

The west wing of the main floor houses the Museum, where are exhibited many of the choice, valuable and historic treasures of the College. Valuable paintings, sculptures, coins, books and pamphlets whose antiquity, rarity of edition give them a peculiar value, documents associated with the growth of the College, the history of the Church and the development of the country, autographs and manuscripts are some of the categories represented in the Museum exhibit. Of special interest is the growing collection of Jesuitana, which embraces the works of many early writers of the Society of Jesus.

St. Joseph Memorial Chapel, the center of the students' spiritual life, rears its colonnaded facade above the scene at the eastern extremity of the campus. Known for its architectural beauty and purity of design, it is a fitting symbol of the ideals that permeate and dominate the culture of Holy Cross.

Beneath St. Joseph's Memorial Chapel is the newly-constructed Mary Chapel with twenty-one altars. Low ceilinged and vaulted, the Mary Chapel has ten alcoves on either side—in each of which there are two Peruvian

travertine altars. The main altar, of green Milanese marble, is a five and one-half ton solid piece. This Chapel symbolizes the particular devotion that the Holy Cross student has for Our Lady.

Kimball Hall, a beautiful and commodious refectory building, was opened on January 6, 1935. This building contains a kitchen and refectory accommodating twelve hundred students. It contains also a theatre accommodating seven hundred, a cafeteria, the office of Discipline, the bookstore and a number of other rooms for various activities.

Biology Building, opened in 1951, is a modern three story building situated on the west side of Beaven Hall. Devoted exclusively to the teaching of biology, it contains two large lecture rooms, five laboratories, a reference library, museum, offices for the faculty, stock rooms, and other facilities for the proper functioning of the department.

Fine Arts Building. This building, formerly the intramural gymnasium, has been renovated to provide a Fine Arts Studio, and offices and practice rooms for the Musical Clubs.

The Students' Observatory, at the east end of the campus, provides observational work for classes in Astronomy. It houses a dark room, work room and dome for a five inch refractor.

The Intramural Gymnasium contains basketball courts, handball courts and the necessary space and equipment for gymnastic exercises. This building provides adequate accommodations for participation in indoor sports for a large number of students. The offices of the College Athletic Association and Varsity Coaches are also located here.

The Athletic Fields contain the football gridiron, the baseball diamond, the quarter-mile track, tennis courts, basketball courts, hockey rink, and facilities for all other outdoor sports. The baseball diamond on Fitton Field is bounded on the east by the football gridiron which is surrounded on four sides by stadia seating nearly 23,000. Freshman Field and Alumni Field are suitable for practice and for the games of the intramural teams. On the plateau that crowns the hill south of the College buildings, as well as on the lower east level, are laid out diamonds and gridirons for intramural contests, in which the majority of undergraduates participate.

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EDUCATIONAL SYSTEM

The system of education is the one common to all the colleges of the Society of Jesus and is guided by the principles outlined in the famous *Ratio Studiorum*. It is a system based on studied experience and centuries of observation. In this system the principle of unity in education is of prime importance. It makes the education of a youth from his entrance into college to the completion of his course a graded, related and systematic unit directed not to the mere accumulation of facts, but to the development of his mental faculties and the training of his character.

This system invests education with all the sanctity and serious responsibility of religion itself. It holds that the attainment thereof can best be had by particular means. These means, as it conceives them, are adapted to all students because all are alike in those particulars with which education in its proper meaning has to do. While admitting that students vary in talents, in powers of application, in mental tendencies and aptitudes, the system fearlessly asserts that all students have intellectual faculties essentially similar, v. g., memory, powers of observation, of reasoning, of judgment, of imagination and of discrimination; and since these powers are of the same essential character in all, they are strengthened and developed by similar exercises and similar training in whomsoever found.

It proceeds on the theory that genuine education calls throughout for the supervision and control of trained, experienced educators and is not to be regulated by the inexperienced student himself. Keeping in view the essential distinction between collegiate and university education, as that of a general as distinguished from a special or professional education, the studies are for the most part prescribed. Its immediate object makes this course imperative. It aims at the preliminary development of the whole man as the essence of education and its only legitimate meaning. After this is had, specialization along particular lines may properly follow.

Assuming that there is a hierarchy in the branches of knowledge, this system insists on the advantages of a prescribed training in the humanities, mathematics, natural or social sciences, logic, psychology, ethics and religion as the best basis for any profession or for further intellectual training in any direction.

This system rests on the theory that men of fully developed faculties who have been previously trained to correct and accurate reasoning, to close observation, to tireless industry, to keen discrimination, to sustained application, to sound and sober judgment, to vivid and lively imagination, ordinarily will outstrip in any line of human endeavor the single-sided man who immediately applies his untried, unprepared and untutored powers to his special life-work.

The College of the Holy Cross, therefore, following a system elaborated by centuries of experience and meeting the demand for modern improvements by wise adaptation and readjustment, undertakes to mould the characters of her students to habits of patient industry, of mental and moral temperance and intelligent interests. By the constant exercise and concordant enlarge-

ment of many faculties, by an introduction to many sciences, by grounding in logic, in the general principles of philosophy and in ethics, this training preserves any one faculty in the formative period of life from so abnormally developing as to stunt or atrophy others. It lays before the student in large outline a map of the realm he may afterwards traverse in part and in detail, and it co-ordinates and relates his after-specialty to other learning. It aims at the double end of maturing the faculties and fixing the habits, and at the same time constructing a firm, broad, solid and substantial foundation on which to erect the superstructure of particular callings.

After the completion of such a course as is here given, the graduate is not sent to the medical school without sufficient preparation in chemistry, physics and biology. Nor does he lack a clear knowledge of the moral responsibility of the physician and surgeon. He is not sent to the law school without an intelligent grasp of the ethical nature and development of man and of the logical processes which make for and characterize sound judgment. He is not sent to the profession of teaching without adequate training for success in grasping truth and imparting it to others, without a more intimate knowledge of the responsibility of a teacher than he can acquire from a few vague talks on pedagogy. He is not sent to the theological seminary without any knowledge of the language in which the New Testament was written, or the methods of philosophical reflection and their bearing upon the problems of life and destiny. On the contrary, when the graduate passes from the college, whether he devotes himself chiefly to the highest learning, or seeks at once a training in applied science or in a profession, he will at any rate carry into the university a mind equipped for the work it demands.

Method of Teaching. The College is in its method of teaching primarily tutorial, not professorial. The formation it proposes to give is effected by personal and intimate relations between small groups of pupils and a teacher, whose duty comprehends guidance, advice and encouragement as well as instruction.

In order that this tutorial method may be pursued most effectively, a number of instructors are assigned to each Hall, and in every Student-House teachers reside to whom the students may have recourse for guidance in studies.

Such a method of education gives the student time and opportunity to study. It enables him to compare his capacities and inclinations. It helps him to make a life decision which shall be founded on observation, experience and reason.

Religious Training. The supervision over the student's moral life is as systematic as the direction of his mental life. Education, as understood in this system, is, as has been said, the training of the whole man, in which training the supreme element is growth along the lines of Christian morality. The whole system rests on the principle that men cannot truly advance in knowledge unless they advance more closely to God. The truth expressed in bold letters over the entrance to the College Library emphasizes the ulti-

mate purpose of education as understood in this college. "*Ut Cognoscant Te Solum Deum Verum Et Quem Misisti Jesum Christum.*"

While recognizing in its fullest extent the advantages of a liberal education in the purely secular order, the College at the same time understands that education must contain a power that can form or sustain character. Only when it is occupied with the entire man, particularly with those faculties that are distinctive of man, and with man's entire life, the present and the future, does education attain its ultimate end.

The scope of education is not limited to the commercial advantages it possesses or the qualities it confers on its votaries to move among men with that ease and grace of manner which is the flower of the humanities. Education should rather seek to form a Christian character. Through a training addressed to the student's spiritual nature his character is strengthened against the disturbing forces of his impulses and passions.

Rightly, therefore, does Holy Cross College insist that in every stage of intellectual development religious instruction be interwoven with training in the secular branches of knowledge. This instruction aims at planting in the heart such principles of rectitude as will afterwards serve as a guide, a warning, a stimulus. Since Religion is the highest concern of man, as well as the strongest defense of a nation, Religion is made a prescribed subject. Men, long trained in the world's best wisdom, whose consciences have been formed to the law of God by years of self-discipline are the expounders of the eternal truth.

Student Counsellor. The principal duty of the Student Counsellor is to direct the spiritual activities of the College and the various religious societies and sodalities, in regard to which he exercises the same supervision as the Dean of Discipline exercises in his department.

He provides opportunities for the students to receive the Sacraments in addition to times assigned for the general student body.

He is in a special sense the friend and adviser of the students, not only in matters directly spiritual, but also material and temporal, in their studies, their social affairs, and in other intimate and personal matters as each one may wish.

One of the questions of highest importance to every college or high school graduate is the wise choice of a profession or vocation according to one's character, talents and attractions both natural and supernatural. No student with a serious outlook on life will fail to determine, well in advance of his graduation, the career which under God's providence will best assure his temporal success and his eternal happiness. In this matter the assistance of the Student Counsellor will be invaluable. The hours will be arranged to afford ample opportunity to the students for conferring with him.

Discipline. A closer supervision is exercised over the students than is usual at the present day in most of the large colleges. Yet an effort is made to exclude from this supervision every harsh feature. The professors live

with the students, mingle with them constantly, direct their studies, interest themselves in their sports and in every way assume the relation rather of friend than of taskmaster. This constant, familiar, personal communication, in kindly terms between professor and student, is a powerful factor in the formation of character.

The age of the student is also considered, and in the later years of his college course a larger degree of liberty is granted him. With regard to all, the enforcement of discipline, while mild and considerate, is unflinchingly firm, especially when there is question of the good of the student body or the reputation of the College.

Students are expected to manifest both within and outside of the College the respect for order, morality, personal honor and the rights of others, that is required of good citizens. Failure to do this will necessitate withdrawal from the College. The administration reserves the right to dismiss a student at any time without any definite charge.

Detailed regulations and customs governing discipline are set forth in the Student Hand-Book.

GENERAL INFORMATION

Student Health Service. All resident students at the College of the Holy Cross are entitled to medical service with the following privileges: (1) Consultation with the College Physician, daily, if necessary. (2) Visits by the College Physician while the student is confined in the College Infirmary. (3) Board, room and nursing at the College Infirmary. Nursing attendance is rendered by the nurse regularly employed by the College. Special outside nurses, if employed, must be paid for by the student.

No student is obligated to patronize the College Physician. With the permission of the College Director of Health and at the expense of his parents, a student may consult any physician approved by his parents. When medicines are prescribed the expense is to be borne by the student. The College cannot furnish regular special diets to students who may require such treatment. Expenses incurred for hospital treatment must be defrayed by the individual student.

In addition, the College has approved a student accident medical reimbursement insurance plan which offers the student maximum benefits at low cost for the calendar year. This supplementary plan may relieve parents of possible financial strain in meeting this type of unanticipated expenses. A circular giving details of this plan will be mailed to all parents with the September bill.

Entertainment. In addition to the special lectures given for all students, or for special groups by qualified lecturers, special theatrical productions, concerts and recitals are given during the year. Motion pictures are presented at least once a week.

Student Employment. Some employment is available at the College of the Holy Cross for students who need to earn part of their college expenses. To merit employment, students must meet certain academic, disciplinary and financial requirements. The compensation is proportionate to the number of hours of employment, and the amount earned is applied on the student's account with the College.

Placement Bureau. The Placement Bureau was established to render service to all Holy Cross men who registered with the Bureau. Undergraduates of all classes are urged to utilize the vocational guidance facilities of the Bureau at any time. Seniors and alumni registrants are given every possible assistance in finding satisfactory employment.

A series of vocational guidance talks is held during the year in which successful alumni and other business and professional leaders speak informally on the subject of their own vocations and answer questions. Further guidance is given through the dissemination of career books, pamphlets and monographs covering many vocations and occupations.

From time to time, especially during the spring term, employment officers of large corporations arrange through the Placement Bureau to come to the Holy Cross campus to interview seniors with regard to prospective positions with their organizations.

Registration. Freshmen and new students will receive all information relative to registration upon application to the Office of the Director of Admissions.

All students must report to the Lounge Room, O'Kane Hall at the time appointed, and fill out enrollment cards for the semester. A certificate from the Treasurer for payment of the semester bill must be presented to the Registrar.

For failure to register at the appointed time, students will be charged a late registration fee of five dollars.

Before registration, each student must file in the Office of the Director of Admissions a certified statement of good health from his physician. Failure to fulfill this requirement by the day of registration will entail an additional fee of five dollars.

The College Year. The College Year begins on the third Tuesday of September and ends on the second Wednesday of June, with recess periods at Christmas and Easter.

It is constituted of two semesters of sixteen weeks each.

Class Hours. There are eight class periods each day, Monday through Friday. Class or laboratory periods begin at 8:40 A.M. and continue to 5:30

P.M., with an hour at noon for lunch period.

The morning class periods are from 8:40 A.M. to 12:30 P.M.; the afternoon periods from 1:40 P.M. to 5:30 P.M.

Attendance at College Exercises. Students are required to be diligent in the pursuit of their studies and regular in their attendance at classes. Those who fail to meet these requirements will be requested to withdraw.

Each student must attend all of the classes in which he is enrolled, including elective lectures on subjects intimately connected with classroom study, and all chapel exercises.

Absence from any class may be excused only by the Dean of Studies.

If, in any semester, a student's unexcused absences exceed the number of hours of credit given for a course in which he is enrolled, he will receive no credit for that course.

In case of absence for a prolonged period due to illness or some other compelling cause, the application of the above rules may be modified by the Committee on Standards upon the recommendation of the Dean; but in no case will more than twenty (20) days of absence in a semester be allowed.

Grading System. The system of scholarship grading is as follows: A semester grade of A or B+ is an honor grade; C+ is the recommendation grade; D is the passing grade; E is a conditional failure; F is an absolute failure.

A semester grade is the weighted average of class mark and semester examination mark.

All semester examinations must be passed before credit will be allowed in any course.

The regulations respecting semester examinations and semester grades apply as well to the final examinations in each philosophy treatise.

A general average of C+ is required for recommendation to graduate or professional schools.

A report of class standing is made at the end of each semester.

Credit Hours. A semester hour represents a course which meets once a week throughout the semester. In ordinary lecture courses, the class period is of fifty minutes duration; in cases in which the class period is conducted in the style of a conference or seminar, the period is longer, or a greater number of them is required to give an equivalent number of credits; in all laboratory work, the length of a period required to give a semester hour credit is twice the length of the ordinary lecture period.

Scholastic Deficiency. A student is "on probation" if, at the end of a semester, he has failed to complete satisfactorily any course for which he was registered in progress towards his degree requirements.

A student who, at the end of a semester, has received grades below D in three of his courses will not be eligible for advancement. His case will be subject to the decision of the Committee on Standards. Depending on the nature of each case, this Committee will decide whether the student is to be a) dropped from the College register, or b) allowed to qualify for advancement by satisfactory repetition of the courses failed, or c) allowed re-examination in the instance of conditional failures.

A student with a deficiency of credit (incurred either through absence or failure) must make up that deficiency at the time appointed by the Dean to remain in good standing.

A student who has been dropped for studies may be readmitted subject to conditions to be determined by the Dean.

Extra Courses. A student in either Sophomore or Freshman class is not permitted to carry a greater number of hours than the normal number required in his course. Upperclassmen with a general average of B or over may, with the approval of the Dean, register for an extra course. The charge for such courses is at the rate of \$15.00 per semester hour credit.

Credit for Summer Session Work. The approval of the Dean of Studies is requisite to gain credit for work done in summer school at another college. Summer School courses must be passed with a grade of C or better to be recognized by the College as degree credits.

Voluntary Withdrawal from College. A student who withdraws voluntarily from the College is entitled to honorable dismissal under the following conditions:

1. He must be in good standing on the records of the College, i.e. not liable to dismissal on account of failures, excessive absence, or breach of discipline.
2. He must return all College property.
3. All financial indebtedness must be settled with the College.
4. He must give proper notification to the Dean of his intention to withdraw from the College.

Transcripts of College Record. Each student is entitled, on leaving the College, to a transcript of his record free of charge if his financial obligations to the College have been fulfilled. For additional transcripts a fee of one dollar will be charged.

No transcripts will be issued during the periods of Commencement, Registration and Examinations.

COLLEGE EXPENSES

GENERAL

Tuition. \$700.00 per academic year. This includes all ordinary charges except laboratory and special fees.

Board and Room. \$900.00 per academic year. This includes infirmary accommodation when required.

Some room accommodations will cost \$100.00 less per academic year.

The above expenses do not include textbooks, laboratory fees, or incidental expenses.

Payment of Bills. Bills for one half of each of these fees will be issued two weeks prior to the opening of each semester as follows:

BOARDING STUDENT	\$800.00
DAY STUDENT	\$350.00

This semester bill is payable in advance, but in no case later than the day of registration.

Bills for other fees (laboratory and special fees) are payable when rendered.

Deferred payment of bills may be sanctioned only by the Treasurer of the College of the Holy Cross after an application has been received in writing. For such concession a monthly fee at the rate of fifty cents per \$100.00 unpaid will be added to the account. The first of such charges will be added one month after payment is normally due and each month thereafter.

Make all checks and money orders payable to the Treasurer, College of the Holy Cross.

SPECIAL FEES

Application Fee. A fee of \$10.00 (non-refundable) must accompany all applications for admission to the College.

Acceptance Deposit. Upon receipt of formal notice of acceptance for admission to Holy Cross, all candidates are required to forward a (non-refundable) \$50.00 Deposit. Of this amount \$10.00 is apportioned to the student's Matriculation Fee; \$10.00 to the Room Deposit Fee and the remainder to the student's general account.

Graduation Fee. A graduation fee of \$15.00 is assessed against each student who is a candidate for a degree.

Late Registration Fee. A student who fails to register at the appointed time is required to pay a fee of \$5.00.

Examination Fee. A student obliged to take an examination, due to absence from or conditional failure in the regular examination, is charged a fee of \$5.00 for each such examination.

Extra Courses. Upperclassmen, at the discretion of the Dean of the College, may be permitted to register for an extra course. The fee for such courses is at the rate of \$15.00 per semester hour credit.

Radio Fee. A fee of \$5.00 for the year is charged to boarding students who have a radio or record player in their room.

Room Damage Deposit. A deposit of \$10.00 is required of boarding students and a deposit of \$5.00 of day students against unreasonable damage done by them.

These deposits, less any charge, are refundable at the end of the school year and will be credited on the first bill issued for the following year.

LABORATORY FEES

Each student taking a laboratory course is liable for breakage, damage and loss of apparatus. In addition to the annual tuition fee, there is a fee for each laboratory course taken.

	Breakage Deposit	Fee
Chemistry 11.1; 11.2; 13.1; 13.2; 51.1; 51.2	each \$ 7.50	each \$12.50
Chemistry 41.1; 41.2	" 7.50	" 7.50
Chemistry 61.1; 61.2	" 17.50	" 12.50
Chemistry 51.3	" 15.00	" 10.00
Chemistry 201; 207; 208	" 15.00	" 25.00
Chemistry 203; 213	" 35.00	" 25.00
Chemistry 21.2; 31; 52.1; 52.2	" 15.00	" 20.00
Chemistry 21.1; 32	" 20.00	" 20.00
Biology 63		10.00
Biology 43.1; 43.2		each 10.00
All Other Biology Courses		" 15.00
Physics 32; 33		" 5.00
All Other Physics Courses		" 10.00
Accounting		5.00
Language Laboratory		10.00

Students registered for a two semester science course will be billed for the full year course.

Breakage deposits, less cost of breakage and/or loss of equipment, are refundable at the completion of the course.

Students enrolled in the Air Force R. O. T. C. must deposit \$25.00 with the Treasurer of the College as a guarantee that they will return government property in good condition. This deposit is refundable.

NAVAL R. O. T. C.

Certain NROTC students have a portion of their costs borne by the United States Navy in accord with a contract with the College. This contract usually covers cost of tuition, fees (except refundable deposits) and necessary books. Students participating in this program are personally responsible for costs not borne by the Navy.

RESERVE OFFICERS' TRAINING CORPS

The College of the Holy Cross offers, as part of its regular curriculum, the ROTC programs of the Air Force and the Navy. The programs of both services consist of one course each semester for four years (acceptable for credit towards a degree), one drill period per week, and at least one summer training camp or cruise.

The Air Force program leads to a commission in the Air Force Reserve and prepares for specific duties in the Regular Air Force, the Air Force Reserve and the Air National Guard Units. The Naval ROTC program prepares qualified officers for the Navy and Marine Corps, the Naval Reserve and the Marine Corps Reserve.

A description of both programs and the requirements for enrollment may be found in this section *Courses of Instruction* of this catalogue under "Air Science" and "Naval Science".

ADMISSION TO THE COLLEGE

GENERAL STATEMENT

All correspondence relative to the procedure on application and all inquiries on matters of interest to prospective candidates should be addressed to the Director of Admissions. It will be to the candidate's advantage to make formal application *early in the final year of his secondary school Studies*. The application blanks to be used for this purpose will be furnished on request.

The final decision as to the acceptance of all candidates rests with the Board of Admissions. Candidates should note that in determining the admission status of an applicant the Board will take into consideration such factors as are adjudged pertinent in evaluating the applicant's qualifications in terms of the standards and traditions of the College. That a student have the requisite scholastic credentials, as far as credits and mental proficiency are concerned, is not to be assumed as a guarantee of acceptance. A favorable report must be received from the Principal of the secondary school attended by the applicant, appraising the student's personal qualifications, e.g., initiative, dependability, seriousness of purpose, application to study and deportment. Furthermore, the candidate must be of high moral character. Each candidate is also required to forward a certified statement of good health from his family physician. The information submitted by the candidate on the application questionnaire, relative to his personal background, range of interests and participation in extra-curricular activities, will be given due consideration. Basing its selection of candidates on evidence derived from these sources and from scores achieved in College Entrance Board Examinations, supplemented by personal interviews when possible, the Board of Admissions will give preference to those applicants whose mental and personal qualifications indicate that they are prepared to cooperate in a conscientious and profitable use of the distinctive educational advantages which this College offers to its students.

Requests for application forms must be received not later than April 1 of the year in which the candidate intends to enter College. No applications will be distributed after that date.

SCHOLASTIC CREDENTIALS

Students approved for admission to the Freshman Class are selected from applicants who are graduates of approved secondary schools and who, on the basis of four years' work in a college preparatory course, offer sufficient credits to satisfy the minimum admission requirements of fifteen entrance units in approved subjects. The "unit" is the term conventionally employed as a standard of measurement of the work done in the secondary school, and is understood to represent the study of a high school subject for the duration of a school year of at least thirty-six weeks, on a basis of four to five recitation periods per week.

All units submitted to satisfy entrance requirements must be recognized by the secondary school as credits towards graduation in a college preparatory course. Commercial, vocational or industrial subjects will not be accepted as entrance units. Candidates for admission may submit entrance units in the following subjects:—

<i>Units</i>	<i>Units</i>		
English I (Grammar and Com- position)	2	Elementary French	1
English II (Literature)	2	Intermediate French	1
Ancient History	1	Advanced French	1
European History	1	Elementary German	1
American History	1	Intermediate German	1
English History	1	Advanced German	1
American History and Civil Government	1	Elementary Italian	1
World History	1	Intermediate Italian	1
Problems of Democracy	1	Advanced Italian	1
Social Studies	1	Elementary Spanish	1
Economics	1/2 to 1	Intermediate Spanish	1
Geography	1/2 to 1	Advanced Spanish	1
Law	1/2 to 1	Mathematics	3 to 4
Civil Government	1/2 to 1	Mechanical Drawing	1/2 to 1
Latin (Elementary)	1	General Science	1
Latin (Caesar)	1	Chemistry	1
Latin (Cicero)	1	Physics	1
Latin (Virgil)	1	Biology	1
Greek (Elementary)	1	Astronomy	1
Greek (Xenophon's Anabasis)	1	Physical Geography	1
Greek (Homer's Iliad)	1	Botany	1
		Zoology	1

UNIT REQUIREMENTS FOR THE VARIOUS COURSES

To be eligible to enroll for any one of the several courses included in the curriculum a specified number of units in required subjects must be offered. Elective subjects, sufficient to bring the total to 15 units, will be accepted but these additional units must be included in the list of approved subjects. The following table summarizes the required and elective units to be offered by candidates for the various degrees:

BACHELOR OF ARTS (Greek Curriculum)

<i>Subject</i>	<i>Units</i>
Latin	3 to 4
English	4
Mathematics	3
History	2
*Modern Foreign Language (Recommended)	2
Greek or Electives	1 to 4

BACHELOR OF ARTS
(Mathematics Curriculum)

<i>Subject</i>	<i>Units</i>
Latin	3 to 4
English	4
Algebra	2
Mathematics	3 to 4
History	2
*Modern Foreign Language (Recommended)	2
Electives	1 to 2

BACHELOR OF SCIENCE
(Biology)

<i>Subject</i>	<i>Units</i>
English	4
Mathematics	3
*Foreign Language (Classical or Modern)	2
History	2
Science	1 to 2
Electives	2 to 3

BACHELOR OF SCIENCE
(Chemistry, Mathematics or Physics)

<i>Subject</i>	<i>Units</i>
English	4
Mathematics	3 to 4
Science	1 to 2
*Foreign Language (Classical or Modern)	2
History	2
Electives	1 to 2

BACHELOR OF SCIENCE
(Business Administration, History, Social Sciences or Education)

<i>Subject</i>	<i>Units</i>
English	4
Mathematics	3
Electives	4 to 5
*Foreign Language (Classical or Modern)	2
History	2

*No credit will be allowed for a single year of a foreign language. Candidates who present no secondary school credit in a modern foreign language must register in one or other of the elementary courses offered in modern foreign languages and continue their study of the language chosen throughout sophomore year. A comprehensive examination will be given at the completion of the sophomore year language course. Those who fail to satisfy the reading requirements must continue their study of the language in junior year. German is the prescribed modern foreign language for students in the Chemistry curriculum.

METHOD OF ADMISSION

Candidates are admitted to the College of the Holy Cross (1) by creditable grades achieved in high school courses, (2) by acceptable scores achieved in the College Entrance Examination Board Aptitude and three Achievement Tests, and (3) by recommendation of the high school principal or headmaster. The General Educational Development Test and the Navy College Aptitude Test are not accepted for entrance into this College in lieu of the above-mentioned College Entrance Board Tests.

ENTRANCE EXAMINATIONS

All candidates must take the College Board Scholastic Aptitude Test and three Achievement Tests. The Scholastic Aptitude Test must be taken in December, January, February, or March of the Senior year in high school. The Achievement Tests may be taken either in December or in March. The three Achievement Tests must include the tests in English Composition, Foreign Language (preferably modern) which has been studied two years in high school curriculum, and a third to be freely chosen by the student.

ACCEPTANCE DEPOSIT

Candidates, upon receipt of final notification of the acceptance of their applications, are obliged to forward a guarantee fee of fifty dollars (\$50). Confer page 30 of this catalogue.

DORMITORY ACCOMMODATIONS

Under normal conditions the residence halls of Holy Cross have accommodations for fourteen hundred students. Each living room in the student dormitories is provided with the essential articles of furniture, such as desks, chairs, lockers, beds, mattresses, pillows. Boarding Freshmen contract privately with a Linen Service Company recommended by the College which will supply and launder two sheets, one pillow case, two bath towels and two hand towels each week of the school year at a charge of \$28.00 each year.

SCHOLARSHIPS

A limited number of scholarships are awarded annually to incoming and enrolled students. Information concerning these scholarships and a list of the scholarships available will be found on pages 101 — 108 of this catalogue.

FRESHMAN WEEK PROGRAM

For a period of several days following upon Registration and before the formal opening of classes all Freshmen are required to participate in the orientation program conducted under the supervision of the Dean of Freshmen and the Heads of Departments. By this means the College seeks to aid the new student in properly adjusting himself to college life and to impress him with the distinctive advantages and educational opportunities which the College offers to its undergraduates. During this period Freshmen will have an opportunity to become acquainted with the physical features of the campus, to inspect the various college buildings and to note the location of lecture halls and classrooms. The sequence of guidance lectures given at this time by various members of the Faculty is planned to equip the student with a knowledge of the aims and scope of the various courses and to advise him with regard to efficient study techniques and proper use of the Library. A series of placement tests will be given to all Freshmen during this period.

ADMISSION TO ADVANCED STANDING

A student honorably dismissed from another college may be considered for admission to the College of the Holy Cross on advanced standing. After an appraisal of his previous college record, credit will be allowed for such courses as are equivalent to courses offered at Holy Cross College and which have been passed with a grade of at least C. Such a student will be required to complete satisfactorily all the prescribed courses leading to the Bachelor's degree and to complete at least the full Senior year's work at Holy Cross College. An applicant for advanced standing should have the proper officials of institutions previously attended forward to the Office of the Dean official transcripts of secondary school and college records.

VETERANS

Returning veterans who, prior to their enlistment, satisfactorily completed their secondary school studies and are eligible for training under the educational benefits of Public Laws 550 and 894 will be accepted for admission to Holy Cross as entering Freshmen or with advanced standing, contingent upon their meeting the entrance requirements.

Servicemen who apply for admission prior to demobilization should submit a brief statement of their previous educational background, including the name and location of schools they have attended. Veterans who wish to support their application with supplementary information as to their academic competence and mental proficiency, may arrange to take the General Educational Development Test through the facilities of the U. S. Armed Forces Institute. The GED Test may not be offered in lieu of the CEEB Aptitude Tests, nor a State High School Equivalency Certificate, for an official four-year high school transcript.

Veterans applying for admission to the Freshman class should write to the Director of Admissions. Veterans applying for admission with advanced standing should write to the Office of the Dean.

REQUIREMENTS FOR DEGREES

The College of the Holy Cross offers curricula leading to the degrees of Bachelor of Arts (B.A.), Bachelor of Science (B.S.) and *Master of Science (M.S. in Chemistry).

*Requirements for this degree will be found on page 88.

BACHELOR OF ARTS HONORS DEGREE

This course is established to foster the ambitions of those students who have manifested more than the ordinary intellectual ability during their secondary school education, and to enable them to complete their knowledge through the medium of the classic tongues of Rome and Greece.

Based on the time-honored principles of the famous Ratio Studiorum, it is calculated to give those students who are sincerely interested in the humanities more comprehensive and more independent work than can be given profitably in other courses.

Holy Cross considers this course as representative of the classical principles for which she has long been noted and well adapted to develop fully and harmoniously the intellectual, moral and physical powers of the student.

To be recommended for this degree the candidate must attain a "B" grade in seventy-five per cent of his courses and at least a "C+" grade in the remaining twenty-five per cent. The scholastic success of the student is noted in his degree by the distinction of honors, honors cum laude, honors magna cum laude, and honors summa cum laude. Students who fail to attain these grades may be recommended for a degree without honors. Honor students are expected to do original and intensive work in their chosen branches and must render an account of their work by personal conferences with their instructors and by group discussions.

BACHELOR OF ARTS DEGREE

WITH GREEK. This course offers the same plan of study as the Bachelor of Arts Honors course. It differs from the Honors course in that the work is less intensive and the grade of D is the minimum required grade. This course is offered to those who wish to pursue the traditional classical curriculum without meeting the exacting requirements of the Honors Course.

WITH MATHEMATICS. This course represents a plan of study which differs from the Honors course in that mathematics is substituted for Greek in the Freshman and Sophomore years, and the grade D is the minimum required grade. This course is offered to those who are proficient in mathematics and wish to continue the study of that subject in college while following the cultural sequence of the Bachelor of Arts curriculum.

BACHELOR OF SCIENCE DEGREE

Students who are not qualified to meet the language requirements of the Arts course, or who wish to select a curriculum which will prepare them for a particular career, may choose a curriculum in one of the following fields leading to the Bachelor of Science Degree: Biology, Chemistry, Physics, Mathematics, Business Administration, History, Social Sciences or Education. These courses, in addition to the work in the field chosen, offer a balanced training in language, literature, history, philosophy, psychology and ethics.

To be recommended for one of the above degrees a student must satisfactorily complete all course requirements in his field of concentration, e.g. a candidate for the Bachelor of Science degree in Biology must complete satisfactorily all courses required by the College for this degree.

PRE-MEDICAL AND PRE-DENTAL COURSES

Courses leading to the Bachelor of Arts degree and to the Bachelor of Science degree in Biology provide adequate preparation for admission to medical and dental schools.

PRE-LEGAL COURSES

Elective sequences in pre-legal subjects are included in the Arts curriculum in Junior and Senior years for those students who wish to satisfy the prerequisites for admission to law school.

The courses in Business Administration, History, Social Sciences and Education also provide adequate preparation for admission to law school.

SCHOLASTIC DISTINCTION

Scholastic distinction in all courses is noted on the candidate's degree by the qualification "cum laude", "magna cum laude", or "summa cum laude".

R.O.T.C. STUDENTS

Appropriate substitution in all courses is made for students enrolled in the Air Force and Naval R.O.T.C. Units.

THESIS REQUIREMENT

To be recommended for any degree a student must, in addition to the satisfactory completion of all courses required for his degree, submit during his Senior year an acceptable thesis of at least 3000 words on a special subject approved by the Chairman of the Department in which he writes his thesis. For students majoring in Chemistry, an experimental thesis is optional. Two typewritten copies of the thesis must be submitted to the Dean at the appointed time.

REQUIREMENTS FOR THE BACHELOR OF ARTS DEGREE

HONORS AND NON-HONORS

Freshman Year

English 3.1, 3.2
 Latin 1, 2,
 †Greek 1, 2 or 5, 6 or
 Mathematics 13.1, 13.2
 Modern Foreign Language
 History 2.1, 2.2
 Religion 10, 11

Junior Year

Philosophy 41, 42, 43, 44
 Religion 30, 31
 †Science
 †Electives (12 credit hours)

Sophomore Year

English 22.1, 22.2
 Latin 21, 22
 Greek 17, 18 or 39, 40 or
 Mathematics 23.1, 23.2
 Modern Foreign Language
 History 22.1, 22.2
 Religion 20, 21

Senior Year

Philosophy 51, 52, 53
 Philosophy 55, 56
 Religion 40, 41
 †Electives (12 credit hours)

PRE-MEDICAL AND PRE-DENTAL

Freshman Year

English 3.1, 3.2
 Latin 1, 2
 †Greek 1, 2 or 5, 6 or
 Mathematics 13.1, 13.2
 French or German
 Chemistry 11.1, 11.2
 Religion 10, 11

Junior Year

Philosophy 41, 42, 43, 44
 Religion 30, 31
 Biology 2, 44
 History 3.1, 3.2
 Physics 1, 2

Sophomore Year

English 22.1, 22.2
 Latin 21, 22
 Greek 17, 18 or 39, 40 or
 Mathematics 23.1, 23.2
 French or German
 Chemistry 31, 32
 Religion 20, 21

Senior Year

Philosophy 51, 52, 53
 Philosophy 55, 56
 Religion 40, 41
 Biology 61, 62
 Chemistry 61.1, 61.2

†Greek is a required subject for the Bachelor of Arts Honors Degree. Students not offering Greek entrance units begin their study of the language in the Freshman Year.

†To fulfill the science requirement of Junior Year, one of the following may be taken: Biology 43.1, 43.2, Chemistry 41.1, 41.2, Physics 41.1, 41.2 or Physics 75, 76.

†Elective courses may be chosen from one of the following fields: English, Classical Languages, Romance Languages, German, History, Economics, Education, Political Science, Sociology, Mathematics and the Natural Sciences.

REQUIREMENTS FOR THE BACHELOR OF SCIENCE DEGREES

A. MAJOR: BIOLOGY

Freshman Year

Biology 1, 2
 Chemistry 11.1, 11.2
 English 3.1, 3.2
 French or German
 Mathematics 17, 18
 Religion 10, 11

Sophomore Year

Biology 61, 41
 Chemistry 31, 32
 English 22.1, 22.2
 French or German
 History 3.1, 3.2
 Religion 20, 21

Junior Year

Philosophy 41, 42, 43, 44
 Religion 30, 31
 Biology 44, 62, 63
 Physics 1, 2

Senior Year

Philosophy 51, 52, 53
 Philosophy 55, 56
 Religion 40, 41
 Biology 31, 35
 Chemistry 61.1, 61.2

B. MAJOR: CHEMISTRY

Freshman Year

Chemistry 13.1, 13.2, 12
 English 3.1, 3.2
 German
 Mathematics 13.1, 13.2
 Physics 1, 2
 Religion 10, 11

Sophomore Year

Chemistry 21.1, 21.2
 English 22.1, 22.2
 German
 Mathematics 23.1, 23.2
 History 3.1, 3.2
 Religion 20, 21

Junior Year

Philosophy 41, 42, 43, 44
 Religion 30, 31
 Chemistry 51.1
 Chemistry 61.1, 61.2
 Physics 43

Senior Year

Philosophy 51, 52, 53
 Philosophy 55, 56
 Religion 40, 41
 Chemistry 51.2, 51.3
 Chemistry 52.1, 52.2

C. MAJOR: MATHEMATICS

Freshman Year

English 3.1, 3.2
 French or German
 Chemistry 11.1, 11.2
 Mathematics 13.1, 13.2
 Physics 1, 2
 Religion 10, 11

Sophomore Year

English 22.1, 22.2
 French or German
 History 3.1, 3.2
 Mathematics 23.1, 23.2
 Economics 5.1, 5.2
 Religion 20, 21

Junior Year

Philosophy 41, 42, 43, 44
 Religion 30, 31
 Physics 31.1, 31.2 or
 Physics 44.1, 44.2
 Mathematics 41.1, 41.2
 Mathematics 63.1, 63.2

Senior Year

Philosophy 51, 52, 53
 Philosophy 55, 56
 Religion 40, 41
 Mathematics 45.1, 45.2
 Mathematics 55.1, 55.2

D. MAJOR: PHYSICS*Freshman Year*

English 3.1, 3.2
 French or German
 Chemistry 11.1, 11.2
 Mathematics 13.1, 13.2
 Physics 1, 2
 Religion 10, 11

Sophomore Year

English 22.1, 22.2
 French or German
 History 3.1, 3.2
 Physics 21, 45
 Mathematics 23.1, 23.2
 Religion 20, 21

Junior Year

Philosophy 41, 42, 43, 44
 Religion 30, 31
 Mathematics 41.1, 41.2
 Physics 43.1, 70.1
 Physics 43.2, 70.2

Senior Year

Philosophy 51, 52, 53
 Philosophy 55, 56
 Religion 40, 41
 Physics 50, 54
 Physics 60, 53

E. MAJOR: BUSINESS ADMINISTRATION

The following courses are prescribed for all candidates for the Bachelor of Science degree with a major in Business Administration.

Freshman Year

Economics 5.1, 5.2
 Economics 6.1, 6.2
 English 3.1, 3.2
 Modern Foreign Language
 Mathematics 2.1, 2.2
 Religion 10, 11

Sophomore Year

Economics 22
 English 22.1, 22.2
 Modern Foreign Language
 History 3.1, 3.2
 Religion 20, 21

Junior Year

Philosophy 41, 42, 43, 44
 Religion 30, 31
 Economics 62, 43

Senior Year

Philosophy 51, 52, 53
 Philosophy 55, 56
 Religion 40, 41
 Economics 78.1, 78.2

In addition to the courses listed as prescribed, the following are required for concentration in a particular field.

REQUIREMENTS FOR DEGREES

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1. MAJOR STUDY: ACCOUNTING

<i>Sophomore Year</i>	<i>Junior Year</i>	<i>Senior Year</i>
Economics 33.1, 33.2	Economics 50.1, 50.2	Economics 58.1, 58.2
Economics 79.1, 79.2	Economics 41, 74	Economics 59.1, 59.2
	Economics 79.3, 79.4	Economics 60.1, 60.2

2. MAJOR STUDY: ECONOMICS

<i>Sophomore Year</i>	<i>Junior Year</i>	<i>Senior Year</i>
Economics 66, 45	Economics 41, 47	Economics 67
Economics 8	Economics 64, 46	Economics 80.1, 80.2

3. MAJOR STUDY: INDUSTRIAL RELATIONS

<i>Sophomore Year</i>	<i>Junior Year</i>	<i>Senior Year</i>
Economics 23, 45	Economics 41, 94	Economics 90.1, 90.2
Economics 8	Economics 80.1, 80.2	Economics 98

4. MAJOR STUDY: MARKETING

<i>Sophomore Year</i>	<i>Junior Year</i>	<i>Senior Year</i>
Economics 23, 45	Economics 41, 98	Economics 97, 67
Economics 8	Economics 56, 96	Economics 99

F. MAJOR: ENGLISH

<i>Freshman Year</i>	<i>Sophomore Year</i>
English 3.1, 3.2	English 22.1, 22.2
French, German or Spanish	French, German or Spanish
History 2.1, 2.2	History 22.1, 22.2
Mathematics 17, 18	Economics 5.1, 5.2
Sociology 31.1, 31.2	Fine Arts 1.1, 1.2
Religion 10, 11	Religion 20, 21

<i>Junior Year</i>	<i>Senior Year</i>
Philosophy 41, 42, 43, 44	Philosophy 51, 52, 53
Religion 30, 31	Philosophy 55, 56
Science	Religion 40, 41
Electives (12 credit hours)	Electives (12 credit hours)

G. MAJOR: EDUCATION

<i>Freshman Year</i>	<i>Sophomore Year</i>
Education 1, 32	Education 31, 61
English 3.1, 3.2	English 22.1, 22.2
French, German or Spanish	French, German or Spanish
History 2.1, 2.2	History 22.1, 22.2
Mathematics 17, 18	Sociology 31.1, 31.2
Religion 10, 11	Religion 20, 21

Junior Year

Philosophy 41, 42, 43, 44
 Religion 30, 31
 Science
 Education 64, 70
 Electives (6 credit hours)

Senior Year

Philosophy 51, 52, 53
 Philosophy 55, 56
 Religion 40, 41
 Education 51, 52
 Electives (6 credit hours)

H. MAJOR: ECONOMICS, HISTORY, POLITICAL SCIENCE, SOCIOLOGY.

Freshman Year

English 3.1, 3.2
 French, German or Spanish
 History 2.1, 2.2
 Mathematics 17, 18
 Sociology 31.1, 31.2
 Religion 10, 11

Sophomore Year

English 22.1, 22.2
 French, German or Spanish
 History 22.1, 22.2
 Economics 5.1, 5.2
 Political Science 11.1, 11.2
 Religion 20, 21

Junior Year

Philosophy 41, 42, 43, 44
 Religion 30, 31
 Science
 Electives (12 credit hours)

Senior Year

Philosophy 51, 52, 53
 Philosophy 55, 56
 Religion 40, 41
 Electives (12 credit hours)

To fulfill the science requirement of Junior Year, one of the following may be taken: Biology 43.1, 43.2, Chemistry 41.1, 41.2, Physics 41.1, 41.2 or Physics 75, 76.

COURSES OF INSTRUCTION

DEPARTMENT OF ACCOUNTING AND ECONOMICS

Professors PERAGALLO, (*Chairman*), R.F.X. CAHILL, B. W. MCCARTHY; *Associate Professors* T. J. CAHILL, CALLAGHAN, FENLON, McDERMOTT, R. J. SMITH; *Instructors* W. C. CROWLEY, DeFULVIO, D. A. KING, O'CONNELL, POWERS, SCOLA.

Economics 5.1, 5.2. Principles of Economics.

A study of the basic institutions and principles underlying the operation of the economic system. Particular attention is given to the factors of production, the laws of demand, supply and price, the conditions of pure and imperfect competition, monopoly, the laws of distribution, money and banking, interregional trade, government and business, business cycles, labor problems and comparative economic systems. *Six credit hours.*

Economics 6. Elementary Accounting.

This course embraces a study of the basic accounting principles with emphasis on the techniques of procedure involved in the accounting cycle, as related to the sole proprietorship, partnership and corporate form of business organization. Emphasis is also placed on the preparation and interpretation of the financial records. (No credit is granted unless this course is taken for two semesters.) *Six credit hours.*

Economics 8. Economic Geography: World Industries and Resources.

The purpose of this course is to analyze the regional distribution of world industrial activities. A study is made of the distribution and comparative importance of manufacturing, mining, forestry and agriculture in relation to such factors as power resources, raw materials, climate, landforms, and centers of population. *Three credit hours.*

Economics 22. Economic History of the United States.

Economic development from colonial days to the present time including modern European developments that affect the United States; the principal industrial interests such as agriculture, mining, fishing, manufacturing and transportation, money and banking, and the problems of labor, immigration, tariff and world-wide commercial relations. *Three credit hours.*

Economics 23. Applied Economics.

The chief objective of this course is to strengthen the student's grasp of economic principles and to help him to interpret economic theory to the point where it becomes more definitely workable for the solution of business problems. The student during this course will consider a series of business cases that have a direct bearing upon the economic issues under consideration. Prerequisite: Eco. 5.2. *Three credit hours.*

Economics 33.1, 33.2. Intermediate Accounting.

This course provides instruction in corporation accounting with special emphasis on the preparation and interpretation of corporate financial statements. A thorough study of the balance sheet is made from the viewpoint of content and proper valuation procedures, with special emphasis on pertinent American Institute of Accounting Bulletins. Statements are analyzed by means of horizontal and vertical analysis and through ratio analysis. Training is also given in the preparation of statements from incomplete data, and in the preparation of the statement of application of funds. *Six credit hours.*

Economics 41. Money, Credit and Banking.

The purpose of this course is to introduce the student to the general economic principles governing modern monetary arrangements, credit and banking in the economic organization. In each instance the genetical development is followed. Special emphasis is placed on the Federal Reserve System, its credit control facilities and endeavors. Prerequisite: Eco. 5.2. *Three credit hours.*

Economics 43. Business Statistics.

An introduction to basic concepts and applications of statistics, with emphasis on a description of frequency distributions (averages, dispersion, etc.), and an introduction to statistical inference, time series, index numbers, and simple correlation. Emphasis is on practical application. The course is not intended for students who take college mathematics through calculus. Prerequisite: Eco. 5.2 and Math. 2.2. *Three credit hours.*

Economics 45. Introduction to Industrial Relations.

The purpose of this course is to survey the entire field of industrial relations including the development of unions, the place of collective bargaining in our present economic structure and the problems of labor as they have evolved out of this economic society. The efforts at the solution of these problems by labor unions, employers and the government will be analyzed. Prerequisite: Eco. 23 or 66. *Three credit hours.*

Economics 46. Modern Economic Theories.

This course deals with the ideas and theories which are now current, examining the biographical background of the various authors, the genesis of their contributions, and instituting a critical evaluation of their work. Prerequisite: Eco. 23 or 66. *Three credit hours.*

Economics 47. Comparative Economic Systems.

An historical and critical analysis of the various systems of economy is made. The origin, nature, function and economic significance of Communism, Socialism, Nazism, Fascism, Capitalism are explained.

The broad foundations of social philosophy underlying each system are emphasized, as are the variants between theory and practice. The social goals and economic institutions of the various systems are compared. Prerequisite: Economics 23 or 66. *Three credit hours.*

Economics 50.1, 50.2. Cost Accounting.

An introductory study of basic cost accounting principles, practices, and procedures, with a special emphasis on job order costs, process costs, standard costs, and estimated costs; managerial control through the use of cost accounting data and procedures; and special applications of cost accounting procedures. Prerequisite: Eco. 33.2. *Six credit hours*

Economics 56. Principles of Marketing.

This course covers the meaning and cost of market distribution; development of marketing methods; the consumer movement and factors which affect consumption; income and its distribution; functions of transportation, storage, standardization, and grading; various types of retail and wholesale institutions; their functions, problems, and expenses; channels of distribution; integration; direct marketing; brokers and other agents; organized produce exchanges and speculation; merchandising; analysis of margins, expenses, profits and failures of marketing concerns, buying and stock turnover; and governmental regulations. Prerequisite: Eco. 23 or 66. *Three credit hours.*

Economics 53.1, 53.2. Auditing.

A study of the theory and practice of auditing. The laboratory work covers a test audit of a small manufacturing concern. Prerequisite: Eco. 50.2. *Six credit hours.*

Economics 59.1, 59.2. Federal Income Tax Accounting.

This course provides instruction in Federal Income Tax Laws and their application to the incomes of individuals, partnerships, corporations, and fiduciaries. Practice in making out reports and returns, and a study of the procedure of handling claims, form the basis of applied instruction. Prerequisite: Eco. 33.2. *Four credit hours.*

Economics 60.1, 60.2. Advanced Accounting.

Parent and subsidiary accounting relationships are studied and a critical analysis is made of the principles and postulates of accounting based upon the study of the Accounting Research Bulletins of the American Institute of Accountants and the Accounting Releases of the Security Exchange Commission. Research topics are assigned and reported upon. The course is organized on a group discussion basis. Prerequisite: Eco. 50.2. *Six credits hours.*

Economics 62. Corporation Finance.

A study of the major financial problems involved in the organization, operation, expansion, reorganization, and liquidation of business corporations. Consideration is given to financial ratios, dividend policies, sources of funds, and other topics pertinent to the acquisition of a working knowledge of the significant financial characteristics of business corporations. Prerequisite: Eco. 5.2. *Three credit hours.*

Economics 64. History of Economic Thought.

The aim of this course is to stress critically the development of ideas and theories which now dominate economic science, by viewing these various contributions at their sources. Prerequisite: Eco. 23 or 66. *Three credit hours.*

Economics 66. Economic Theory.

This course builds upon the student's knowledge of the generally accepted principles of economics. It analyzes critically the scope, methodology, nature, significance and limitations of scientific inquiry in the field of economics. The emphasis of the course is upon macro-economic analysis as applied to value and distribution theory and upon micro-economic analysis as necessitated by the national income approach. The postulates, conditions and assumptions of economic analysis under conditions of pure and imperfect competition are examined as well as the changes wrought in economic theory as a result of the development of the aggregate approach. Finally, the course takes some cognizance of the changing relationships between government and business. Prerequisite: Eco. 5.2. *Three credit hours.*

Economics 67. International Trade.

A study of world trade, foreign investments, debtor and creditor nations, theory of free trade and protective tariffs and a discussion of the recent methods in the control of imports, exports, foreign investments, and the special problems arising from the international movement of goods, services, and capital. Prerequisite: Eco. 23 or 66. (Not offered 1956-57). *Three credit hours.*

Economics 74. Business Management.

An exposition of the operations of a business firm following scientific principles. Emphasis is on the two principal functions of manufacturing, production and selling, with other activities properly related by planning, organizing and controlling. Prerequisite: Eco. 5.2. *Three credit hours.*

Economics 78.1, 78.2. Business Law I and II.

This course is intended to give the student some knowledge of the ordinary legal aspects of common business transactions. The course includes contracts, agency, sales, negotiable instruments and other topics of special importance as a law background of business. Required of all seniors in Business Administration except those majoring in Accounting. *Four credit hours.*

Economics 79.1, 79.2. Business Law.

Required of all students majoring in Accounting. The course includes contracts, agency, sales and negotiable instruments. The course is intended to correlate the accounting and legal aspects in reference to common business transactions.

Four credit hours.

Economics 79.3, 79.4. Business Law.

A continuation of Business Law 79.1, 79.2. The course includes a study of the legal aspects of Partnerships and corporations; personal property, real property, insurance, trade regulations and business torts.

Four credit hours.

Economics 80.1, 80.2. Government in Economic Life.

This course presents an investigation of the philosophical basis of government-business relationship together with an historical development of control. It includes also a study of American constitutional tools and the practice of enforced competition, special problems of control relative to trusts, public utilities, transportation, extractive industries, exchanges and labor. Prerequisite: Eco. 5.2.

Six credit hours.

Economics 90.1, 90.2. Collective Bargaining and Union Management Negotiations.

This course presents union-management negotiations which include the protection and determination of bargaining rights in modern industry, the bargaining unit, helps and hindrances to bargaining, the types of shop in union contracts, grievance procedures, means of mediation and arbitration, seniority rules and other factors which occupy the representatives of management and labor when they meet to bargain.

The second semester covers a case study of bargaining contracts as they have worked out in industry under the National Labor Relations Act. It takes into consideration the effects of various laws which have been passed and which affect the bargaining between labor and management. Prerequisite: Eco. 94.

Six credit hours.

Economics 94. Social and Labor Legislation.

A non-technical study of the various Federal statutes affecting industrial relations. Scope: a review of the background of Labor Law, the application of the Sherman Act to labor organizations, the Norris-La Guardia Act, the Railway Labor Act, the National Labor Relations Act, the Labor Management Relations Act, Social Security and Workmen's Compensation. Study by case method is utilized to bring out the content of these statutes and interpretations by courts and administrative agencies. Prerequisite: Eco. 45.

Three credit hours.

Economics 95. Pro-Seminar in Economic Order.

Reading and research under direction on a series of economic problems with individual reports and group discussions.

Three credit hours.

Economics 96. Retail Distribution.

A survey of the fundamentals of retailing, including elements of retail profit; merchandise policies and merchandise selection; pricing and buying; merchandise control; sales promotion policies; service policies, advertising, display and layout methods; personnel and organization; store system and operation; accounting, credit and finance. This course will also consider general management policies. The case method will be followed based on "Problems in Retailing" by McNair, Gragg, and Teele, Prerequisite: Eco. 56. *Three credit hours.*

Economic 97. Salesmanship.

The fundamentals of modern sales techniques; the various steps in a realistic sales presentation; sales presentations evaluated; sales organization structure; selection, training and supervision of salesmen. Present emphasis in sales management. *Three credit hours.*

Economics 98. Personnel Administration.

This course attempts to give a more specific knowledge of the field of Personnel Management. It explains the nature and development of the field, the technique of selection and placement, the maintaining of sound personnel relations as reducing turnover, handling transfers, dismissals, etc.; conducting safety programs and instituting employee welfare measures. Prerequisite: Eco. 94 or Eco. 45. *Three credit hours.*

Economics 99. Principles of Advertising.

A basic course dealing with the function, theory, principles and application of advertising. Special emphasis is placed on copy writing, layout, media research. Students engage in the planning and execution of practice advertising campaigns. Prerequisites: Eco. 97. *Three credit hours.*

DEPARTMENT OF AIR SCIENCE

Professor: LIEUTENANT COLONEL BERNET (Chairman); Associate Professor CAPTAIN FREDERICKS; Instructor CAPTAIN DIRCKS, CAPTAIN O'NEIL, CAPTAIN WHELAN.

The mission of the Air Force Reserve Officers' Training Corps is to select and prepare students, through a permanent program of instruction at civilian educational institutions, to serve as officers in the Regular and Reserve components of the United States Air Force, and to assist in discharging, where necessary, any institutional obligation to offer instruction in military training.

The College of the Holy Cross is one of one hundred and seventy-five Colleges and Universities throughout the country which have Air Force ROTC Units.

The program of instruction of the Air Force ROTC at Holy Cross is divided into two courses—the Basic Course, normally completed during the Freshman and Sophomore years and the Advanced Course, normally completed during the Junior and Senior years. During the Basic Course, the Air Force furnishes the AFROTC student with the distinctive Air Force Blue Uniform and necessary text books. While pursuing the Advanced Course, the student is allotted the sum of one hundred dollars for the purchase of uniforms. Text books required are furnished by the Air Force. In addition the AFROTC advanced student is entitled to commutation of subsistence which amounts to approximately twenty-seven dollars per month, and between his Junior and Senior year, he attends a four to six week summer camp, for which he is paid at the rate of seventy-five dollars a month.

Advanced cadets scheduled for pilot training after commissioning will be given a 35 hour flight training course during their Senior year. This course satisfies the flying requirements of the Civil Aeronautics Authority to become eligible for a private pilot's license. This flight instruction program is designed to determine a cadet's aptitude for flying.

Students who meet certain qualifications and who are selected by a board of officers, military and institutional, are granted a deferment from induction into the service under the Selective Service Act, provided they sign a deferment agreement, in which they agree among other things, to serve on active duty for a period of time as prescribed by the Secretary of the Air Force.

ELIGIBILITY REQUIREMENTS

A candidate for enrollment must be a citizen of the United States between the ages of 14 and 23 years at the time of enrollment, be of high moral character and take such physical examinations as may be prescribed by proper authority and/or present a certificate of health from a doctor.

COURSES OF INSTRUCTION

AS 101 Introduction to AFROTC. Introduction to Aviation and Fundamentals of Global Geography.

A history of development of aviation, a description of classes and types of aircraft, parts of an airplane and the basic principles of flight. The evolution of geographical knowledge, map projections, major geographic regions of the earth, the geography of weather, geographical basis of power and military aspects of global geography. Two lectures. One hour leadership training laboratory. *Two credit hours.*

AS 102 International Tensions and Security Organizations and Instruments of National Military Security.

Factors that contribute to the status of a nation as a world power; forces that develop tensions between world powers, problems of international

security resulting from these tensions, the world military situation, international security structures that have been established to deal with the problem of security, and the role of the United States in world leadership. Historical development of the Armed Forces. Military aviation, the place of airpower in modern war, characteristics and capabilities of military aviation, the future of military aviation in the United States. Two lectures. One hour leadership training laboratory. *Two credit hours.*

AS 201 Elements of Aerial Warfare.

The study of targets including definition and types of military targets, and intelligence procedures related to targets, i. e., cycle pattern of intelligence activities, aerial photographs, target systems, and selection. The study of weapons including definition and types of aerial weapons, embracing conventional high-explosive and atomic bombs, rocket-propelled missiles, chemical, biological, and psychological warfare. The study of delivery aircraft, dealing with factors governing design and types of such aircraft. Two lectures. One hour leadership training laboratory. *Two credit hours.*

AS 202 Elements of Aerial Warfare and Careers in the USAF.

The study of the air ocean with emphasis on the significance of the air as a medium for delivery of weapons and problems associated with delivering weapons through that medium. The study of air bases viewed with the air base as a platform for the delivery of weapons, and associated problems. The purpose and operation of the USAF Officer Career Program. Two lectures. One hour leadership training laboratory. *Two credit hours.*

AS 301 AF Commander & Staff; Problem Solving Techniques; Communicating in the Air Force; Military Courts and Boards.

Introduction to advanced Air Force ROTC. The Air Force Commander, his responsibilities and functions, and his Staff. Problem solving techniques; a series of steps to be considered in problem solving, and conference technique in the solution of problems. The Communications Process and Air Force correspondence; learning as a communicative process, and teaching methods. Military Law, Courts and Boards. Four lectures. One hour leadership training laboratory. *Four credit hours.*

AS 302 Applied Air Science; Air craft; Engineering; Navigation; Weather.

Applied Air Science. Aerodynamics and propulsion; aircraft engines; aerial navigation and weather, including teletype weather reports, maps and charts. Air Force Base Functions. The typical air base organization, its functions and functions of the various base officers. Four lectures. One leadership training laboratory. *Four credit hours.*

AS 401 Principles of Leadership and Management; Career Guidance; Military Aspect of World Political Geography.

Development of the concepts and principles of command and their application. Principles and application of sound military management. Relationship between academic background and Air Force careers. Personal assistance in selecting an Air Force career suited to each individual's qualifications. Familiarization with major geographical regions from a

global point of view. Relationship between our country and other geographical regions, politically and militarily. Geography of weather and weather characteristics of all parts of the world. Four lectures. One hour leadership training laboratory.

Four credit hours.

AS 402 Military Aspects of World Political Geography (cont.); Military Aviation and the Art of War; Briefing for Commissioned Service.

Framework of international politics, geographical bases of power, world powers and strategic areas and related military aspects of world political geography. Implications of modern warfare as shown by historical applications of principles and maneuvers on land, sea and air. Emphasis is placed on military aviation, strategic and tactical aerial warfare. Information concerning the preparation and reporting for assignments, personal affairs in the Air Force, 201 file, Air Force Reserve Components, and an officer's future in the Air Force. Four lectures. One hour leadership training laboratory.

Four credit hours.

DEPARTMENT OF BIOLOGY

Professors BUSAM (*Chairman*), MACCORMACK, MALUMPHY;
Associate Professors CAMPBELL, CROWE.

Biology 1. General Botany.

A general survey of the plant kingdom, beginning with a study of the vegetative organs of flowering plants, treating both gross and minute structures in their various modifications and physiology. Plant cytology receives detailed consideration with studies in cell structure, nuclear and cell division, and the meiotic divisions. This prepares the ground for a complete synoptic series of the various phyla treated immediately next in order. The course concludes with special studies of the reproductive organs of the flowering plant. Two lectures and two (two-hour) laboratory periods.

Four credit hours.

Biology 2. General Zoology.

A general survey of the animal kingdom introduced by a rapid consideration of the frog to acquaint the student with fundamental notions of structure and physiology. This is followed by a study of the animal cell with its nuclear, cell, and meiotic divisions. Here the laws of heredity are expounded and each evolved with the fruit fly as the specimen of exemplification. The study of the synoptic series of invertebrates is then taken up. Two lectures and two (two-hour) laboratory periods.

Four credit hours.

Biology 31. Genetics.

A course designed to acquaint the student with the fundamentals of heredity and variation. Among the topics considered are: the history of genetics, the significance of the science, Mendelian inheritance, the chromosome theory, factor interaction, sex determination, linkage and crossing over, gene and chromosome mutation, population genetics, genetics and evolution, human inheritance, and practical applications of the science. Problems exemplifying principles and experimentation are assigned for drill. Laboratory work consists chiefly of elementary exercises in cytogenetics and breeding experiments with *Drosophila*. Two lectures and two (two-hour) laboratory periods.

Four credit hours.

Biology 35. General Physiology.

This course investigates many of the primary functions of living organisms. The functions studied are the adaptive power; excitation, conduction and contraction; characteristics of heart actions (including the use of electrocardiograph); gastric and pancreatic metabolism; excretion; respiration; blood-pressure; permeability; protoplasmic movements; general biophysical phenomena. The laboratory work consists of basic experiments on these functions in the living animal and plants, involving extensive use of kymographic recording. Two lectures and two (two-hour) laboratory periods.

Four credit hours.

Biology 41. Comparative Anatomy.

A comparative general study of vertebrate anatomy, development and phylogeny, considering the various systems of organs of the vertebrate body, tracing their evolution through the different classes of vertebrates in terms of basic concepts, principles and methods of comparative zoology. Structure is constantly correlated with function. Laboratory work is based upon the systemic study and dissection of representative protochordates, dogfish, skate, turtle or pigeon, and cat or rabbit. Two lectures and two (two-hour) laboratory periods.

Four credit hours.

Biology 43.1, 43.2. General Biology.

This course aims to acquaint the student with the fundamental structure and functions of living things. It begins with a consideration of the Cell Theory and of the cell as the structural and functional unit of plant and animal life. This is followed by a study of selected types of the main groups of plants and animals, culminating with the general anatomy and physiology of the seed plant and the mammal. Special attention is given in the lectures to the applications of biological knowledge to the human race, particularly in connection with the discussion of such topics as parasitism, infection and immunity, organic evolution and heredity. Two lectures and one (two-hour) laboratory period.

Six credit hours.

Biology 44. Mammalian Anatomy.

This course provides a detailed study of the rabbit, stressing the skeleton and other anatomical features. Two lectures and two (two-hour) laboratory periods.

Four credit hours.

Biology 45. Mammalian Physiology.

This course complements the course in Mammalian Anatomy. It is designed to bring out the functions of the various organs and systems studied in the anatomy course. One lecture and one (two-hour) demonstration period. (Not offered 1957-58).

Biology 61. Vertebrate Embryology.

A study of the development anatomy of vertebrates from the early history of the gametes to the stage of growth exemplified in the 10 mm. pig. Fertilization, segmentation, formation of the three germ layers are studied in the ascaris, sea urchin, amphioxus, and frog. A detailed consideration of the chick embryo from the primitive streak through the 72-hour stage then follows; ending with a thorough study of the 10 mm. pig. The course concludes with a consideration of the theoretical aspects, (as arising from modern experimental studies). Two lectures and two (two-hour) laboratory periods.

Four credit hours.

Biology 62. Vertebrate Histology.

This course is a microscopic study of the anatomy of the vertebrates, beginning with a review of the fundamental facts of cellular structure, as treated in Biology 2. Following this is a detailed study of the four normal types of adult tissues: epithelium, connective, muscular, and nervous tissues. The course concludes with an analysis of the various tissue combinations as illustrated in the organs and systems of the vertebrate organism. The necessary correlation between microscopic structure and function is indicated, especially in the latter third of the course. Two lectures and two (two-hour) laboratory periods. *Four credit hours.*

Biology 63. Microtechnique.

This course supplements the course in Vertebrate Histology. It includes the study and practical application of the paraffin, celloidin, and freezing methods of preparing tissues for microscopic examination. A number of the more common and specific stains and staining methods are then considered and applied. A certain number of well prepared slides is required of each student. Two (two-hour) laboratory periods. *Two credit hours.*

DEPARTMENT OF CHEMISTRY

Professors FIEKERS (Chairman), BARIL, CHAREST, VANHOOK;
Associate Professors MARTUS, TANSEY.

The Department of Chemistry is approved by the Committee on Professional Training of the American Chemical Society for its curriculum leading to the Bachelor of Science degree.

Chemistry 11.1. General Inorganic Chemistry I.

A study of the fundamental theories and general laws of chemistry is made. Subatomic and kinetic molecular structure of matter is emphasized. The periodic table of the elements is introduced with sufficient descriptive chemistry to balance theory. Fundamental chemical calculations are practiced and experiments of a quantitative nature are stressed in laboratory. Required for science and pre-medical courses. Two lectures and two (two-hour) laboratory periods. *Four credit hours.*

Chemistry 11.2. General Inorganic Chemistry II.

This course is a continuation of Chemistry 11.1. Chemical equilibrium, the chemistry of solutions, ionization, oxidation and reduction are emphasized. For more descriptive matter, the non-metals are first studied and then the remaining metals. Laboratory work is culminated in a brief introduction to qualitative analysis for anions by semi-micro methods. Required for science and pre-medical courses. Two lectures and two (two-hour) laboratory periods. Prerequisite: Chem. 11.1. *Four credit hours.*

Chemistry 12. Chemical Problems.

This course supplements Chemistry 11.1 and 11.2 and initiates the beginner in chemistry into the methods of solving problems in the application of chemical principles. Required of students majoring in chemistry. Two lectures (with assignment of problems). Prerequisite: Chem. 11.1 or 13.1. *Two credit hours.*

Chemistry 13.1. General Inorganic Chemistry I.

This course is the same in content as Chemistry 11.1. Required of all students majoring in chemistry. Three lectures and two (two-hour) laboratory periods. *Four credit hours.*

Chemistry 13.2. General Inorganic Chemistry II.

This course is the same in content as Chemistry 11.2. Required of all students majoring in chemistry. Three lectures and two (two-hour) laboratory periods. Prerequisite: Chem. 13.1. *Four credit hours.*

Chemistry 21.1. Analytical Chemistry I.

The laboratory work in this course is largely volumetric in nature and involves exercises in neutralization, precipitation, oxidation and reduction. Certain determinations are checked by gravimetric and other procedures. Lectures develop the theory for this work along with other analytic theory that is common to both quantitative and qualitative analysis. This helps to integrate the course with the qualitative analytic part of the following one into a unified treatment of analytical chemistry. Required of all students majoring in chemistry. Two lectures and two (three-hour) laboratory periods. Prerequisite: Chem. 11.2 or 13.2. *Four credit hours.*

Chemistry 21.2. Analytical Chemistry II.

This course is a continuation of Chemistry 21.1. Laboratory work in the first half of this course stresses analysis by gravimetric methods, followed by special analyses, such as electrodeposition, the analysis of limestone, pH determinations, the Kjeldahl nitrogen determination and the determination of carbon in steel. Laboratory exercises for the latter half of the course deal with semi-micro qualitative analysis for metallic ions. Required of students majoring in chemistry. Two lectures and two (three-hour) laboratory periods. Prerequisite: Chem. 21.1. *Four credit hours.*

Chemistry 31. Qualitative Analysis. — Semi-Micro.

Lectures deal with the chemistry of analytic reactions and put emphasis on the development and application of the laws of equilibrium and solution. Laboratory work includes analysis for both anions and cations. Required of pre-medical students. Two lectures and two (two-hour) laboratory periods. Prerequisite: Chem. 11.2 or 13.2. *Four credit hours.*

Chemistry 32. Quantitative Analysis.

In this course the elements of gravimetric and volumetric analysis are taught with emphasis on the latter. Neutralization, pH determination, oxidation and reduction, applications of the solubility product principle and the Kjeldahl determination of nitrogen are included in the laboratory exercises. Required of pre-medical students. Two lectures and two (two-hour) laboratory periods. Prerequisite: Chem. 11.2 or 13.2. *Four credit hours.*

Chemistry 33. Glass Practice.

Facilities are available in the chemistry department at all times so that the student may practice glass blowing with only informal instruction from the

staff. A more formal optional course is offered in those years when sufficient interest and numbers warrant such a course. This course is advised for students majoring in chemistry and physics. Course enrollment is limited to eight students. Exhibits of glassware from various American manufacturers complement the collection of glassware already on hand. Seminar, lecture or demonstration one hour per week. Laboratory practice, four hours per week. (Not offered 1957-58). *One credit hour.*

Chemistry 41.1, 41.2. General Chemistry.

This course intends to give students, who are not otherwise preoccupied with science, an insight into the material make-up of the world about them. It ranges from sub-atomic particles through atoms, molecules and the modern "giant molecules" that have been emphasized in plastics, synthetic fabrics and textiles as well as in living tissue. Descriptive matter for this course is chosen from economic substances such as sulfuric acid, petroleum, coal tar, rubber, plastics, foods, vitamins, hormones and steel. The laboratory part is selected from the traditions of general chemical laboratory instruction at the start of the course; towards its conclusion, however, a survey of chemical methods of analysis, instrumentation, organic and physical chemistry is made. Demonstrations are used; the scientific method is emphasized. Two lecture hours with demonstration and one (two-hour) laboratory period.

Six credit hours.

Chemistry 51.1. Physical Chemistry I.

A study is made of the fundamental principles and methods by which the behavior of matter in its various states and forms is interpreted. A study of gases, liquids and solids, molecular constitution, thermochemistry, thermodynamics and the quantitative laws of solution is undertaken. Laboratory training in this and the two following courses is designed to test the more important physico-chemical laws; to inculcate physico-chemical technique; and to develop the habit of quantitative interpretation of such phenomena. Training in organic chemistry is a desirable prerequisite. Required of all students majoring in chemistry. Three lectures and five hours of laboratory. Prerequisites: Math. 22.1, 22.2, Physics 1, 2, Chem. 21.1 or 32.

Four credit hours.

Chemistry 51.2. Physical Chemistry II.

This is a continuation of Physical Chemistry I. Homogeneous and heterogeneous equilibria, reaction kinetics, electrical conductance, electromotive force and ionic equilibria are studied. Selected topics from chemical thermodynamics, quantum theory, photochemistry and particle structure are included. Required of all students majoring in chemistry. Training in organic chemistry is a desirable prerequisite. Three lectures and five hours of laboratory. Prerequisite: Chem. 51.1.

Four credit hours.

Chemistry 51.3. Physical Chemistry III.

This course deals with special topics in advanced physical chemistry with emphasis on Colloidal Chemistry. Three lectures and one (two-hour) laboratory period. Required of all chemistry majors. Prerequisites: Chem. 51.1 and 51.2.

Four credit hours.

Chemistry 52.1. Advanced Organic Chemistry I.

This course is comprised essentially of semi-micro qualitative organic analysis. The laboratory part includes the identification of the following unknown types: solid, liquid, liquid mixture, solid mixture, drug, dye, alkaloid and a commercial product. In preparation for a part of the work in second semester, lectures are also given on semi-micro, ultimate and functional group, quantitative organic analysis. For this course, a reading knowledge of scientific German is highly desirable. Required of all students majoring in chemistry. Two lectures and four hours of laboratory. Prerequisites: Chem. 21.2 or 31, and 61.2. *Four credit hours.*

Chemistry 52.2. Advanced Organic Chemistry II.

This part of the course is essentially comprised of a study of organic mechanism. In laboratory, a number of examples of "name" syntheses are undertaken and an acquaintance with elemental quantitative analysis is established in practice. Required of all students majoring in chemistry. Two lectures and four hours of laboratory. Prerequisites: Chem. 52.1. *Four credit hours.*

Chemistry 61.1. Organic Chemistry I.

This course consists of introductory lectures on the fundamentals of the science with emphasis on structure, isomerism, homology, nomenclature, synthesis, reactions, and other properties of organic compounds in their application to medicine and industry. Aliphatic hydrocarbons and cycloparaffins are studied along with their derivatives such as alkyl halides, alcohols, glycols, glycerols, sulfur compounds, ethers, aldehydes, ketones, acids and their derivatives, fats, oils and waxes. In laboratory synthesis is emphasized for all. Some attention is given, however, with pre-medical majors to reactions in qualitative organic chemical analysis. For this course training in qualitative and quantitative chemical analysis is desirable. Required of chemistry and pre-medical majors. Three lectures and five hours of laboratory. Prerequisite: Chem. 11.2. *Four credit hours.*

Chemistry 61.2. Organic Chemistry II.

This course is a continuation of Organic Chemistry I. Organic nitrogen compounds, carbonic acid derivatives, stereoisomerism, the carbohydrates and the special reactions of the carbonyl group in theory and in synthesis are here studied. Coal tar derivatives are given special attention for about half of the semester. Alkaloids, hormones and vitamins are treated in detail. In laboratory synthesis is emphasized for all; attention is given to qualitative organic chemical reactions in the case of pre-medical students. Required of chemistry and pre-medical majors. Three lectures and five hours of laboratory. Prerequisite: Chem. 61.1. *Four credit hours.*

Chemistry Seminar.

Once a week junior and senior chemistry majors meet with the staff and graduate students in seminar. A public exposition of the Bachelor thesis is required of all senior students who major in chemistry. (Not offered in 1957-58).

For information on graduate courses in chemistry, refer to page 88.

DEPARTMENT OF THE CLASSICS

Professors IZZO (*Chairman*), AHEARN, BEAN, FORAN, MARIQUE, SAMPEY; *Associate Professors* BUCKLEY, KELLY, McGRADY; *Instructors* BARRY, O'MALLEY.

I. GREEK

Greek 1, 2. Elementary Greek.

Orthography, oral reading and memory of short Greek sentences. Study of grammar with results tested in composition work. *Six credit hours.*

Greek 5. Advanced Greek.

Selected readings from the Odyssey of Homer; Plato's Apology with reference to the Crito and Phaedo. Study of Greek epic poetry and of Athenian culture, fifth century B.C. *Three credit hours.*

Greek 6. Advanced Greek.

Selected writings of Euripides and Demosthenes. Study of the genesis of Greek drama and of Athenian culture from 405 B.C. to 340 B.C. *Three credit hours.*

Greek 17. Intermediate Greek.

Study of Plato's Apology and Selections from Herodotus.

Three credit hours.

Greek 18. Intermediate Greek.

Study of Homer's Iliad and Odyssey and the relationship of Homer to Greek Civilization.

Three credit hours.

Greek 39. Advanced Greek.

Study of the Oedipus Tyrannus of Sophocles in the original; Oedipus Coloneus and Antigone in translation.

Three credit hours.

Greek 40. Advanced Greek.

A careful reading of the De Corona of Demosthenes, with a study of the political background of the period.

Three credit hours.

Greek 60. The Republic of Plato.

A reading of most of the Republic in Greek; collateral readings in Pre-Socratic philosophy, the works of Plato, and contemporary history in English. (Not offered 1957-58).

Three credit hours.

Greek 63.1, 63.2. Iliad and Odyssey of Homer.

A reading of the entire Iliad and sections of the Odyssey, with commentary consisting of archeological notes on the Greece and Aegean of Homer's time (Mycenae, Knossos, Troy); history of Homeric criticism up to the nineteenth century.

Six credit hours.

The following courses, Greek 70 and Greek 73, are open only to those honor students approved by the Chairman of the Department, whose proficiency in Greek enables them to do intensive work in this language.

Greek 70.1, 70.2. The Drama of Euripides.

First Term: Alcestis, Andromache, Hecuba, Hippolytus and Medea. Second Term: Orestes, Bacchae, Iphigenia in Tauris, Ion and Electra. Influence of Euripidean drama on future literatures are specially considered. Intensive consideration is given to metrics, stage directions and antiquities and textual criticism. (Not offered 1957-58).

Six credit hours.

Greek 73.1, 73.2 Thucydides, the Histories.

All eight books are to be covered completely and the students are responsible for translation and explanation of the text; historical and critical background; the influence of Thucydides and his qualities as an historian. *Six credit hours.*

II. LATIN**Latin 1. Cicero, Virgil and Catullus.**

A study of life and position of Cicero in Roman letters and politics. The reading of the Virgil's Aeneid and selected lyrics of Catullus. *Four credit hours.*

Latin 2. Horace and Livy.

The reading of selections from Horace, and a study of his philosophy of life and his influence on English literature. The reading of selections from Livy. *Four credit hours.*

Latin 1A, 2A.

A course for those who have had two years of high school Latin. The first semester is devoted to a review of grammar, composition and the First Catiline of Cicero. The second semester is devoted to a study of Cicero, Virgil, Horace and Catullus. *Eight credit hours.*

Latin 21. Cicero and Tacitus.

The study of Tacitus as a stylist. A special study of Oratorical Composition and Analysis is made by a thorough study of the principles of Oratorical Composition as exemplified in Cicero's "Pro Lege Manilia," or "Pro Roscio Amerino" or "Pro Ligario". Prerequisite: Lt. 2. *Three credit hours.*

Latin 22. Cicero, Horace, Juvenal.

A comparative study of the Latin Satirists, Horace and Juvenal, and their influences on modern literature. A further study of the principles of Oratorical Composition is made by a thorough analysis of Cicero's "Pro Milone." Prerequisite: Lt. 21. *Three credit hours.*

Latin 61. Classical Influences Upon English Literature I.

The influences of Roman Drama upon the development of early English Drama. This course will concern itself with the reading, in Latin and English, of Plautus, Terence, and Seneca; it will also consider the early liturgical drama, the Miracle Plays, and Tudor and Elizabethan comedy and tragedy—excluding Shakespeare. (Not offered 1956-57). *Three credit hours.*

Latin 62. Classical Influences Upon English Literature II.

The influence of Classical Satirists upon English satire and epigram. This course will consist of readings, in Latin and English, of Juvenal, Persius and their contemporaries; it will then consider the works of the age of Erasmus and Thomas More, and of the age of Jonson, Milton, Dryden, and Pope. (Not offered 1956-57). *Three credit hours.*

Latin 63. Medieval Latin Lyrics I.

Reading and criticism of pagan and Christian poets from the second to the eighth century A.D. *Three credit hours.*

Latin 64. Medieval Latin Lyrics II.

Reading and criticism of secular and religious poetry from the eight to the thirteenth century A.D. *Three credit hours.*

DEPARTMENT OF EDUCATION

*Professor DUNIGAN; Associate Professor J. R. SULLIVAN;
Assistant Professor J. J. RYAN (Chairman).*

Education 1. The History of Education.

A knowledge and evaluation of the educational influences of the past for the cultural value of such study, and to see their relations to modern activity. *Three credit hours.*

Education 31. Secondary School Methods.

An investigation and evaluation of the current techniques used in the teaching-learning process at the secondary level. *Three credit hours.*

Education 32. History of Education in the United States.

A knowledge of the growth of American education. *Three credit hours.*

Education 51. Educational Psychology.

The relationship of psychology to the field of teaching and learning. *Three credit hours.*

Education 52. Principles of Guidance.

A survey of guidance practices. *Three credit hours.*

Education 61. Principles of Secondary Education.

Evolution of the modern high school in the changing social and economic life in America; enrollment; aims, objectives, and functions of secondary education in a democracy; relations to elementary education and higher education; the curriculum and methods of teaching. A background for other courses in education, particularly those relating to secondary education. (Not offered 1957-58). *Three credit hours.*

Education 64. Philosophy of Education.

A basic understanding of scholastic philosophy as applied to education in the light of present day problems. *Three credit hours.*

Education 70. Tests and Measurements.

An examination of the criteria for the selection, administration, and interpretation of the commonly used texts, along with the basic concepts in statistics for using test data. *Three credit hours.*

Education 71. Adolescent Psychology.

A study of adolescent behavior which embraces the physical, mental, social, emotional and moral growth. *Three credit hours.*

DEPARTMENT OF ENGLISH AND FINE ARTS

Professors BEAN, CONNORS, CUMMINGS, DRUMM, GALLAGHER, McCANN, MEARS, T. A. SHANAHAN; *Associate Professors* LAHEY, MIRLIANI; *Assistant Professors* E. F. CALLAHAN, DAILEY, EDMUNDS, GRACE (*Chairman*), MADDEN, SCANNELL; *Instructors* CURLEY, L. J. MCCARTHY, REARDON.

English 3.1. Prose and Poetry.

An introduction to the study of literature; its characteristics, qualities and relation to the other fine arts; the elements and divisions of literature; prose and poetry. This course develops with a specific study of poetry, its nature and province; distinctive features of poetry, poetic diction, emotional, imaginative and thought elements of poetry. Frequent practice in composition is required. *Three credit hours.*

English 3.2. Poetry.

This course is a continuation of English 3.1, treating of poetic forms; epic, lyric and dramatic poetry with critical appreciation and reading. Frequent practice in composition is had. *Three credit hours.*

English 22.1. Rhetoric.

The theory and practice of persuasive expression constitute the basic content of this course. It embraces the precepts and methods of exposition, of constructive argumentation, of refutation, of motivation. Through the study and analysis of prominent speeches, past and present, and through exercises in individual composition these precepts and methods are put into practice. *Three credit hours.*

English 22.2. Rhetoric.

This course is a continuation of English 22.1. It consists in a more detailed analytic and stylistic study of rhetorical masterpieces in English and American cultural history. It continues the practice of composition and of oral expression. *Three credit hours.*

English 38.1, 38.2. English Literature of the Seventeenth Century.

Donne and metaphysical poetry. The Cavalier and Caroline poets: Carew, Suckling, Lovelace, Herrick, Herbert, Vaughan, Crashaw, Traherne. Later poets: Waller, Marvell, Cowley. Selected prose of Bacon, Burton, Walton, Bunyan, Evelyn, Pepys. Milton's poetry and prose. Dryden.

Six credit hours.

English 39.1, 39.2. English Literature of the Eighteenth Century.

Poetry: Pope, Prior, Swift, Gay, Thomson, Shenstone, Young, Gray, Collins. Prose: Swift, Defoe, Addison, Steele, Gay. The novel: Richardson, Fielding, Smollett, Sterne. The Gothic Romance: Walpole, Mrs. Radcliffe. Poetry: Johnson, Goldsmith, Cowper, Chatterton, Crabbe, Blake, Burns. Prose: Johnson, Burke, Goldsmith, Sheridan, Boswell, Chesterfield, Walpole.

(Not offered 1957-58).

Six credit hours.

English 40. English Literature of the Nineteenth Century from the Lyrical Ballads to the Death of Scott, 1798-1832.

The general characteristics of the romantic movement. Wordsworth, Coleridge, Southey, Scott. The essayists: Lamb, Hazlitt, Hunt, Landor, DeQuincey, Byron, Shelly, Keats.

Three credit hours.

English 41.1, 41.2. A Survey of English Literature.

The Anglo-Saxon period; Chaucer; the Renaissance; the age of Milton; the Classical period; the Romantic period; the Victorian era.

Six credit hours.

English 42.1, 42.2. World Literature.

Ancient Classicism: Middle Ages; Song of Roland, Nibelungenlied, Tristan and Iseult, Divine Comedy. Renaissance in England and in Europe: Don Quixote: Dramatic and Lyric Poetry. Neo-Classicism: Moliere, Racine; Romanticism and the Modern World: Faust, Tolstoy, Ibsen and others. Study of the influence of Voltaire, Rousseau, etc. on modern literary trends. Reading, evaluation, class discussion of World Masterpieces and Authors, their importance and influence. (Not offered 1957-58).

Six credit hours.

English 61.1, 61.2. Victorian Literature (excepting the novel).

Tennyson, Browning, Elizabeth Barrett Browning, Arnold. The prose of Carlyle, Macaulay, Newman, Arnold, Ruskin, Pater. The Pre-Raphaelite Group: D. G. Rossetti, Christina Rossetti, Morris Swinburne. The poetry of Fitzgerald, Clough, Patmore, James Thomson, Francis Thompson.

(Not offered 1957-58).

Six credit hours.

English 62. The English Novel in the Eighteenth and Nineteenth Century.

A survey of the novel from Richardson and Fielding to the end of the nineteenth century. *Three credit hours.*

English 63. American Literature in the Nineteenth Century.

Emerson, Thoreau, Hawthorne, Melville, Mark Twain, Howells, Henry Adams, William James, and Stephen Crane are considered in this course. *Three credit hours.*

English 69. American Literature since 1900.

A survey of representative examples of American writing, chiefly prose, of the twentieth century. *Three credit hours.*

English 71. Chaucer.

Reading and critical discussion of the complete text of *The Canterbury Tales*. *Three credit hours.*

English 72. Introduction to Middle English.

An introduction to the language and literature of mediaeval England by a careful study of selected texts, with special attention to the Gawain-poet and Langland. *Three credit hours.*

English 73. English Literature of the Sixteenth Century I.

A study of the non-dramatic poetry and prose of the sixteenth century. *Three credit hours.*

English 74. English Literature of the Sixteenth Century II.

A continuation of English 73 with special emphasis on Spenser and Sidney. *Three credit hours.*

English 75.1, 75.2. Shakespeare.

A careful study of the principal plays with special emphasis on Shakespeare's development as a dramatist. Analysis and study of the outstanding characters and a consideration of the historical and theatrical background of the plays. Lectures, readings and written papers. *Six credit hours.*

English 76. Tudor and Stuart Drama.

A study of selected plays from the early Tudor period to the closing of the theatres in 1642. *Three credit hours.*

English 81.1. Creative Writing: The Short Story.

This course provides advanced training in the short story. *Three credit hours.*
(Not offered 1957-58).

English 81.2. Creative Writing: The One-Act Play.

This course provides advanced training in the one-act play with special attention given to problems of plotting characterization.

(Not offered 1957-58).

Three credit hours.

English 82. Effective Speaking.

This course aims to give self-confidence and poise to the student, by practice, after he has learned the theory of various forms of speech. It includes a study of voice production and control as well as platform presence and manner. Assignments are given on presentation of topics for group discussions and preparation of original addresses for special occasions in public. Classes are limited to twenty students.

Three credit hours.

English 83. Introduction to Criticism.

An introduction to the major critical texts with emphasis on the more recent English and American critics.

Three credit hours.

COURSES IN FINE ARTS

Fine Arts 1.1. Art Appreciation and History.

The art of Egypt, the Tigris-Euphrates Valley and Crete. Sculpture and architecture of Greece and Rome. Byzantine and Romanesque art. The Middle Ages. Monastic contributions. Gothic art and architecture.

Three credit hours.

Fine Arts 1.2. Art Appreciation and History.

Flemish painting. Dutch Masters. Italian early and high Renaissance. Baroque period. The Renaissance in France, England, Germany and Spain.

Three credit hours.

Fine Arts 2.1. Art Appreciation and History.

French painting from the Revolution to 1880. Nineteenth Century art and architecture in England, Germany and the United States.

Three credit hours.

Fine Arts 2.2. Art Appreciation and History.

Modern French art. The Refuses. Impressionism. The Fauvres. Modern schools and experiments. Modern American painting and architecture.

Three credit hours.

Fine Arts 3.1, 3.2. Appreciation of Music.

A general cultural course, in lecture form, tracing the development of music from early civilization to modern times, studied through history and analysis. This course is designed specifically to give the lay-musician and music-lover a cultural background with which to enjoy, understand and appreciate music in its many forms and phases.

Six credit hours.

Fine Arts 4.1, 4.2. Harmony.

An introduction to harmony; a study in the construction and uses of chords; elementary composition and a background for instrumentation and arranging; a cultural course to aid in the harmonic analysis of music.

Six credit hours.

Fine Arts 10.1. Studio Painting and Drawing Course.

An art workshop for individual creative expression with emphasis on the techniques of pictorial organization. Fundamental principles of perspective, light and shade, line, form and color, applied to drawing and painting projects from still-life, landscape, and imagination. Exploration of basic techniques including pencil, pen and ink, charcoal, pastel, water color, gouache, and oil.

Three credit hours.

Fine Arts 10.2. Studio Painting and Drawing Course.

Continues the development of creative expression and sound craftsmanship in the basic techniques. Drawing and painting projects from still-life and landscape with special emphasis on portrait and figure drawing. Stresses the design and compositional elements in pictorial organization.

Three credit hours.

Previous art training and experience are not a requirement for Fine Arts 10.1, 10.2. A genuine art interest and a desire to develop one's creative art abilities are the only requisites.

DEPARTMENT OF HISTORY AND POLITICAL SCIENCE

Professors G. A. HIGGINS (*Chairman*), GEARY, G. A. KING, LUCEY; *Associate Professors* GRATTAN, MCKENNA, MCNALLY, REIDY; *Assistant Professors* GLAVIN, KINSELLA.

Only the basic courses for majors in History and Political Science are listed below as required. Some of the upper division courses are also required, depending on the student's interest in the field of History and Political Science. Hence, all students majoring in History or Political Science must consult with the Chairman of the Department before the final selection of their electives and they must have his approval for the courses selected. The required courses for B.A. students electing to major in History or Political Science are somewhat different from those indicated below. These students should consult with the Chairman of the Department for their required courses.

HISTORY COURSES

History 2.1. European History from Christian Antiquity to 900.

Required of Freshmen majoring in Arts (non-pre-medical), Education, History and the Social Sciences. *Three credit hours.*

History 2.2. European History from 900 to 1648.

Required of Freshmen majoring in Arts (non-pre-medical), Education, History and the Social Sciences. *Three credit hours.*

History 3.1. A survey of Western Civilization from Christian Antiquity to 1648.

Required of students majoring in Arts (pre-medical), Business Administration, Biology, Chemistry, Mathematics and Physics. *Three credit hours.*

History 3.2. A survey of Western Civilization Since 1648.

Required of students majoring in Arts (pre-medical), Business Administration, Biology, Chemistry, Mathematics and Physics. *Three credit hours.*

History 4. Historical Methodology.

The science of history and its relation to the social sciences; method of historical research and criticism; historians and historical writings. Required of all students majoring in History. *Three credit hours.*

History 15. The History of the United States from the Colonial Period to 1865.

A study of the political, social, economic and cultural history of the United States from the colonial period to the end of the Civil War. Lectures, assigned readings, reports, term paper. Required of all students majoring in History. *Three credit hours.*

History 16. The United States Since the Civil War.

A study of the political, social, economic and cultural history of the United States since the Civil War. Lectures, assigned readings, reports, term paper. Required of all students majoring in History. *Three credit hours.*

History 17. The United States in the Twentieth Century.

Some of the salient political, social, economic and religious problems and trends of the United States are selected for investigation and appraisal. *Three credit hours.*

History 18. Economic History of the United States.

This course is offered by the Department of Economics as listed under Economics 22. *Three credit hours.*

History 22.1. The Political and Cultural History of Europe: 1648-1815.

Required of Sophomores majoring in Arts (non-pre-medical), Education, History and Social Sciences. *Three credit hours.*

History 22.2. The Political and Cultural History of Europe Since 1815.

Required of Sophomores majoring in Arts (non-pre-medical), Education, History and Social Sciences. *Three credit hours.*

History 51. Tudor England: 1485-1603.

A one semester upper division course. Weekly discussion on reading assignments. *Three credit hours.*

History 52. Stuart England: 1603-1715.

A one semester upper division course. Weekly discussion on reading assignments. *Three credit hours.*

History 62.1, 62.2. Europe in the Nineteenth Century.

Napoleonic Era; Congress of Vienna; Political and Social Revolutions; Unification of Germany and Italy; Russia; the British Empire; Social Theories. (Not offered 1957-58). *Six credit hours.*

History 65.1, 65.2. Europe since 1914.

The causes of World War I; the Versailles Treaty; the League of Nations; Russia and Bolshevism; Nazism; Fascism; the Far Eastern Situation; the Spanish War of 1936; World War II. (Not offered 1957-58). *Six credit hours.*

History 66.1, 66.2. Diplomatic History of the United States.

A study of the foreign relations and policies of the United States; the history of our relations with Europe, Latin America and Canada, and the Far East. Required of all students majoring in history. *Six credit hours.*

History 67.1, 67.2. History of Latin America.

A study of colonial and national histories of Latin American Republics. *Six credit hours.*

History 68.1, 68.2. History of Russia.

A study of the economic, social, religious, political and cultural history of the Russian people from the period of ancient Kiev to the present.

History 71.1, 71.2. The Far East in Modern Times.

A survey of the leading political, social and economic history and modern trends of the Far East: China, Japan, Philippine Islands, India, Pakistan, Burma, Indo-China, Malaya and Indonesia. The emphasis is on China and Japan. (Not offered 1957-58). *Six credit hours.*

History 72. Pro-Seminar in History.

Research with individual reports and class discussion on the subject of the senior thesis or any selected topic. Students enrolled in this course must receive approval of the Department. *Three credit hours.*

History 73. Reading Course in History and Government.

Reading of a selected list of documentary and authoritative works under direction with individual reports and discussion. Students enrolled in this course must receive approval of the Department. *Three credit hours.*

POLITICAL SCIENCE COURSES**Political Science 11.1, 11.2. An Introductory Course in Political Science.**

A study of the nature and functions of the State; types of government; development and essentials of representative government; constitutional government; problems of administration. Required for a major in political science. *Six credit hours.*

Political Science 12.1, 12.2. American Government.

An examination of the origin of the federal republic and the content of the Constitution of the United States; national, state and municipal government; modern problems. Required for a major in political science. *Six credit hours.*

Political Science 21.1, 21.2. History of Political Thought.

An examination of the political ideas and theories of the pre-Christian writers, the early Christian era, of the scholastics, moderns and contemporaries. *Six credit hours.*

Political Science 22.1, 22.2. Comparative Modern Governments.

A study and comparison of modern governments. (Not offered 1957-58). *Six credit hours.*

Political Science 23. American Political Parties.

The function of political parties and the history of political parties in the United States. *Three credit hours.*

Political Science 24. The U.S.S.R.

A study of Soviet Russia offered by the Department of Sociology in the course listed under *Sociology 70*. *Three credit hours.*

Political Science 31. Constitutional and Legal History of England.

Origin and development of the parliamentary system and the common law. *Three credit hours.*

Political Science 32.1, 32.2. Constitutional History of the United States.

An examination of the origin and content of the Constitution, of the nature of the federal republic and the presidential system, of the development of the Constitution and of current constitutional problems. Prerequisite: PS 12.1. *Six credit hours.*

Political Science 42.1, 42.2 International Relations.

A study of the basic factors in international relations; the multi-state system; power factors; geography, population, natural resources; economic development and system; political system; foreign policy; diplomacy; atomic problems; international organizations; the United Nations, achievements and problems; World Government. *Six credit hours.*

Political Science 43.1, 43.2. Diplomatic History of the United States.

A description of this course will be found under *History 66*.
(Not offered 1956-57). *Six credit hours.*

Political Science 44. Inter-American Problems.

The problems and progress of international relations of the United States and the other nations of the Western hemisphere in the twentieth century. Prerequisite: Hs 66 or 67. (Not offered 1957-58). *Three credit hours.*

Political Science 51. Public Administration.

A study of the theory, organization and problems of public administration. *Three credit hours.*

Political Science 52.1, 52.2. Government in Economic Life.

A study of the philosophical basis and salient problems of government-business relationship. This course is offered by the Department of Economics under Economics 80.1, 80.2. *Six credit hours.*

Political Science 61. Pro-Seminar in Political Science.

Research with individual reports and class discussion on the subject of the senior thesis or any selected topic. Students enrolled in this course must receive approval of the Department. *Three credit hours.*

DEPARTMENT OF MATHEMATICS

Professor NESTON; Associate Professors MCBRIEN, SWORDS, (Chairman); Assistant Professor HARTNETT; Instructors J. R. MCCARTHY, P. SHANAHAN.

The program in mathematics is based upon a belief that the best possible mathematical preparation for a student in any field is achieved by introducing him to those modern structural concepts which have in this century so brilliantly illuminated the basic unity of mathematics. This emphasis upon concepts as opposed to techniques invariably invokes the interest of the sincere student and quickly brings him to the frontier of mathematics.

Seminars and individual discussion are an integral part of the program which has as one of its basic aims the development of the spirit of inquiry in the student. The Department has a fine library containing a selection of classical and modern books, monographs and journals, which are available to the student.

Mathematics 2.1. Mathematics of Finance I.

A review of the essentials of algebra followed by a detailed treatment of interest. Required for a major in Business Administration.

Three credit hours.

Mathematics 2.2. Mathematics of Finance II.

A continuation of Mathematics 2.1, treating of bonds, annuities, depreciation and capitalization. Required for a major in Business Administration. Prerequisite: Math. 2.1. *Three credit hours.*

Mathematics 13.1. Principles of Modern Mathematics I.

Basic ideas of logic and set theory; functions, limits, differentiation and integration of algebraic functions. Emphasis on the logical structure of mathematics. This course forms the foundation for all succeeding courses. The development and treatment throughout is from the viewpoint of modern mathematics. *Three credit hours.*

Mathematics 13.2. Principles of Modern Mathematics II.

A continuation of Mathematics 13.2. Basic ideas of mathematical systems such as groups, rings and fields, with applications to the natural and social sciences; the construction of the algebraic functions from the polynomials; conic sections; and the calculus of the trigonometric functions. *Three credit hours.*

Mathematics 17. Introductory Analysis.

An elementary introduction to analysis for students majoring in Biology, Education, History, and the Social Sciences. Topics covered include functions and graphs, differentiation and integration of the simple functions. To be followed by Mathematics 18. *Three credit hours.*

Mathematics 18. Elementary Statistical Analysis.

Introduction to the use of a sample, frequency distributions, mean value and standard deviation, elementary probability, binomial distribution and the normal law. *Three credit hours.*

Mathematics 23.1. Principles of Modern Mathematics III.

A continuation of Mathematics 13.2. Further study of the algebra and calculus of selected transcendental functions and maps. The measure-theoretic consideration of integration and applications. The theorem of mean value and functions defined by series. Approximation of functions by polynomials and series. In this term more explicit consideration is given to those topological concepts required in analysis. The concepts introduced in the first year are systematically used in the development, particularly the notion of rings of functions. *Three credit hours.*

Mathematics 23.2. Principles of Modern Mathematics IV.

A continuation of Mathematics 23.1. The method and spirit of the first three terms are used in the consideration of topics from differential equations, partial derivatives, multiple integrals, and probability theory. These topics are treated as natural generalizations from the line to Euclidean n -space, the foundation of which has already been carefully laid in the preceding courses. *Three credit hours.*

Mathematics 41.1. Advanced Calculus I.

Line integrals, vector analysis with applications to Physics, Fourier series. Prerequisite: Math. 23.2. *Three credit hours.*

Mathematics 41.2. Advanced Calculus II.

Introduction to partial differential equations and functions of a complex variable. Special topics from analysis. Prerequisite: Math. 41.1. *Three credit hours.*

Mathematics 45.1. Introduction to Abstract Algebra I.

An introduction to modern algebra and the abstract method. The integers, rational numbers and fields, polynomial forms, complex numbers, basic theory of groups and n -dimensional vector spaces. *Three credit hours.*

Mathematics 45.2. Introduction to Abstract Algebra II.

A continuation of Mathematics 45.1. The algebra of matrices, linear groups, determinants, rings and ideals, algebraic number fields.

Three credit hours.

Mathematics 55.1. Introduction to Higher Geometry and Topology I.

Elementary Combinatorial Topology. Topological classification of surfaces. Continuous vector fields and mappings. Three-dimensional manifolds. Networks and complexes. Homotopy and Homology Groups. *Three credit hours.*

Mathematics 55.2. Introduction to Higher Geometry and Topology II.

A continuation of Mathematics 55.1. Synthetic and algebraic study of projective space of n dimensions. Homogeneous coordinates, collineations and correlations. Special emphasis on the role of the commutative ground field.

Three credit hours.

Mathematics 63.1. Theory of Probability I.

In this course the emphasis is placed on the mathematical foundations of probability. Applications to statistics and other fields are given throughout the development. Topics covered include sample spaces, some combinatorial analysis, the relation of probability to Boolean algebra and measure theory, the binomial and Poisson distributions, and the normal approximation.

Three credit hours.

Mathematics 63.2. Theory of Probability II.

A continuation of Mathematics 63.1. The central limit theorem, law of large numbers, random walk problems, and Markov chains. Special topics, not part of probability theory, are included in this term. These include some elementary calculus of finite differences and fundamental concepts in the theory of games.

Three credit hours.

Mathematics 65.1. Principles of Analysis and Topology I.

The topology of point sets, with emphasis on those topics needed in function theory. Properties of metric spaces. Homeomorphism and continuous mappings. Connected sets. (Not offered 1957-58).

Three credit hours.

Mathematics 65.2. Principles of Analysis and Topology II.

A continuation of Mathematics 65.1. Separation theorems. Simply and multiply-connected domains. Introduction to measure theory. (Not offered 1957-58).

Three credit hours.

Mathematics 75.1, 75.2. Special Topics I, II.

Special topics involving extensive reading in mathematical literature. The subject matter may vary to suit the requirements of the student. This course is intended for students who will have completed, with high honors, four complete upper division courses in mathematics. *Six credit hours.*

Mathematical Seminar.

The seminar, a circle of the Faculty and the advanced students, meets semi-monthly.

DEPARTMENT OF MODERN LANGUAGES

Professors BOURSRY, BOWEN, L. E. FITZGERALD, FLYNN, LEAVEY; *Associate Professors* MCNERNEY, NOBLE; *Assistant Professors* DESAUTELS (*Chairman*), P. L. RYAN; *Instructors* HORWATH, MARTI, RILEY; *Visiting Assistant Professor* ZEPHIR.

1. FRENCH

French 10.1, 10.2. Elementary French.

This course aims to equip the students with a succinct and useful knowledge of the essentials of French grammar, giving him the ability both to write, read and speak simple idiomatic French, with daily drill in phonetics. *Six credit hours.*

French 15.1, 15.2. Intermediate French.

A thorough review of French grammar is made through reading, composition, oral and aural practice. The required reading aims at an intensive study of selected Short Stories. Prerequisite: Fr. 10 or two years of French in an accredited high school or satisfactory grade in placement examination. *Six credit hours.*

French 24.1, 24.2. Advanced French I.

In this course advanced composition and conversation give the student the opportunity to apply and to perfect his grammatical knowledge. The reading matter forms a survey of French civilization from its origins across the Middle Ages and the Renaissance through the 17th century. The course is given in French. Prerequisite: Fr. 15 or three years of French in an accredited high school or satisfactory grade in placement examination. *Six credit hours.*

French 32.1, 32.2. Advanced French II.

During the first semester more emphasis is given to composition than to conversation while acquainting the student with the social, philosophical and literary ideas of the 18th century. The second semester's work places greater emphasis on conversation while examining the poetry, novels, drama and ideas of the 19th century. The course is given in French. Prerequisite: Fr. 24. *Six credit hours.*

French 61.1, 61.2. Phonetics and Diction.

The aim of this course is to perfect the student's powers of oral expression. Prerequisite: Fr. 32. *Six credit hours.*

French 62.1, 62.2. French Novel in the Nineteenth Century.

The lives and works of the principal novelists of this century are studied and evaluated in relation to their contribution to the social, intellectual and moral life of their country and the world. Prerequisite: Fr. 32. (Not offered 1957-58). *Six credit hours.*

French 63.1, 63.2. French Novel in the Twentieth Century.

The lives and works of the principal novelists of this century are studied

and evaluated in relation to their contribution to the social, intellectual and moral life of their country and the world. Prerequisite: Fr. 32. (Not offered 1957-58). *Six credit hours.*

French 64.1, 64.2. The Modern Catholic Revival.

In this course the student views the impact of Catholic thought and action upon French literature and society from 1802 to date. Prerequisite: Fr. 32. (Not offered 1957-58). *Six credit hours.*

French 65.1, 65.2. French Classicism.

The masterpieces of the French seventeenth century authors provide for this course a rich and varied subject matter of eminently formative value. Prerequisite: Fr. 32. *Six credit hours.*

II. GERMAN

German 10.1, 10.2. Elementary German.

First Semester. A thorough study of inflections and of essential elementary syntax; drill in easy German composition and the acquisition of a small fundamental vocabulary.

Second Semester. Rapid intensive review of inflections; thorough study of all fundamentals of syntax; practice in writing sentences and in oral composition to make clear the principles of inflection and construction, and familiarize the student with their use; thorough and rapid reading and translation of German texts with particular attention to recognition of the vocabulary. *Six credit hours.*

German 15.1, 15.2. Intermediate German.

First semester. Rapid and thorough review of all essentials of grammar; drill in German composition; special study of the more difficult points of syntax; thorough and rapid reading and translation of German texts with special attention to the grammar and constructions involved.

Second semester. Thorough and rapid reading and translation of German prose and poetry; translation from English into German; a study of the fundamentals of the formation, derivation, and composition of German words to the end of acquiring a sufficient vocabulary for sight reading and advanced study. Prerequisite: Gn. 10 or two years of German in an accredited high school or satisfactory grade in placement examination. *Six credit hours.*

German 15 S.1, 15 S.2. Intermediate Scientific German.

This course is especially designed to fulfill the requirements of a reading knowledge of German for medical and scientific schools.

Review of all essentials of inflections and syntax; reading and translation of German texts and analysis of the grammar and constructions involved; a fundamental study of the formation derivation, and composition

of German words with particular attention to the meaning of root words and to the meaning and influence of prefixes and suffixes.

A special study of syntactical points peculiar to scientific writings; reading of original German scientific texts. Prerequisite: Gn. 10 or two years of German in an accredited high school or satisfactory grade in placement examination. (Not offered 1957-58). *Six credit hours.*

German 24.1, 24.2. Advanced German Reading.

Reading and study of both prose and poetry of the various literary movements; outside reading assignments; special attention is given to developing a large reading vocabulary and rapid and easy reading of more difficult German. The course is largely conducted in German. Prerequisite: Gn. 15 or three years of German in an accredited high school or satisfactory grade in placement examination. *Six credit hours.*

German 32.1, 32.2. Composition and Conversation.

Conducted entirely in German, this course is completely practical and presupposes a collateral knowledge of German grammar and vocabulary. The continuous writing of compositions in German is important and constitutes the preparatory part of the course, while the class periods fulfill in part the auditory and oral drill requirements. The ability of the student to understand, speak and write German reasonably well will be tested both orally and in writing by the members of the German Department at the termination of each semester. Prerequisite: Gn. 24. *Six credit hours.*

German 61. Advanced Grammar and Language.

A thorough introduction to general linguistics. Beginning with phonology, the course presents a systematic and scientific study of German morphology with historical and comparative references; a lexical study through an analysis of the value and use of prefixes and suffixes, through derivation, formation and compounding of words and the resulting semantic variations; a comparative etymological study with special reference to English through the consonantal and vowel shifts, etc. Prerequisite: Gn. 24. *Three credit hours.*

German 62. German Literary History.

This is a background course and presents a general connected survey of the developments of German culture and literature from its beginnings to today. For its earlier periods particularly, it is accompanied by selective illustrative readings in modern German translations. Prerequisite: Gn. 24. (Not offered 1957-58). *Three credit hours.*

III. SPANISH

Spanish 10.1, 10.2. Elementary Spanish.

Exercises in the rudiments of grammar and pronunciation, writing of simple English sentences into Spanish, drill in dictation of words and sentences, memory of common expressions of conversation, translation of selections from classical authors into idiomatic English. *Six credit hours.*

Spanish 15.1, 15.2. Intermediate Spanish.

Review of the grammar, writing of English prose into Spanish, dictation of prose and poetry, practice in original composition in Spanish; literary criticisms of the authors read. Prerequisite: Sp. 10 or two years of Spanish in an accredited high school or satisfactory grade in placement examination.

Six credit hours.

Spanish 24.1, 24.2. Advanced Spanish I.

The purpose of this course is to acquire a solid knowledge of idiomatic Spanish by the reading and imitation of Spanish authors. Precis writing is emphasized. Spanish is the language of the class. Prerequisite: Sp. 15 or three years of Spanish in an accredited high school or satisfactory grade in placement examination.

Six credit hours.

Spanish 61.1, 61.2. Spanish Novel of the Nineteenth Century.

Prerequisite: Sp. 24.2. (Not offered 1957-58).

Six credit hours.

Spanish 62.1, 62.2. Composition and Conversation.

Prerequisite: Sp. 24.2. (Not offered 1957-58).

Six credit hours.

Spanish 63.1, 63.2. Survey of Spanish Literature.

A general survey of Spanish Literature with attention to the literary characteristics of the several periods. The course embraces lectures, a critical study of representative texts in Spanish, and reports on collateral readings. This course is conducted entirely in Spanish. Prerequisite: Sp. 24.2 (Not offered 1957-58).

Six credit hours.

LANGUAGE LABORATORY

In addition to their regular class work, students of Modern Languages on the elementary, intermediate and advanced levels are expected to spend one hour a week in the language laboratory.

DEPARTMENT OF NAVAL SCIENCE

Professor CAPTAIN WILL (*Chairman*); *Associate Professor* LIEUTENANT COMMANDER BRACKEN; *Instructors* LIEUTENANT COMMANDER REILLY, MAJOR KELLY, LIEUTENANT NEWKIRK, LIEUTENANT (J.G.) PRATER.

The mission of the Naval Reserve Officers' Training Corps is to provide, by a permanent system of training and instruction in essential naval subjects at civil educational institutions, a source from which qualified officers may be obtained for the Navy and the Marine Corps, and the Naval Reserve and the Marine Corps Reserve.

The College of the Holy Cross is one of fifty-three Colleges and Universities in the country which have Naval ROTC Units. ACCEPTANCE FOR ADMISSION TO THE COLLEGE OF THE HOLY CROSS IS A PREREQUISITE TO ENROLLMENT IN THE NROTC UNIT AT THE COLLEGE.

Students enrolled in the Naval ROTC Program are of two types. They are either REGULAR NROTC students or CONTRACT NROTC students.

THE REGULAR NROTC STUDENT

Regular NROTC Students are enrolled after a competitive procedure of selection from among young men in civilian life and enlisted men of the Navy and Marine Corps.

The selection of these students is controlled by the Chief of Naval Personnel. Details of the selective procedure and application forms may be obtained from Navy Recruiting Stations, Offices of Naval Officer Procurement in all Naval Districts, NROTC Units, and Secondary Schools. The limiting date for submitting applications for REGULAR NROTC status is approximately the middle of November each year. The applications should be submitted to the Naval Examining Section of the Educational Testing Service, Princeton, New Jersey. The nation-wide competitive examination is usually held on the second Saturday in December. Both dates are specifically announced each year.

The Regular NROTC Student is appointed a Midshipman, U.S. Naval Reserve, and is given the equivalent of a Navy scholarship which includes tuition, laboratory fees, books, uniforms, and a retainer pay of fifty dollars per month which may be used to defray living expenses.

In return, the Regular NROTC Student must agree to certain provisions, one of which is to accept, upon his graduation, a commission as an officer in the Regular Navy and to serve on active duty for four years, after which he may choose between a career in the Regular Navy or release to inactive duty. In the event of the latter, he must remain a member of a reserve component of the U.S. Naval Service until the sixth anniversary of his original commission. A limited number may apply for Marine Corps commissions during their second year in the Naval ROTC program.

The Regular NROTC Student takes the four year Naval Science course in place of required or elective subjects, and participates in three summer training cruises prior to commissioning. At Holy Cross he may enroll in any course leading to a baccalaureate degree that is not specifically excluded by the current NROTC regulations. Information on excluded courses is contained in the current issue of the NROTC Bulletin of Information obtainable at any Office of Naval Officer Procurement, NROTC Unit, or student counseling activity.

At the present time, the Regular NROTC Student is deferred from induction for service under the Selective Service Regulations.

Those students who are interested in competing for selection as Regular NROTC Students for enrollment in college in September, 1959 are advised to obtain the necessary application forms from high school principals, Offices of Naval Officer Procurement, Navy Recruiting Stations, or NROTC Units, when the forms become available during the month of October *preceding* the date of entrance in College.

The competitive examination for selection of Regular NROTC Students for admission to college in September, 1959 will be held in December, 1958.

THE CONTRACT NROTC STUDENT

For those college students who desire neither financial assistance from the Navy nor a Naval career but who do wish to be available to serve their country in time of emergency as Reserve Officers of the Navy or Marine Corps, the Navy offers the Contract Student status. Contract Students are not selected for enrollment in the NROTC by the competitive procedure explained above; instead they are selected by the Professor of Naval Science from among those students already in attendance at, or selected for admission by the College. Contract Students are civilians who enter into a mutual contract with the Department of the Navy, in which they obligate themselves to take certain Naval Science courses and drills and one summer training cruise. In return the Navy provides the required uniforms, gives them a small allowance during their junior and senior years, and offers a reserve commission on graduation if qualified. Active duty of reserve officers commissioned from the Contract NROTC program is contingent upon the needs of the service at time of graduation. Contract Students must meet the same standards of enrollment, including the same physical qualifications, as Regular Students, except that the lower age limit is sixteen years. There is no restriction on the course of study which a Contract Student may pursue; nor is he required to take college physics while in the program, although physics is highly desirable if scheduling permits. The course of study must lead to a baccalaureate or higher degree and the Contract Student will be required to take, in addition to the requirements of his major, 24 semester hours of Naval Science. He is also required to satisfactorily complete mathematics through trigonometry by the end of his sophomore year. However, if mathematics through trigonometry has been completed in secondary school, and if not required by the college for the course (major) he will study, mathematics is not required of the Contract Student under the program. Since all Contract NROTC graduates are currently being ordered to active duty for two years, students who plan to enroll in courses requiring post-graduate work are advised not to enroll in the Contract Program. Contract Students desiring to transfer to the status of Regular students must qualify through the annual competitive examination and selection procedure.

At the present time, the Contract NROTC Student is deferred from induction for service under the Selective Service Act of 1948, as amended, and the Universal Military Training and Service Act of 1951. However, he must agree to accept, upon his graduation, a Naval Reserve commission as an officer in the inactive Naval Reserve, for six years, during which time he will be subject to call to active duty by the Secretary of the Navy, and if called, must serve on active duty for a period of not less than two years. The present policy is to call all Contract Students to active duty immediately upon graduation and commissioning.

At approximately July 15th each year, an informational letter inviting application for enrollment as a Contract Student in the NROTC Program will be mailed by the NROTC office of the College to each incoming Freshman accepted by the College for the next academic year. During Registration Week, NROTC applicants will be interviewed, examined physically, screened and selected for enrollment as Contract Students to the limit of the quota assigned. Initially, enrollment as a Contract Student is conditional and final acceptance into the NROTC program depends on review and approval of his records by the Bureau of Naval Personnel and Bureau

of Medicine and Surgery. Information on final acceptance should not be expected until late in the first semester of the academic year. In the event initial acceptance is reversed, continuation as a Naval Science student is usually permitted.

THE NAVAL SCIENCE STUDENT

Disqualified NROTC applicants may take the Naval Science course for the purpose of acquiring advanced standing to be used when applying for NROTC enrollment at a later date in the event of removal of the disqualification. Also, the Naval Science course may be taken by those students who have no interest in NROTC enrollment, but who wish the instruction. Students in either of the above categories are known as Naval Science Students.

Naval Science Students receive college credit for satisfactory completion of the Naval Science course, but have no official status in the NROTC Program, and receive none of the advantages of the Regular and Contract NROTC Students other than the training and background gained. This training would prove to be beneficial should the graduated Naval Science Student apply for a commission through sources normally available to college graduates other than the NROTC Program.

The Naval Science Student is *not* deferred from induction for service under the Selective Service Regulations.

QUALIFICATIONS FOR ENROLLMENT IN THE NROTC GENERAL

Each candidate for enrollment in the NROTC must meet the following requirements:

- (a) Be an unmarried male citizen of the United States, never have been married, and agree to remain unmarried until commissioned.
- (b) Have attained the seventeenth anniversary of his birth on or before July first of the year of enrollment and be of such age that he will not have passed the twenty-fifth anniversary of his birth on July first of the year he will be commissioned (i. e., not over 21 on July first of the year of initial enrollment at the beginning freshman level). The lower age limit for Contract NROTC enrollment is sixteen years, provided there is sufficient maturity.
- (c) Be morally qualified and possess officer-like qualifications and character as evidenced by appearance, scholarship, extra-curricular activities, and record in his home community.
- (d) Be at least a high school graduate or person of equivalent educational level if selected competitively; or, be enrolled in good standing and attending an NROTC institution if selected by the Professor of Naval Science.
- (e) Have been legally admitted as a citizen of the United States if a citizen of an insular possession of the United States.
- (f) Be willing to execute current Loyalty Certificates prior to his appointment or enrollment.

COURSE DESIGNATIONS

NS 101	Evolution of Sea Power	3 credits
NS 102	Naval Orientation	3 credits
NS 201	Naval Weapons	3 credits
NS 202	Naval Weapons	3 credits
NS 301	Naval Engineering	3 credits
NS 302	Navigation	3 credits
NS 401	Naval Operations	3 credits
NS 402	Naval Administration	3 credits

Candidates for commissions in the Marine Corps will be required to complete NS 101, 102, 201 and 202. In place of NS 301, 302, 401 and 402 they will take courses in Marine Corps subjects as follows:

NS 301M	Evolution of the Art of War	3 credits
NS 302M	Evolution of the Art of War and Modern Basic Strategy and Tactics	3 credits
NS 401M	Amphibious Warfare, Part I	3 credits
NS 402M	Amphibious Warfare, Part II, Leadership and Uniform Code of Military Justice	3 credits

DEPARTMENT OF PHILOSOPHY

Professors DOWLING, GILLIS, HARAN, HUTCHINSON, KEATING, MORAN, SARJEANT, J. J. SHEA; *Associate Professors* DROHAN, HARRINGTON, KELLEHER, MACDONALD; *Assistant Professors* F. F. CALLAHAN, J. D. CROWLEY, DONNELLY (*Chairman*).

Philosophy 41. Logic

Introduction to philosophy; great names and great systems; definition and division of philosophy.

Study of the idea; definition, extension, and comprehension; division—the universal idea, predicable and predicaments. Terms: mental and oral — division — analogy and supposition.

The study of the judgment: definition — propositions, their nature and division — extension and comprehension of the predicate — quantity and quality of propositions — opposition, conversion and equivalence of propositions.

The study of reasoning: the syllogism, various kinds and their laws — figures and modes; other forms of argumentation; demonstration and its division; deduction and induction, complete and incomplete.

Three credit hours.

Philosophy 42. Epistemology.

Study of truth, and of the mind in relation to truth; ignorance, doubt, opinion, certitude; means of arriving at certitude; senses, intelligence, reason, intellectual analysis; motives and criteria of truth; objective evidence.

Three credit hours.

Philosophy 43. General Metaphysics.

Realistic approach to being. Starting point: the sensory-intellectual "given". The problem of change: potency and act, substance and accident, matter and form. Essence and existence. The analogy of being. The attributes of being. Contingent and necessary being. The first cause and supreme being.

Three credit hours.

Philosophy 44. Cosmology.

Subject matter, bodily things. Physical essences; atoms, elements, substantial changes and essential differences. Mechanical atomism, dynamism, and hylomorphism as accounts of the ultimate constitution of matter. Quantity, and the meaning of 'continua'. Efficient and final causality in the activities of bodily things. Laws of nature; miracles. Cosmogony, and the monistic explanations, both pantheistic and naturalistic. Cosmogony by creative act.

Three credit hours.

Philosophy 51. Natural Theology.

The Existence of God: various philosophic attitudes; our knowledge of this truth; cosmological and teleological arguments; Ontologism, Tradition-alism, and Pragmatism in regard to this truth.

The Essence of God: the idea of the Infinite; unity of God; physical and metaphysical essence; Modern Pantheists; Anthropomorphism.

The Divine Attributes; immortality, eternity and immensity of God; simplicity and infinity of God; the Divine Intellect and Knowledge; Fore-knowl-edge of God; Fore-knowledge of free actions; the Divine Will; Omni-potence of God.

Activity of God with Creatures: preservation of creatures; concurrence; Providence; its relation to evil.

Supplementary Questions: Schopenhauer's 'World Will'; Hartmann's 'Unconscious'; Alexander, on Space-Time.

Two credit hours.

Philosophy 52. Fundamental Psychology.

Life in General: properties of living and non-living bodies; immanency of actions; Scholastic concept of life.

Plant Life: sensitive life; unity and divisibility of the animal soul; instinct and intelligence; theories on the origin of the instinct.

Origin of Life: the scholastic theory on the origin of the first living bodies; spontaneous generation; origin of plant and animal species.

Two credit hours.

Philosophy 53. Advanced Empirical and Rational Psychology.

A study of sensitive life, including the nature of sensation and its prop-erties; the doctrine of the species, the external and internal senses, hallucina-tions and dreams; the perception of the material world and the refutation of the skeptical theories of Descartes, Locke, Berkley, Hume, Mill, Bain; the sensuous appetite. A study of intellectual life, including the origin of ideas, judgment and reasoning, attention and reflection, memory, the rational ap-petite — the will, its nature and freedom.

A study of the human soul, its substantiality, individuality, simplicity and spirituality; refutation of false theories on the nature of the human soul; origin and destiny of the human soul; anthropological evolution.

Four credit hours.

Philosophy 55. General Ethics.

Definitions, nature, object, necessity of Ethics; the ultimate end of man; beatitude; the human act; merit and accountability; the passions; virtue and

vice; morality of human acts; the norm of morality; Utilitarianism and Hedonism: Bentham, Mill and Spencer; the eternal law and the natural law; properties and sanction of the natural law; nature and origin of moral obligations; Kant's categorical imperative; Conscience. *Four credit hours.*

Philosophy 56. Special Ethics.

Man's duty to his Creator; Rationalism; Indifferentism.

Man's duty to himself; man's duty to preserve himself; suicide.

Man's duty to his neighbor; direct and indirect killing; killing done in self-defense; lying, mental reservation.

Right of ownership: Communism and Socialism; theories of Henry George; Herbert Spencer on the right of property; modes of acquiring property; rights of disposing property by will; contracts; relations of capital and labor; trade unions; strikes.

Social Ethics: Society in general: nature and end of domestic society; unity and indissolubility of matrimony; divorce; parental authority; education of the child.

Civil Society: nature, end and origin; false theories on the origin of civil society; Hobbes and Rousseau; the Scholastic doctrine; forms of civil government; citizenship; universal suffrage; the functions of civil government—legislative, judiciary, executive; taxation; death penalty; freedom of worship; freedom of the press; state education.

International Law: various meanings of *Jus Gentium*; foundation of international law; mutual relations of nations; right of commerce; rights of neutrals; nature and justice of war; arbitration. *Four credit hours.*

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DEPARTMENT OF PHYSICS

Professors SMITH (Chairman), CONNOLLY, McDONALD; Associate Professors MACDONNELL, RADLE; Instructor PEPIN.

PHYSICS

Physics 1. Mechanics, Heat and Sound.

An introduction to Mechanics, Heat and Sound. Three lectures and one (three-hour) laboratory period. *Four credit hours.*

Physics 2. Electricity and Light.

An introduction to Electricity and Light. Continuation of Physics 1. Three lectures and one (three-hour) laboratory period. *Four credit hours.*

Physics 21. Geometrical and Physical Optics.

Fundamental concepts in geometrical optics. Laws of image formation. Optical systems. Aberrations in optical systems. Photometry. Optical in-

struments. Interference, diffraction and polarization of light. The eye and color vision. Radiation. Interferometry. Three lectures and one (three-hour) laboratory period. Prerequisite Ph. 1, 2. *Four credit hours.*

Physics 32. Engineering Drawing.

Isometric and oblique projections. Simple perspective projections. The construction of conics and rolled curves. Dimensioned freehand sketches from machine parts and detail drawings from the sketches. Two (two-hour) laboratory periods. *Two credit hours.*

Physics 33. Descriptive Geometry.

A study of the fundamental operations of orthographic projection. Lines, planes, solids, sections, developments tangent lines and planes, and intersections of surfaces of revolution. Two (two-hour) laboratory periods. *Two credit hours.*

Physics 41.1, 41.2. General Physics.

A survey of the fundamental laws of Mechanics, Sound, Light, Heat and Electricity. The principles are illustrated by their application to the automobile, aeroplane, meteorology, seismology, astronomy, radio and television. The course is concluded by an introduction to Modern Physics. Elective for non-science majors. Two lecture hours and one (two-hour) laboratory period. *Six credit hours.*

Physics 43.1. Electricity.

Electrostatics, magnetostatics, theory of dielectrics, the electric circuit, the magnetic circuit, inductance, capacity, alternating current, electric oscillations, instruments and measurements. Three lectures and one (three-hour) laboratory period. Prerequisite: Math. 23.2 and Ph. 2. *Four credit hours.*

Physics 43.2. Alternating Current Circuits.

Sinusoidal single-phase and polyphase circuit analysis. Non-sinusoidal waves. Determination of circuit parameters. Transmission line calculations. Filters. Transient conditions. Three lectures. Prerequisite: Ph. 43.1. *Three credit hours.*

Physics 44. Strength of Materials.

Physical properties of materials. Analysis of stress and strain. Uniform stress and uniformly varying stress. Stresses in beams. Deflection of beams. Statically indeterminate problems in bending. Stresses due to direct and bending loads. Combined bending and twist. Energy and strain. Three lectures. *Three credit hours.*

Physics 45. Heat and Thermodynamics.

Temperature and thermometry. Laws of thermodynamics. Equations of state for gases. Specific heats. The transfer of heat by conduction and convection. Thermodynamic relations and their use. Power cycles. The principle of the increase of entropy. Three lectures and one (three-hour) laboratory period. Prerequisite: Ph. 2.

*Four credit hours.***Physics 52. Introduction to Nuclear Physics.**

Constitution of the nucleus. Natural radioactivity. Artificial nuclear disintegration. Alpha, Beta and Gamma decay. Nuclear reactions. Nuclear structure. Nuclear fission. Nuclear energy. Sources of nuclear energy. Isotope separation. Three lectures and one (three-hour) laboratory period.

Prerequisite: Math. 23.2 and Ph. 43.1.

*Four credit hours.***Physics 53. Electromagnetic Theory.**

Electrostatic and magnetostatic fields. Solutions of Laplace's Equation. Maxwell's Field Equations. Reflection and refraction of electromagnetic waves. Radiation. Microwave theory. Antennas and wave guides. Three lectures. Prerequisite: Ph. 43.1.

*Three credit hours.***Physics 54. Electronics.**

A study of the characteristics and applications of vacuum and gas-filled thermionic and photoelectric tubes, cold cathode tubes, cathode-ray tubes, barrier layer photocells, and other electronic devices. Three lectures and one (three-hour) laboratory period. Prerequisite: Ph. 43.2.

*Four credit hours.***Physics 60. Theoretical Mechanics.**

Linear oscillators. Motion in two and three dimensions. Lagrange's and Hamilton's equations. Motion of rigid bodies. Elastic vibrations. Flow of fluids. Three lectures. Prerequisite: Math. 23.2.

*Three credit hours.***Physics 70.1 Introduction to Atomic Physics I.**

Atoms as components of matter. Magnetic, Optical and Electrical properties of atoms. Photons and X-Ray spectra. Three lectures and one (three-hour) laboratory period. Prerequisite: Math. 23.2 and Ph. 43.1.

*Four credit hours.***Physics 70.2 Introduction to Atomic Physics II.**

Special theory of relativity. Wave mechanics. Schroedinger equation. Electron Spin and multiplet spectra. Exclusion principle. Quantum Statistical mechanics. Three lectures. Prerequisite: Physics 70.1.

Three credit hours.

Physics 75. Introduction to Astronomy.

By means of lectures and illustration, coupled with some observation and laboratory work, the student is given a view of the universe in which we live. The course is developed by tracing the investigations which lead to the presently known picture of the world. Elective for non-science majors. Two lectures and one laboratory period. *Three credit hours.*

Physics 76. Introduction to Geology.

Origin and age of the earth. Weather and climate. Terrestrial magnetism. Processes of erosion. Glaciers and glaciation. Isostasy. Volcanism. Minerals. Rock structure. Earthquakes. Geologic history. Elective for non-science majors. Two lectures and one laboratory period. *Three credit hours.*

Physics Seminar.

The Physics Seminar, a circle of the faculty and the more advanced students majoring in physics, meets semi-monthly.

DEPARTMENT OF RELIGION

Professors HARAN, (*Chairman*), CASEY, DOODY, HARKINS, O'CONNOR, R. M. SHLLIVAN; *Associate Professors* DELANEY, HUGAL, McGRADY, J. R. SULLIVAN, WALSH; *Assistant Professors* DONNELLY, J. A. KING; *Instructor* BARRY.

Religion 10. The Life of Christ.

The divine progressive revelation in the Old Testament concentrates on the prophecies concerning a Redemption to be accomplished and a Kingdom to be established by the Messiah, Prophet, King and Priest.

The origin, literary type and historical value of the Gospels. The political, social and religious background, and the Messianic expectations in Palestine at the time of Christ's birth and ministry. The early ministry.

Two credit hours.

Religion 11. The Person, Mission and Church of Christ.

Christ's self-revelation as divine legate, authentic religious teacher for the whole world, Messiah and Son of God. The nature and probative value of His miracles. The origin and juridical structure of His Kingdom, the Church, in the Gospels; its functioning in the Acts of the Apostles. The position and prerogatives of Peter in the Church of Christ. The perpetuity and indefectibility of the Church of Christ.

Two credit hours.

Religion 20. Christ in His Members. (Part I).

The Mystical Body of Christ in the New Testament and in Christian history. The sacramental system. Baptism, Confirmation, the Eucharist, Sacrament and Sacrifice.

Two credit hours.

Religion 21. Christ in His Members. (Part II).

Sin and Repentance. The sacraments of penance, extreme unction, holy orders and matrimony. *Two credit hours.*

Religion 30. Christology and Soteriology.

Jesus Christ, God and Man; Priest and Redeemer. The Redemption. Mary, the Mother of the Word Incarnate. Her prerogatives. *Two credit hours.*

Religion 31. Fall of Man and Justification.

The background, setting, meaning and consequences of original sin. The nature, necessity, gratuity and effects of grace, both actual and habitual. *Two credit hours.*

Religion 40. Christian Churches in America.

The division of Churches. The Ecumenical movement. A comparative study of the Catholic and Protestant doctrinal positions on the Blessed Trinity, Divinity of Christ, nature and functioning of the Church of Christ, faith, justification, sacraments, sacrifice, public worship, death, judgement, heaven, hell and purgatory. *Two credit hours.*

Religion 41. Social Action in the Church.

The meaning of religious freedom and freedom of conscience. Church-State relations. The theory and practice of social action in the Mystical Body of Christ. The liturgy. *Two credit hours.*

DEPARTMENT OF SOCIOLOGY

Professor FACEY (Chairman); Instructors FALLON, GLASS.

Sociology 31.1, 31.2. Introductory Sociology.

The introduction to sociological analysis of social formations, processes, functions and control; culture and social change. *Six credit hours.*

Sociology 60. Cultural Anthropology.

The study of man against a background of human biological potentiality, natural habitat and culture; the diversity of culture; research techniques employed and theoretical framework. *Three credit hours.*

Sociology 61. Contemporary Sociological Theories.

A descriptive and critical study of the development of sociological theory from Comte to the present. *Three credit hours.*

Sociology 62. Social Stratification.

An integrated and comprehensible analysis of class structure in non-industrialized and industrialized societies from a structural-functional framework of reference; current evidence, research techniques, and future development of the field. *Three credit hours.*

Sociology 64. Industrial Sociology.

The relationship between large-scale industrial organizations and the individuals who work within them; the inception of labor unions, their emergence from and relations to industry; the interrelations of industry, union, and community as social systems. *Three credit hours.*

Sociology 65. American Minorities.

A description and analysis of minority-majority relations as part of the social structure of a society; theories of prejudice, inter-group relations, and current trends. *Three credit hours.*

Sociology 66. Marriage and the Family.

The essential functions of the family in relation to historical development; process analysis of stages of family growth in relation to factors contributing to marital success. *Three credit hours.*

Sociology 70. The U.S.S.R.

Structural-functional analysis of political, economic and related social systems of the Soviet Union; ideological and international significance of major developments. *Three credit hours.*

Sociology 73.1, 73.2. Social Psychology.

I. A study of the interrelations of the individual, group and culture; the rise and functions of the social self and personality against a background of the historical development of the field in terms of motivational and learning theory.

II. The description and analysis of abnormal patterns of behavior in its individual and collective aspects in addition to public opinion, mass communication, mass media, propaganda, and current research procedures. *Six credit hours.*

Sociology 75. Social Research.

The design and the major techniques of research applied in group projects. *Three credit hours.*
(Not offered 1957-58).

GRADUATE DEPARTMENT OF CHEMISTRY

Professors FIEKERS (Chairman), BARIL, VAN HOOK; Associate Professor TANSEY.

The College conducts courses in Chemistry for Graduate Students leading to the Master of Science degree. Registration for these courses is open only to students who hold Bachelor's degrees from approved colleges and technical schools. Candidates for admission should file applications with the Chairman of the Chemistry Department before the fifteenth of March each year. In support of application each candidate should forward a transcript of his undergraduate record and two letters of recommendation should be supplied by former chemistry professors of the applicant. A supplemental completed transcript, with record of degree received, should be sent after graduation in the case of successful applicants. Information as to fellowships available in the graduate department should be requested of the Chairman for Chemistry.

REQUIREMENTS FOR DEGREE

To become candidates for the Master of Science Degree students must fulfill the following conditions:

1. Attend and complete, with work of high quality, graduate courses amounting to not less than thirty semester credits of which at least ten must be obtained in laboratory courses.
2. Present an experimental thesis in their major field which shall include the results of original research and evidence of high scholarship.
3. Pass a one-hour oral, public examination conducted by the Chairman and Staff of the Department with at least one other member of the College Faculty to be appointed by the Dean.

Recommendation for the degree does not, however, follow automatically upon the completion of courses and examinations, but only on the affirmative judgment of the Department in each individual case.

ADMISSION TO GRADUATE WORK

Applicants for graduate work should present a minimum of eight undergraduate credits in each of the following subjects: the differential and integral calculus (eight credits total), physics, inorganic chemistry, organic chemistry, analytic chemistry, and physical chemistry. Laboratory work should be included in all of these courses except the calculus. Other laboratory courses in chemistry are desirable. Accordingly applicants who do not present the following undergraduate courses may be required to take them in whole or in part, along with, or antecedent to, their regular graduate work. Cases will be judged individually from the record of undergraduate work.

Chemistry 51.3 Physical Chemistry III (see page 57)

Chemistry 52.1 Advanced Organic Chemistry I (see page 58)

When these courses or their equivalents are offered, only one year of residence will be the normal requirement for the acquisition of the Master of Science degree.

GRADUATE COURSES

Chemistry 201. Advanced Inorganic Chemistry.

The lectures in this course comprise a study of the structure of inorganic compounds and the interrelations of elements and compounds according to the periodic chart. Valence studies are stressed and the ideas of Werner, Pauling, Price and current workers in the field are emphasized. The laboratory part of the course starts off with inorganic preparations and progresses into instrumental, analytic and advanced methods, such as liquid ammonia syntheses and the like. Industrial analysis is touched upon. Required of all graduate students. Two lectures and two triple-hours of laboratory per week for one semester.

Five credit hours.

Chemistry 203. Advanced Organic Chemistry.

The syllabus for this course will vary from year to year according to current trends in organic research and the special background that may be required to comprehend modern advances. Topics used in the past have included: advanced topics in stereochemistry, cyclization of organic compounds and organic heterocyclic chemistry, the chemistry of organic nitrogen compounds, the Diels-Alder Diene synthesis and the chemistry of carbohydrates, fats, oils and other natural products. Similarly the laboratory course, apart from the acquisition of organic chemical preparative techniques that are not generally realized in the undergraduate courses, is generally geared to current organic research in the department. Thus at times micro analysis for elements occurs. Required of all graduate students. Two lectures and two triple-hours of laboratory per week for one semester.

Five credit hours.

Chemistry 207. Chemical Thermodynamics.

This course develops the principles of chemical thermodynamics and includes applications. The fundamentals of statistical mechanics are also taught. Laboratory work comprises experiments in advanced physical chemistry with emphasis on thermochemistry. Required of all graduate students. Three lectures and two double hours of laboratory per week for one semester.

Five credit hours.

Chemistry 208. Reaction Rates.

A study of the kinetics of reactions in both homogeneous and heterogeneous systems, paralleled with experimental applications. Required of all graduate students. Three lectures and two double-hours of laboratory per week for one semester.

Five credit hours.

Chemistry 209. History of Chemistry I.

The historical development of fundamental chemical concepts up to and

including the nineteenth century. Assigned readings. Required of all graduate students. One lecture per week for one semester. *One credit hour.*

Chemistry 210. History of Chemistry II.

A study of contemporary developments and contemporary chemists. Assigned readings. Required of all graduate students. One lecture per week for one semester. *One credit hour.*

Chemistry 212. Department Seminar.

One hour per week. *One credit for each semester.* Total credit not to exceed two credit hours.

RESEARCH FOR MASTER'S DEGREE

Chemistry 213. Research for Master's Degree.

Research of a fundamental nature is offered in organic and physical chemistry. Opportunity for the direction of undergraduate research in problems related to current graduate research is also afforded. Six hours per week for two semesters. *Six credit hours.*

Chemistry 214. The Literature of Chemistry.

This is an informal course, with no record or credit, which is adapted to the needs of the individual student or group. The course is introduced with a brief lecture, a conducted tour of the Library in the Department of Chemistry, assigned reviews of handbooks like Reid, Soule, Mellon and the patent policy handbooks of various companies. Literature searches are then assigned preferably in fields outside of the student's concentration. Eventually the student's library work in connection with his own research is carefully supervised.

FELLOWSHIPS

In 1926, the College of the Holy Cross established six graduate fellowships in Chemistry. At present each fellowship carries free board, room and tuition or its pecuniary equivalent. Fellows are required to spend from four to twelve hours per week in undergraduate laboratory instruction. These fellowships are offered to graduates of colleges or technical schools, who are properly qualified to undertake graduate work in chemistry. Applications must be filed with the Chairman for Chemistry by the fifteenth of March each year.

DEGREES CONFERRED

June 12, 1957

HONORARY DEGREES

DOCTOR OF LAWS

Russell Joseph McVinney
George Aloysius Rosso

DOCTOR OF SCIENCE

Patrick Francis Butler
Joseph Anthony DeMambro

DOCTOR OF COMMERCIAL SCIENCE

John Stephen Burke
Francis Charles Reith

DEGREES IN COURSE

MASTER OF SCIENCE

George Etienne Cartier	Kevin Paul Murphy
John Dabney Hardy	John Joseph Patti
	Raymond Alfred Rousseau

BACHELOR OF ARTS HONORS MAGNA CUM LAUDE

Albert Joseph LaValley	Charles Michael Murphy, Jr.
	Anthony Joseph Podlecki

BACHELOR OF ARTS HONORS CUM LAUDE

Frank Stanton Ablett	Morton Hubbard Libbey
Wayne Francis Benton	Joseph Alan MacKay
John Joseph Callahan	Martin Francis McKneally
John Edward Donelan	Edwin George Montgomery, Jr.
John Anthony Doon	Francis Joseph Murphy, Jr.
Norbert Xavier Dowd, Jr.	John Richard O'Connor
John Joseph Guerin	Stanley Thomas Pardo
Victor Salvador Gutierrez	Raymond James Porter
Franklin Malcombe Hundley	Eugene Joseph Schwartz
Richard Lawrence Keefe	Arthur Raymond Sergi, Jr.
Karl George Koehler	Arthur Joseph Starr

BACHELOR OF ARTS HONORS

Charles Peter Adams
 John Walter Burbine, Jr.
 Walter Bernard Clayton
 Robert Donald Costello
 John Patrick Crowley
 James Michael Doherty, Jr.

Andrew Christian Fazzone
 George Paul Fitzgibbons
 Malcolm James Magovern, Jr.
 Norton Xavier O'Meara
 Anthony Richard Stringer
 Daniel Joseph Sullivan

BACHELOR OF ARTS MAGNA CUM LAUDE

Howard Francis Carpenter, Jr. Alan John Edly

BACHELOR OF ARTS CUM LAUDE

James Joseph Callahan, Jr.
 Robert Thomas Craig
 John Edward FitzGerald
 Christopher Augustine Fox

Frederick John Frensilli
 Nicholas Edward Gwozdz, Jr.
 John Joseph Kennedy
 John Edward Kilfeather

BACHELOR OF ARTS

John Broderick Anderson
 Thomas Frederick Baker
 Donald Philip Ballentine
 Michael James Barron
 Edward Dunne Barry
 Thomas Joseph Bonomo
 Harold Francis Braudis
 Theodore Alexander Buder
 Vincent Joseph Burdulis
 Michael Anthony Burke
 Peter Lawrence Burnham
 Brian Patrick Burns
 Paul Joseph Carty
 Joseph Vincent Casale
 Glenn Richard Cella
 Robert George Clark
 Ronald Noel Cobert
 Andrew Daniel Cretella
 Thomas Henry Cunningham
 Barry Neil Curran
 Richard Joseph Curran
 Guido Dominic D'Alessandro
 William Edward Deignan
 John Joseph Donovan
 John Joseph Downs
 John Jacob Dunkle
 Albert Anthony Dupont
 John Bernard Foley
 John Joseph Geoghan, Jr.

Thomas Daues Gleason
 William John Gleeson
 Thomas Francis Good
 Charles Frederick Graney
 James Joseph Haggerty
 Joseph Timothy Hannigan
 Daniel George Hassett
 Donald Richard Hayes
 Edward Michael Jewusiak
 Richard Paul Keating
 John Edward Kelley, Jr.
 Lawrence Peter Kelliher
 Charles Warren Kickham
 Richard John Klimek
 William Patrick Kurtz
 John Brophy LaFontaine
 Edward Francis Lanoue
 John Thomas Leary
 Neil Bernard Madden
 Frederick Joseph Mahony, Jr.
 Robert Livingston Mainzer
 Robert John Malley
 Edwin John Manning
 Paul Richard Maroni
 William Francis Martin
 Peter Leo John Matthews
 George Martin McCormick
 John Francis McElligott
 Robert Philip McElynn

DEGREES CONFERRED

93

Joseph Patrick McGovern	William Joseph O'Shea
Charles Bernard McGroddy, III	James Vincent Pardy
William Joseph McHugh	John Alfred Rich
Robert Eugene McLaughlin	Francis William Rosenberger
Timothy Erwin McNamara, Jr.	Kevin Mahon Salisbury
Joseph Thomas Monahan	Philip Thomas Sheerin
Anthony Joseph Monteleone	Arthur William Singleton
Edward Joseph Moran	Gilbert John Sinnott
Joseph William Mullen, Jr.	Francis Joseph Smith
Raymond Anthony Nothnagle	Edward Fernandes Soares
Frank Bernard Nuss, Jr.	Charles Achilles Starace
Lawrence Joseph Oberlies	John Francis St. Cyr
Laurence Gerard O'Donnell	John Leo Steele, Jr.
James Edward O'Driscoll	Reinhard Jerome Sternemann
John Kevin O'Keefe	John Francis Sullivan
Daniel Joseph O'Leary, Jr.	Robert David Tyrrell
Joseph Stephen O'Malley	John Patrick Wallace
Edwin Joseph Wheeler	

BACHELOR OF SCIENCE SUMMA CUM LAUDE

Bruce Edwin Zawacki

BACHELOR OF SCIENCE MAGNA CUM LAUDE

Peter Joseph McGinn	Thomas John Quinn
William Alexander Van Hook	

BACHELOR OF SCIENCE CUM LAUDE

John Edward Alberghini	John William Patrick Mooney
John Paul Andrade	John Martin Moran
Paul Albert Bornstein	Patrick Edward Moriarty
Francis Keats Boyd, Jr.	Thomas Edmund O'Brien
Martin Gaston Dallenbach	Edward Francis Paquette
William Michael Dante	Richard Allen Pawsat
Michael Jerome Ferro, Jr.	Ole Anthony Peloso
Robert Thornton Gilman	Frederick Michael Riekert, Jr.
James Bernard Glavin	Lorenzo Arcese Rotondi
Donald Anthony King	John Emil Schlapkohl
Paul Michael Kleihege	Hans Gunther Schmid
William Francis Lynn	Cullen Richard Schwemer
James Edward McDonald	William Joseph Smith, Jr.
Victor Joseph Melfa	Leonard John Szumiloski
Richard Charles Wamsley	

BACHELOR OF SCIENCE

John William Anelli	Joseph James Baldes
Richard Joseph Arcand	James Robert Barry
Louis Joseph Bachand	John Paul Barry

John Charles Bianchi, Jr.
 Paul Joseph Birkmeyer
 William Peter Blottman
 Thomas Vincent Bohlen
 Richard Francis Boulger
 Michael Henry Bowler
 Robert Theodore Brackett
 John Lawrence Brady
 Lawrence Gregory Brandon
 Eugene Robert Brennan, Jr.
 John Joseph Brennan
 Richard Ashton Brobst
 Thomas Kirby Brosnihan
 William George Brown
 Robert Vincent Browne
 Robert Walter Bruce
 Adrian Paul Burke
 Richard Francis Burke
 Vincent Brown Burns
 John Peter Busher
 Luis Francisco Camacho, Jr.
 Paul Joseph Carmody
 Richard John Cassidy
 Robert Eustace Cassidy
 Everett Felix Cataldo
 James Patrick Cavanagh
 James Terrance Cavanaugh
 Gerard Francis Cerchio
 Bernard Edward Cleary
 Richard Vincent Cleary
 Paul Francis Coakley
 Edward Charles Collier
 Brian Joseph Collins
 George Robert Cooksey
 Gerald William Cosgrove
 William Lawrence Cosgrove, Jr.
 Paul Norman Costa
 Paul Frederick Cotter
 Robert Francis Cox
 David Montgomery Crawford
 Leo Francis Cronin
 Leonard George Cusick
 Robert Stanley Czop
 Robert Michael Daly
 Ernest Paul D'Angelo, Jr.
 Richard Murray Dauphinais
 John Joseph Deeney, Jr.
 Mark Anthony Delaney
 Thomas Joseph Delia
 Victor Joseph DePratti
 Montague William DeWolfe
 Charles Peter Dinolfo
 Michael Thomas Donohue
 Francis Joseph Donovan
 Ronald Philip Donovan

John Edward Dowd
 Edward Thomas Dowling
 Thomas Sullivan Duane
 Peter John Dwyer
 Raymond Richard Dwyer
 Robert Kevin Eagan
 Paul Francis Egan
 William Anthony Elliott
 William Joseph Ellis
 William Henry Fahey
 Joseph Anthony Faraldo
 Charles Franklin Farrell
 Frank William Favazza
 John Mason Felleman
 Eugene Elmer Fischer
 Donald Paul Fitzgerald
 Robert Patrick Fitzgerald
 John Philip Flaherty, Jr.
 Robert Lawrence Flynn
 John Thomas Fogarty
 Henry John Foley
 Albert Francis Fraier, Jr.
 Morgan Michael France
 Francis Bernard Garvey
 Raymond Geary Graham
 William Francis Grant, Jr.
 Arthur John Graziano
 Leonard Francis Gribbons
 Raymond John Guerard
 John Gerald Guyet
 George Albert Haas, Jr.
 Thomas Hastie Hall, Jr.
 James Gorman Hanley
 Gerald Francis Harper
 George Francis Eaton Harrison
 Richard Joseph Harte
 Charles Leon Hays, Jr.
 William Stephen Hearley
 James Allen Higgins
 Alan David Hogan
 John Francis Hogan
 Dale Joseph Hohl
 Norman Albert Houle
 John Farrell Hynes
 Robert Dennis Joyce
 George Keator
 John Joseph Keeley
 Leonard Francis Kelley
 Richard Daniel Kellick
 David Franklin Kellum
 Hugh Joseph Kelly
 John Bernard Kelly
 Harry Joseph Kenworthy, Jr.
 John George Ketterer, Jr.
 Warren Allyn Kingman, Jr.

Robert Walter Kopp
 Paul Stanley Kuklinski
 Hubert Edgar LaCroix
 Edward Louis Ladin
 Pasquale Peter LaPosta
 Frederick Abraham Laubscher, Jr.
 George William LeBlanc, Jr.
 Ronald James Levinson
 Frank Timothy Londregan
 Richard Michael Long
 William Francis Lucey, Jr.
 Richard Francis Lutz
 Harvey Joseph Lynch
 James Peter Lynch
 Paul William Lynch
 William Clifton Lynch
 William Thomas Lynch
 Michael Edward Magnier
 Francis Joseph Mahoney
 Thomas Burke Mahoney
 Louis John Manley
 Gerard Joseph Mannix
 Gordon Richard Massa
 Robert Crandall McAdam
 Donald George McCarthy
 John Lawrence McClusky
 William John McClusky
 Paul Joseph McCormick
 Robert Barry McDermott
 William James McGuinness
 Douglas Sexton McIntosh
 John Francis McManus
 Richard Joseph McNally
 William Joseph McNamara
 Edward Conroy McNulty
 William James McSweeney
 Norman Richard Minor
 Gaetano Francis Molinari
 Joseph Francis Moraglio
 James Francis Moriarty
 Carroll John Moynihan
 Joseph James Murphy
 Robert James Murphy
 William Rice Murray
 Michael Eugene Nardone, Jr.
 Francis William Nealon
 John Derschug Nelligan
 Charles Theodore Nephew
 Francis Edward O'Connell
 Michael Joseph O'Connell
 Francis Edward O'Hearn
 Paul Garrett O'Leary, Jr.
 Thomas Joseph O'Malley
 Austin Martin O'Toole
 Alfred Louis Padula, Jr.
 Richard Edward Pasternak
 Robert Anthony Pauly
 Donald Stephen Pavlick
 Joseph Rosario Perroni
 Richard Francis Phelan
 James Joseph Quinn
 Robert Edward Rainone
 Charles Richard Ratto
 Thomas Matthew Reardon
 Paul Stephen Reilly
 Robert Raymond Reynolds
 Paul Rocco Ricciuti
 Robert John Ridick
 Eugene Joseph Riel, Jr.
 Thomas William Roberts
 Henry Joseph Robidoux, Jr.
 Robert Martin Robinson, Jr.
 Charles John Robrecht
 Martin Rodriguez-Ema
 Philip Denis Ryan
 David Ambrose Santos, Jr.
 John Joseph Schell
 Robert Abraham Scher
 Richard Eugene Seagrave
 Gregory Robert Sheridan
 Willard James Skehan
 William John Smithers
 Paul Valentine Southard
 Donald Joseph Spaeth
 Maurice Joseph Splaine, Jr.
 Thomas Lawrence Staffier
 Robert Paul Stellato
 Francis Theodore Strzepek
 William Lawrence Sullivan
 John Leyden Suter
 James John Torpy
 Ernest Oliver Tourigny
 Donald Walsh Traina
 John Milton Trainor
 Daniel Joseph Triggs, Jr.
 Ronald Francis Tutrone
 John Stanley Vogt
 George James Waddleton
 John Joseph Wade
 John Edward Warner
 James Otis Welch
 Edward William Whalen
 Paul Francis Whouley
 William Curtis Williston
 John Richard Wise
 Warren Eddy Wright
 Gregory Soh-yu Yeh
 John Peter Yurkinas

COMMISSIONED AS ENSIGNS IN THE
UNITED STATES NAVY

Charles Peter Adams
Joseph James Baldes
Michael James Barron
Paul Albert Bornstein
Richard Ashton Brobst
Richard Francis Burke
Glenn Richard Cella
Robert George Clark, III
Richard Vincent Cleary
William Michael Dante
Robert Kevin Egan
William Joseph Ellis
George Paul Fitzgibbons
Morgan Michael France
John Gerald Guyet
James Gorman Hanley
Charles Leon Hays, Jr.
Franklin Malcombe Hundley

Lawrence Peter Kelliher
Robert Walter Kopp
Paul Stanley Kuklinski
William Patrick Kurtz
Pasquale Peter LaPosta
William Francis Lucey, Jr.
Joseph Thomas Monahan
Anthony Joseph Monteleone
John Kevin O'Keefe
Eugene Joseph Riel, Jr.
Robert Martin Robinson, Jr.
Philip Denis Ryan
John Joseph Schell
John Emil Schlapkohl
Cullen Richard Schwemer
Maurice Joseph Splaine, Jr.
Paul Francis Whouley
John Richard Wise

COMMISSIONED AS SECOND LIEUTENANTS IN THE
UNITED STATES MARINE CORPS

Joseph Vincent Casale
Paul Francis Coakley
John Joseph Deeney, Jr.
Montague William DeWolfe, Jr.
Paul Francis Egan
Leonard Francis Gribbons
Donald Richard Hayes
Norman Albert Houle

Richard Michael Long
John Francis McManus
Joseph James Murphy
William Rice Murray
Austin Martin O'Toole
Anthony Richard Stringer
William Lawrence Sullivan
John Stanley Vogt

George James Waddleton

COMMISSIONED AS SECOND LIEUTENANTS IN THE
UNITED STATES AIR FORCE RESERVE

John William Anelli
William George Brown
Mark Anthony Delaney
Francis Bernard Garvey
Charles Frederick Graney
James Allen Higgins

John Farrell Hynes
Richard Daniel Kellick
Neil Bernard Madden
Frederick Joseph Mahony, Jr.
Gilbert John Sinnott, III
John Leyden Suter

STUDENT SPEAKER

Valedictory Address Edwin G. Montgomery, Jr.

DEGREES CONFERRED SEPTEMBER 12, 1957

BACHELOR OF ARTS

Angelo Anthony Meoli

BACHELOR OF SCIENCE

Peter Andrew Connelly

Edward James Kelly

AWARDS

June 1957

THE BELLARMINI HISTORY MEDAL

The Bellarmine Gold Medal, the gift of Mr. and Mrs. Edward J. McGratty, Sr., in memory of Patrick H. and Elizabeth L. McGratty, for the best historical essay on Colonial America, was awarded to Alfred Louis Padula, Jr., of the graduating class for his essay entitled: "Virginia Under the Stuarts, 1607-1688."

THE BOURGEOIS AWARD

The Bourgeois French Prize, the income on \$1,000, established in 1947 by Albert L. Bourgeois, Esq., '22, in memory of his late father, Pierre Bourgeois, and of his mother, Fabiola Bourgeois, to be awarded annually for the best essay on a subject relating to the French or their descendants in the United States, was awarded to Paul Andrew Cantalupo of the class of 1958 for his essay entitled: "The Origins of the Jacobins."

THE NELLIE M. BRANSFIELD PRIZES

The Nellie M. Bransfield Award, founded in 1946, by the will of the late Nellie M. Bransfield, income on \$2,000, to be awarded annually as prizes for excellence in elocution among the undergraduates, was awarded as follows: first prize to John Wyville Sheehy, Jr. of the class of 1958; second prize to Edward Thomas Mitchell of the class of 1959.

THE FRANK D. COMERFORD PRIZE

The Frank D. Comerford Silver Medal, founded in 1942 by the management and employees of the Boston Edison Company, to be awarded annually at Commencement Exercises to a student of the graduating class for excellence in public speaking, was awarded to Charles Michael Murphy, Jr.

THE CROMPTON SCIENTIFIC MEDAL

The Crompton Gold Medal, founded in August, 1875, by George Crompton, Esq., for the best Scientific Essay submitted during the school year was awarded to Ole Anthony Peloso of the graduating class for his essay entitled: "North American Pit Viper Venom Portends an Asset to Medicine."

THE PATRICK F. CROWLEY MEMORIAL PRIZE

The Patrick F. Crowley Purse, the income on \$1,000, founded in July, 1947 by Bridget T. Crowley, in memory of her brother, Patrick F. Crowley, to be awarded annually for proficiency in debating and oratory, was awarded to Edwin George Montgomery, Jr., of the graduating class.

THE DE VALERA HISTORY PURSE

The DeValera Purse (income on \$1,000.00), the gift of Daniel H. Coakley, for the best essay on a subject taken from Irish history, was awarded to Brian Patrick Burns of the graduating class for his essay entitled: "William T. Cosgrave and His Times, 1922-1932."

THE FLAHERTY PRIZE IN HISTORY

The Flaherty Gold Medal, founded in May, 1903, by Patrick W. Flaherty, Esq., to be awarded annually for the best essay on a subject selected by the Faculty, was awarded to William John Williams of the class of 1958 for his essay entitled: "Alexander Hamilton and His Times."

THE FLATLEY PHILOSOPHY PRIZE

The Flatley Gold Medal, founded in 1890 by the late Reverend Michael F. Flatley of the Class of 1865, to be awarded annually to the student attaining the highest average in the philosophy courses of senior year, was awarded to Anthony Joseph Podlecki.

THE REVEREND WILLIAM F. HARTIGAN MEDAL

The Reverend William F. Hartigan Medal, founded in May, 1932, by Josephine C. Hartigan in memory of her brother, the Reverend William F. Hartigan, to be awarded annually to a student of the graduating class submitting the best essay on a subject in Religion, was awarded to John Francis Sullivan for his essay entitled: "The Censorship of Galileo and His Books."

THE KAVANAGH AWARD

The Kavanagh Medal, established in 1952 by the late Right Reverend Michael P. Kavanagh of the class of 1893, to be awarded annually to the student writing the best original essay on some phase of Catholic Art or Christian Archaeology, was awarded to John Francis Sullivan of the graduating class for his essay entitled: "Five Famous Nativity Paintings."

THE KILLEEN PRIZE IN CHEMISTRY

The Edward V. Killeen, Jr. Chemistry Purse, for general excellence throughout the Bachelor of Arts premedical course in chemistry, was awarded to Howard Francis Carpenter, Jr. of the graduating class.

THE KRANICH PRIZE

The Kranich Gold Charm, the gift of the Kranich Brothers, Incorporated, of Worcester, Massachusetts, to be awarded annually to the student contributing the best essay to The Purple, was awarded to Albert Joseph LaValley of the graduating class for his essay entitled: "A Study of Contemporary American Dramatists", published in the January, April and May issues.

THE JOHN C. LAWLOR MEMORIAL PRIZE

The John C. Lawlor Gold Medal, the gift of the Class of 1911, to perpetuate the memory of Dr. John C. Lawlor of the Class of 1911, to be awarded annually to a letterman of the graduating class adjudged the outstanding student and athlete during the college course, was awarded to Robert Michael Daly.

THE LEONARD PURSE

The Leonard Award, founded in 1951 by the will of the late Reverend John F. Leonard, to be awarded annually for proficiency in oratory, debating or like competition, was awarded to Thomas Verne Giles of the class of 1959.

THE MARKHAM MEMORIAL PRIZE

The Markham Memorial Prize consisting of a Gold Medal and a Purse of one hundred dollars, established in 1947 by the Most Reverend Thomas F. Markham, D. D., of the Class of 1913, in memory of his parents, James and Honora Hickey Markham, to be awarded annually to a student of the graduating class, designated by the Dean as having the highest rank of academic proficiency in the philosophy course of Natural Theology, was awarded to Anthony Joseph Podlecki.

McMAHON HISTORY PURSE

The McMahon Purses, three in all, founded in 1927 by the late Right Reverend Monsignor John W. McMahon of the class of 1867, to be awarded annually for the best essays on the History of the Catholic Church in New England, were awarded as follows: the first prize to Austin Martin O'Toole of the graduating class for his essay entitled: "The Life and Labors of the Most Reverend Matthew M. Harkins, D.D., Bishop of the Diocese of Providence, 1887-1921." The second and third prizes were not awarded.

THE NUGENT PHYSICS MEDAL

The Nugent Gold Medal, founded in June, 1894, by the Reverend Edward Evans Seagrave to perpetuate the memory of his ward, John T. Nugent, who died at the College in 1893, awarded annually for general excellence throughout the course in Physics, was awarded to Victor Joseph Melfa of the graduating class.

THE O'CONNOR DEBATING PRIZE

The Joseph J. O'Connor Purse, income on \$1,000, the gift of the late Joseph J. O'Connor of the Class of 1909, was awarded to the Senior Debating Team: Joseph Alan MacKay and Stanley Thomas Pardo.

THE MRS. KATE C. POWER MEDAL

The Mrs. Kate C. Power Medal, founded in 1942 by the will of the late Mrs. Kate C. Power, to be awarded to the highest ranking student in the College of the Holy Cross in the Bachelor of Arts (with Honors) Course in the Sophomore year, was awarded to Kerry Henry Allen of the class of 1959.

THE PURPLE PRIZE

The Purple Purse, the gift of the College, to be awarded annually to the student contributing the best poem to The Purple, was awarded to Joseph F. Boufford of the class of 1959 for his poem, "The Somehow Thing", published in the December issue.

THE REVEREND JOHN F. REDICAN PRIZE

The Reverend John F. Redican Medal, donated by a friend in memory of The Reverend John F. Redican, '78, awarded annually to the Junior (Honors Course) with highest rank in Philosophy, was awarded to Michael Jerome Kevin O'Loughlin of the class of 1958.

THE REILLY MEMORIAL PRIZE

The James H. Reilly Memorial Purse, the income on \$600, founded by Joseph J. Reilly of the Class of 1904 and immediate relatives, to be awarded annually to the student contributing the best short story to *The Purple*, was awarded to Daniel Joseph Sullivan of the graduating class for his story "Mr. Ryder and the Princess of the Nile", published in the November issue.

THE STRAIN PHILOSOPHY PRIZE

The Strain Gold Medal founded in June, 1877, to be awarded annually for the best essay on a subject selected from the field of philosophy, was awarded to Joseph Howard Maguire, Jr. of the class of 1958 for his essay entitled: "The Emphasis on Existence in the Philosophy of St. Thomas as Recognized by G. K. Chesterton."

THE LIEUTENANT WILLIAM PETER SULLIVAN, JR., MEDAL

The Lieutenant William Peter Sullivan, Jr. Medal, the gift of Mrs. William P. Sullivan, Jr., in memory of her late husband Lieutenant William Peter Sullivan, Jr., U. S. Naval Reserve, of the Class of 1939, to be awarded annually to the member of the varsity track team who, by vote of his fellow team members, is adjudged to have merited this award, was awarded to Harvey Joseph Lynch of the graduating class.

THE JOHN E. WICKHAM MEMORIAL PRIZE

The John E. Wickham Gold Medal, founded in 1939 by Mrs. Nicholas Wickham of Lee, Massachusetts, in memory of her son, The Reverend John E. Wickham of the Class of 1899, to be awarded annually to the highest ranking student of the graduating class, was awarded to Bruce Edwin Zawacki.

SCHOLARSHIPS

GENERAL INFORMATION

A limited number of scholarships are awarded annually to incoming and enrolled students from the income on founded scholarships. At times and to the amount that the College's financial position permits, this income from founded scholarships is supplemented by grants from College funds. A few scholarships, restricted by the donors to definite categories of applicants, offer awards to the amount of full tuition and partial or total expenses for board and room at the College. All other scholarships only grant full or partial tuition. As the College has up to the present no Loan Fund, loans from the College for the payment of expenses are not granted.

Incoming Freshmen may apply to the office of the Dean of Admissions for a scholarship application form, along with their request for an application form for admission. Applications for scholarships by incoming freshmen should be filed with the office of the Dean of Admissions not later than March 15.

Students already enrolled should obtain a scholarship application form from the Office of Student Personnel. This scholarship application form should be filed with the Office of Student Personnel not later than July 1. Transfer students are not eligible for scholarship assistance until they have completed one year of study at Holy Cross College.

Awards to incoming freshmen will give recognition to those candidates who have manifested exceptional proficiency in their academic and extra-curricular achievements at the secondary school level and who without financial assistance would be unable to meet the expenses of a college education. The factors of promise of leadership, moral character and personality will also be considered. Scholarship applicants are required to take the full battery of the College Board Examinations as described on page 36. Candidates must arrange to have the test scores forwarded to the office of the Dean of Admissions.

Students already enrolled must attain a "B" average in all subjects to qualify for a scholarship. Financial need, participation in extra-curricular activities, fidelity and loyalty to the traditions and ideals of Holy Cross are other factors that also will be considered.

All scholarships are granted on a year-to-year basis but will be renewed if the student continues to meet the requirements of the award. Application for the renewal of the scholarship for the succeeding year must be made not later than August 1. Freshmen should file their renewal application in writing with the office of the Director of Student Personnel. Upper-classmen should file it in writing with the Secretary to the President.

The following types of scholarships will be found amongst those listed on the following pages:—

General Scholarships. These are open to all incoming freshmen and enrolled students. The amount of the award is the income on the gift of the donor.

Restricted Scholarships. These by the intention of the donor are restricted to definite categories of applicants who often must be from a definite locality, parish or high school. An applicant, who wishes to apply for a restricted scholarship, should make certain that he is eligible for this scholarship.

Competitive Scholarships. Some scholarships by the intention of the donor are awarded on the basis of a competitive examination. The competitive examinations required by the College for eligible scholarship candidates are the College Board Examinations described on page 36. Only incoming freshmen are eligible for competitive scholarships.

Holy Cross College Scholarships. These are a limited number of tuition or other partial awards that are made from the College funds, at the times and to the total amount that the financial position of the College permits.

LIST OF SCHOLARSHIPS

The Governor Ames Scholarship. Income on \$1,000. Established in 1887 by Governor Oliver Ames.

The Eugene A. Bickford Scholarship. Income on \$5,000. Founded in October, 1932, from the estate of Mrs. Mary A. Magenis of Brookline, Mass., in memory of her brother, the late Eugene A. Bickford, '96. The annual income on the \$5,000 to provide for the education of a deserving student under such conditions and regulations as imposed by the Faculty of the College.

The Rev. Charles E. Burke Scholarship. Income on \$3,000. Established in 1895. Appointment to be made from residents of St. Francis Parish, North Adams, Mass.

The James M. Burke Scholarship. Income on \$11,662.69. Established April 1, 1950 from the Estate of William H. Burke. The beneficiary is to be selected by the Trustees of the College.

The Robert J. Cairns Memorial Fund. Established September 24, 1953 by bequest from the estate of Alfred F. Finneran. Income on \$5,000. for scholarship aid to worthy students.

The Thomas Callaghan Scholarship. Income on \$2,000. Founded in 1914 by the late Thomas Callaghan of Leicester, Mass., limited to residents of Worcester County, "preference to be given to those preparing for the priesthood."

The Honorable James Bernard Carroll Scholarship. Income on 500 shares of Western Massachusetts Companies. Founded in 1939 by Mrs.

James Bernard Carroll as a memorial of her husband, the late Justice James Bernard Carroll of the class of 1878. Restricted to graduates of St. Michael's Cathedral High School, Springfield, Massachusetts. Selection to be made by the Very Reverend Rector of Holy Cross College and the Reverend Rector of St. Michael's Cathedral, Springfield, on candidate's character, scholarship and extracurricular achievements.

The Connecticut Valley Alumni Scholarship. Income on \$1,725. Established in 1912 by the Alumni of Connecticut Valley.

The Maurice Connor Memorial Scholarship. Income on \$16,000. Established in 1929 by Mr. John T. Connor in memory of his brother, Maurice. The intention of the donor is to provide, for one boy, board, room, tuition and fee charges, as far as the income will provide them. The single beneficiary is to be chosen by the Pastor of St. Mary's Church, Westfield, Mass.

The Monsignor George S. L. Connor Scholarship. Income on \$26,625. Established October 18, 1955 by gift of Monsignor George S. L. Connor, '07. Selection to be made by the President of the College who shall give first preference to a worthy applicant who is a member of Holy Name parish in Springfield, Massachusetts. If no such eligible candidate applies, then such a candidate who graduates from Cathedral High School shall be considered; if none such, then any applicant from the Springfield High Schools. Candidates must pass scholarship test as set up and be of good personality with evidence of leadership qualities.

The Thomas Costello and Anna Costello Scholarship. Income on \$10,000. Established December 9, 1947, by bequest of Susan A. Costello in memory of her parents, and by a bequest of \$5,000. from the estate of Fanny Goodwin Hobbs. Income to be used to aid a student who lacks sufficient financial means for his education and who has expressed the intention of entering the priesthood.

The Crowley Family Memorial Scholarship I. Income on \$12,000. Established July 2, 1947, by bequest of Miss Bridget T. Crowley of Springfield, Mass. Beneficiary to be selected by competitive examination and is open to students of the Parochial and Public High Schools of Springfield, Mass., who are morally, mentally and physically worthy and competent and who show promise of ability, but who have such limited financial means that, if not aided by a scholarship, would be unable to attend college.

The Crowley Family Memorial Scholarship II. Income on \$12,000. Established in 1947 by bequest of Miss Bridget T. Crowley of Springfield, Mass. Conditions same as the Crowley Family Memorial Scholarship I.

The Crowley Family Memorial Scholarship III. Income on \$12,000. Established in 1947 by bequest of Miss Bridget T. Crowley of Springfield, Mass. Conditions same as the Crowley Family Memorial Scholarship I.

The Right Rev. Monsignor Daniel F. Curtin Scholarship. Income on \$10,000. Established in 1921 by the Rt. Rev. Monsignor Daniel F. Curtin, Glens Falls, N. Y., to be appointed by the pastor of St. Mary's Church, Glens Falls, N. Y.

The Daniel T. Devine Scholarship. Income on \$15,000. Established in October 1945 from the estate of Mary F. Devine in memory of her

brother, Rev. Daniel T. Devine. To be awarded as a result of competitive examination to the member of the graduating class of St. Mary's Parochial School, Milford, Mass., who has attended said high school for four years and who has been a member of St. Mary's Parish throughout his high school course.

The James F. Donnelly, '99 Scholarship. Income on \$15,000. Established May 11, 1956 by gift from the Sylvan Oestreicher Foundation.

The Eastern Connecticut Holy Cross Club Scholarship. Initial contribution of \$250. received February 2, 1955. Principal to be used for a deserving student from that area.

The Theodore T. and Mary G. Ellis Scholarship Fund. Founded in 1941 by the estate and through the generosity of the late Theodore T. and Mary G. Ellis. From the income of this fund, several scholarship awards of full or partial tuition are annually granted to residents of the City of Worcester.

The Rev. Patrick J. Finnegan, P. R. Scholarship. Income on \$5,032.60. Established November 28, 1955 by bequest from the estate of Rev. Patrick J. Finnegan. Income to be used to assist needy boys from Portsmouth, N. H.

The General Motors College Plan Scholarship. A four year scholarship offered annually by General Motors Corporation. The amount of the award varies with the financial need of the recipient as determined by the General Motors Scholarship Committee.

The "In Memory of David Goggin" Scholarship. Income on \$1,000. Founded in 1925 by Mrs. Catherine M. Goggin, in memory of David Goggin. Preference to be given a relative.

The Monsignor Griffin Scholarship. Income on \$1,000. Established in 1895, limited to residents of St. John's Parish, Worcester, Mass.

The Mary A. Haberlin Foundation. Income from fund of \$57,000. to be used for worthy students chosen by the President or Faculty of the College.

The John H. Halloran Scholarship I. Income on \$12,000. Established in 1909 by Mr. John H. Halloran of New York, as a memorial of his brother, the late William J. Halloran, of Worcester, competition open to the country.

The John H. Halloran Scholarship II. Income on \$12,000. Established in 1921 by Mr. John H. Halloran of New York, as a memorial of his brother, the late William J. Halloran, of Worcester. Selection to be made from the students of the public and parochial schools of Northampton, Mass., by means of competitive examinations.

The Rev. Jeremiah J. Healy Scholarship I. Income on \$1,500. Founded in 1912 by the Rev. Jeremiah J. Healy, of Gloucester, Mass., for a candidate for the priesthood worthy of financial aid.

The Rev. Jeremiah J. Healy Scholarship II. Income on \$1,500. Same as the "Rev. Jeremiah J. Healy Scholarship I."

The Richard Healy Scholarship. Income on \$8,000. Established in 1908 by Mr. Richard Healy of Worcester, open to competition for residents of Worcester County regardless of creed.

The Mr. and Mrs. Richard Healy Scholarship. Income on \$12,000. Established in 1916 by Mr. and Mrs. Richard Healy of Worcester, for benefit of a direct relative of donors.

The Rev. Frederick W. Heaney, S.J. Scholarship. Income on \$2,500. Established in 1920 by Miss Lillian Heaney, in memory of her deceased brother, the Rev. Frederick W. Heaney, S.J.

The John W. Hodge Scholarship. Income on \$4,466.20. Established in 1946 by a bequest from the late John W. Hodge to aid some worthy Catholic boy from Cambridge, Mass., the terms and conditions of which are to be fixed and regulated by the College.

The John T. Holland, '17, Memorial Scholarship. Founded January 2, 1954 by gift from Matthew M. Berman. Income on \$7,000. To be used for worthy students selected by the President of the College.

The Holy Cross College Scholarships. These are a limited number of tuition or other partial awards that are made from the College funds, at the times and to the total amount that the financial position of the College permits.

The John Collins Hurley Scholarship. Established April 28, 1953 by bequest of \$5026.67 from the estate of Margaret M. Hurley. Income to be used for education of worthy graduate of Durfee High School, Fall River, Mass.

The Warren Joseph Hurley Scholarship. Income on \$5,000. Established in 1929 by Mrs. Jeremiah J. Hurley in memory of Warren Joseph Hurley, ex-'29, for the benefit of one or more worthy students aspiring to the priesthood. Selection to be made by the President of the College.

The "In Memoriam" Scholarship. Income on \$8,000. Established in 1915 by an alumnus of the College for a deserving student.

The Otto Seindenburg King Scholarship. Income on \$10,000. Established in October, 1954 by gifts from Atty. John King, '25. Income to be used for a deserving student.

The Rev. Michael H. Kittredge Scholarship. Income on \$5,000. Founded in 1917 by Rev. Michael H. Kittredge, '75.

The Massachusetts State Council Knights of Columbus Scholarship Fund. Income on \$5,000. Founded in 1937 by the Massachusetts State Council Knights of Columbus; open to members and sons of members of the Knights of Columbus residing and having their membership in the Order in Massachusetts. Award to be made by competitive scholastic examinations under the administration of the College of the Holy Cross.

The Patrick W. Lally Memorial Scholarship. Income on \$5,221.60. Established in March 1945 from the estate of James Lally to be awarded to a worthy graduate of St. Mary's High School, Milford, Mass., who will be selected by the President of the College of the Holy Cross.

The Michael J. Lawlor Scholarship. Income on \$5,000. Established in February, 1949, by bequest from the late Retta M. Lawlor. Income to be used to aid a bright and needy student, resident of Waterbury, Conn., who, in the opinion of college authorities, shall be deserving of financial assistance.

The John J. Leonard Scholarship of the M.C.O.F. Income on \$6,000. Founded in 1926 and restricted to members, or sons of members, of the M.C.O.F., selection to be made by competitive examinations.

The Rev. John G. Mahoney, S.J., a Former Professor at the College and James E. Mahoney, '10, Memorial Scholarship. Income on \$20,000. Founded in 1946 by Mrs. Edward C. Donnelly in memory of her brothers; to be awarded to a deserving student studying for the degree of Bachelor of Arts in the Classical Course who is to be selected by the President of this College.

The Henry Vincent McCabe Scholarship. Income on \$5,000. Established in 1916 by the late Mary McCabe of Providence, R. I., for a deserving student.

The Rev. Denis F. McCaffrey Scholarship. Established September 29, 1953 by bequest of \$700. from the estate of Rose a McCaffrey. For a worthy student.

The Peter McCord Scholarship. Initial gift of \$66.00 from Mary Lambert McCord for a deserving student.

The Rev. David F. McGrath Scholarship I. Established in 1907 by the Rev. David F. McGrath, '70, beneficiary to be selected by competitive examinations. Restricted to graduates of St. Mary's Parish School, Milford, Mass., if there be more than one eligible candidate. If but one such, graduates of Milford Public High School may be admitted to competition; if but one candidate from both schools anyone otherwise eligible in the State to be admitted to competition. The beneficiary will receive board, lodging and tuition for an academic year of two semesters. All other expenses must be met by the one holding the scholarship.

The David F. McGrath Scholarship II. Established in 1920 by the Rev. David F. McGrath, '70; conditions same as the "Rev. David F. McGrath Scholarship I."

The David F. McGrath Scholarship III. Established in 1920 by the Rev. David F. McGrath, '70; conditions same as the "Rev. David F. McGrath Scholarship I."

The Monsignor John W. McMahan Scholarship. Income on \$5,000. Founded in 1938 under provision of the will of Rt. Rev. Msgr. John W. McMahan, '67, to give scholarship aid to a Holy Cross student to be designated by the Reverend Pastor of St. Mary's parish, Charlestown, Boston, Massachusetts, preference being given to students coming from said St. Mary's parish.

The Patrick J. Murphy Scholarship. Income on \$1,500. Established in 1914 by Mrs. Ellen M. Murphy, as a memorial to her husband, the late Patrick J. Murphy, Worcester, Mass.

The Monsignor Richard Neagle Scholarship. Income on \$35,000. Founded in 1943 by His Excellency the Honorable Alvan T. Fuller, former Governor of the Commonwealth of Massachusetts, in memory of the late Right Reverend Monsignor Richard Neagle of the Class of 1873, to assist boys qualified, in the opinion of the faculty, but who otherwise could not afford such an expenditure as would be necessary to enjoy the educational and religious advantages of the College of the Holy Cross.

The Denis F. and Loretto Radel O'Connor Scholarship. Income on \$20,000. Established May 26, 1955 by Dr. Denis F. O'Connor, '93, to be used for a worthy student to be selected by College authorities.

The O'Driscoll Scholarship. Income on \$3,000. Established in 1874, for a student (limited to residents of the City of Worcester), who is a candidate for the priesthood and is selected by the Bishop of Worcester or his delegate.

The May and Sylvan Oestreicher Scholarship. Established December 30, 1957 by gift of Sylvan Oestreicher. Income on \$17,043.57.

The Mary C. O'Neil Fund for Bristol County Students. Established January 7, 1955 by gifts from Margaret T. O'Neil. Income on \$2,900. to be used to aid a student from Bristol County.

The Rev. Daniel H. O'Neill Scholarship I. Income on \$1,000. Established in 1895, limited to residents of St. Peter's Parish, Worcester, Mass.

The Rev. Daniel H. O'Neill Scholarship II. Income on \$1,500. Established in 1908, limited to the residents of the City of Worcester.

The Rev. Dr. Patrick B. Phelan Scholarship I. Income on \$8,000. Established in 1917 by Rev. Dr. Patrick B. Phelan, '69; open to competition for graduates of the Sacred Heart School, Holyoke, Mass.

The Rev. Dr. Patrick B. Phelan Scholarship II. Income on \$8,000. Same as "Rev. Dr. Patrick B. Phelan Scholarship I."

The David H. Posner and Mary Murphy Posner Foundation. Founded July 1, 1957 by bequest of \$10,000.00 from the Estate of Mary M. Posner. Income to be used toward tuition of worthy students.

The Rev. John J. Power Scholarship. Income on \$1,500. Established in 1907 by the late Rev. John J. Power, D.D., limited to residents of St. Paul's Parish, Worcester, Mass.

The Mary A. Prendergast Scholarship. Income on \$5,000. Founded in 1945 under the will of the late Mary A. Prendergast for deserving orphan students.

The "Quid Retribuam" Scholarship. Income on \$8,000. Established in 1907 by a friend of Education in gratitude for Divine favors; if not filled by founder, competitive examinations will be held.

The Patrick W. Rafferty Scholarship. Income on \$2,000. Established in 1920 and open to competition among deserving students of the City of Worcester.

In Memory of Dennis M. and Josephine F. Reardon Scholarship. Established January 11, 1952 by bequest of \$10,575.39 from the estate of Josephine F. Reardon. Income to be used to aid a worthy student preparing for the holy priesthood.

The John Reid Scholarship. Income on \$1,500. Established in 1894, limited to residents of Worcester.

The Catherine F. Reilly Scholarship. Established June 1, 1955 by bequest of \$12,500. from the estate of Joseph J. Reilly, '04, in memory of his mother. Income to be used for a worthy student to be selected by College authorities.

The James H. Reilly Scholarship. Established June 1, 1955 by bequest of \$12,500. from the estate of Joseph J. Reilly, '04, in memory of his father. Income to be used for a worthy student to be selected by College authorities.

The Reilly Memorial Scholarship. Income on \$1,000. Founded in 1922 by the late Joseph J. Reilly, '04.

The Mary J. Robinson Scholarship. Income on \$11,297. Established in 1943 by the late Mary J. Robinson in memory of her mother and father and brothers to assist deserving young men of the Roman Catholic Faith in obtaining a collegiate education at the College of the Holy Cross.

The Rochester Alumni Scholarship. Initial gift of \$50. for a deserving student from Rochester, N. Y.

The Rev. William H. Rogers Scholarship. Income on \$10,000. Established in 1918 by Rev. William H. Rogers, '68.

The Hon. John E. Russell Scholarship. Income on \$1,500. Established in 1907 by a Friend of the College.

The Elizabeth Spang Scholarship. Income on \$5,000. Founded in 1936 by the will of Elizabeth Spang of West Haven, Connecticut. This income to be used toward the education of a "student of Holy Cross College whom the governing body of said College may deem to be in need of financial assistance for his college work and worthy of said scholarship."

The Springfield Club Scholarship. A half-tuition scholarship of \$250. which the Holy Cross College Alumni Club of Springfield, Massachusetts has undertaken to provide annually. The recipient of the award will be selected by Board of Admissions at the College. It is subject to renewal under the usual conditions. Preference will be given candidates from the city of Springfield or the Springfield area.

In Memory of Helen M. and John F. Tinsley Scholarship. Established November 20, 1953 by bequest of \$55,000. from the estate of John F. Tinsley. Income to be used to assist worthy students selected by the President of the College.

The Scholler Foundation Scholarship. Established October 24, 1955 by initial gift of \$1,000.

The Rev. David W. Twomey, S.J. Scholarship. Income on \$11,100.00. Established October 10, 1955 by gifts from family and friends of Fr. Twomey, S.J. Income to be used to aid a worthy student.

Union Carbide Scholarships. Offered by the Union Carbide Educational Fund of the Union Carbide and Carbon Corporation, these scholarships offer deserving students who are interested in a business career the complete cost of tuition for a full, four-year academic course. In addition, they provide reasonable allowances for the necessary books and required fees.

The Rev. Robert Walsh Scholarship. Income on \$1,000. Established in 1895, limited to residents of the Immaculate Conception Parish, Worcester, Mass.

The Stephen W. Wilby Scholarship. Income on \$7,462.06. Founded by the Naugatuck Valley Alumni Association and friends in Connecticut.

COLLEGE ORGANIZATIONS

THE LEAGUE OF THE SACRED HEART

The League of the Sacred Heart was established at the College on the first of November, 1888. It has ever since been a most efficacious means of propagating among the students the practice of a most tender devotion to the Sacred Heart of Our Lord.

THE SODALITY OF OUR LADY

The Sodality of Our Lady was organized on the eighth day of December, 1844, and aggregated to the Roman Prima Primaria on the tenth day of April, 1846, with the title of the Immaculate Conception, and under the patronage of St. Aloysius. The Sodality exists for boarding and day students alike, and has for its object the realization of the fullness of the Christ-life through Mary, by means of the solemn consecration of its members, and their active dedication to the Sodality's regulated "way of life" in their respective vocations after the completion of their college days.

ST. JOHN BERCHMAN'S SANCTUARY SOCIETY

The St. John Berchman's Sanctuary Society has for its object the fostering of a special devotion in the assisting at the altar in all religious ceremonies.

THE B. J. F. DEBATING SOCIETY

Organized in 1849 in honor of the Founder of Holy Cross College, the Most Reverend Benedict Joseph Fenwick, this society, in the century of its existence, has a tradition of excellence in the art of public speaking. It carries on its meetings in the well-appointed Leonard Debating Hall. It supports an extensive schedule of House, Lecture, Radio and Inter-Collegiate Debates.

Membership in the B. J. F. Debating Society is usually drawn from the Junior and Senior Classes.

FRESHMAN AND SOPHOMORE INTRAMURAL DEBATING

Regular inter-class sectional meetings of these two organizations give the Freshmen and Sophomores an opportunity for basic training in the preparation of debate material, clear thinking and accurate, polished expression. Student interest has been enlivened by the healthy rivalry current among the respective class sections.

THE MATHEMATICS CLUB

The Mathematics Club was established in 1946. It holds meetings twice monthly to discuss topics in advanced undergraduate mathematics. The purpose of the club is to promote the study of pure and applied mathematics.

THE DRAMATIC SOCIETY

The Holy Cross Dramatic Society has been functioning since the establishment of the College. It sponsors a varied program in the production of Shakespeare, modern drama and original one-act plays.

THE AQUINAS CIRCLE

The Aquinas Circle is an organization of Seniors and Juniors interested in further study and discussion of philosophical problems and their correlation with modern thought in science and literature. The Circle meets twice a month.

THE CROSS AND SCROLL CLUB

The Cross and Scroll Club, originally formed as the Hellenic Academy for the promotion of interest in classical studies, has through the years expanded its aims to include topics of Literature, Art and General Culture. Besides its group meetings the Club sponsors public lectures pertinent to Christian Culture and Education.

THE MUSICAL CLUBS

Two separate organizations foster and develop musical talent among the students — the College Glee Club and the College Orchestra and Band. The purpose of the Glee Club is to instill and promote among its members a love and appreciation of the truly beautiful in music through the medium of choral singing. A program of concerts throughout the year is an incentive for enthusiastic interest. Students participating in the activities of the College Orchestra and Band receive valuable experience in orchestral work. For public concerts this organization collaborates with the Glee Club.

THE COLLEGE CHOIR

The College Choir was organized to assist at Chapel Services and to promote devotion by acquainting students with the treasury of Church music.

THE BIOLOGY SOCIETY

The Biology Society, composed of students majoring in biology, provides its members with the opportunity to study more intensively and critically some of the problems of that science.

THE CROSS AND CRUCIBLE CHEMISTS' CLUB

This club is devoted to the advancement of chemistry and the development of social and professional relations among its members. The club was founded in 1927 and reorganized in 1947. It is open to all undergraduate students of chemistry. The club is a Chapter of Student Affiliates of the American Chemistry Society and publishes the *Hormone*, a monthly chemical magazine for undergraduates.

THE PHYSICS SOCIETY

The Physics Society, composed of students majoring in physics, has as its purpose the development of deeper and wider interest in the subject. Meetings are held weekly. Speakers from the faculty, student body and industry discuss aspects of pure physics or its applications. The publication of the Society is *The Cross-Product*.

THE LABOR PROBLEMS ACADEMY

The Labor Problems Academy, open to students majoring in Economics, was organized in 1935 to encourage the study of Catholic principles applicable to the labor problems in the United States. This academy was organized with a threefold purpose: to stimulate personal research and individual interest in the historical development of, and contemporary relationships among capital, management, labor, and the community in these problems; to obtain and classify scientific and unbiased pamphlets, periodicals, and similar reference materials for use by the Faculty, members of the Debating Societies and Lecture Teams, members of the Academy, and other undergraduates interested in these problems; to engender an appreciation of the pronouncements upon the moral relationships between capital and labor contained in Papal Encyclicals.

THE HISTORY ACADEMY

The History Academy, composed of instructors and students in history, has for its object the increase of interest in the study of history. It holds weekly meetings at which are read and discussed essays on various topics taken from the field of history.

THE MISSION UNIT

The Holy Cross Unit of the Mission Crusade was established in 1921. Relief of the Missions is encouraged by donations of the students. Students contribute to foreign and home missions large sums of money, large quantities of Catholic papers, altar supplies, books and clothing.

THE PURPLE KEY

It is the purpose of this organization to foster devotion, loyalty, and enthusiasm for Alma Mater. The Purple Key sponsors student activities, plans and conducts student manifestations of the spirit of Mount St. James and always endeavors to promote the interests of the students in the affairs of their college life.

RADIO WORKSHOP — STATION WCHC

The Campus Radio Station WCHC, which began a formal broadcasting schedule on December 6, 1948, is operated entirely on an extra-curricular basis by student members of the Radio Workshop. WCHC provides a talent outlet and radio experience for hundreds of students in its various departments: station management, programming, production, announcing, radio dramatics, sports, news, writing, music, commercial departments and other functions common to commercial radio stations.

INTRAMURAL ATHLETICS

Perhaps the most flourishing and popular extra-curricular activity on the Hill is the Intramural sports program. The great majority of students who are not engaged in varsity competition take some part in intramural sports. Teams are organized from among the Day Students and groups from each corridor of the Residence Halls. Competitive tournaments are played in football, basketball, baseball, etc. The intramural sports provide healthful exercises and plenty of fun; cement friendships and develop many positive traits of good character and personality.

HOLY CROSS ATHLETIC ASSOCIATION

The object of the Athletic Association is to promote the athletic interests of the College, and to discuss and determine matters of the management pertaining to the welfare of collegiate and intercollegiate sports.

REV. JOSEPH A. GLAVIN, S.J.	Faculty Adviser
EUGENE F. FLYNN, B.A.	Director
JOSEPH W. McDONOUGH, B.S.	Assistant Director
WILLIAM C. CROWLEY, M.A.	Public Relations
EDWARD N. ANDERSON, B.S., M.D.	Coach of Football
JAMES M. HARRIS, B.S.	Assistant Coach of Football
MELVIN G. MASSUCCO, B.S.	Assistant Coach of Football
ROY H. LEENIG	Coach of Basketball
JOHN J. BARRY	Coach of Baseball
BARTHOLOMEW F. SULLIVAN	Coach of Track; Trainer
CHARLES F. DONNELLY	Coach of Golf
ALBERT D. RIOPEL, B.A.	Freshman Coach
WILLIAM C. SAMKO, B.S., M.S.	Assistant Trainer
WALTER M. MULVIHILL, B.A., M.D.	Physician

HONOR SOCIETIES

ALPHA SIGMA NU (Holy Cross Chapter)



Alpha Sigma Nu is a National Honor Society with chapters in various Jesuit Colleges and Universities throughout the United States. It is a society organized to honor students who have distinguished themselves in scholarship, service and loyalty to their College; to promote the interests of their College; to foster all praiseworthy student activity; to unite those alumni who most fully understand and appreciate those ideals in themselves and others.

The following new members were elected to the Holy Cross Chapter on February 16, 1958:

Joseph F. Boufford
Vincent F. Garrity
Robert L. Kane

John P. Laschenski
Stuart T. Maher
James A. McGough

Thomas A. McGrath

DELTA EPSILON SIGMA (Alpha Iota Chapter)



Delta Epsilon Sigma is a National Honor Society for students and graduates of Catholic Colleges and Universities constituted to give recognition and encouragement to high scholarship. The Holy Cross Chapter (Alpha Iota) was inaugurated and the first members initiated on June 9, 1941. Student members are drawn from ten percent of the Senior Class with scholastic honor rating.

The following new members were elected to the Holy Cross Chapter on March 8, 1958:

David G. Connors
Thomas W. Hungerford
Philip M. Law
Anthony C. Lettiere

Henry R. Radoski
Paul A. Schweitzer
Thomas C. Theobald
William J. Williams

Joseph P. Zaia

COLLEGE PUBLICATIONS

THE HOLY CROSS PURPLE

The Holy Cross Purple is a monthly magazine published by the students of the College. Its aim is to cultivate a high literary taste among the students by exercising them in both critical and creative compositions.

THE CRUSADER

The Crusader, the weekly newspaper of the College, first appeared during the academic year 1924-1925. Its purpose is to secure a firmer bond among the undergraduates, telling the important happenings of the life on the Hill.

THE PURPLE PATCHER

The Purple Patcher, published annually by the Senior Class, is a chronicle of the activities of the Class during its four years' stay on the Hill.

THE HORMONE

The Hormone is normally published eight times a year by the Department of Chemistry. It provides a medium of scientific expression for chemistry students; it records work of a progressive nature done in the department; it supplements the textbooks with timely articles of general interest to the student of chemistry; and it records the abstracts of departmental seminars and theses.

THE ALUMNUS

The Alumnus, published five times yearly by the Holy Cross College Alumni Association and edited by the Executive Alumni Secretary, is twofold in its purpose: first, to secure a firmer bond among the graduates; secondly, to serve as a nexus between the Alumni and the College.

Jesuit Educational Association

COLLEGES AND UNIVERSITIES

Alabama	Spring Hill College, Spring Hill
California	Loyola University of Los Angeles Santa Clara University, Santa Clara University of San Francisco
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Connecticut	Fairfield University, Fairfield
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Louisiana	Loyola University, New Orleans
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Pennsylvania	St. Joseph's College, Philadelphia University of Scranton, Scranton
Washington	Gonzaga University, Spokane Seattle University, Seattle
West Virginia	Wheeling College, Wheeling
Wisconsin	Marquette University, Milwaukee

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BEQUESTS

Gifts to the college may take the form of funds for the establishment of scholarships or professorships; or the foundation of medals and other prizes; of additions to the material equipment; of contributions to the general fund, or may be undesignated. Those desiring to make a bequest to the College of the Holy Cross in their wills may be helped by the following suggested form.

LEGAL FORM OF BEQUEST

I give (devise) and bequeath to the Trustees of the College of the Holy Cross, a corporation under the laws of the Commonwealth of Massachusetts, and located in the City of Worcester, Massachusetts, and their successors forever, the sum of

..... dollars

(or otherwise describe the gift) for its general corporate purpose (or name a particular corporate purpose).

INQUIRY BLANK

Correspondence should be addressed as follows:

Regarding admission to the Freshman Class,

TO THE DIRECTOR OF ADMISSIONS.

Regarding admission to all other classes or as a special student,

TO THE DEAN OF THE COLLEGE.

Regarding admission to the graduate department of Chemistry,

TO THE CHAIRMAN OF THE CHEMISTRY DEPARTMENT.

Candidates for admission to the Freshman Class should submit their applications promptly upon completion of the first semester of their senior year.