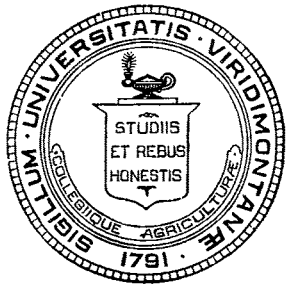
THE UNIVERSITY OF VERMONT

April 15

1956

BULLETIN



THE COLLEGE OF ARTS AND SCIENCES

THE COLLEGE OF MEDICINE

THE COLLEGE OF AGRICULTURE

THE COLLEGE OF TECHNOLOGY

THE COLLEGE OF EDUCATION AND NURSING

THE GRADUATE COLLEGE

THE SCHOOL OF DENTAL HYGIENE

THE SUMMER SESSION

THE DIVISION OF ADULT EDUCATION

FOUNDED 1791 · BURLINGTON, VERMONT

Bulletin of
THE UNIVERSITY OF
VERMONT

THE CATALOGUE · 1955-1956

ANNOUNCEMENTS · 1956-1957

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For all matters pertaining to the admission of undergraduate students, including requisitions for the catalogue, and information concerning rooms, tuition, and scholarships. . . *Director of Admissions*

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Matters of Alumni Interest . . . . . *Alumni Secretary*

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Bulletin of The University of Vermont

VOLUME 53 APRIL 15, 1956 NUMBER 5

Published by The University of Vermont, Burlington, Vermont, thirteen times a year—once each in January, February, May, July, September, October, and November; and twice each in March, April, and December; and re-entered as second-class matter November 18, 1955, at the Post Office at Burlington, Vermont, under the Act of Congress of August 24, 1912.

THE CONTENTS

U V M *

§ The University is located at Burlington, Vermont, overlooking an attractive tree-shaded city situated on the shores of Lake Champlain.

§ Burlington, the largest city in the State, with a population of 35,000, is 95 miles from Montreal, 230 miles from Boston, and 300 miles from New York City. The city enjoys daily plane service to these urban points in addition to regular railroad and bus service.

§ Chartered in 1791, the University is the twentieth oldest institution of higher learning in the United States authorized to grant degrees and the second institution founded by state legislative action to offer instruction at the university level.

§ Within the nine divisions of the University, instruction is offered in more than fifty programs leading to twenty-four different degrees.

§ The University is accredited by the following associations:

The New England Association of Colleges and Secondary Schools

The American Association of Colleges for Teacher Education

The American Medical Association

The American Dental Association

The Engineers Council for Professional Development

The American Chemical Society

§ Currently enrolled are 2,944 students, of whom 1,375 are residents of Vermont; the remainder represent 28 states and 7 foreign countries.

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*Although its legal title is the University of Vermont and State Agricultural College, the University is known to its students, alumni, and to most of its friends as UVM. This popular abbreviation is derived from the Latin *Universitas Viridis Montis*—the University of the Green Mountain.

Education at Vermont

The University of Vermont was conceived by Ira Allen, its founder, "to establish a most extensive plan of education . . . ." For over one hundred and fifty years it has provided for qualified students the opportunity to acquire an understanding and appreciation of the main fields of human knowledge, to develop those qualities of mind and character which will enable them to assume responsible leadership among their fellow men, and to lay the foundations for successful careers.

From its earliest days the University has taught "such studies as might be most useful and applicable to the genius and views of the students." The emphasis on education at Vermont has not been the mastery of an inflexible program of studies, but rather the development of sound academic interests and of an individual dynamism which equip a student to think for himself and to be an active contributing member of his community. The present University, founded by a pioneer spirit and nurtured in a state which has long been identified with the most stalwart human qualities, is singularly fitted to carry out such a philosophy of education. Here the student is given a large measure of responsibility and an opportunity to develop his own personal thoughts, individuality, and integrity.

Functioning as a public university in a relatively small state, it has kept contact with the people and has retained a perspective of human values. In all things the University attempts to maintain a balance between the ideals of academic discipline and the demands of practical training. Furthermore, it is of a size which provides a diversity of background and a cosmopolitan outlook without the danger of fostering an impersonal atmosphere. The faculty, composed of men and women dedicated to teaching as a profession, see the student as a partner and active participant in the process of education. Because of the close contacts among the students and faculty members there is unusual opportunity for developing open-mindedness and tolerance for the opinion of others.

EARLY BACKGROUND

The one hundred and fiftieth anniversary of the first commencement was celebrated in 1954. Founded in 1791, the same year that Vermont became a state, the University has grown from humble beginnings until at the present time it enrolls nearly three thousand

students and by one service or another touches directly nearly every citizen of Vermont.

Instruction at the University was begun in 1800 when a group of young men met in the home of the first president, the Reverend Mr. Sanders. Although it was the intention of the founder to establish a separate academy for women, the idea was never carried out. However, in 1872, the University became the first college in Vermont to admit women as regular students.

The Hon. Justin S. Morrill, member of Congress from Vermont, sponsored the Morrill Land-Grant Act of 1862, which provided for the establishment of colleges to teach liberal and scientific courses, including agriculture and the mechanic arts. Under this act the legislature chartered the Vermont Agricultural College in 1864. A year later the corporations of the University of Vermont and the new agricultural college were merged by legislative act to form the present corporation, the University of Vermont and State Agricultural College. Under later Federal laws the services of the University were expanded by the addition of the Agricultural Experiment Station and the Agricultural Extension Service.

In 1955 the Vermont legislature formally recognized the entire university as an instrumentality of the State and thus reestablished it as the University of the State of Vermont.

Many adjustments in internal organization have taken place over the years. The University now consists of six colleges, a school of dental hygiene, a summer session, and a division of adult education.

COLLEGES AND CURRICULA

In common with the practice at most of the early universities, the original curriculum was based on languages, rhetoric, mathematics, theology, and moral philosophy. Today, the **College of Arts and Sciences,** often considered the direct descendant of the original University, provides a general four-year curriculum leading to the degree of Bachelor of Arts, with opportunity for concentration in one or more of the following studies: botany, chemistry, economics, English, geology, German, Greek, history, Latin, mathematics, music, philosophy, physics, political science, psychology, French, Spanish, speech, and zoology.

Students interested in continuing their studies beyond the Bachelor's degree may, by making a proper selection of courses, meet all requirements for admission to graduate schools, and to such professional schools and colleges as those of medicine, dentistry, law,

theology, and social work. Those who have completed three years of premedical study at the University may qualify for the degree of Bachelor of Science after successfully completing one year of study in an approved college of medicine.

With the passage of the Morrill Act of 1862, the way was prepared for the establishment of studies in agriculture. Today the **College of Agriculture and Home Economics** offers four-year curricula in agriculture, agricultural engineering, and home economics. It also offers two-year programs in preforestry and preveterinary sciences which prepare students for admission to other institutions for professional training in these fields.

The curriculum in agriculture leading to the degree of Bachelor of Science in Agriculture provides options in general agriculture, agricultural economics, agricultural education, agronomy, animal and dairy production, botany, dairy manufacturing, horticulture, and poultry husbandry. The curriculum in agricultural engineering leads to the degree of Bachelor of Science in Agricultural Engineering.

The curriculum in home economics, leading to the degree of Bachelor of Science in Home Economics, provides options in the fields of food and nutrition, related arts, clothing and textiles, and home economics education. The department also offers an option in general home economics for students who wish a liberal education in addition to instruction in those areas related to the home and family.

The University of Vermont was probably the first nonmilitary institution in America to offer instruction in engineering, and was certainly the first of the present land-grant colleges to give any instruction in this area, which was later incorporated into the Morrill Act. Engineering was taught in a separate department until 1911, when a College of Engineering was established. In 1946, the **College of Technology** was formed to include the curricula in civil, electrical, mechanical, and management engineering; professional chemistry; commerce and economics; and, later, medical technology.

Majors in the Department of Commerce and Economics may select from many options in which to specialize, including accounting, banking, finance and insurance, business administration, industrial management, marketing and merchandising, personnel management, and secretarial studies.

The education and preparation of teachers has always been a major objective of the University; and although the techniques have varied over the years, the primary concern has been to graduate qualified teachers who have a broad background in academic subject matter

and a modern professional training in the methods of teaching. The **College of Education and Nursing,** established in 1946, offers four-year curricula leading to the Bachelor of Science degree in the fields of elementary, junior high, secondary, business, and music education.

This college also offers a four calendar-year curriculum leading to the degree of Bachelor of Science in Nursing.

Under a program established by the State in 1949, the University offers a two-year curriculum in the **School of Dental Hygiene** leading to a Certificate in Dental Hygiene. Recipients of this certificate are eligible to take all state board examinations for licensing as dental hygienists. Enrollment in this school is limited to women.

The **College of Medicine** is historically almost as old as the University itself. Medical lectures became part of the offerings in 1804 and degrees were granted in medicine in 1822. There were some interruptions in the operation of the medical courses in 1836, but since 1853 qualified physicians have been graduated annually to serve Vermont and neighboring states. Today, the College of Medicine offers a four-year graduate curriculum leading to the degree Doctor of Medicine and also provides facilities for a limited number of candidates for other graduate degrees in the Graduate College to take courses in its departments.

In 1952, the **Graduate College** was established. Graduate programs had been administered for many years prior to this date on a purely departmental basis. The Graduate College not only serves as coordinator of all studies beyond the Bachelor's degree (with the exception of the program leading to Doctor of Medicine), but offers graduate programs on the basis of fields of concentration. Since these fields are able to cross departmental lines whenever it is appropriate to do so, it is felt that they make more effective use of the University's resources for advanced study and research.

REGIONAL COOPERATION

The Trustees of The University of Vermont and of the University of New Hampshire took the first step in a program of Regional Educational Cooperation for New England when, in October, 1954, they signed a formal contract which establishes in-state tuition rates for selected New Hampshire students in the College of Medicine of The University of Vermont. Steps are being taken to extend this beginning in regional cooperation through all the New England land-grant colleges in order that each state may have the advantage of specialized facilities existing at the individual land-grant colleges without having

the expense of duplicating and maintaining the physical plant necessary. The University of Connecticut has already put into effect a plan to accept New England residents in specialized curricula such as law, pharmacy, social work, physical therapy and insurance at in-state tuition rates; likewise the University of Maine has made similar arrangements for the program in pulp and paper technology. Other New England land-grant colleges have indicated that they will give preferential treatment to New England students as follows: University of New Hampshire, occupational therapy and hotel management; University of Rhode Island, marine biology and oceanography.

CAMPUS AND BUILDINGS

Students, faculty, and alumni take justifiable pride in the beauty of the campus, which is located on a hill overlooking Lake Champlain and the city of Burlington. This setting, with the Green Mountains and the Adirondacks in view from much of the campus, is not only delightful but is symbolic of the aspirations of the University.

The campus is divided into three general areas; the principal one is the College Green, about which many of the important buildings are grouped. The East Campus is adjacent to the Green and is the site of several of the more recent buildings. A short distance from the Green is the Redstone Campus, an attractive residential area for women students. Dining and dormitory facilities are located here, as is the gymnasium for women's physical education activities.

Because of the foresightedness of the founders, the campus has ample room for expansion and for such facilities as Centennial Field, where intercollegiate athletics are scheduled, and the University Farm, which borders the campus. The University also owns other extensive acreage for teaching and research including the Hoag Farm, which adjoins the University Farm, and the Morgan Horse Farm in Weybridge. In the nearby towns of Jericho, Charlotte, Shelburne, and Underhill there are large plots for research in botany, forestry, and horticulture; the topmost ridge of Mount Mansfield is also university property.

One of the interesting aspects of the campus is the variety of architectural styles represented by the buildings. When each new structure was added, it was built in a design popular but not necessarily contemporary to that day. As a result, the buildings are a history of college architecture covering a period of a century and a half.

The oldest building on the campus, "The Old Mill," erected in 1826, was originally three separate buildings of late colonial style.

These buildings served for many years as the center of the University; later, when they were joined together to form the present structure, the "new" building continued its position of importance on the growing campus. When General Lafayette came to Burlington to lay the cornerstone of "The Old Mill," he stayed in a gracious Georgian mansion just off the campus. This house, "Grassmount," was then the home of a governor of Vermont, but now is used as a residence for women students.

In 1829, a building was erected for the medical department. Now known as Pomeroy Hall, it was used by the College of Medicine for many years, later by other departments, and has recently become the headquarters of the Department of Speech. Lecture rooms and laboratories have been converted to classrooms and a modern radio studio. The present Medical Building, erected in 1905 on the site of an earlier structure which was destroyed by fire, contains the classrooms, laboratories, research facilities, and offices of the College of Medicine.

In the late 1800's several new structures were added to the campus. The Billings Library, a fine example of the work of Richardson, the well-known American architect, was built in 1885. Williams Science Hall, the first completely fireproofed college building in America, was added in 1896 to house the expanding departments of the several sciences. Converse Hall, an unusual design of collegiate Gothic architecture, was built as a dormitory and now also serves as a faculty residence. The Engineering Building and the Gymnasium were functional buildings which met the needs of the growing University. Morrill Hall, named for Justin Morrill, the Vermonter who sponsored the Morrill Act establishing the land-grant colleges of the nation, was erected in 1906 to furnish offices, classrooms, and laboratories for the College of Agriculture.

The twentieth century brought a flowering of Georgian architecture to the campus. The Ira Allen Chapel, with an imposing bell tower which has become a symbol of the University, was completed in 1927. Also in the Georgian style, the Fleming Museum was built to house the art collections, the Wilbur Library of Vermontiana, the seismograph station, and various permanent exhibits of the University. Continuing the Georgian theme, the Waterman Building was built in 1941 as the new center of the campus. This large building contains administrative offices, many classrooms, laboratories, recreation rooms, and such general facilities as the cafeteria and the bookstore.

The campus for women at Redstone was originally a large estate; the mansion and the carriage house now serve as women's dormitories

known as Redstone and Robinson Halls. The Mabel L. Southwick Memorial Building, another imposing Georgian structure, was completed in 1936 as a center for women's activities. In 1947, Grace Goodhue Coolidge Hall, a residence for women, was built adjacent to the Southwick Building.

During the expansion of the University after 1946, several new buildings of modern functional design were erected. Three men's dormitories—Chittenden, Buckham, and Wills Halls—housed the greatly increased number of men students. East Hall, a large wooden structure obtained from the Navy, provided additional classrooms.

In 1949, a group of modern buildings was completed for the College of Agriculture. Hills Agricultural Science Building, the Bertha M. Terrill Home Economics Building, and the Dairy Science Building have provided excellent facilities for teaching and research and for the activities of the Experiment Station and the Extension Service.

THE UNIVERSITY LIBRARY

The University Library contains more than two hundred thousand volumes, the largest library in Vermont. An experienced reference, public, and technical staff serves the faculty, students, and extension needs of the University. Each year by purchase and gift the library is increased by more than four thousand volumes and over fourteen hundred periodical titles. The library is a depository for U. S. Government publications. Newspapers, pamphlets, maps, state agricultural publications, and manuscripts round out the collection. Exhibits and lectures to classes on library use extend information about library facilities to the campus and community.

Funds for the support of the library are derived mainly from the University and partly from the income from endowments designating the library as beneficiary. A large group of friends of the library, called the Library Fellows, interest themselves in the library and its collections and contribute annually to its support.

The BILLINGS LIBRARY, designed by Henry Hobson Richardson and considered one of his outstanding architectural achievements, houses the main library and here is to be found the working collection of library materials most useful to students and faculty. Here, in addition, particular attention is given to library service for the College of Agriculture and Home Economics. Special collections include the George P. Marsh Library, comprising some twelve thousand volumes notably in the humanities, and the Howard-Hawkins Civil War collections.

The James B. WILBUR LIBRARY, housed in the Fleming Museum, is reputed to be the largest collection of Vermont material in existence. It is rich in manuscript materials, early Vermont imprints, books relating to Vermont, and books by Vermont authors. The Wilbur Library has recently been given the personal collection of Dorothy Canfield Fisher consisting of books, correspondence, and literary manuscripts.

The MEDICAL LIBRARY, an excellent working collection in its field, serves the needs of the College of Medicine as well as the faculties and advanced students in other departments of the University.

Several specialized collections are maintained, such as those for chemistry and physics, classics, and engineering. A supplementary storage library in the Waterman Building provides shelves for many government documents and less-used books.

All of these collections support the curricular programs for the undergraduate and first year graduate student, a teaching faculty and research in well defined areas. Questions about the use of these collections should be directed to the staff of the Billings Library.

THE ROBERT HULL FLEMING MUSEUM

The Museum provides a fourfold educational service to the University and the State—through its permanent collections, temporary exhibitions, the Fleming Museum Association Program Series, and children's classes.

The Museum's permanent collection is set up to augment, in so far as possible, the University's teaching programs in varied fields. Particular galleries are devoted to primitive art, oriental art, cultural history from prehistoric through modern times, and the history of art and crafts in Vermont. Gallery talks and coffee hours, based upon works in the collection and open to the public, are frequently given. Two galleries are devoted to temporary exhibitions which range widely through history, science, arts and crafts. There is a particular emphasis on the encouragement of creative effort in all fields in Vermont, through one-man shows, group shows such as the All-Vermont Camera Club Exhibit, the Northern Vermont Artists' Exhibition and the Vermont Children's Art Exhibit, and by bringing to the state outstanding examples of creative work of all sorts. Whenever possible, temporary exhibitions are opened with a preview, tea, and lecture, which offer an opportunity for personal and congenial contacts between the exhibitors and their public.

The Fleming Museum Association Program Series is open to the

public; it brings to the campus motion pictures and lectures designed to broaden the cultural horizons of University and community. A children's department on the third floor offers a comprehensive program of painting, ceramics, drama, and dance classes for all ages up to the early teens; there are frequent tours through the Museum for high school and grade school children from all over the State.

Lecture and conference rooms, an auditorium, a lounge, and a kitchenette are available for business and social functions, lectures, class meetings, and quiet study. Also housed in the Museum are the Wilbur Library of Vermontiana, the University's seismograph station, and a Carnegie collection of several thousand photographs of paintings, sculpture, and architecture. The Museum building was dedicated in 1931 and is named in honor of Robert Hull Fleming of the class of 1862.

THE GEORGE BISHOP LANE ARTISTS SERIES

This series, supported in part by a gift of $300,000 from the late Mrs. Lane of Minneapolis in honor of her husband, George Bishop Lane of the Class of 1883, makes it possible for the University to sponsor for a very modest admission fee a continuing program of the most noteworthy musical, theatrical, and artistic productions available.

Faculty, students, and community leaders plan and produce this series, which makes a vital contribution to the cultural life of the campus and the Burlington area. Recent offerings have included the London Philharmonia Orchestra on its first American tour, The Ballet Theatre, virtuoso Zino Francescatti as soloist with the Vermont Symphony Orchestra, the Canadian Players in *Saint Joan*, Maria Riva and a Broadway cast in *Tea and Sympathy*, the Vienna Choir Boys, The Juilliard String Quartet and Pearl Lang's Dance Company, and singer-comedienne Anna Russell.

Student Life

THE WOMEN'S RESIDENCES

All undergraduate women who do not live with their parents or legal guardians are required to live in dormitories. There are twenty-six dormitories accommodating from twelve to one hundred forty-one students in single, double, triple or quadruple rooms, with a total capacity of approximately eight hundred and forty students. These include eight sorority houses, four privately-owned houses and fourteen university-owned dormitories of which four are cooperatives.

Only junior and senior women are usually permitted to live in the sorority houses. All other dormitories have a prorated number of each of the four academic classes. The cooperative assignments are granted on the basis of character, scholarship, and comparative need to enable a selected group to save one half the cost of food by preparing and serving well-planned meals under the supervision of the Head Resident and the Food Service Department.

Freshmen and sophomore women living in the dormitories on Redstone Campus—in Coolidge, Redstone, Robinson and Slade Hall—eat at Robinson Hall Dining Room on a three-meal-per-day annual contract. Freshman women living on the main campus obtain their meals in the Waterman Dining Hall under a semester contract plan.

All women's dormitories have Head Residents who are members of the Dean of Women's staff. Their job is to work for the comfort and general well-being of the students. Each dormitory has a House President, appointed by the Women's Student Government Council, who is the presiding officer of the House Committee elected by the students in each house.

Facilities for doing personal laundry are provided in each dormitory; also moderate space for storage of trunks, baggage, and skis. Students provide their own blankets, window curtains or draperies, dresser and desk covers, desk and reading lamps, easy chair, rugs (if desired), and linen and towels, unless they contract for the commercial linen service which is available at $26.00 for the academic year. This service provides weekly dormitory delivery of two sheets, a pillow case and three towels to each student who has arranged for it at the time of registration.

All contracts for meals and rooms are binding for the college year unless cancelled for cause with the sanction of the Dean of Women. Room assignments for new students are made early in August. Stu-

dents may occupy their rooms *only* twenty-four hours before the official opening date of college and until twenty-four hours after the individual student's final examination in the spring.

LIVING ACCOMMODATIONS FOR MEN

Chittenden, Buckham, and Wills Halls are three modern residence halls for men which recently have been thoroughly renovated. Each houses 142 students, and all incoming freshman men who do not live locally with their families are assigned to them. A bed, mattress, pillow, chest of drawers, wardrobe, desk, and chair are provided for each occupant. Students must supply their own bed linen, blankets, coverlet, towels, desk lamp, rugs, and garment bags. Students living in the men's residence halls obtain their meals in the Waterman Dining Hall under a semester contract plan.

Fourteen fraternity houses representing twelve national fraternities and two local fraternities provide housing and in some cases dining facilities for approximately 300 upperclass men. Freshmen are not permitted to live in fraternity houses.

A limited number of furnished and unfurnished apartments are usually available for rent in and around Burlington. Few are available for less than fifty dollars per month. The Housing Service assists students in locating apartments by making available information about accommodations registered with this service.

STUDENT PERSONNEL SERVICES

COUNSELING Confidential and objective help is available to students in the solution of personal, social, academic, and vocational problems which, if neglected, might hinder scholastic or professional success. Psychiatric counseling is available through the University Health Service. Aptitude, interest, and achievement tests are used in the counseling program. A faculty freshman advisory program and a men's residence hall counseling system are maintained.

HOUSING SERVICE The University assists men students in locating desirable accommodations within the city, but it does not guarantee to meet the specific needs of all. Questions concerning accommodations for single men and married students should be directed to the Office of the Dean of Men. Questions concerning living accommodations for women students should be directed to the Dean of Women.

PART-TIME EMPLOYMENT An employment service is main-

tained to assist students in securing part-time work. The University employs students in the college buildings, the dormitories, the cafeteria, and the academic departments. Opportunities are available in homes, industries, and business establishments in Burlington. Students are advised to seek employment only in instances of definite financial need and provided they have reason to believe they can carry successfully a normal college program at the same time. Wives of students are also assisted with their employment problems.

PLACEMENT Seniors and alumni may file confidential credentials with the Office of the Dean of Men, which brings available positions to the attention of qualified candidates and also arranges for campus interviews with visiting representatives from industry, business, and education. Booklets and pamphlets containing vocational information about the business and professional world and state and federal civil service are available.

READING CLINIC A reading clinic provides help for students who have reading and study problems. A thorough diagnosis of the problem is made through standardized and informal tests. If the diagnosis reveals a specific need, the student is given individual help. For those students who need only to speed up their reading, reading rate controllers are available.

SPEECH CLINIC The speech clinic, located in Pomeroy Hall, provides consultation and remedial work free to students having problems such as stuttering, poor articulation, inadequate vocal control, cerebral palsy, or hearing loss.

VETERANS EDUCATION Requests for information concerning *enrollment* as a veteran at the University should be addressed to the Office of the Dean of Men, which assists veterans with their educational problems. Requests for information concerning educational *benefits* should be addressed to the applicant's local or regional Veterans Administration Office.

HEALTH SERVICES

The University has complete facilities for maintaining the physical well-being of members of the student body. The health service, with its headquarters at the Wasson Memorial Infirmary, includes complete physical examinations on all incoming students, the examination of members of athletic squads, care of injuries, and advice on all health and medical problems. It is staffed by an administrative director, a medical director, resident psychiatrists, and associate

physicians who hold regular office hours in the infirmary and are on call for emergencies. An orthopedic surgeon holds a regular clinic for consultation at the infirmary. Registered nurses are on duty at all hours. A student may employ a private physician using the facilities of the infirmary if desired. Cases of serious illness are sent to one of the two modern, well-equipped hospitals which are adjacent to the campus. Parents are notified of the student's illness by letter or telephone, depending on the nature of the illness.

Every student who pays full tuition for the normal college year of nine months is entitled to a maximum of five days of free infirmary care and such routine medical care as is needed and as the infirmary and health service can render during the nine months' period. Students who require infirmary care for more than five days in the college year are charged at the rate of $5.00 per day.

Every student at the University is required to participate in the physical education program for two years. Normally this work is taken in the freshman and sophomore years, but may be postponed on the advice and authorization of the medical director, or the student's own physician, who must forward statements to the medical director concerning disability.

STUDENT ACTIVITIES

The University officially recognizes the activities of a large number of organizations in caring for the social and recreational needs of students, developing their cultural and religious interests, providing them with valuable business and executive experience, and broadening their contact with the public, with their fellow students, and with the educational world. Because it is within this area that qualities of leadership are developed, the University encourages the widest possible participation consistent with its scholastic requirements. The Student Advisory Committee, composed of officers of instruction and administration, is concerned with the system of student organizations and activities, with University policy relative to student organizations, and, in general, with the relationships between the University and these organizations. Although the University issues regulations to govern student activities, the student organizations have the authority to control their own affairs and to handle their own finances.

RELIGIOUS LIFE The University, although not affiliated with any denominational body, provides a rich program of religious activities which are coordinated by a faculty Committee on Religious Life and a student Religious Activities Committee. These committees

sponsor the University's religious services, including a weekly chapel service and occasional services on Sundays; they also serve to coordinate the activities of the student organizations devoted to religious and social service programs, such as the Student Christian Association, the Newman Club for Catholic students, the Hillel Foundation for Jewish students, and the several Protestant denominational groups. Interdenominational and interfaith meetings are held, with speakers of national reputation as guests. The usual interfaith events include the World University Service Drive, Brotherhood Week, and Religious Emphasis Week. The several churches in Burlington are delighted to welcome university students and they cooperate with the Committee on Religious Life in sponsoring many student activities. Formal courses in religion are offered in the College of Arts and Sciences.

UVM STUDENT ASSOCIATION All students enrolled in the undergraduate colleges and schools are charged a student activity fee and thus become members of the UVM Student Association, which aims to work for a maximum of cooperation among students, faculty members and administrative personnel in the conduct of all campus activities. A council, consisting of elected officers and class representatives, holds weekly meetings during the year and conducts the regular business of the association. However, the student body may be convoked by the council or by any group of students to hold a referendum or to conduct extraordinary business. There are many opportunities for large numbers of students to participate in the work of the standing committees, such as the Election, Financial, Orientation, Pep, Religious Activities, and Social Committees.

The Student Court is the judicial agency of the UVM Student Association and consists of representatives of each of the undergraduate colleges and schools. It has exclusive jurisdiction in all cases concerning the interpretation of the constitution and bylaws of the association; it has original jurisdiction in certain cases involving violations of university regulations and violations of Student Association rules; and it has some appellate jurisdiction.

WOMEN'S STUDENT GOVERNMENT ASSOCIATION Every woman who enrolls as an undergraduate student at the University becomes a member of the Women's Student Government Association. W.S.G.A. Council, elected by the women students, works toward the achievement of self government to educate students to become self-directing individuals, to respect the rights of others, and to develop into responsible citizens of the college community. Through the Honor

System high ideals of personal integrity and social consciousness are fostered.

W.S.G.A.'s primary purpose is to promote the academic success and the social development of all, while at the same time respecting the personality and the worth of the individual.

HONORARY SOCIETIES The Boulder Society, a local senior honorary society for men, is recognized as an organization responsible for student leadership. Election to this society is counted one of the highest honors that a Vermont man may win. Other honorary class societies for men are Key and Serpent, a junior society, and Gold Key, a sophomore society.

Through Mortar Board, a national senior honorary society, women at Vermont are brought in closer contact with outstanding college women throughout the country. Though membership in Mortar Board comes as the greatest honor for a Vermont woman in recognition of outstanding service, scholarship, and leadership, it is also a challenge for continued sound and honest scholarship, for unselfish service in the best interests of the college campus, and for the finest type of womanhood. Other honorary class societies for women are Staff and Sandal and Sophomore Aides.

The Phi Beta Kappa Society established the Vermont Alpha Chapter at the University in 1848, and initiates are chosen primarily on the basis of high scholastic standing. The local chapter was the first in Phi Beta Kappa to initiate women into membership.

The Society of the Sigma Xi, established at the University in 1945, initiates those who have proved their ability to do research in one of the various sciences and, in the case of students, high scholastic standing.

Other national honorary societies include Alpha Omega Alpha, medicine; Alpha Zeta, agriculture; Kappa Delta Pi, education; Nu Beta Pi, engineering; Omicron Nu, home economics; Tau Kappa Alpha, debating; Sigma Delta Psi, men's physical education; National Collegiate Players, dramatics; and Alpha Lambda Delta, freshman women's scholastic. Ethan Allen Rifles and the Arnold Air Society are honorary societies for outstanding students in the Reserve Officers Training Corps.

ATHLETICS A well-rounded program of intramural sports enjoys a heavy voluntary participation by men in all classes. Competitions are arranged among fraternities, dormitories, independent groups and individuals. A program of intercollegiate competition for men is

maintained in football, skiing, baseball, basketball, track, cross-country, tennis, golf and rifle marksmanship. The athletic policies of the University are under the direction of the Athletic Council, composed of members of the faculty, the student body, and alumni. Athletic relations are maintained with colleges and universities in New England and the eastern seaboard. The University is a member of the "Yankee Conference," which is composed of the land-grant colleges and universities in New England, of the National Collegiate Athletic Association, the New England Intercollegiate Athletic Association, and the Eastern College Athletic Conference.

The Women's Recreation Association endeavors to encourage leadership and to cooperate in establishing, promoting and administering a program of recreational activities for all women students. It sponsors a large number of activities including archery, badminton, basketball, bowling, field hockey, folk dancing, square dancing, modern dancing, table tennis, riflery, skiing, skating, swimming, tennis, and volleyball. The Square Dance Club and the Modern Dance Club are co-recreational.

In addition, the Outing Club sponsors for both men and women students mountain climbing expeditions, ski trips, and other outdoor activities.

FRATERNITIES AND SORORITIES Chapters of Greek letter fraternities and sororities have long been recognized as part of the social and extracurricular life on the UVM campus. These groups provide valuable experience for their members in the form of interfraternity athletic competition, interfraternity sings, dances, social work projects, house operation and meal service. Fraternities and sororities are under the jurisdiction of the University Council and policies regarding the establishment of new chapters and the operation of present groups on the campus are subject to its control. Fraternity activities are coordinated by the Interfraternity Council and sorority activities are coordinated by a Panhellenic Council. The following are active chapters of national and local fraternities: Acacia, Alpha Epsilon Pi, Alpha Tau Omega, Delta Psi, Kappa Sigma, Lambda Iota, Phi Delta Theta, Phi Sigma Delta, Sigma Alpha Epsilon, Sigma Nu, Sigma Phi, Sigma Phi Epsilon, Tau Epsilon Phi and Theta Chi. Chapters of the following national and local sororities are recognized at UVM: Alpha Epsilon Phi, Alpha Chi Omega, Alpha Delta Pi, Delta Delta Delta, Gamma Phi Beta, Kappa Alpha Theta, Pi Beta Phi and Sigma Gamma.

KAKE WALK The outstanding social event of the year is the Kake

Walk week end in February. This unique celebration is UVM's gala occasion and many returning alumni attend annually. Festivities include a formal ball at which a king and queen are crowned, snow sculpture, and athletic events. For two nights, the fraternities and other student groups compete with one another in original skits and in the art of *Walkin' fo' de Kake.*

MUSICAL ACTIVITIES Opportunities for participation and appreciation are provided for those students with strong musical interests. The University Choir, the University Orchestra, and the University Band appear in public presentations many times during the year. Vesper services, Christmas and Easter concerts, and a spring operetta are regular events. The UVM Music Club and the Men's Chorus provide students with other opportunities for participation in musical activities. A series of concerts and other musical events are sponsored annually by community groups which bring outstanding artists to the city.

DRAMA, DEBATING, AND RADIO The University Players, an organization of students interested in theatre arts, offers a great many opportunities which include the *Vermont Varieties*, an annual show including members of the faculty, staff and student body; proscenium and arena productions of full-length plays; an annual theatre trip to New York; two evenings of poetry reading; assistance to the Music Department in producing an opera; and laboratory productions of one-act plays. Outstanding juniors and seniors are eligible for membership in National Collegiate Players, a national honorary fraternity.

The Lawrence Debate Club provides opportunities for participation in all types of forensic activities—debate, discussion, oratory, after-dinner, and extemporaneous speaking. Members of the club appear before service clubs, farm organizations, high schools, and other groups throughout the state. The forty members of the club participate in more than two hundred and fifty intercollegiate debates annually with the beginners getting as extensive an experience as the veterans. The club owns its own car, making trips to the various discussion programs and to the outstanding tournaments in the East possible. Outstanding performers receive recognition by election to Tau Kappa Alpha, the national honorary forensic fraternity.

The Radio-Television Workshop operates the campus radio station WRUV, and produces many radio and television programs emanating from the University. It is open to all students, and provides opportunity for participation in broadcasting activities. The Workshop currently produces *Spotlight UVM*, a weekly documentary report of

campus activities, plus a student interview service for ten stations in the State. It presents a daily newscast over one local station, operates another all day Sunday every other week, and assists in the production of the university television series, *Living and Learning*.

WRUV, a student owned and operated wired-wireless station, broadcasts to the campus daily. It has its own United Press teletype wire service and is financed through the sale of advertising.

STUDENT PUBLICATIONS Those interested in journalism and editorial work find opportunity for expression in a number of student publications. The *Vermont Cynic* is the student newspaper which is published weekly. The *Ariel* is the annual yearbook which is published by the members of the senior class. A student group publishes *Centaur*, a literary magazine, and a committee of the Student Association Council prepares the annual *Freshman Handbook* for incoming students.

CLASS ORGANIZATIONS The members of each freshman class form a class organization which retains its identity throughout the undergraduate years of its members and extends through subsequent years as long as there are living alumni of the class. Members of each undergraduate class elect officers each spring, except that officers elected at the end of the junior year serve through the senior year and also to the end of the first reunion. During the junior year, each class sponsors the annual Junior Week, which includes the traditional *Peerade* of floats. Each senior class conducts the events in the traditional Senior Week.

LIBRARY FELLOWS This society of students, faculty members, alumni, and members of the public at large aids the libraries in carrying on various phases of their work by special contributions. Membership is open to all who are interested in books, knowledge, and the advancement of learning.

OTHER STUDENT ORGANIZATIONS The University recognizes the need for clubs and other extracurricular organizations to serve those students with special interests and talents. A variety of organized clubs and societies furnish opportunities for social contact, for broadening professional outlook, and for developing special interests and hobbies. Many of these clubs are sponsored by some academic department, and they serve to supplement the academic program. There are chapters of the several professional engineering societies, language clubs, clubs which promote interest in different phases of agriculture, and clubs which specialize in the study of contemporary affairs.

The Admission of Students

Admission to the freshman class is determined after careful consideration of the applicant's record of high school courses completed; his rank in his graduating class; the recommendation of the high school principal; a personal interview, if requested by the Director of Admissions and Records; and such tests as may be required.

The University recommends that applicants take the Scholastic Aptitude Test of the College Entrance Examination Board to support their applications for admission. *All out-of-state applicants are required to take this test.* The December or January series taken in the senior year is preferred. Residents of Vermont whose records do not meet the college certifying requirements of their high schools will take such tests as may be required by the Director of Admissions and Records.

The information collected in connection with a student's application is also used by the student's advisor in guiding his educational program. Since education is a continuous process, the University hopes to receive all possible information from the high school for use in planning the college course best adapted to the individual.

Although the University does not have rigid requirements for admission, the curricula are based on the assumption that the student is proficient in all of the subjects which the catalogue recommends he offer for admission. In some cases, those students offering less than the recommended courses for admission may be required to take courses at the University to make up this deficiency. This may result in these students attending Summer School or taking longer than the normal four years to satisfy the requirements for the baccalaureate degree. Those students offering all of the recommended courses for admission are in a position to do better work than those students offering a fewer number of the recommended courses.

Application forms for admission will be sent upon request. Quotas of the various colleges and limited dormitory facilities make it advisable for applications to be submitted as soon as possible after the first of February in the year in which admission is sought. Action on applications is taken in March. Inquiries should be addressed to the Director of Admissions and Records, Room 104, Waterman Building, The University of Vermont, Burlington, Vermont.

COLLEGE OF AGRICULTURE AND HOME ECONOMICS

It is suggested that applicants study the several curricula, programs, and options to obtain a knowledge of the courses they will take while

in college. This should be helpful in preparing for those courses which will be required in college.

The secondary school courses for admission to the College of Agriculture and Home Economics are listed below under the several curricula. Although these are not to be considered as rigid requirements, successful completion is strongly recommended. These courses have been listed in the order of their importance.

The Curriculum in Agriculture: English (4 years), elementary algebra, plane geometry, science (2 years), history and a third year of mathematics.

The Preveterinary Program: The same as above.

The Preforestry Program: The third year of mathematics should be intermediate algebra.

The Agricultural Engineering Curriculum: English (4 years), elementary algebra, plane geometry, intermediate algebra, trigonometry, solid geometry, physics, chemistry, history, and a foreign language (2 years of one language).

The Curriculum in Home Economics: English (4 years), elementary algebra, plane geometry, science (2 years), history, foreign language (2 years of one language), a third year of mathematics.

COLLEGE OF ARTS AND SCIENCES The College of Arts and Sciences recommends that candidates complete the following courses: English (4 years), ancient or modern foreign language (2 years), elementary algebra, plane geometry, history, and science. Additional subjects should be chosen so far as possible in the fields of language, mathematics, and history. For those who intend to take premedical or predental work or to concentrate in the sciences, a second year of algebra is highly desirable.

COLLEGE OF EDUCATION AND NURSING The College of Education and Nursing recommends that candidates for admission complete the following courses in secondary school: English (4 years), foreign language (2 years), algebra (elementary), plane geometry, history, and science. Candidates should present additional subjects in the fields of language, mathematics, and social studies. Credit may be given for commercial subjects, home economics, shop courses, agriculture, music, and art, if the candidate has maintained a sufficiently high scholastic record.

Candidates will be admitted on the basis of promise for becoming efficient teachers or nurses. In addition to probability for scholastic

success, such factors as health, character, and personality will be taken into account in determining aptitude for teaching and nursing.

COLLEGE OF TECHNOLOGY The College of Technology recommends that candidates for admission to the curricula in engineering complete the following secondary school courses: English (4 years), algebra (elementary and intermediate), plane geometry, solid geometry, history, and science. In addition to the eight or eight and a half units listed above the candidate is advised to choose the remaining units as far as possible in the fields of language, mathematics, history, and science.

Candidates for admission to the curricula in commerce and economics, in medical technology, and in chemistry should follow the recommendations for the College of Arts and Sciences. For the chemistry curriculum, solid geometry is desirable.

SCHOOL OF DENTAL HYGIENE Enrollment is limited to women between the ages of seventeen and thirty-five who are high school graduates. The subjects recommended for admission are the same as for the College of Arts and Sciences. High school subjects which are especially recommended include algebra, biology, physics, and chemistry. Attributes necessary for success are good health, emotional stability, interest in the work, and the ability to get along well with people. Candidates who plan to practice in Vermont or Massachusetts must be seventeen years of age before the first of June preceding their entrance.

SPECIAL STUDENTS Special students are those who are not candidates for a degree in one of the regular curricula, or who are carrying less than a normal academic load. Subject to the usual entrance requirements of the University, persons who are qualified for regular admission may, on payment of specified fees, pursue certain studies in regular college classes as special students. This arrangement is intended to accommodate those whose previous study and attainments enable them to pursue with profit special courses of study in particular departments. Students who have been dismissed for low scholarship may not re-enter as special students.

Special students are registered and enrolled in the same manner as regular students, and are subject to all regulations of the University. Credit for courses completed may be subsequently counted toward a degree. Special students are not eligible to hold University scholarships.

COLLEGE ENTRANCE EXAMINATIONS

The College Entrance Examination Board will administer a series of tests during 1956 on the following dates: May 19, August 8, December 1, and also in 1957 on January 12, March 16, May 18, and August 14. Complete information may be obtained from the College Entrance Examination Board, P. O. Box 592, Princeton, New Jersey.

ADMISSION TO ADVANCED STANDING

All applicants for admission who have attended another collegiate institution are required to file with the Director of Admissions and Records an official transcript of high school and college records. A confidential report from the college attended is also required.

A student who transfers to the University from another accredited college or university may be given provisional credit for all courses satisfactorily completed, provided that similar courses are counted toward graduation at The University of Vermont. Transfer credit is not allowed for work completed with grade "D" or its equivalent, unless a more advanced course in the same subject has been passed with a higher grade in the institution from which the student transfers.

The credit is provisional, pending satisfactory completion of a semester's work at the University. The provisional transfer credits are fully granted if the student is in good standing at the end of the first semester.

PRELIMINARY REGISTRATION PROGRAM

The days immediately preceding the opening of class work are devoted to certain preliminary events designed to facilitate the adjustment of freshmen to conditions of life and study at college. The full schedule of events is given in a special circular, *Preliminary Days at U. V. M.*, which is sent to all prospective freshmen by the Office of Admissions and Records one month before the opening of college.

All new students are given scholastic aptitude tests at the opening of the college year. Freshmen also take several placement tests on the basis of which some students are placed in more advanced courses. The scores on all tests are used in advising students regarding the course of study to pursue, and vocational plans. A personal data report, physical examination, and registration photograph are also included in the program.

Student Expenses

The student expenses outlined in the following paragraphs are the anticipated charges for the academic year 1956–57. *Changing costs, however, may require an adjustment of these charges.*

Tuition The tuition charges are in accordance with the following schedule. However, refundable deposits are required to cover loss or breakage in certain departments. Additional charges are made for individual lessons in music and for some expenses in the dental hygiene and nursing programs.

1. RESIDENTS OF VERMONT

For definition of a resident student, see *General Information.*

	Per Semester	*Per Annum*
College of Agriculture and Home Economics	$112.50	$225
*Elementary and Junior High School Curricula	112.50	225
Other undergraduate colleges and divisions	172.50	345
College of Medicine	275.00	550
Graduate and special students	15 per credit hour	

*The State Board of Education provides full tuition scholarships for certain Vermont students who enrolled in these curricula previous to September, 1955, and who declared their intention to teach in Vermont for a period equal to that for which tuition is paid.

2. NONRESIDENTS OF VERMONT

The tuition for out-of-state students is $705 per annum in all divisions, except in the College of Medicine in which the tuition is $1,000 and except for graduate and special students whose tuition is $30 per credit hour.

College of Medicine There are a limited number of State Scholarships of $200.00 a year each available to Vermont residents. Students allowed to repeat a year are charged full tuition for that year.

An application fee of $10.00 is charged each applicant for admission.

Graduate College A tuition fee of $25.00 per semester is charged each graduate student who has completed all course requirements but who is in residence for the purpose of completing his thesis.

Exceptional Enrollments For an enrollment of fewer than twelve hours the charge is $15.00 per semester hour for residents of Vermont; for nonresidents, the charge is $30.00 per hour.

Students who by reason of conditions over which they have no control require more than four years to complete the requirements for a degree shall be charged no more than the full tuition for four years.

Tuition for Courses in Applied Music Private lessons are approximately one-half hour in length, fifteen being given in each semester. Students who enroll as regular full-time students in the music education curriculum, paying full tuition, are charged one half the regular rates for applied music for such courses as are required in the curriculum. All others pay the scheduled charges.

Piano, Organ, Violin and Singing

One lesson a week	$35.00 per semester
Two lessons a week	60.00 per semester
Use of organ one hour a day	25.00 per semester

Student Activity Fee All students who are enrolled in twelve semester hours or more in the Colleges of Arts and Sciences, Technology, Agriculture and Home Economics, Education and Nursing, and the School of Dental Hygiene are charged a fee of $7.50 per semester. This fee is assessed, allocated, and controlled by Student Association and covers the support of student organizations and activities, and includes subscriptions to the *Vermont Cynic* and the *Ariel*. First-year medical students who enter the College of Medicine after three years in the College of Arts and Sciences are charged this same fee, which includes membership in the Osler Society.

Graduate students, special students, unclassified students, and students in the College of Medicine may, by paying this fee, become entitled to the benefits listed above.

Osler Society Fee All students in the College of Medicine are charged an Osler Club fee of $3.50 per year.

Late Registration Fee A late registration fee of six dollars is charged students who fail to complete enrollment at the appointed times. In unusual cases, exemption from this charge may be made by the deans.

Change of Enrollment Fee A fee of one dollar is charged, except in the College of Medicine, for any change of enrollment requested by the student concerned. Deans may waive this fee in exceptional cases.

Degree Fee The fee for the Master's degree and the technical degrees of C.E., E.E., or M.E. is twenty-five dollars, payable during the semester prior to graduation.

Deposit A deposit of thirty-five dollars is required of every applicant after he has received notification of his acceptance as a student at the University. This deposit is held until he graduates or discontinues his course of study, at which time the deposit minus any indebtedness to the University will be returned to him. In the event that his application is cancelled prior to August 15, fifteen dollars of this amount is refunded.

Breakage Charge A charge will be made, as recommended by the department or office involved, for excessive or unusual breakage or damage and for breakage or damage of expensive equipment.

Room Charges Rooms in college dormitories are rented for the entire year and the prices are uniform in all dormitories. Double rooms are $105.00 per occupant per semester; single rooms rent for $127.50. Nominal charges for the use of certain electrical appliances may be levied upon occupants of the dormitories. The University reserves the right to use dormitory rooms during the vacation periods.

Board All freshman and sophomore women who live on Redstone Campus are required to board at Robinson Hall. The charge for 1956–57 is $200.00 per semester. Most other students, except those living in cooperative houses or fraternity houses, eat most of their meals under a contract plan at the

Waterman Dining Hall where meals are served cafeteria style. Three well-balanced meals per day may be purchased individually at an approximate cost of $14.00.

ESTIMATED EXPENSES PER SEMESTER

The following estimates are based on regular tuition for *resident* undergraduate students. Those receiving scholarships should make appropriate deductions.

*Tuition in most divisions	$172.50
Student Activity Fee	$7.50
†Textbooks and Supplies	$30.00–50.00
Room	$105.00–127.50
Board	$200.00–250.00
Average Total	$520.00

*For exceptions see page 23.

†Students in the School of Dental Hygiene should expect to stand an expense up to $150.00 for the two years to cover textbooks, laboratory fees, instruments, and uniforms.

PAYMENT OF BILLS

The University does not send bills to students or parents prior to registration. All fees for the semester are assigned at the time of registration and students are expected to present personal checks, travelers checks, or cash at that time. Checks should be made payable to *The University of Vermont.* Enrollment is not complete until all charges have been paid or otherwise provided for by arrangements satisfactory to the Treasurer. The University assists the fraternities with the collection of certain house bills. The University reserves the right to withhold all information regarding the record of any student who is in arrears in the payment of fees or other charges, including student loans.

REFUNDS

In the event of withdrawal from college, refunds are made as follows:

1. During the first week of any semester the full tuition is refunded. Thereafter 20% of the tuition is deducted for each week that has elapsed.
2. No refund is made of the student activity fee.
3. No refund of room rent is made unless a replacement can be found.
4. Refund of board is made on a pro rata basis.

BANKING FACILITIES

An arrangement with the Howard National Bank and Trust Company of Burlington enables students to open and maintain regular checking accounts through the University Cashier's Office. Applications for new accounts, deposits to individual accounts, and orders for checkbooks are accepted during office hours in the Cashier's Office. The bank's normal charge of 10c per check is made for this service. The Cashier's Office cashes personal checks for students in good standing who furnish satisfactory identification.

STUDENT AID

Student fees do not meet the full cost of an education at the University. The income from endowment, State and Federal appropriations, and current gifts furnish the balance, amounting in some courses to a contribution of more than $2,000 a year toward the education of the student. Many worthy

and deserving students, however, are still unable to meet the existing financial charges and for them the University provides, so far as its resources permit, considerable aid in the form of scholarships, loans, prizes, and employment. Application for student aid should be made to the Student Aid Committee on forms which are available in the offices of the deans. New students should request forms from the Director of Admissions or from their principal if they are attending a high school in Vermont.

Scholarships During the past year, a total of $382,164.67 was awarded to students, including the agricultural, teacher-training, and medical scholarships. Of this amount, $99,337.00 was provided by the University from scholarship endowments and in the form of prizes. Ninety-five per cent of the scholarships were awarded to residents of Vermont. There are, however, a number of scholarships available to nonresidents, including the Alumni Memorial Scholarships for men.

Any student who has received an endowed or current scholarship in consideration of financial need is expected to repay that scholarship should he, at any time prior to graduation, transfer to another institution.

Following is a list of some of the scholarships and prizes available. A complete list of endowed scholarships and loan funds will be found on the last few pages of this catalogue.

Alumni Memorial Scholarship Fund. An annual gift from the Alumni Council provides certain scholarships for men only. Worthy students who are in need of funds and who meet the qualifications of scholarship, character, leadership, and indicated athletic promise are recommended to the Student Aid Committee by a special committee of the Alumni Council.

Honor. A scholarship of two hundred dollars, for the freshman year only, is awarded in each accredited Vermont high school to the highest standing boy and girl eligible for admission to the University.

Prize Contests. In order to encourage student activities in the high schools and preparatory schools of Vermont, the University conducts annual contests in writing and debating. Announcements of these contests are sent to all secondary schools in the State.

Elementary and Junior High School Education. A limited number of scholarships, varying in amount according to qualifications and need, are awarded annually by the State Board of Education to students in these two curricula.

Endowed Scholarships. Some are restricted for use of students from certain towns or counties, or from certain schools, or in certain courses, and some are unrestricted as to use.

Wilbur Fund. The income from the fund is available to needy students who are residents of Vermont and who have earned entrance or college records that indicate extraordinary scholastic ability. The amounts awarded vary with individual needs.

Loan Funds Loan funds are apportioned annually to needy and deserving students, permitting them to pay a part of the cost of college attendance at some future time. The notes are usually repaid during the productive years immediately following graduation.

Student Employment For details concerning student employment, see *Student Personnel Services.*

General Information

DEFINITION OF "RESIDENT STUDENT"

The following rules of residence, adopted by the Board of Trustees on October 18, 1952, are used in determining a student's eligibility to benefit from the reduced tuition rate for residents of Vermont.

1. A student who is of age when he first enrolls in the University shall be deemed to be a Vermont resident if, and only if, he had his domicile in Vermont for a period of one year next preceding his first enrollment in the University, except as otherwise provided by these rules.

2. A student who is a minor when he first enrolls in the University shall be deemed to be a resident of Vermont, if, and only if, his parents had their domicile in Vermont for one year preceding his first enrollment at the University, except as otherwise provided in these rules.

3. A student who, at the time of his first enrollment at the University, has his domicile fixed by a special rule of law (as a student under guardianship, a married woman, etc.) shall be deemed to be a resident of the State of Vermont if, and only if, the governing rule of law made Vermont his residence for a period of at least one year preceding his first enrollment.

4. In all cases in which a nonresident student claims that he has become a resident of the State of Vermont by reason of the application of a special rule of law (resulting from the appointment of a guardian, marriage of a woman student, etc.), the circumstances claimed to have made the student a resident must have taken place at least one year prior to the next regular student enrollment. In all such cases, the new resident status of the student shall take effect at the time of the next regular enrollment.

5. Whenever a resident student shall lose his Vermont domicile (as in the case of a minor whose parents move from the State or women who marry nonresidents), the student shall immediately be reclassified as a nonresident.

6. It shall be incumbent upon any student whose status changes from resident to nonresident, to inform the dean of his college, or the Registrar, promptly, of the facts relating to his residence.

7. The burden of proof shall, in all cases, rest upon the student claiming a residence of the State of Vermont.

8. The Board of Trustees may, whenever justice requires, make exceptions to these rules.

The Committee on Residence has been authorized by the Board of Trustees to consider exceptions as stated in rule 8 above. Appeals from the decision of the committee may be made to the Board of Trustees.

Application for change of residence classification should be made to the Director of Admissions and Records, who is chairman of the Committee on Residence.

ACADEMIC DISCIPLINE

The continuance of each student upon the rolls of the University, the receipt by him of academic credits, his graduation, and the conferring of any degree or the granting of any certificate are strictly subject to the disciplinary powers of the University, which is free to cancel his registration at any time on any grounds if it considers such action to be for the welfare of the institution. The disciplinary authority of the University is vested in the President in such cases as he considers proper, and, subject to the reserve powers of the President, in the several deans.

RESERVE OFFICER'S TRAINING CORPS

As a land-grant institution, the University provides military training in its curriculum as its contribution toward national defense. Senior division units of the Army ROTC and of the Air Force ROTC are maintained. Their mission is to produce junior officers with qualities and attributes essential to their progressive and continued development as officers in the Army or Air Force.

Each student is provided the opportunity to indicate his preference for Army or Air Force training, and, within quota limitations, is generally assigned to the service of his choice. Those who do not make a choice are arbitrarily assigned.

The Army ROTC curriculum is designed to develop the leadership potential of the individual. Instruction is given in subjects common to all branches of the Army, and qualified graduates of the four year course are commissioned as lieutenants of armor, artillery, engineers, infantry, signal, quartermaster, ordnance or other branch depending upon aptitudes, the individual's choice, and the needs of the Army.

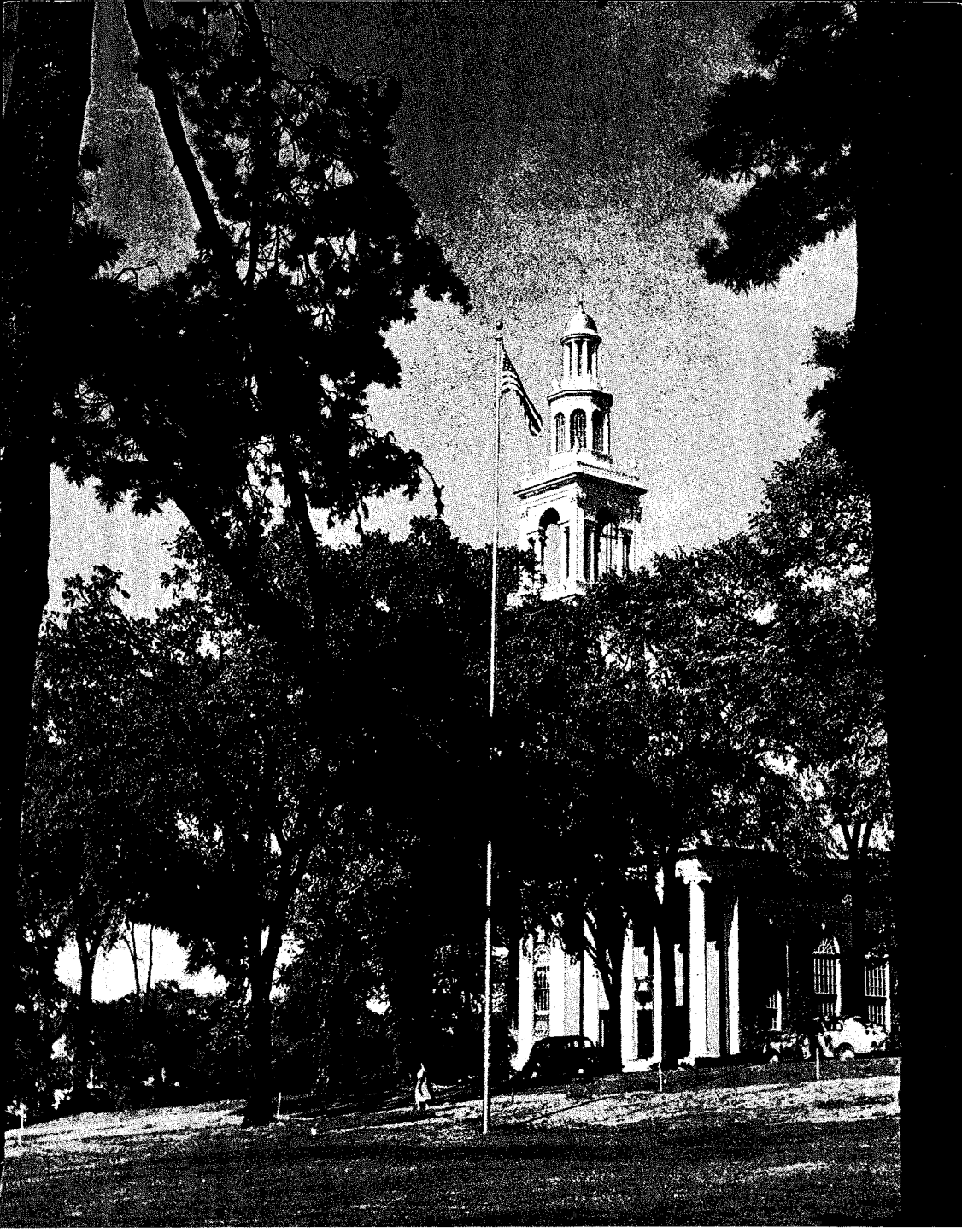
The Air Force is primarily interested in potential leaders, the majority of whom must be qualified for and desire training as flying officers, either as pilots or observers. While some students who are pursuing courses leading to degrees in engineering fields, and others not physically qualified for air crew training are admitted to the junior and senior years of AFROTC, the quota for such students is limited. The basic AFROTC course (the first two years) emphasizes air age citizenship for all who are interested or required to participate.

The Basic Course A two-year course is required of all physically qualified, undergraduate, male students except the following:

1. *Veterans.* Those who have served on active duty in the Armed Forces for six months will be excused from the freshman basic course; those with one year of active duty will be excused from the entire basic course.
2. *Former ROTC Students.* Those who have successfully completed three or more years of an accredited Junior ROTC program will be excused from the freshman basic course upon presentation of a military training certificate.
3. *Transfer Students.* A student who transfers to this institution and who would be an accredited junior or senior at his former college will be excused from the entire basic course provided no ROTC training was offered at the former institution, or was offered on a voluntary basis; or provided he has successfully completed it if it were a required course.
4. *Noncitizens.*

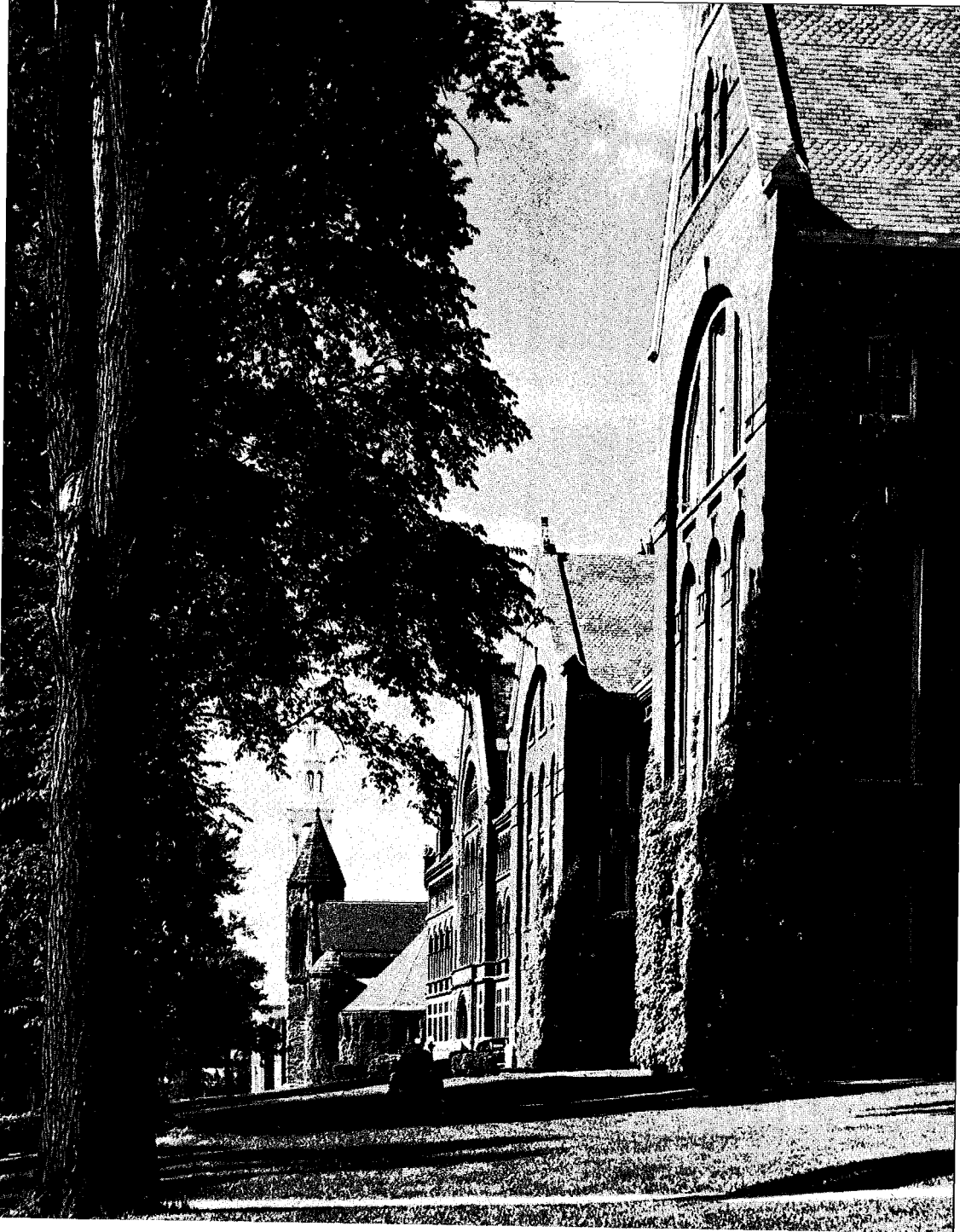
Uniforms, arms, and equipment are furnished the student by the military departments. The class meets at least three periods a week and carries two hours credit per semester. *These eight hours for the two years are in addition to the total number required for a degree in a specific curriculum.*

The Advanced Course This is a two-year elective course open to juniors, and carries three hours credit per semester or twelve hours for the full four semesters. Students are selected by the department chairmen and the President. Ex-service personnel, with the approval of the dean of the college, may apply in the fall of their sophomore year for Advanced Air Force ROTC, and in the spring for Advanced Army ROTC. Each student receives a uniform allowance credit of $100.00 and a daily subsistence allowance

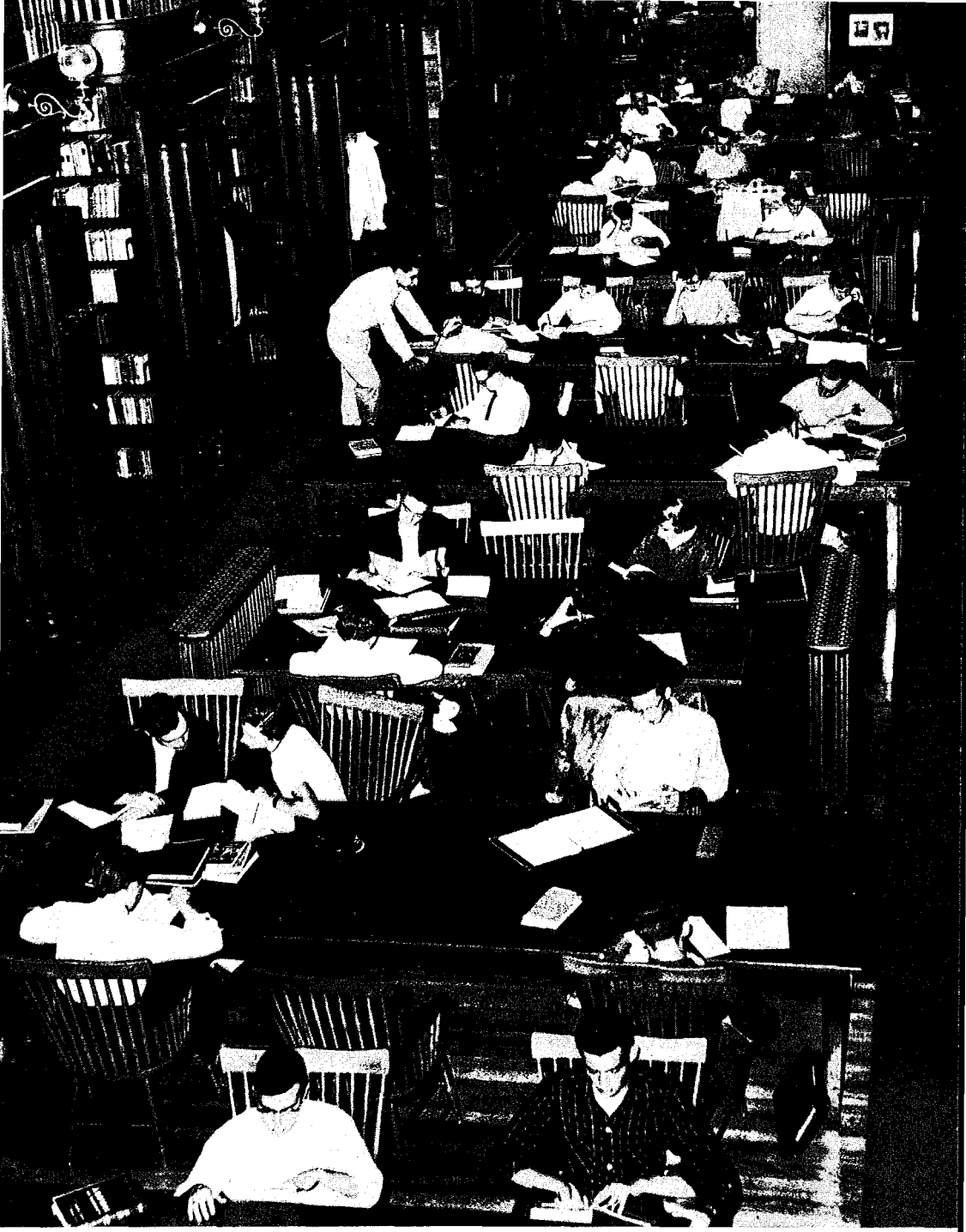


THE IRA ALLEN MEMORIAL CHAPEL

"IRA ALLEN, FOUNDER OF THE STATE OF VERMONT, FOUNDED THIS UNIVERSITY 1791."



ALONG COLLEGE ROW: THE CHAPEL, BILLINGS LIBRARY, WILLIAMS SCIENCE HALL, THE OLD MILL



THE LIBRARY — THE HEART OF EVERY UNIVERSITY

which during recent years has averaged $27.00 per month. The class meets at least five periods per week.

Attendance at a summer camp is mandatory. Duration of the Army ROTC summer camp is six weeks; that of the Air Force, which is announced annually, is usually four weeks. During such attendance the student is paid at the pay scale of an enlisted man in the seventh grade. Mileage at five cents per mile is paid to and from camp. Students attend camp between the junior and senior academic years, but deferment may be made, for cogent reason, when approved by the department.

On successful completion of the advanced course, ROTC students are normally commissioned as second lieutenants in the reserve of their respective services. Distinguished military students may receive regular commissions upon graduation.

Twelve semester hours of elective credit is granted for advanced military science to a student who has held a commission in the U. S. Armed Forces.

UNIVERSITY RESPONSIBILITY

Many courses involve instruction in and the use of various types of power equipment, laboratory apparatus, and specialized facilities. The University takes every precaution to provide competent instruction and supervision of such courses. It is expected that students will cooperate by following instructions and exercising precaution. In case an accident does occur resulting in personal injury, the University can assume no responsibility except for medical care that is provided by the Student Health Service.

STUDENT HEALTH INSURANCE

Through an arrangement with the Vermont Accident Insurance Company students are able to procure a policy providing for payment up to $500 for each accident and each illness. The cost for one year's coverage is $23.00 for men and $21.00 for women. Further details may be obtained from the Treasurer's Office.

ENROLLMENT

Every student is required to register and enroll on the designated days. All charges for the ensuing semester must be paid, or otherwise provided for, before enrollment is completed. After enrollment, no changes of studies will be allowed except such as are authorized by the dean of the college in which the student is registered. After Saturday of the first full week of the semester, no enrollment or changes of studies will be permitted, except that a student may drop a course with his dean's permission during the first three weeks of a semester without incurring any academic penalty.

AUDITING COURSES

With the approval of his dean and the instructor concerned, a student who is regularly enrolled and carrying a normal program may "audit" a course. In such cases no entry is made on the student's permanent record; no credit is given for the work; and no charge is made. Full tuition is charged those students who are not regularly enrolled in at least twelve credit hours.

UNDERGRADUATE DEGREE REQUIREMENTS

Degrees are conferred on the recommendation of the several colleges, and specific requirements will be found in the sections devoted to the respective colleges.

In addition to the course requirements of the several curricula, students must also fulfill the general requirements in physical education, air or military science, and hygiene.

To be eligible for graduation, a student must have attained a grade average of 72 or above in the work required for graduation in his curriculum. Grades in courses accepted for transfer credit are excluded in computing this average.

To be eligible for a degree, a student must have completed eight semesters or the equivalent in semesters and quarters. Exceptions to this rule may be made in special cases by the University Council.

With the exception noted in the next sentence, every candidate for a degree is required to spend his final year in residence. Those who have completed three years of premedical study in the University are awarded their degrees after one year of study in any approved college of medicine.

HONORS

The Bachelor's degree may be conferred with honors, by vote of the Senate, in recognition of general high standing in scholarship. Three grades are distinguished and indicated by inscribing on the diploma the words *cum laude*, *magna cum laude*, or *summa cum laude*. In the College of Medicine, the five students who have attained the highest average of marks during the entire four years' course are graduated *cum laude*. The names of those who receive these honors and of those who win prizes are printed in the commencement program.

Dean's List The deans of the undergraduate colleges publish at the beginning of each semester the names of those students who have attained an average of at least 85 in their college credit courses during the preceding semester.

GRADES AND REPORTS

Scholarship is graded on a percentage scale. Grades are reported and recorded numerically. The minimum passing grade in the undergraduate colleges is 60; any grade lower than 60 represents a failure and indicates that the course must be repeated if credit is to be obtained.

All students enrolled in the undergraduate colleges receive reports of scholarship from the respective deans' offices after the close of each semester. These reports are also sent by the Recorder to the parent or guardian of each freshman student and to the principal of the secondary school from which he was graduated. Reports of upperclass students are sent to parents only upon request. Special reports of low standing are sent by the deans' offices about the middle of each semester, both to the students concerned and to the parents or guardians.

Each student, former student or graduate student may procure one photostatic transcript of his record without charge. For additional orders the charge is one dollar when one transcript is ordered. When more than one

transcript is ordered at a time, the charge is one dollar for the first copy and fifty cents for each additional copy.

USE OF ENGLISH

Correct English usage is demanded by all departments in the University. Written work of any kind which is unsatisfactory in manuscript form, grammar, punctuation, spelling, or effectiveness of expression may be penalized, regardless of contents. Students whose written work falls below the standard of correct usage may be remanded to the English Department for additional instruction, even though the freshman course in English has been passed.

Before they may be admitted to the University, foreign students must offer evidence that they are capable of reading and writing English on the college level.

The College of Agriculture and Home Economics

The College of Agriculture and Home Economics performs four public functions: it teaches resident students; it investigates problems; it disseminates information; it renders related services. These four lines of work are carried out respectively by the resident instruction division; the research division, or Vermont Agricultural Experiment Station; the extension division, or Vermont Agricultural Extension Service; and the Related Services Division.

The resident instruction division offers professional curricula in agriculture, agricultural engineering, and home economics and, in addition, two-year programs in preforestry and preveterinary science. The curriculum in agriculture leading to the degree of Bachelor of Science in Agriculture provides a variety of options. The curriculum in agricultural engineering offered in cooperation with the College of Technology leads to the degree of Bachelor of Science in Agricultural Engineering. Young women may earn the degree of Bachelor of Science in Home Economics by electing either a general course or by pursuing one of the several professional options. The two year preforestry and preveterinary programs prepare students for admission to other institutions for professional training in these fields.

Most curricula in the College of Agriculture and Home Economics leading to the Bachelor of Science degree require 130 semester hours of prescribed and elective courses, exclusive of those in basic military and air science, physical education, and hygiene. The Agricultural Engineering Curriculum requires 136–140 semester hours of prescribed and elective courses. Normally 15 to 18 credit hours of courses exclusive of the aforementioned courses constitute a semester program.

In each field, to provide a well-balanced and integrated educational program and to insure reasonable concentration, a sequence of courses is prescribed with allowance made for the election of additional courses. Faculty advisers counsel students in the selection of elective courses and other educational problems. The courses listed for each of the curricula are those prescribed for the years indicated.

As part of the preliminary registration program, an English placement test is given on the basis of which a few students are excused from the freshman course in English. Such students substitute another course, normally in English.

A student may transfer from one curriculum, option or program in the College to another, provided the course requirements established for the curriculum, option or program are satisfied. Arrangements may be made for transfer within the College through counsel with the student's faculty adviser.

THE CURRICULUM IN AGRICULTURE

The curriculum in agriculture leading to the degree of Bachelor of Science in Agriculture provides the following options: general agriculture, agri-

cultural economics, agricultural education, agronomy, animal and dairy production, botany, dairy manufacturing, horticulture, and poultry husbandry.

Past records have shown that farm practice is a valuable asset for graduates in agriculture. It is highly recommended that agricultural farm experience be secured by all students before graduation.

FRESHMAN YEAR—A

OPTIONS in General Agriculture, Agricultural Economics, Agricultural Education.

	1st Semester	2nd Semester
English Composition	3	3
Introductory Botany	4	..
Elementary Algebra	..	3
World Agriculture	..	3
General Dairying	3	..
General Soils	..	3
General Poultry	3	..
Public Speaking	3	..
Elective	0–2	3–6

GENERAL AGRICULTURE This option is designed for students wishing to return to farming, to become farm managers, to enter work allied to farming; for those seeking a general rather than a specialized knowledge in the field of agriculture; for those desiring to prepare for county extension work; and for those preparing to work in the general field of agriculture with commercial concerns such as feed, fertilizer or seed companies, meat packers, agricultural implement and equipment concerns, dairy products and supplies companies, and for organizational and publicity work for farm organizations. Through the proper selection of electives, a student may choose a field of concentration in agriculture, and at the same time select courses that contribute to a liberal education.

Students taking a major part of their work in forestry under this option may prepare for entrance to professional forestry schools granting the Master of Forestry degree. Students contemplating preparation for county extension work should, not later than their sophomore year, seek the advice of the state extension leaders.

Each student in the general agriculture option must complete a minimum of 21 credit hours of agricultural courses in addition to the courses listed. At least two advanced courses in one subject and one advanced course in a related subject recommended by the chairman of the department in which the major part of the work is done must be taken in the junior and senior years.

SOPHOMORE YEAR	1st Semester	2nd Semester
English	..	..
Intro. Chem. or Intro. Physics	4–3	4–3
Principles of Economics	3	3
General Horticulture	3	..
General Farm Crops	3	..
Elective	2–6	5–9

JUNIOR YEAR	1st Semester	2nd Semester
English	..	3
*Extension Methods	..	2
Rural Sociology	3	..
Woodland Management	3	3
Elective	9–12	7–10

*Either in junior or senior year.

SENIOR YEAR	1st Semester	2nd Semester
Survey of Amer. History or Amer. Govt.	3	3
*Extension Methods	..	2
Farm Power, Mach. and Elec. or Farm Structures and Util. & Soil and Water Engr.	3	3
Farm Management	3	3
Elective	6–9	4–7

*Either in junior or senior year.

AGRICULTURAL ECONOMICS Training in agricultural economics prepares students wholly or in part for appraising land; marketing activities; supervising agricultural loan departments in private banks; directing farmer cooperatives such as the production and farm loan associations affiliated with the Farm Credit Administration; public relations research and sales work for the manufacturers of agricultural tools or products; organizational and publicity work for farm organizations and cooperative associations; positions in state, county, and local government service; research work in farm management, farm credit, taxation, marketing, farm population and rural life trends; for operating and managing farms; and for operating numerous enterprises where a knowledge of economic principles is an essential supplement to knowledge of the technical requirements of the business. This course of study satisfies the entrance requirements for graduate schools, for applicants for research or teaching fellowships in agricultural economics.

SOPHOMORE YEAR	1st Semester	2nd Semester
Agricultural Cooperation	2	..
Agricultural Business	..	3
English	3	3
Intro. Chem. or Intro. Physics	4–3	4–3
Principles of Economics	3	3
General Farm Crops	3	..
Elective	0–4	2–6

JUNIOR YEAR	1st Semester	2nd Semester
Rural Sociology	3	..
Woodland Management	3	3
Farm Credit	..	3
Marketing Farm Products.	..	3
*Extension Methods	..	2
Elective	9–12	4–9

SENIOR YEAR	1st Semester	2nd Semester
Farm Management	3	3
Public Problems of Agriculture	..	3
*Extension Methods	..	2
Elective	12–15	7–12

*Either in junior or senior year.

A minimum of 12 credit hours must be selected from the following with the advice of the department chairman: Forage and Pasture Crops, Livestock Other than Dairy, Feeds and Feeding, Milk Production, Principles of Accounting, Statistics, Economic Analysis, Biological Statistics, General Horticulture.

AGRICULTURAL EDUCATION This option prepares students to teach vocational agriculture at the high school level and to teach young farmer classes and adult farmer classes. Preparation for advising local chapters of the Future Farmers of America is also given. The students are prepared for advanced study in the field of agricultural education. Many of the agencies and commercial concerns which employ farm service personnel consider

experience in teaching vocational agriculture as excellent preparation for work in their fields.

SOPHOMORE YEAR	1st Semester	2nd Semester
English	3	3
Intro. Chem. or Intro. Physics	4–3	4–3
Principles of Economics	3	3
General Psychology	3	
General Farm Crops	3	..
Elective	0–2	5–9

JUNIOR YEAR	1st Semester	2nd Semester
Rural Education	..	3
Farm Management	3	3
Woodland Management	3	3
Feeds and Feeding	3	..
Milk Production	3	..
Farm Power Mach. & Elec.	3	..
Farm Shop	..	3
Elective	0–3	3–6

SENIOR YEAR	1st Semester	2nd Semester
Farm Structures & Utilities & Soil and Water Engineering	..	3
Methods of Teaching Young and Adult Farmer Classes	3	..
Directed Practice Teaching in Vo. Agriculture	6	..
Marketing Farm Products	..	3
Methods of Teaching Vo. Agriculture	3	3
Mensuration	2	..
Elective	0	6–9

FRESHMAN YEAR—B

OPTIONS in Agronomy, Animal and Dairy Production, Botany, Dairy Manufacturing, Horticulture, and Poultry Husbandry

	1st Semester	2nd Semester
English Composition	3	3
Freshman Math. (1, 2 or 11, 12)	3–5	3–5
Intro. Chemistry or General Chemistry	4–5	4–5
Intro. Botany or Intro. Zoology	4	..
Public Speaking	..	3
Elective	0–4	0–5

AGRONOMY This option is designed to give students a fundamental background in the theory and practice of crop and soil science and to prepare them for graduate study in these fields. By proper selection of electives, students may specialize in either crops or soils. Upon completion of four years study, agronomy majors may enter federal, state or commercial employment in such areas as soil conservation, soil survey, soil analysis, fertilizers, field or forage crop production and management, seed production, weed control, and crop breeding, or engage in practical farming. Graduates are qualified to do research, teaching or extension work in the above or related fields.

SOPHOMORE YEAR	1st Semester	2nd Semester
English	3	3
Organic Chemistry or Elem. Quant. Analysis	4–3	4–3
Principles of Economics	3	3
Intro. to Zoo. or Intro. Geology	4	..
General Soils	..	3
Elective	0–5	0–6

JUNIOR YEAR	1st Semester	2nd Semester
General Physics	4	4
Forage and Pasture Crops.	..	3
Soil Conservation	3	..
Plant Physiology or Field Crops	5–3	..
Bacteriology	..	3
Elective	5–6	5–8

SENIOR YEAR	1st Semester	2nd Semester
Field Crops or Plant Physiology	3–5	..
Farm Management	3	3
Soil Science and Management	..	4
Seminar	1	1
Elective	8–9	7–10

ANIMAL AND DAIRY PRODUCTION This option provides technical and practical instruction in the field of animal husbandry with emphasis on the selection, breeding and management of dairy cattle. It prepares students for the operation of dairy farms and livestock enterprises; for field work in federal and state extension services, breed associations, farm organizations and commercial concerns; for positions in industries related to the processing and sale of dairy products and meats or with feed companies, dairy equipment and supply agencies; for graduate study leading to college teaching and research.

SOPHOMORE YEAR	1nd Semester	2nd Semester
English	3	3
Organic Chem. (131-132 or 35)	4–5	4–0
Principles of Economics	3	3
General Dairying	3	..
Livestock other than Dairy	..	2
General Farm Crops	3	..
General Bacteriology	..	3
Elective	0	0–4

JUNIOR YEAR	1st Semester	2nd Semester
General Physics	4	4
Anatomy and Physiology	3	..
Animal Nutrition	..	2
Dairy Bacteriology	3	..
Feeds and Feeding	3	..
General Soils	..	3
Diseases of Farm Animals	..	2
Advanced Judging	..	2
Elective	2–5	2–5

SENIOR YEAR	1st Semester	2nd Semester
Marketing Farm Products	..	3
Farm Management	3	3
Market Milk	2	..
Genetics or Heredity	3	..
Animal Breeding	..	3
Milk Production	3	..
Seminar	..	1
Elective	4–7	5–8

BOTANY Botany is that subdivision of biology which is the foundation of the various branches of plant science, whether theoretical or applied. Students from both the College of Agriculture and Arts and Sciences may select the botany option. The student receives general instruction in the physical and biological sciences while obtaining a liberal education. Such an undergraduate experience can be applied to many fields of future endeavor. A student takes beginning botany, physiology and morphology as prerequisite to four advanced courses. These courses are selected depending on the student's own interest in any one of the fields which constitute botany. In these courses he is introduced to the ideas, the technics and appropriate modern scientific apparatus. Students have a variety of choices open to them upon receiving the Bachelor's degree. Some go directly into agriculture, industry, government services, applied research, or biology teaching in the secondary schools. Others enter professional schools. Still others go on to graduate school to prepare themselves for more advanced positions.

SOPHOMORE YEAR	1st Semester	2nd Semester
English	3	3
Intro. Botany or Intro. to Zoo.	4	..
Organic Chem. or Elem. Quant. Analysis	4–3	4–3
Social Science	3	3
Elective	2–4	6–8

JUNIOR YEAR	1st Semester	2nd Semester
General Physics	4	4
Foreign Language	3	3
Plant Physiology	5	..
Morphology	3	3
Elective	0–3	5–8

SENIOR YEAR	1st Semester	2nd Semester
Foreign Language	3	3
Elective	12–15	12–15

Note: Four semester courses in botany are required in addition to those prescribed.

DAIRY MANUFACTURING Technical and practical instruction in the processing of milk and milk products prepares students for supervisory positions in the many different fields of operation in the dairy industry and also for advanced study and research in these fields.

SOPHOMORE YEAR	1st Semester	2nd Semester
English	3	3
Organic Chem. (35 or 131-132)	5–4	0–4
Principles of Economics	3	3
General Dairying	3	..
General Bacteriology	..	3
Chem. & Testing of Dairy Prod.	..	3
Milk and Milk Products	2	..
Elective	0–2	0–3

JUNIOR YEAR	1st Semester	2nd Semester
General Physics	4	4
Dairy Plant Engr. or Cone. Milk Products	..	2–3
Butter, Cheese and Casein	..	3
Principles of Accounting	3	3
Dairy Bacteriology	3	..
Elective	5–8	3–5

SENIOR YEAR	1st Semester	2nd Semester
Ice Cream	3	..
Concentrated Milk Products or Dairy Plant Engineer	..	3–2
Market Milk	2	..
Technical Control of Milk Processing	..	2
Marketing Farm Products	..	3
Milk Production	3	..
Seminar	..	1
Elective	7–10	7–9

Note: Four additional courses are required in commerce and economics, chemistry or biology, with the advice of the department.

HORTICULTURE This option is designed to prepare students for opportunities in the vast field of horticulture with particular emphasis on fruits and vegetables. Positions available to graduates include those with private or commercial concerns producing, manufacturing and distributing horticultural products and supplies; fruit or vegetable farm management; agricultural extension and positions with the U. S. Department of Agriculture. Students who so desire may prepare for advanced study.

SOPHOMORE YEAR	1st Semester	2nd Semester
English	3	3
Organic Chemistry or Elem. Quant. Analysis	5–4	5–4
Intro. to Zoology	4	..
Plant Propagation	..	2
General Horticulture	3	3
Elective	0–4	2–6

JUNIOR YEAR	1st Semester	2nd Semester
Social Science	3	3
General Physics	4	4
Foreign Language	3–4	3–4
*Plant Physiology	5	..
Elective	0–3	5–8

SENIOR YEAR	1st Semester	2nd Semester
Foreign Language	3	3
Genetics	3	..
*Plant Breeding	..	3
Elective	9–12	9–12

*Junior or senior year, alternate year course.

POULTRY HUSBANDRY The poultry husbandry option gives training for poultry farm or hatchery operation; for commercial fields, such as marketing of poultry products, the manufacturing, selling and services of feed and equipment, and other allied industries; for graduate work; and for positions in teaching, extension, and research.

SOPHOMORE YEAR	1st Semester	2nd Semester
English	3	3
Organic Chemistry or Elem. Quant. Analysis	5–4	5–4
General Bacteriology	..	3
General Poultry Husbandry	3	..
Incubation & Brooding or Poultry Sanitation & Disease Control	..	4
Elective	4–8	0–4

JUNIOR YEAR	1st Semester	2nd Semester
Principles of Economics	3	3
Poultry Sanit. & Disease Control or Incub. and Brooding	..	4
Poultry Feeding or Processing & Pkging. Poultry Products	3–4	..
Forage & Pasture Crops	..	3
Farm Structures, Utilities and Soil & Water Engr.	..	3
Elective	9–11	2–5

SENIOR YEAR	1st Semester	2nd Semester
General Physics	4	4
Poultry Feeding or Processing & Packaging Poultry Products	4–3	..
Anatomy & Physiology	3	..
Farm Management	3	3
Elective	1–5	8–11

THE AGRICULTURAL ENGINEERING CURRICULUM

Agricultural engineering is the application of engineering principles and practices to agriculture. The several subdivisions of agricultural engineering are farm power and machinery, soil and water engineering, farm structures, and rural electrification and utilities. This curriculum leads to the professional Bachelor of Science in Agricultural Engineering degree. In addition to the courses listed below a sufficient number of electives will be taken to satisfy the 136 hour requirement. (There is a 140 hour requirement for those who must enroll in Mathematics 9; see footnote under Department of Mathematics for details.) The first two years emphasize basic engineering courses;

while the last two years emphasize agricultural engineering courses along with additional basic engineering courses. The curriculum, the instructional staff, and the course content are jointly approved by the College of Technology and the College of Agriculture and Home Economics.

The student is prepared upon graduation to accept professional engineering employment in the field of farm equipment design, manufacture, sales, distribution, and public relations; the field of building materials; and the field of public utilities dealing with the application of electricity to agriculture; and the field of soil and water control.

There are opportunities for research in private industry and Federal and state experiment stations. Universities have positions for teachers in agricultural engineering and in extension engineering in which engineering assistance is given to the farmer. Employment may be found with various Federal organizations, such as the Soil Conservation Service and Farmers Home Administration. The student is prepared for advanced study in the field of agricultural engineering.

FRESHMAN YEAR	1st Semester	2nd Semester
*Freshman Math. (Math. 11-12)	5	5
Intro. Chem. (Chem. 1-2)	4	4
Engin. Draw. (E.G. 1-2)	3	3
†Engl. Comp. (Engl. 1-2)	3	3
Engin. Problems (M.E. 3-4)	1	1

SOPHOMORE YEAR	1st Semester	2nd Semester
Soph. Math. (Math. 21-22)	3	3
Gen. Physics (Phys. 21-22)	5	5
Expository Writing (Engl. 16)	3	..
Statics (C.E. 24)	3	..
Surveying (C.E. 53)	4	..
Thermodynamics (M.E. 92)	..	2
M.E. Laboratory (M.E. 82)	..	1
General Soils (Agron. 2)	..	3
Dynamics (C.E. 130)	..	3

JUNIOR YEAR	1st Semester	2nd Semester
Mech. of Materials (C.E. 131)	3	..
Fluid Mechanics (M.E. 142)	..	4
Thermodynamics (M.E. 111)	4	..
Farm Utilities (A.E. 152) or Agr. Mach. & Equip. (A.E. 154)	..	3
Farm Power Mach. (A.E. 153) or Farm Structures (A.E. 151)	3	..
Elec. in Agr. (A.E. 156) or Farm Shop (A.E. 102)	..	3
Public Speaking (Speech 11) or Soil & Water Engr. (A.E. 155)	3	..
Princ. of Econ. (C. & E. 11-12)	3	3
Junior Seminar (A.E. 181-182)	1	1

SENIOR YEAR	1st Semester	2nd Semester
Agri. Mach. & Equip. (A.E. 154) or Farm Utilities (A.E. 152)	..	3
Farm Structures (A.E. 151) or Farm Power Mach. (A.E. 153)	3	..
Soil & Water Engr. (A.E. 155) or Public Speaking (Speech 11)	3	..
Farm Shop (A.E. 102) or Electricity in Agr. (A.E. 156)	..	3
Farm Management (A. Econ. 201-202)	3	3
Senior Seminar (A.E. 183-184)	1	1

Note: Sufficient elective courses must be taken to make up the required 136 or 140 hours as stated above. Six hours of electives must be selected from the following: literature, sociology, religion, political science, psychology, history, philosophy, art, music, or language.

*See footnote under Department of Mathematics.

†Students exempted from English 1–2 on the basis of the placement test may substitute another course, normally in English.

THE PREFORESTRY PROGRAM

This program provides the basic preparation of the first two years of a four-year forestry curriculum leading to the degree of Bachelor of Science in Forestry. The last two years of technical education are taken at an institution which confers the degree in forestry. The program permits adjustment of the subject matter for transfer with advanced standing in the forestry school selected. Professional forestry aims to develop men in the broad fields of forestry for the management of large and small public or private forest properties for timber production and utilization; wildlife management and administration; technical and managerial work in the wood-using industries; general administrative work in the United States Forest Service, Wildlife Service, National Park Service, Soil Conservation Service and other Federal agencies and state forestry services; research and teaching; and private forestry consultants.

FRESHMAN YEAR	1st Semester	2nd Semester	SOPHOMORE YEAR	1st Semester	2nd Semester
Freshman Math. (1, 2)	3	3	Dendrology	..	2
Dendrology	1	3	Expository Writing	..	3
Elements of Forestry	..	3	Introductory Chemistry	4	4
English Composition	3	3	Introductory Physics	3	3
Introductory Botany	4	..	Introduction to Zoology	4	..
Introductory Geology	4	4	Principles of Economics	3	3
Engineering Drawing	3	..	Surveying	4	..
Elective	0	0–2	Elective	0	0–3

THE PREVETERINARY PROGRAM

This program offers preparation for entrance to colleges of veterinary medicine. Adjustments of individual programs may be made to meet the requirements of different colleges. Students completing the prescribed courses with good grades and suitable qualifications may expect consideration for admission to veterinary colleges. Some farm experience is a definite advantage. Opportunities are available for graduate veterinarians in general practice, the armed services, public health, teaching and research, and federal state and municipal disease control work.

FRESHMAN YEAR	1st Semester	2nd Semester	SOPHOMORE YEAR	1st Semester	2nd Semester
English Composition	3	3	Vertebrate Zoology	4	..
Introductory Chemistry	4	4	Introductory Physics	3	3
Introduction to Zoology	4	..	Organic Chemistry	4	4
Public Speaking	3	..	American Govt. or History	3	3
Principles of Evolution	..	4	Elective	..	3
Elem. College Algebra	..	3	Introductory Botany	..	4
Elective	1–4	1–4	Elective	1–4	1–4

THE CURRICULUM IN HOME ECONOMICS

This curriculum has two purposes: first, to provide through the general home economics course a liberal education including the areas of learning which relate to home and family; second, to provide several options which are organized to give a more specialized training and background for the interesting professions that are a part of home economics.

THE GENERAL HOME ECONOMICS COURSE This course requires 42 credit hours in basic home economics and 53 credit hours of non-home economics subjects, as shown in the outline, and is designed primarily to prepare students for homemaking, not for professional positions in home economics. The other credits are elective and with counsel are selected to provide for the fullest development of the student.

Required non-home economics courses:

	Hours
English	12
Laboratory Sciences	8
Psychology	6
Economics	6
Other Basic Social Science	6
Speech	3
Advanced Course in Science	6
Advance Course in the Humanities	6

FRESHMAN YEAR	1st Semester	2nd Semester
*English Composition	3	3
Social Science or Language	3–4	3–4
Laboratory Science	4	4
Orientation (H.E. 1, 2)	1	1
Design (R.A. 15)	3	..
Food Selection (F. & N. 11)	3	..
Textile & Clothing Selection (T. & C. 16)	..	3
Speech	..	3

JUNIOR YEAR	1st Semester	2nd Semester
Psychology	3	3
Consumer Problems (T. & C. 109)	3	..
Home Furnishings I (R.A. 108)	..	3
Child Development (F.L. 130)	3 or 3	
Home Management (H.M. 112)	..	3
Advanced Course in Science or the Humanities	3	3
Elective	6–9	3–6

SOPHOMORE YEAR	1st Semester	2nd Semester
English Elective	3	3
Household Technology (H.M. 63-64)	2	2
Survey of Food Preparation (F. & N. 53)	4	..
House Planning (H.M. 62)	..	2
Meal Management (F. & N. 104)	..	3
Social Science or Elective	3	3
Principles of Economics	3	3
Elective	3	2

SENIOR YEAR	1st Semester	2nd Semester
Home Management Residence (H.M. 160)	3 or 3	
Family Relationship (F.L. 180)	3	..
Advance Course in Science or the Humanities	3	3
Elective	9–12	12–15

*Students exempted from English Composition on the basis of the placement test may substitute another course in English.

THE PROFESSIONAL OPTIONS To provide concentration for students with special interests, the subject matter is divided into three options. The program for all freshmen is uniform with the selection of the professional option at the beginning of the sophomore year.

The food and nutrition option is planned to prepare students for positions as dietitians, both administrative and practicing, in hospitals, colleges, industry or other institutions; as nutrition or food specialists in utilities or commercial food firms; or as teachers of food and nutrition. This option meets the academic requirements for membership to the American Dietetic Association, which makes it possible for an able student on graduation to become a dietetics interne in an institution approved by the Association.

The home economics education option supplies a background which prepares students to teach home economics on the secondary and adult level in Vermont and in some other states or to become home demonstration or 4-H club agents.

The related art and textiles and clothing option is planned for students who are interested in the fields of textile testing, costume designing, fashion illustrating, fashion merchandising, interior decorating, and the teaching of textiles and clothing. This option provides background upon which a talented student may with additional study or apprentice training build a career.

In order to provide the best possible program for the individual student within her professional choice, it may be necessary occasionally to make substitutions in the option as outlined.

Every candidate for the degree of Bachelor of Science in Home Economics must present a total of 130 semester hours of credit, exclusive of courses required in physical education. Students in home economics education must have a 75 average in their home economics subjects to be eligible for student teaching during their senior year.

OUTLINE OF PROFESSIONAL OPTIONS

UNIFORM FRESHMAN YEAR	1st Semester	2nd Semester
Design (R.A. 15)	3	..
*English Composition	3	3
European History or American Government	3	3
Food Selection (F. & N. 11)	3	..
Basic Speech	..	3
Orientation (H.E. 1, 2)	1	1
Introductory Chemistry	4	4
Textiles and Clothing Selection (T. & C. 16)	..	3

*Students exempted from English Composition on the basis of the placement test may substitute another course in English.

FOOD AND NUTRITION

SOPHOMORE YEAR	1st Semester	2nd Semester
Introduction to Zoology	4	..
Food Preparation (F. & N. 55-56)	3	3
Household Technology (H.M. 63-64)	2	2
Outlines of Organic Chemistry	5	..
Principles of Economics	3	3
General Bacteriology	..	3
Elective	..	6

JUNIOR YEAR	1st Semester	2nd Semester
Consumer Problem (T. & C. 106)	3	..
Biochemistry	5	..
Food Preservation and Econ. (F. & N. 103)	3	..
Psychology	3	3
Child Development (F.L. 130)	..	3
Home Management (H.M. 112)	..	3
Meal Management (F. & N. 104)	..	3
Physiology	..	3
Food Production (I.M. 118)	..	3
Elective	4	..

SENIOR YEAR	1st Semester	2nd Semester
Family Relationships (F.L. 180)	3	..
Educational Psychology	3	..
English	3	3
Nutrition and Diet (F. & N. 251)	4	..
Experimental Foods (F. & N. 254)	..	3
Diet Therapy (F. & N. 152)	..	3
Home Management Residence (H.M. 160)	..	3
Institution Administration (I.M. 266)	..	3
Food Cost Control (I.M. 169)	3	..
Elective	..	3

HOME ECONOMICS EDUCATION

SOPHOMORE YEAR	1st Semester	2nd Semester
Principles of Economics	3	3
Food Preparation (F. & N. 55-56)	3	3
Household Technology (H.M. 63-64)	2	2
Outline of Organic Chemistry	5	..
Clothing Construction I (T. & C. 58)	..	3
Psychology	3	3
House Planning (H.M. 62)	..	2

JUNIOR YEAR	1st Semester	2nd Semester
English	3	3
Consumer Problems (T. & C. 109)	3	..
Clothing Construction II (T. & C. 110)	3	..
Food Preservation & Economics (F. & N. 103)	3	..
Education	3	..
*Extension Methods	..	2
Child Development (F.L. 130)	..	3
Home Management (H.M. 112)	..	3
Meal Management (F. & N. 104)	..	3
Home Furnishing I (R.A. 108)	..	3
Principles of Nutrition (F. & N. 106)	..	3
Elective	3	..

SENIOR YEAR	1st Semester	2nd Semester
Family Relationships (F.L. 180)	3	..
Demonstration Techniques (H.Ec.Ed. 121)	2	..
Home Nursing	1	..
School Lunch Management (I.M. 165)	3	..
Methods of Teaching (H.Ec.Ed. 171)	3	..
Special Problems in Home Economics Education (H.Ec.Ed. 174) or Senior Problems (H.Ec.Ed. 196)	..	2–3
Elective	3	..
Student Teaching (H.Ec.Ed. 172)		1st Half 7
Home Management Residence (H.M. 160)		2nd Half 3
Adult Education (H.Ec.Ed. 276)		2

*Required of extension education students only.

RELATED ART AND TEXTILES AND CLOTHING

SOPHOMORE YEAR	1st Semester	2nd Semester
Principles of Economics	3	3
Surv. Food Prep. (F. & N. 53)	4	..
Meal Management (F. & N. 104)	..	3
Household Technology (H.M. 63-64)	2	2
Outline of Organic Chem.	5	..
Costume Design (R.A. 57)	2	..
Clothing Construction I (T. & C. 58)	..	3
House Planning (H.M. 62)	..	2
Elective	..	3

JUNIOR YEAR	1st Semester	2nd Semester
Consumer Problems (T. & C. 109)	3	..
Elementary Botany or Introduction to Zoology	4	..
General Psychology	3	3
History of Costume (R.A. 107)	3	..
Home Furnishing I (R.A. 108)	..	3
Child Development (F.L. 130)	..	3
Home Management (H.M. 112)	..	3
Clothing Construction II (T. & C. 110)	..	3
Elective	3	3

SENIOR YEAR	1st Semester	2nd Semester
English	3	3
Family Relationships (F.L. 180)	3	..
Home Furnishing II (R.A. 256)	..	3
Home Management Residence (H.M. 160)	3	..
Costume Design and Construction (T. & C. 258)	..	3
Textiles (T. & C. 162)	..	3
Advanced Biological Science	..	3 or 4
Elective	12	2–3

The College of Arts and Sciences

The College of Arts and Sciences aims to provide for young men and women the means and opportunity of fitting themselves intellectually, emotionally, and spiritually to play a responsible part in the world of thought and action.

It devotes itself to the inculcation of ideals and the cultivation of ideas. It seeks to encourage habits of clear, independent thinking and effective expression; to stimulate an appreciative understanding of the thought and achievement of man; to develop sound critical judgment and a spirit of tolerance; to arouse the intellectual curiosity which is the basis of continuing self-education.

Its fundamental purpose is to instill the courage and conviction to exemplify the enduring values of American democracy.

THE LIBERAL ARTS CURRICULUM

The curriculum in liberal arts, leading to the degree of Bachelor of Arts, is designed to assure adequate training in language, particularly in English, as the mother tongue and the chief tool of thought and expression, and in certain other subjects essential to an understanding of the various fields of human knowledge; and to provide for further study and mastery of a chosen field of concentration.

Every candidate for this degree must fulfill the requirements stated below, and present a total of 120 semester hours of credit. For those required to take military or air science and physical education the total of credit hours is increased by the number of hours required in those subjects.

REQUIRED OF ALL STUDENTS:

1. English. English Composition the first year, unless exempted, and the second year either English-American Literature or World Literature.

2. Foreign Language. One course of at least intermediate grade in French, German, Greek, Latin, or Spanish, to be completed as early as possible in the college career.

3. Science. One laboratory course, normally the first year, to be chosen from botany, chemistry, geology, physics, and zoology.

4. Physical Education and Military Science. Two years of physical education for men and women, two years of military science for men, a year course in hygiene for women.

5. Field of Concentration. Each student, in consultation with his adviser, must choose a field of concentration during his sophomore year. The specific courses making up the field, as well as the student's whole program for the last two years, are chosen in consultation with the Chairman of the Department in which the major part of the work is to be taken and must have his approval. There are certain restrictions to be met. (A) The field must be a well integrated whole, adapted to the student's special interests. (B) It must include a minimum of six courses totalling not less than 36 semester hours, at least half, but not all, to be taken in one subject. (C) It must contain at least two advanced courses in one subject and one advanced related

course in another subject. (D) Each student must take at least one course, normally an advanced course, in his field of concentration in each semester of his junior and senior years.

ADDITIONAL REQUIREMENTS FOR STUDENTS CONCENTRATING IN FIELDS IN THE FOLLOWING DIVISIONS:

1. *Language and Literature, or Music: History (American, Ancient, Medieval, or Modern European) normally the first year; a second foreign language reaching the intermediate level†; a second year course in the social science division.

2. Social Science: History (American, Ancient, Medieval, or Modern European) normally the first year; during the first two years a total of two year courses in different departments, chosen from the following: Economics, Philosophy, Political Science, and Psychology.

3. Science and Mathematics: Inorganic Chemistry (except for students concentrating in Mathematics), mathematics and physics as indicated below under requirements for special departments, and a total of two year courses (twelve semester hours or more) in departments other than the sciences and mathematics.

*It is strongly recommended by the respective departments that students who wish to choose modern foreign language as their field of concentration complete Intermediate Latin in college unless they presented four years of Latin for entrance. The English Department states that "students concentrating in English will be aided by courses in Latin, particularly if they intend to continue with graduate study."

†Students concentrating in English substitute an advanced literature course in foreign language for the second foreign language.

SPECIAL REQUIREMENTS FOR CONCENTRATION IN SPECIAL DEPARTMENTS:

Botany Mathematics 1, 2 or 7, 8 or 11, 12; Physics 5-6; Zoology 1; Botany 1, 103, 113-114, and four additional semester courses. The advanced related course (six semester hours or more) is normally in one of the other sciences.

Chemistry Mathematics 21-22 (Calculus); Physics 21-22; Chemistry 11-12, 21-22, 131-132, 141-142, 151-152, and 153-154. No advanced related course is required. Those who wish to qualify for accreditation by the American Chemical Society must also complete 237, six additional hours in advanced courses, and also German 11-12. Physics 171-172 is recommended. *Only those who qualify as above will be recommended by the department as chemists.*

Economics Courses in economics totalling at least twenty-four semester hours, including twelve or more of advanced grade. The related courses are chosen in consultation with the departmental adviser on the basis of the student's individual needs and plans.

English Satisfactory completion of English-American Literature and six semester courses of advanced grade. The advanced related course may be in language, music, or any course approved by the department; it is expected that this advanced related course will be taken in the senior year. An advanced literature course in a foreign language is required, but an intermediate course in a second foreign language is not required.

Geology Mathematics 11-12; Physics 5-6; eight semester courses in geology, of which four are of advanced grade; one advanced related course (six

semester hours or more) in one of the other sciences or mathematics. A course in some other subject may be approved to meet particular needs.

German Satisfactory completion of eight semester courses in German, including at least four of advanced grade, and at least one advanced related year course, normally in a language.

Greek Satisfactory completion of twenty-four semester hours, twelve of which must be in courses numbered above 100, and one advanced related course (at least six semester hours).

History Satisfactory completion of four year courses (twenty-four semester hours) in history, including two of advanced grade, and at least one advanced related course, ordinarily in one of the other social sciences.

Latin Satisfactory completion of twenty-four semester hours, twelve of which must be in courses numbered above 100, and one advanced related course (at least six semester hours). Courses in Greek are strongly recommended, particularly to those who contemplate graduate work in classics.

Mathematics Physics 5-6 or 21-22; Mathematics 21-22 and two advanced courses. The advanced related course is chosen in consultation with the department.

Music Satisfactory completion of 1, 2, 7-8, and two of the following: 121, 122; 201, 202; 205, 206; 207, 208. It is recommended that the related course be an advanced course in French or German.

Philosophy Satisfactory completion of Philosophy 1, 2, 4, 107, 108, 214, and either 202 or 206, and an advanced related course or courses, chosen in consultation with the departmental adviser to fit the needs of the individual student.

Physics Mathematics 211 and 212; Physics 21-22 and three advanced courses. German and Vector Analysis are strongly recommended.

Political Science Satisfactory completion of four semesters of advanced courses in political science and an advanced course (six or more semester hours) ordinarily in one of the other social sciences.

Psychology Satisfactory completion of at least twelve semester courses, eight in psychology, including 1, 104, and 203, and the other four either in zoology or philosophy. Zoology 1 and 4, in the freshman year if possible, are strongly recommended.

Romance Languages Satisfactory completion of six semester courses of advanced grade, and at least one advanced course (six semester hours or more), ordinarily in another foreign language or English.

Speech Satisfactory completion of nine semester courses in speech, as indicated below, and an advanced related course or courses (six semester hours or more) chosen in consultation with the departmental advisor. The courses in speech must include 1, 11, a one-semester course in three of the following five areas: public speaking (other than 11), oral interpretation, drama, radio, and speech correction, and four semesters of advanced courses.

Zoology Mathematics 1, 2 or 7, 8, or 11, 12; Physics 5-6; Botany 1; Zoology 1, 4, 150, 281, 282, and five additional semester courses, including at least eight semester hours in advanced courses. The advanced related courses (six semester hours or more) may be in one of the other sciences or psychology.

COURSES OFFERED IN OTHER COLLEGES ACCEPTABLE FOR CREDIT TOWARD THE B.A. DEGREE:

Botany: all courses
Chem.: all courses except Outline of Organic Chemistry
Econ. 1-2: World Economic Geography
Econ. 11-12: Principles of Economics
Econ. 15, 16: Economic History of the United States
Econ. 105: International Trade and Finance
Econ. 141: Labor Economics
Econ. 181: Transportation
Econ. 182: Public Utilities
Econ. 183: Economic Life and Government Control
Econ. 184: The Economics of Consumption
Econ. 187: Economic Statistics
Econ. 201-202: Money and Banking
Econ. 203: Economics of Taxation
Econ. 242: Collective Bargaining
Econ. 286: Intermediate Economic Analysis
Econ. 292: International Economic Problems and Policies
Econ. 293-294: Money, Income and Prices
Econ. 295: History of Economic Thought
Econ. 296: Modern Economic Thought
Econ. 297, 298: Seminar
Family Living 180: Family Relationships
Forestry 208: Biological Statistics
Mathematics: all courses
Phys. Ed. 50: Dance Technique and Analysis
Sec. Educ. 1: Principles of Education
Sec. Educ. 202: Philosophy of Education

THE RESTRICTED LIST A given student may elect not more than twelve semester hours of credit in courses on this list, provided he has completed his basic distribution requirements, and provided that these courses are not to be counted as part of the minimum requirement for concentration:

Agr. Biochem. 71: Elementary Biochemistry
Agr. Econ. 103: Rural Sociology
Chem. 35: Outline of Organic Chemistry
Econ. 13-14: Principles of Accounting
Econ. 109-110: Business Law
Econ. 206: Securities Markets
Econ. 208: Investments
Family Living 130: Child Development
Food and Nutrition 11: Food Selection
Home Management 112: Home Management
Mech. Engr. 1-2: Mechanical Drawing
Related Art 15: Design
Sec. Educ. 45, 46: Learning and the Adolescent
Sec. Educ. 107: Secondary Methods and Procedures
Sec. Educ. 108: Student Teaching in Secondary Schools
Sec. Educ. 225: Teaching Social Studies in Secondary Schools
Sec. Educ. 227: Teaching Science in Secondary Schools
Sec. Educ. 232: School Administration
Sec. Educ. 250: Guidance
Sec. Educ. 252: Teaching Latin in Secondary Schools
Sec. Educ. 256: Teaching Mathematics
Sec. Educ. 257: Teaching Modern Languages
T. & C. 16: Textiles and Clothing Selection

SPECIAL HONORS:

A student in the College of Arts and Sciences who, at the end of his junior year, has an average of 85 or above for the work of the sophomore and junior years may become an applicant for special honors in a particular subject. His program for the senior year must be approved not later than the end of the junior year by the department in which honors are sought and by the Committee on Honors, and he must present a satisfactory thesis and pass an oral examination on the field of special study.

PREPROFESSIONAL PREPARATION

Students who plan to enter professional colleges requiring previous collegiate preparation should register in the College of Arts and Sciences. The variety of courses offered and the freedom of election in that college is such that all the requirements for any professional school may be met. Many students will desire so to direct their four-year undergraduate course as to provide, in addition to a sound general education, appropriate preprofessional training for later work in the medical sciences, law, or theology.

MEDICINE AND DENTISTRY The prevailing requirements for admission to an accredited medical college usually include not less than three years of undergraduate work, during which courses in biology, chemistry, English and physics must be completed. Any student who wishes to enter medical college should by the beginning of his sophomore year consult the catalogue of the college of his choice and arrange to include in his program courses required by that particular school.

Each student, in consultation with his adviser, plans a four-year program of courses which will fulfill the requirements for the Bachelor of Arts degree. Those who wish to meet the minimum requirements for admission to medical college may follow the first three years of the program below. By successfully completing these three years and one year in an accredited medical college, they will qualify, on application, as candidates for a Bachelor of Science degree.

In the following outline, courses listed are normally taken in the year indicated. The program may be modified both for the needs of the individual student and to allow for concentration in a particular field. A student must have completed a total of 90 semester hours by the end of the third year to be considered for admission to a medical college.

FIRST YEAR	1st Semester	2nd Semester
English Composition	3	3
Inorganic Chemistry	4	4
Mathematics	3	3
Zoology	4	4
Foreign Language (Elementary or Intermediate)	3–4	3–4

SECOND YEAR	1st Semester	2nd Semester
English-Amer., or World Lit.	3	3
*Intermediate For. Lang.	3	3
Quantitative Chemistry	3	3
Physics	4	4
Electives	3–6	3–6

THIRD YEAR	1st Semester	2nd Semester
Organic Chemistry	4	4
Social Science Electives	6	6
Courses in field of concentration and electives		

FOURTH YEAR
Courses in field of concentration and electives

*Unless already completed.

The requirements for admission to colleges of dentistry vary but in all cases include at least two years of college work with at least one course each in biology, inorganic chemistry, physics, and English. Hence, the course of study advised as preparation for medicine may be used as a basis for selection by those interested in dentistry.

LAW American law schools, as a rule, require graduation from a four-year college with a Bachelor's degree prior to admission. There is no prescribed

curriculum which is requisite for admission, but the student is advised to include in his undergraduate course substantial elections in the fields of languages, literature, history, economics, political science, and philosophy.

THEOLOGY Graduation from a four-year college is prerequisite for admission to most theological seminaries. Although no prescribed curriculum is demanded as preparation for such professional schools, the student is advised to elect substantially from the departments of languages (particularly classics), history, philosophy, psychology, and social studies.

The School of Dental Hygiene

The School of Dental Hygiene, established in the fall of 1949 on authorization and a grant of money by the State Legislature and recently accredited by the Council on Dental Education of the American Dental Association, offers a two-year curriculum leading to a Certificate in Dental Hygiene. The purpose is to meet the ever-increasing need for dental health service.

The curriculum conforms to the requirements for accrediting of schools of dental hygiene as adopted by The Council on Dental Education of the American Dental Association on June 20, 1951. On successful completion of this curriculum, the student is eligible to take various examinations given by the State Board of Dental Examiners for licensing by that body.

Graduates of this school will be qualified to give oral prophylactic treatment; to chart the mouth, and to carry dental health education into the private dental practice, public institutions, hospitals and industrial clinics. The hygienist may be called upon to perform the following subsidiary functions as the supervising dentist may direct or approve; to X-ray teeth and develop X-ray films; to assist with laboratory work; to make appointments and keep office records; to give demonstrations of the proper method of using a toothbrush and massaging the gums; to lecture on oral hygiene, and to teach oral hygiene and the relation of diet to oral health. The role of the dental hygienist in the achievement of oral health is an extremely important one, and opportunities for well-rewarded service are practically unlimited.

The course of study is designed to give the student a background of knowledge sufficient to enable her to perform intelligently the tasks of her profession. Students applying for this program should be interested in and have aptitude for scientific studies. A general scientific background is acquired by courses in chemistry, bacteriology, anatomy, and physiology. Courses specifically relating to dental problems give the student an insight into the field of dentistry and dental health. English composition and public speaking teach the individual to express herself clearly on paper and by word of mouth. The proper approach to the patient is taught by courses in psychology and sociology. Skill and self-confidence are acquired by extensive work during the second year in the dental clinic.

CURRICULUM IN DENTAL HYGIENE

The School of Dental Hygiene operates a ten-chair clinic and offers its service for examination and charting of the teeth, prophylaxis treatments and the teaching of dental health to students, employees and faculty members of the University, in addition to the school children in surrounding areas.

Enrollment is limited to women between the ages of seventeen and thirty-five who are high school graduates and otherwise eligible to enter the freshman class of the University. All candidates who plan to practice dental hygiene in Massachusetts or Vermont must be seventeen years of age by the first of June preceding their entrance into the School. Prospective applicants are invited to write the Director of Admissions for detailed information concerning such matters as requirements for admission and expenses. High school subjects which are helpful prerequisites include algebra, chemistry, physics or biology. Attributes necessary for success in this curriculum are good health, emotional stability, interest in the work, and the ability to get along well with people. Since the laboratory equipment in the School of Dental Hygiene is limited, prospective students are advised to submit their application by May of their senior year in high school.

THE FRESHMAN YEAR	1st Semester	2nd Semester
English Composition	3	3
Dental Anatomy	4	..
Dental Histology and Embryology	2	..
Chemistry (Nursing 9-10)	4	4
Dental Hygiene Orientation	1	..
Instrumentation	..	3
First Aid	..	1
Bacteriology	..	4
Human Anatomy and Physiology (Nursing 15-16)	3	3

THE SOPHOMORE YEAR	1st Semester	2nd Semester
Psychology	3	3
Introductory Sociology	3	3
Oral Pathology	2	..
Radiology	1	..
Public Health	..	2
Clinic Practice	5	5
Dental Health Education	..	2
Pharmacology and Anesthesia	..	1
Ethics and Office Management, Dental Assisting	1	1
Public Speaking	3	..
Food Selection	3	..

The College of Education and Nursing

The College of Education and Nursing offers four-year curricula leading to the following degrees: in elementary, junior high and secondary education, the degree of Bachelor of Science in Education; in business education, the degree of Bachelor of Science in Business Education; and in music education, the degree of Bachelor of Science in Music Education.

This College also offers a four calendar year curriculum leading to the degree of Bachelor of Science in Nursing.

The objectives of the several curricula include growth in appreciation and understanding of the cultural heritage, development of social and civic competence, improvement of personality, stimulation of intellectual curiosity, strengthening of personal integrity, and development of competence and enthusiasm for the professions of teaching and nursing. To attain these objectives each curriculum provides for a balance of general education courses, professional courses, and laboratory experiences.

General education courses may be elected in the Colleges of Arts and Sciences, Technology, and Agriculture and Home Economics. Professional courses are taken in the College of Education and Nursing. Professional laboratory experiences are provided in the College of Education and Nursing and in schools and hospitals under the supervision of the College of Education and Nursing.

Education curricula in the College of Education and Nursing meet requirements for teaching certification in most of the states. Adjustments in individual programs may be made to fit special requirements for certification in specific states. If in doubt about certification requirements, students should consult with their advisers or with the dean of the college.

Special Fifth-Year Program in Education A special fifth-year program can be arranged for students who hold the bachelor's degree and who wish to qualify for teaching certificates in either elementary or secondary education. To be accepted for this special program, candidates must have included appropriate academic courses in their degree work, and they must demonstrate their sincerity in wishing to teach.

A combination of courses in education and in the teaching field will be arranged for the individual candidate in accordance with his qualifications and his announced objectives. More specific information concerning this fifth-year program can be obtained by writing to the dean of the college.

ELEMENTARY EDUCATION

The elementary education program is intended to prepare teachers for any of the elementary grades in schools of Vermont and other states. The degree Bachelor of Science in Education is awarded upon satisfactory completion of an approved program.

The elementary education curriculum includes a base of required academic courses, a planned sequence of professional courses and laboratory experiences, and elective academic courses which may be concentrated in a major field or may be distributed in several academic fields.

The foundation in general education includes required courses in the social sciences, in laboratory science, in English and literature, in phychology and in speech. All students are required to demonstrate proficiency in general mathematics by attaining satisfactory scores on standardized tests. Courses in fine arts and in languages may be elected.

The professional program begins with an orientation to education in the freshman year. The purpose of this orientation is to give the student an opportunity to consider the pros and cons of a career in education and to understand both the demands and the rewards of the profession. School visits, educational films, contacts with teachers and administrators from the field, and study and discussion are included in the orientation experiences.

In the sophomore year, students are offered field experience with children's groups in the community. These experiences serve the dual purpose of giving first hand information about children and of providing opportunity for determining the satisfaction which association with children of different age levels brings to the student.

In the junior year, the student in elementary education concentrates in professional course work and in special content courses for elementary teaching. Classroom observation and participation is included in the professional courses.

The senior year continues the professional methods courses with increased emphasis upon actual classroom participation leading to seven full weeks of student teaching in the elementary schools of Burlington and nearby communities. A seminar in which students examine the organization and activities of professional education associations, and an experience in citizenship and community study round out the requirements. Participation in the University reading clinic may be elected by a limited number of students.

In each year of the program, the curriculum provides for elective courses from other colleges. Total electives approximate thirty semester hours and open to the student in elementary education attractive majors in music, art, speech, language, literature, history, and other fields of study offered by the University.

THE FRESHMAN YEAR	1st Semester	2nd Semester
Orientation to Education	2	2
*Speech or Geography	3	3
Science	4	4
English Composition	3	3
†Approved Elective	3	3

THE SOPHOMORE YEAR	1st Semester	2nd Semester
Child & Community	1	1
Psychology	3	3
Speech or Geography	3	3
Literature	3	3
Approved Elective	6	6

THE JUNIOR YEAR	1st Semester	2nd Semester
Art for Elem. Schools	..	3
Child Growth & Develop.	3	..
Children's Literature	..	3
Methods & Materials	3	3
Fundamentals of Music	3	3
Teaching Reading	3	..
American History	3	3
Approved Elective	3	3

THE SENIOR YEAR	1st Semester	2nd Semester
Methods & Materials	3	..
Art for Elem. Schools	3	..
Health & Phys. Educ. for Elem. Schools	3	..
Student Teaching	..	7
Philosophy of Education	..	3
Seminar in Education	..	2
Prob. in Citizenship	..	3
Methods in Music for Elem. Schools	3	..
Approved Elective	3–6	..

*Both speech and geography are to be completed by the end of the sophomore year.
†Political Science must be elected at some time during the program.
A minimum of 125 approved semester hours is required for the degree.

JUNIOR HIGH SCHOOL EDUCATION

The junior high school education program is intended to prepare teachers for the upper grades of the elementary school and for junior high school positions in Vermont and in other states where certification requirements can be met. The degree Bachelor of Science in Education is awarded upon satisfactory completion of the following program.

THE FRESHMAN YEAR	1st Semester	2nd Semester
English Composition	3	3
Jr. High School Math.	3	..
Mathematics 1	..	3
Economic Geography	3	3
*Science	4	4
Orientation to Educ.	2	2

THE SOPHOMORE YEAR	1st Semester	2nd Semester
Literature	3	3
American History	3	3
Psychology	3	3
*Science	3–4	3–4
Approved Elective	3	3
Participation	1	..

THE JUNIOR YEAR	1st Semester	2nd Semester
English or Elective	3	3
Political Science	3	3
Jr. H. S. Curriculum	..	3
Health Education	2	..
Learning & the Adolescent	3	3
**Vt. Hist. (or Elective)	..	3
†Approved Electives	6	3

THE SENIOR YEAR	1st Semester	2nd Semester
General Methods	3	..
Jr. H. S. Org. & Mgt.	3	..
Philosophy of Educ.	..	3
Guidance	..	3
Student Teaching	..	6
Approved Electives	9–12	3–6

*A biological and a physical science are to be included during the first two years.
**Vermont students must include Vermont History.
†All students are to elect at least one course in speech.
A minimum of 125 approved semester hours is required for the degree.

SECONDARY EDUCATION

The secondary education program is intended to prepare teachers for junior and senior high schools in Vermont and other states. The degree Bachelor of Science in Education is awarded upon satisfactory completion of an approved program.

During the first two years the curriculum consists generally of basic courses in English, fine arts, foreign languages, mathematics, science, and social science. Orientation to education as a career is provided during the freshman year. Sophomores begin concentration on majors and minors in chosen teaching fields and are given opportunity to participate in teaching experiences in local secondary schools. The junior and senior years combine courses in the elected teaching fields, professional courses in education, and laboratory experience in teaching.

PROFESSIONAL REQUIREMENTS Candidates for the degree in secondary education are required to complete with a high standard of scholarship at least eighteen semester hours of course work in professional education.

TEACHING MAJORS AND MINORS Candidates for the degree in secondary education are required to complete two teaching majors or one major and two minors in fields which are commonly taught in secondary schools, or candidates may elect to concentrate in one of two broad fields, such as general science or social science. A teaching major includes at least twenty-four semester hours in a given subject; a teaching minor, fifteen to

eighteen semester hours. A single major in a broad field includes approximately fifty semester hours in related courses. The major-minor program must include advanced course work.

Students should choose majors and minors which bear logical relationships and which commonly occur as teaching combinations in secondary schools. Suggested major and minor fields are English, foreign languages, history, mathematics, political science, speech, and the sciences. Advisers can assist students in making choices which are in accord with student aptitudes and interests and which are likely teaching combinations. Outlines of suggested course sequences for majors and minors may be obtained from advisers or from the office of the dean of the college.

Students are expected to maintain a high standard of scholarship in their major and minor fields. A grade of less than 72 may not be credited toward a major or minor unless other grades in the field are sufficiently high to justify an exception.

STUDENT TEACHING During the senior year, students enrolled in the secondary education curriculum are required to take a laboratory course in teaching. Students are expected to spend six continuous weeks in a secondary school where they will follow a full teaching schedule. Students are to plan their programs so as to complete their academic subjects before the last semester of their senior year.

THE FRESHMAN YEAR	1st Semester	2nd Semester
English Composition	3	3
Foreign Language	3–4	3–4
*History or Pol. Science	3	3
Laboratory Science	4	4
Orientation to Educ.	2	2

THE SOPHOMORE YEAR	1st Semester	2nd Semester
Literature	3	3
†Foreign Language	3	3
Psychology	3	3
Approved Electives	6	6
Participation	1	..

THE JUNIOR YEAR	1st Semester	2nd Semester
English or Elective	3	3
Learning and the Adolescent	3	3
‡Approved Electives	9–12	9–12

THE SENIOR YEAR	1st Semester	2nd Semester
Secondary Educ. Meth.	3	..
Philosophy of Educ.	..	3
Student Teaching	..	6
Approved Electives	12–15	3–6

*If history is chosen, Survey of European Hist. is recommended.
†An approved elective if intermediate language has been completed.
‡All students are to elect a course in speech.
A minimum of 122 approved semester hours is required for the degree.

BUSINESS EDUCATION

The curriculum in Business Education is intended to prepare teachers of business subjects for secondary schools in Vermont and other states. At the time of printing of this bulletin the program in Business Education is under general revision and cannot be presented in detailed outline.

The revised curriculum in Business Education is expected to include during the freshman year courses in English composition, social science, mathematics, orientation to education, and electives; during the sophomore year courses in literature, psychology, speech, principles of economics, accounting, and science; during the junior year courses in business law, business correspondence, typing, shorthand, and education; and during the senior year

courses in advanced typing, advanced shorthand, office management, secretarial practice, principles of business education, methods of teaching business subjects, philosophy of education, student teaching, and electives.

More detailed information about the revised program may be obtained from the Office of the Dean of the College of Education and Nursing, 143 Waterman Building, The University of Vermont.

MUSIC EDUCATION

The curriculum in music education, leading to the degree of Bachelor of Science in Music Education, is recommended to students who have sufficient training and natural musical ability to justify a career in music. Graduates are qualified for positions as instructors and supervisors of music in the public schools of Vermont. The curriculum may be adapted to meet requirements elsewhere.

Students must pass the aptitude tests given by the Department of Music and must satisfy the general admission requirements of the University.

THE FRESHMAN YEAR	1st Semester	2nd Semester
Survey of Musical Literature	3	3
Elementary Sight-Singing	3	3
Applied Music (two courses)	2–3	2–3
English Composition . .	3	3
Elementary German . .	4	4
Laboratory Science . . .	3–5	3–5
Choir or Orchestra . . .	1	1

THE SOPHOMORE YEAR	1st Semester	2nd Semester
Elementary Harmony . .	3	3
Advanced Sight-Singing .	3	3
Applied Music (two courses)	2–3	2–3
Sophomore English Elective	3	3
Intermediate German . .	3	3
General Psychology . . .	3	3
Choir or Orchestra . . .	1	1

THE JUNIOR YEAR	1st Semester	2nd Semester
Advanced Harmony . . .	3	3
Methods & Practice Teaching	3	3
Applied Music (two courses)	2–3	2–3
Art	3	3
Education, Prin. & Phil. .	3	3
Choir or Orchestra . . .	1	1

THE SENIOR YEAR	1st Semester	2nd Semester
Orchestration and Conducting	3	3
Sec. Meth. & Prac. Teaching	3	3
Applied Music Methods .	1	1
History of Music	3	3
Applied Music (two courses)	2–3	2–3
Elementary Italian . . .	3	3
Choir or Orchestra . . .	0	0

THE NURSING CURRICULUM

Nursing is a social profession based on an ethical code which commits its members to accept an ever broader responsibility to society. Education for nursing recognizes the dignity of the student as a human being and attempts to guide her in developing toward personal and professional maturity. It helps her appreciate that self-realization and civic contribution are both inherent in the democratic process.

This offers to qualified applicants the elements of a general college education together with a professional education for nursing. The curriculum is, therefore, designed for attainment of a liberal, scientific and social understanding, for cultivation of habits of effective self-expression, and for development of competency in the practice of nursing. Its purpose is to prepare nurses for beginning positions in nursing, including public health nursing. A foundation is also laid upon which subsequent specialization in any area of nursing is possible.

On completion of the program of three calendar years and one academic year, the student receives the degree of Bachelor of Science in Nursing.

Applicants must satisfy the general admission requirements of the University. High school courses in biology and chemistry are highly desirable.

The first academic year is spent at the University. Following this, there is a summer session of nine weeks, during which instruction is correlated with supervised clinical practice in the Mary Fletcher Hospital, which adjoins the campus.

During the sophomore year the program consists of academic work at the University and field experience in various units of the Mary Fletcher Hospital.

The junior year is spent in clinical experience in the following cooperating agencies: Mary Fletcher Hospital, Burlington, Vermont; The Children's Hospital of Philadelphia with the University of Pennsylvania School of Nursing, Philadelphia, Pa.; Boston Psychopathic Hospital with Boston University School of Nursing, Boston, Mass.; Veterans Administration Hospital with Boston University School of Nursing, Rutland Heights, Mass.

Following the junior year there is a summer session of six weeks which is spent at the University.

During the sophomore and junior years the students live in the nurses' residences of the cooperating hospitals. They return to the University for the fourth year for further study in liberal arts and selected professional courses. During the senior year field experience is provided in the following cooperating agencies: Vermont State Department of Health and the Burlington Visiting Nurse Association, Inc.

FIRST YEAR (September to June)	1st Semester	2nd Semester
English Composition	3	3
Chemistry for Nurses	4	4
Human Anatomy & Physiology	3	3
History of Nursing	2	..
Speech	3	..
Introduction to Nursing	2	4
Approved Elective	..	3
Physical Education	(1)	(1)

SUMMER SESSION (9 weeks)	Credits
Fundamentals of Nursing	3
Food and Nutrition	3
Microbiology	3

SECOND YEAR (11 months)	1st Semester	2nd Semester
Psychology	3	3
Sociology	3	3
Medical & Surgical Nursing	9	9

THIRD YEAR (July to July)	Credits
Obstetric Nursing	6
Pediatric Nursing	4
Psychiatric Nursing	6
Tuberculosis Nursing	3

SUMMER SESSION (6 weeks)	Credits
English	3
Social Science	3

FOURTH YEAR (September to June)	1st Semester	2nd Semester
Principles of Public Health	2	..
Public Health Nursing	2	..
Public Health Nursing in the Community	..	2
Senior Seminar	6	..
English	..	3
Survey of Contemporary Nursing	..	2
Social Science	..	3
Approved Electives	..	9

EXPENSES The total expenses for the program are approximately the same as for the other undergraduate programs, but they are distributed differently because of additional tuition payments for the freshman and junior summer sessions, and transportation expenses to and from field experiences. These latter expenses are more than compensated for because the students' contribution in nursing pays for the greater part of board and room costs during the sophomore and junior years. An estimate of the expenses for 1956–57 follows.

FRESHMAN YEAR	Non-Resident	Resident
Tuition	$705.00	$345.00
Activity Fee	15.00	15.00
Board and Room	610.00	610.00
Textbooks	50.00	50.00
Uniforms	100.00	100.00
	$1480.00	$1120.00

SUMMER SESSION (9 weeks)	Non-Resident	Resident
Tuition	$270.00	$135.00
Board and Room	210.00	210.00
Textbooks	20.00	20.00
	$500.00	$365.00

SOPHOMORE YEAR	Non-Resident	Resident
Tuition	$705.00	$345.00
Activity Fee	15.00	15.00
Textbooks	30.00	30.00
Board and Room at Mary Fletcher Hospital	90.00	90.00
	$840.00	$480.00

JUNIOR YEAR	Non-Resident	Resident
Tuition	$705.00	$345.00
Textbooks	10.00	10.00
Transportation to and from Affiliations	100.00	100.00
	$815.00	$455.00

SUMMER SESSION (6 weeks)	Non-Resident	Resident
Tuition	$180.00	$ 90.00
Board and Room	160.00	160.00
Textbooks	10.00	10.00
	$350.00	$260.00

SENIOR YEAR	Non-Resident	Resident
Tuition	$705.00	$345.00
Activity Fee	15.00	15.00
Board and Room	610.00	610.00
Textbooks	30.00	30.00
Board and Room, 8 Weeks Public Health Nursing (Rural Vermont)	180.00	180.00
	$1540.00	$1180.00

It is expected that each student will carry Blue Cross-Blue Shield Insurance or its equivalent for the last three years of her program, effective June first of her freshman year.

The University provides, so far as its resources permit, considerable aid in the form of scholarships, loans, prizes, and employment.

PROFESSIONAL PERSONNEL IN COOPERATING FIELD AGENCIES

Dr. R. B. Aiken, Commissioner of Health, Vermont State Department of Health

Grace Buttolph, Assistant Director of Nursing, Mary Fletcher Hospital

Emily Dinegan, Director, Burlington Visiting Nurse Association, Inc.

Mrs. Bess Ellison, Assistant Professor, Tuberculosis Nursing, Boston University School of Nursing

Marie Farrell, Acting Dean, Boston University School of Nursing

Mrs. Anne Hargreaves, Instructor, Psychiatric Nursing, Boston University School of Nursing

Harriet Kandler, Director of Nursing, Boston Psychopathic Hospital

Geraldine Labecki, Director of Nursing and Nursing Service, Mary Fletcher Hospital

Theresa I. Lynch, Dean, University of Pennsylvania School of Nursing

Dorothy R. Marlow, Instructor, Pediatric Nursing, University of Pennsylvania School of Nursing

Esther Martinson, Director, Division of Public Health Nursing, Vermont State Department of Health

Edith J. Rinell, Director of Nursing Service and Nursing Education, The Children's Hospital of Philadelphia

Elizabeth A. Ulrich, Assistant Chief, Nursing Education, Veterans Administration Hospital, Rutland Heights, Massachusetts

The College of Technology

The College of Technology includes the Departments of Chemistry, Economics, Civil Engineering, Electrical Engineering, Mechanical Engineering, and Mathematics. It offers a number of specialized professional curricula in these fields and in medical technology, leading to the degree of Bachelor of Science in the field of specialization. Details are given in the sections immediately following. In addition to the courses listed in the several curricula, *all students must fulfill the general requirements in physical education, military science, and hygiene.* Students whose curricula require them to take two years of mathematics are referred to the footnote under the offerings of the Department of Mathematics for information concerning the possible sequences of courses in freshman mathematics.

THE CHEMISTRY CURRICULUM

The Department of Chemistry offers a specialized curriculum leading to the professional degree of Bachelor of Science in Chemistry. This curriculum is designed to give a sound basic training in chemistry, to prepare the student for service in some branch of the chemical profession, and to qualify him adequately for advanced study in graduate school. The department is accredited by the Committee on Professional Training of the American Chemical Society, which has established minimum requirements for the training of chemists at the bachelor's level. In accepting accreditation, the department has planned a curriculum which permits the student to reach these minimum objectives and will qualify the graduate for certification.

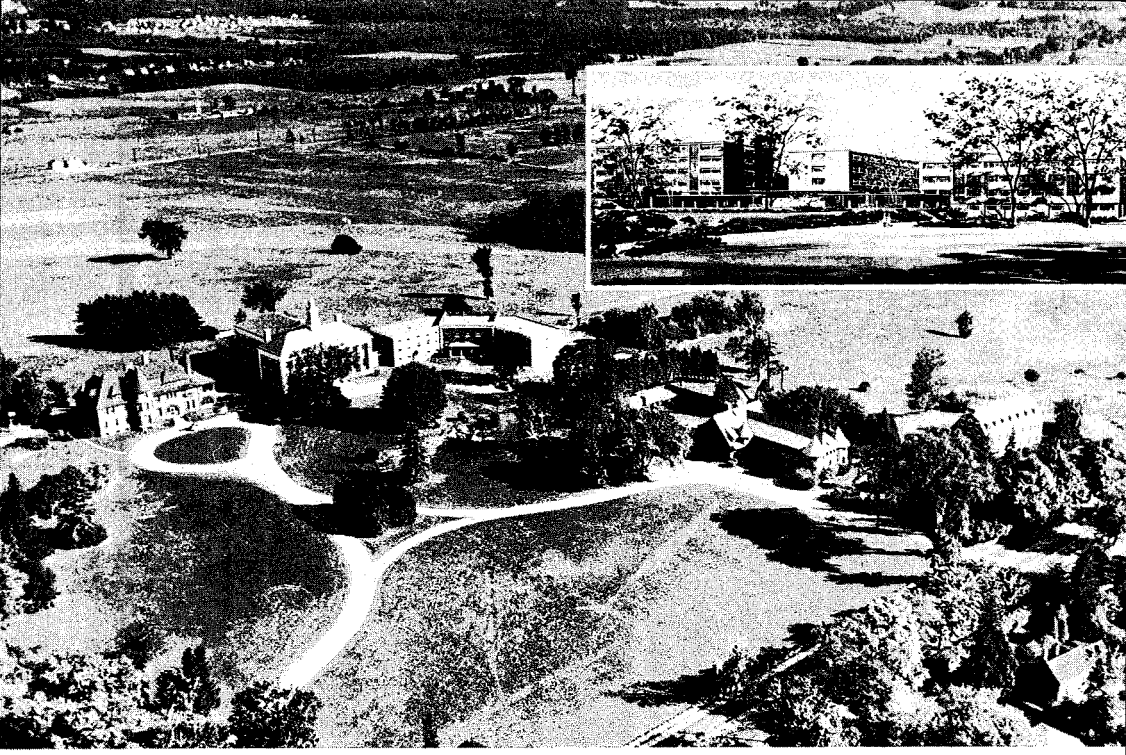
Those who wish a less intensive training in chemistry may take the liberal arts curriculum with a concentration in chemistry and receive the Bachelor of Arts degree. These students may also qualify for accreditation by satisfactorily completing certain courses beyond the minimum required for concentration, and *only those who so qualify will be recommended as chemists by the department.* A student can elect to concentrate in chemistry at the end of the freshman year or even as late as the end of the sophomore year and still qualify for accreditation. However, the department strongly recommends that the student choose before the start of his sophomore year. In the first year, and to some degree in the second year, prescribed courses are such that a student can transfer into the curriculum from liberal arts, or vice versa.

FIRST YEAR	1st Semester	2nd Semester
General Chemistry . . .	5	5
*English Composition . .	3	3
†Algebra, Trig., Anal. Geom.	5	5
Elementary German . . .	4	4

SECOND YEAR	1st Semester	2nd Semester
Quantitative Analysis . .	4	4
Sophomore English . . .	3	3
Calculus	3	3
Intermediate German . .	3	3
General Physics	5	5

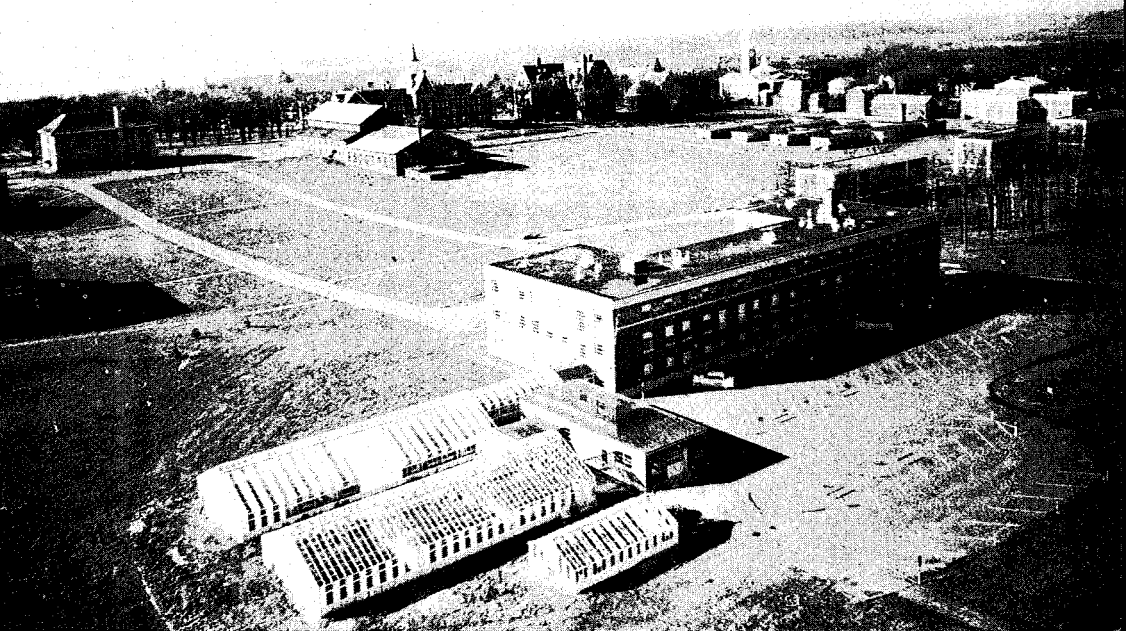
*Students exempted from English composition on the basis of the placement test must substitute another English course in its place.

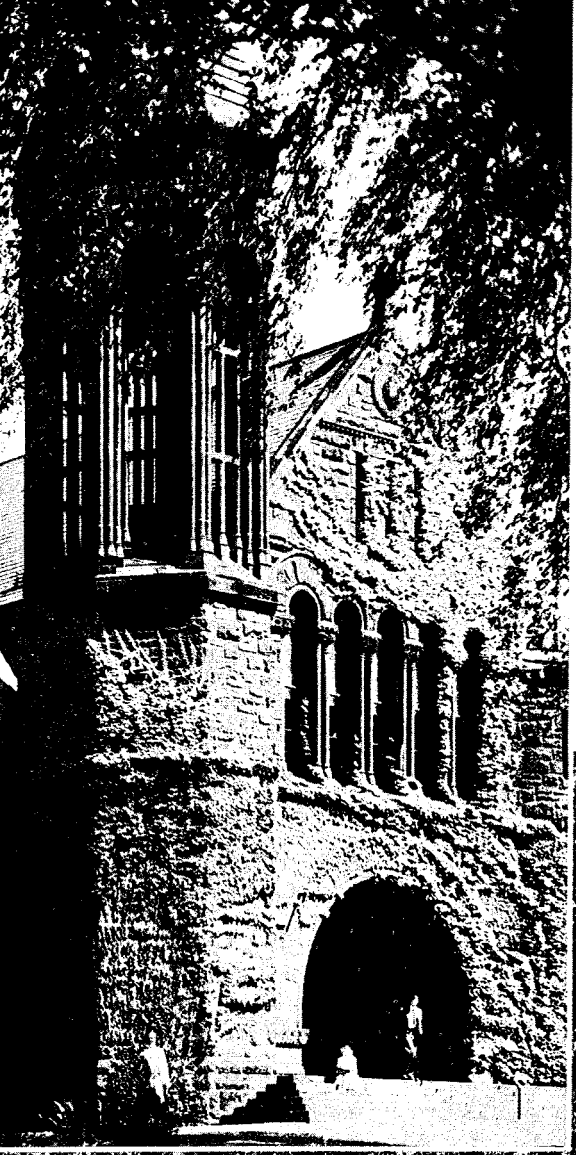
†See footnote under offerings of the Department of Mathematics.



REDSTONE CAMPUS (Insert shows architect's drawing of new women's dormitory, now under construction)

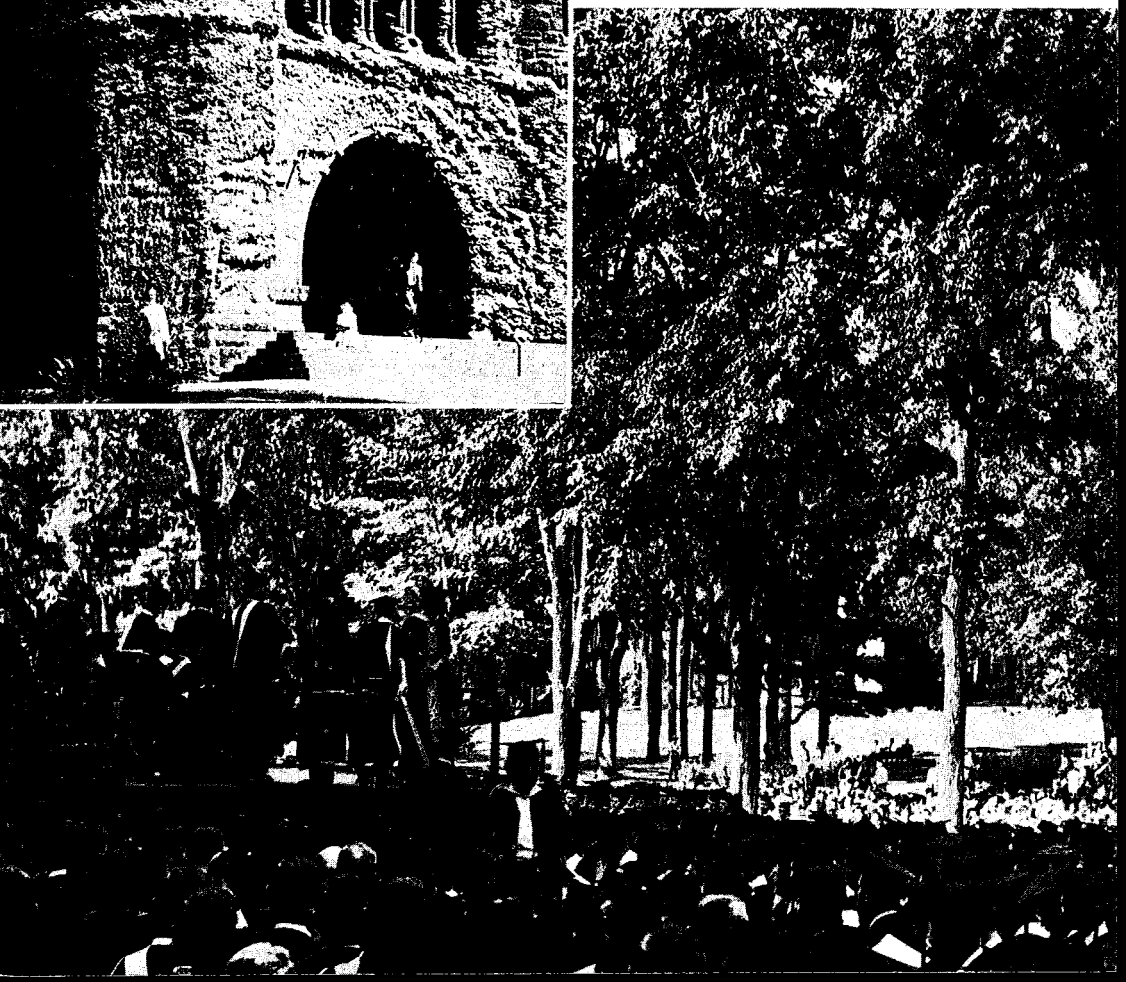
AERIAL VIEW OF EAST CAMPUS—HILLS HALL IN FOREGROUND





ENTRANCE TO
BILLINGS LIBRARY

COMMENCEMENT ON THE GREEN



THIRD YEAR	1st Semester	2nd Semester
Physical Chemistry	5	5
Organic Chemistry	5	5
Advanced Physics or Mathematics	3	3
Approved Elective	3	3
Junior Seminar	1	1

FOURTH YEAR	1st Semester	2nd Semester
Iden. of Organic Compds.	5	..
Senior Research	2	4
†Advanced Organic Chem.	3	3
†Advanced Physical Chem.	3	3
†Advanced Inorganic Chem.	..	3
†Advanced Theoretical Chem.	3	..
Senior Seminar	1	1
Approved Elective	3	3
‡Inorganic Preparations	..	2

†Six hours of courses chosen from these offerings are required each semester.
‡Required of students deficient for accreditation in general chemistry laboratory.

The Master's Degree in Chemistry The department offers work leading to the degree of Master of Science, the thesis problem being selected from the fields of inorganic, analytical, organic, or physical chemistry. Students who do not already have a reading knowledge of German must take German concurrently with their graduate work.

FIRST YEAR	1st Semester	2nd Semester
*Graduate Research	5	5
*Advanced Chemistry	6	6
Seminar	1	1

SECOND YEAR	1st Semester	2nd Semester
Graduate Research	5	5
Advanced Chemistry	6	6
Seminar	1	1

*Identification of Organic Compounds required unless included in undergraduate training. Chemistry 247-248 or the equivalent required of all graduate students.

THE COMMERCE AND ECONOMICS CURRICULUM

The Department of Commerce and Economics offers a specialized curriculum, leading to the degree of Bachelor of Science in Commerce and Economics. Those who wish a less intensive or less specialized training in economics may take the liberal arts curriculum, with a concentration in economics, and receive the Bachelor of Arts degree. An advisor from the department will assist students in building programs to meet their individual needs and plans.

The commerce curriculum is recommended for those who are preparing for a business career. It is intended to provide sound basic training in the various phases of business activity. The several options enable students to emphasize such specialized studies as accounting, banking, finance, insurance, government service, personnel management, production, sales management, and secretarial studies. The Department of Commerce and Economics cooperates with the Department of Mechanical Engineering in offering courses in the Management Engineering Curriculum. This curriculum is administered by the Department of Mechanical Engineering and is described in the section on engineering curricula.

The normal program for the first two years in the commerce and economics curriculum is as follows:

THE FRESHMAN YEAR	1st Semester	2nd Semester
World Ec. Geography	3	3
American Government	3	3
‡English Composition	3	3
Algebra, Math. of Finance	3	3
*Foreign Language	4	4

THE SOPHOMORE YEAR	1st Semester	2nd Semester
Sophomore English	3	3
Princ. of Economics	3	3
Ec. History	3	3
Princ. of Accounting	4	4
Foreign Language, Calculus or †General & Applied Psychology	3	3

*In place of the foreign language students may choose Mathematics 11-12 and Calculus.
†Psychology should be elected by students who have completed the intermediate language requirement.
‡Students exempted from English Composition on the basis of the placement test must substitute another English course in its place.

During the junior and senior years, commerce and economic students normally choose one of the following options:

ACCOUNTING

THE JUNIOR YEAR	1st Semester	2nd Semester
Advanced Accounting	3	3
Financial Statement Anal.	3	..
Tax Accounting	..	3
Money and Banking	3	3
†Psychology	3	3
Business Law I	3	3
Approved Electives	3	3

THE SENIOR YEAR	1st Semester	2nd Semester
Auditing	3	..
Cost Accounting	..	3
Economic Statistics	3	..
C.P.A. Problems	..	3
Securities Markets	3	..
Corp. Finance	..	3
Business Law II	..	2
Laboratory Science	4–5	4–5
Approved Electives	3	3

BANKING, FINANCE, AND INSURANCE

THE JUNIOR YEAR	1st Semester	2nd Semester
Money and Banking	3	3
Securities Markets	3	..
Corp. Finance	..	3
Investments	..	3
Economic Statistics	3	..
†Psychology	3	3
Taxation	3	..
Approved Electives	3	6

THE SENIOR YEAR	1st Semester	2nd Semester
Laboratory Science	4–5	4–5
Life Insurance	3	..
Property and Casualty Ins.	..	3
Money, Income and Prices	3	3
Business Law I	3	3
Business Law II	..	2
Approved Electives	3	3

BUSINESS ADMINISTRATION

THE JUNIOR YEAR	1st Semester	2nd Semester
Money and Banking	3	3
Securities Markets	3	..
Corp. Finance	..	3
Investments	..	3
Economic Statistics	3	..
†Psychology	3	3
Princ. of Marketing	3	..
Approved Electives	3	6

THE SENIOR YEAR	1st Semester	2nd Semester
Laboratory Science	4–5	4–5
Business Law I	3	3
Taxation	3	..
Money, Income and Prices	3	3
Small Bus. Operation	..	3
Approved Electives	3	3

†Students who have completed this course will enroll in an approved elective.

INDUSTRIAL MANAGEMENT

THE JUNIOR YEAR	1st Semester	2nd Semester
Labor Economics	3	..
Collective Bargaining	..	3
Industrial Organization	3	..
Sci. Mgt. and Labor	..	3
Economic Statistics	3	..
Quality Control	..	3
†Psychology	3	3
Princ. of Marketing	3	..
Problems in Marketing	..	3
Approved Electives	3	3

THE SENIOR YEAR	1st Semester	2nd Semester
Laboratory Science	4–5	4–5
Time and Motion Study	4	..
Plant Organization	..	4
Business Law I	3	3
Approved Electives	6	6

MARKETING AND MERCHANDISING

THE JUNIOR YEAR	1st Semester	2nd Semester
Principles of Marketing	3	..
Problems in Marketing	..	3
Money and Banking	3	3
Economic Statistics	3	..
Quality Control	..	3
†Psychology	3	3
Approved Electives	6	6

THE SENIOR YEAR	1st Semester	2nd Semester
Laboratory Science	4–5	4–5
Personal Salesmanship	3	..
Small Bus. Operation	..	3
Sales Management	3	..
Advertising Prin. & Procedure	..	3
Business Law I	3	3
Approved Electives	3	3

PERSONNEL MANAGEMENT

THE JUNIOR YEAR	1st Semester	2nd Semester
Economic Statistics	3	..
Quality Control	..	3
Labor Economics	3	..
Collective Bargaining	..	3
†Psychology	3	3
Industrial Organization	3	..
Sci. Mgt. and Labor	..	3
Approved Electives	6	6

THE SENIOR YEAR	1st Semester	2nd Semester
Personnel Administration	3	3
Laboratory Science	4–5	4–5
Business Law I	3	3
Life Insurance	3	..
Consumption Economics	..	3
Time and Motion Study	4	..
Approved Electives	..	3

SECRETARIAL STUDIES

THE JUNIOR YEAR	1st Semester	2nd Semester
Business Communications	3	3
†Psychology	3	3
Business Law I	3	3
Public Speaking	3	..
Argumentation *or* Group Discussion	..	3

PLUS: Option 1 or Option 2 below

Option 1 (For students who *have not* studied shorthand and typing in high school.)

Elementary Typing	3	..
Elementary Shorthand (Gregg)	4	..

THE JUNIOR YEAR (Continued)	1st Semester	2nd Semester
Intermediate Typing	..	3
Intermediate Shorthand (Gregg)	..	4

Option 2 (For students who *have* studied shorthand and typing in high school and *qualify* for the advanced courses, the following is recommended)

Money and Banking	3	3
*Approved Electives	3	3

†Students who have completed this course will enroll in an approved elective.
*Students will be guided in the selection of electives in the light of specific professional objectives.

THE SENIOR YEAR	1st Semester	2nd Semester
Office Management	3	..
Seminar (Secretarial)	3	..
Executive Secretarial Procedures	..	3
Industrial Organization	3	..
Personnel Administration	..	3
Principles of Marketing	..	3

PLUS: Option 1 or Option 2 below

Option 1 (For students who *qualify* as having completed the elementary and intermediate shorthand and typing instruction either by completing Option 1, Junior Year, or on the basis of high school study.)

THE SENIOR YEAR (Continued)	1st Semester	2nd Semester
Advanced Typing	3	..
Advanced Shorthand (Gregg)	4	..
Transcription (Gregg Shorthand)	..	7
*Approved electives	3	3

Option 2 (For students who *qualify* as having completed the equivalent of three semesters of shorthand and typing.)

Transcription (Gregg shorthand)	..	7
*Approved electives	9	3

*Students will be guided in the selection of electives in the light of specific professional objectives.

HOTEL AND RESORT MANAGEMENT (to be discontinued in 1959)

THE FRESHMAN YEAR	1st Semester	2nd Semester
†English Composition	3	3
American Govt.	3	3
Algebra, Math. of Finance	3	3
Introductory Chemistry	4	4
Hotel & Resort Mtg. Survey	..	2
Approved Elective	3	..

Practical Experience: Ten 40-hour weeks during summer required.

THE SOPHOMORE YEAR	1st Semester	2nd Semester
Sophomore English	3	3
Princ. of Economics	3	3
Organic Chemistry	5	..
Princ. of Accounting	3	3
Food Preparation	3	3
Public Speaking	..	3

Practical Experience: Ten 40-hour weeks during summer required.

†Students exempted from English Composition on the basis of the placement tests must substitute another English course in its place.

THE JUNIOR YEAR	1st Semester	2nd Semester
Economic Statistics	3	..
Taxation	3	..
General & Applied Psychology	3	3
Property & Casualty Insurance	..	3
Buying Textiles & Clothing	3	..
Meal Planning & Service	..	3
Food Production	..	3
Hotel & Resort Equipment	3	..
Hotel & Resort Structures & Maint.	..	3
Approved Electives	3	3

THE SENIOR YEAR	1st Semester	2nd Semester
Business Law I	3	3
Personnel Administration	3	..
Real Estate	..	3
Labor Economics	3	..
Advertising	..	3
Hotel & Resort Administration	3	..
Hotel & Resort Problems	..	3
Institution Marketing	2	..
Institution Equipment	..	2
Approved Electives	3	3

Practical Experience: Ten 40-hour weeks during summer required.
Special arrangements will be made for students attending ROTC Camp.

THE ENGINEERING CURRICULA

The engineering curricula are designed to help students learn how to approach and deal in a professional manner with problems and situations they will meet as engineers, citizens and individuals. In so doing, the curricula will assist them in preparing to continue to learn from experience and to grow in stature after graduation.

The Departments of Engineering offer instruction in four curricula, Civil, Electrical, Management, and Mechanical Engineering, each leading to the degree of Bachelor of Science in the field of specialization. Each cur-

riculum includes the general subjects: mathematics, chemistry, physics, mechanical drawing, elements of electrical engineering, mechanics, economics, English, and contracts or business law.

All freshman and sophomore men are required to complete the two basic courses in military science for a total credit of eight semester hours, which become an integral part of the record and are counted toward graduation. Two years of physical education are normally required of all students.

An inspection trip is required of all engineering students in the junior year. This trip requires several days, and visits are made to plants in industrial centers in New England. The trip is required for graduation, but does not carry credit. The expense is borne by the student.

Students enrolled in the civil, electrical, and mechanical engineering curricula may become affiliated with their respective national professional engineering societies, the American Society of Civil Engineers, the American Institute of Electrical Engineers, the Institute of Radio Engineers, and the American Society of Mechanical Engineers, as each of these organizations has authorized a student chapter at The University of Vermont. These student organizations sponsor frequent meetings, the purpose of which is to present an opportunity for students to conduct activities similar to those conducted by members of the national societies. These activities include meetings at which technical papers are presented by students and by engineers who are actively engaged in the profession, attendance at conventions, and inspection trips, all of which provide helpful contact with engineering practice and also assist in the development of the qualities of leadership which are so essential for success in the engineering profession.

The curricula in civil, electrical and mechanical engineering are accredited by the Engineers Council for Professional Development.

THE FRESHMAN YEAR (For All Curricula)	1st Semester	2nd Semester
†Freshman Math. (Math. 11-12)	5	5
Introductory Chemistry (Chem. 1-2)	4	4
Engineering Drawing (E.G. 1-2)	3	3
*English Composition (Engl. 1-2)	3	3
Engineering Problems (M.E. 3-4)	1	1

†See footnote under offerings of the Department of Mathematics.

*Students exempted from English Composition on the basis of the placement test must substitute another English course in its place.

CIVIL ENGINEERING

THE SOPHOMORE YEAR	1st Semester	2nd Semester
Calculus (Math. 21-22)	3	3
Gen'l Physics (Phys. 21-22)	5	5
Expository Writing (Engl. 16)	3	..
Statics (C.E. 24)	3	..
Surveying (C.E. 51-52)	4	4
Mech. of Materials (C.E. 131)	..	3
Summer, Engineering Camp.	6 wks.	4

THE JUNIOR YEAR	1st Semester	2nd Semester
Dynamics (C.E. 130)	3	..
Eng. Contracts (C.E. 151)	..	2
Prin. of Econ. (Econ. 11-12)	3	3
Eng. Geology (Geol. 21)	3	..
Hydraulics (C.E. 162)	..	3
Hydraulics Lab. (C.E. 168)	..	1
Structural Analysis (C.E. 103)	4	..
Structural Design (C.E. 104)	..	4
Electrical Eng. (E.E. 119)	4	..
Mech. of Materials Lab. (C.E. 114)	..	1
Approved Elective	3	3

THE SENIOR YEAR	1st Semester	2nd Semester
Indet. Structures (C.E. 175)	3	..
Advanced Struct. Design (C.E. 176)	..	4
Water Supply Eng. (C.E. 165)	3	..
Sewerage and Sewage Treatment (C.E. 166)	..	3
Substructure Design (C.E. 158)	..	4
Transportation Eng. (C.E. 174)	..	3

ELECTRICAL ENGINEERING

THE JUNIOR YEAR	1st Semester	2nd Semester
Differential Equations (Math. 211)	3	..
Applied Mathematics (Math. 212)	..	3
Mech. of Materials (C.E. 131)	3	..
A-C Circuits (E.E. 103-104)	3	3
*Prin. of Economics (Econ. 11-12)	3	3
Electronics (E.E. 109-110)	3	4
E. E. Laboratory II (E.E. 105-106)	1	1
†Approved Electives	3	3

THE SENIOR YEAR (Continued)	1st Semester	2nd Semester
Reinforced Concrete (C.E. 155)	3	..
Soil Mechanics (C.E. 173)	3	..
Thermodynamics and Heat Transfer (M.E. 113)	3	..
Concrete and Bituminous Lab. (C.E. 113)	1	..
Approved Elective	3	3

THE SOPHOMORE YEAR	1st Semester	2nd Semester
Calculus (Math. 21-22)	3	3
Gen'l Physics (Phys. 21-22)	5	5
Expository Writing (Engl. 16)	3	..
Electric & Mag. Ccts. (E.E. 21)	5	..
D-C Machines (E.E. 22)	..	4
Statics (C.E. 24)	3	..
Dynamics (C.E. 130)	..	3
E. E. Lab. I (E.E. 24)	..	1

THE SENIOR YEAR	1st Semester	2nd Semester
Modern Physics (Phys. 172)	..	3
A-C Machines (E.E. 107-108)	3	3
Thermodynamics (M.E. 113)	3	..
Communication Ccts. (E.E. 115)	4	..
Power Transmission (E.E. 113)	3	..
E. E. Laboratory III (E.E. 111-112)	1	1
Public Speaking (Speech 11)	..	3
Contracts (C.E. 151)	2	..
Fluid Mechanics (M.E. 142)	..	4
†Approved Electives	3–4	3–4

*This course may be deferred until the senior year for those students electing Advanced Military or Air Science.

†Six hours of electives must be selected from one of the following: literature, sociology, religion, political science, psychology, history, philosophy, art, music, or language.

MECHANICAL ENGINEERING

THE SOPHOMORE YEAR	1st Semester	2nd Semester
Calculus (Math. 21-22)	3	3
Gen'l Physics (Physics 21-22)	5	5
Mfg. Processes (M.E. 51-52)	2	2
World Literature (Engl. 25)	3	..
Statics (C.E. 24)	3	..
Dynamics (C.E. 130)	..	3
Thermodynamics I (M.E. 92)	..	2
M. E. Laboratory I (M.E. 82)	..	1

THE JUNIOR YEAR	1st Semester	2nd Semester
Mech. of Materials (C.E. 131)	3	..
Materials Lab. (C.E. 114)	..	1
Mechanisms (M.E. 131)	4	..
Thermodynamics II (M.E. 111)	4	..
Differential Equations (Math. 211)	3	..
M.E. Laboratory II (M.E. 117)	1	..
Metallurgy (M.E. 102)	..	3
Machine Design I (M.E. 134)	..	4
Fluid Mechanics (M.E. 142)	..	4
Public Speaking (Speech 11)	..	3
*Elective	3	3

THE SENIOR YEAR	1st Semester	2nd Semester
Adv. Heat Power Engr. (M.E. 161)	5	..
Adv. Fluid Mechanics (M.E. 244)	..	3
Machine Design II (M.E. 151)	4	..
Contracts (C.E. 151)	2	..
Economics (Econ. 11-12)	3	3
*Elective	..	3
Engr. Analysis (M.E. 294)	..	3
Indus. Engineering (M.E. 174)	..	4
Heat Transfer (M.E. 163)	2	..
Electrical Engineering (E.E. 101-102)	4	4

*Six hours of electives must be selected from the following: literature, sociology, religion, political science, psychology, history, philosophy, art, music, economics or language.

MANAGEMENT ENGINEERING

THE JUNIOR YEAR	1st Semester	2nd Semester
Prin. of Accounting (Econ. 13-14)	4	4
Gen'l Psych. (Psych. 1)	3	..
Applied Psych. (Psych. 6)	..	3
Dynamics (C.E. 130)	3	..
Mech. of Materials (C.E. 131)	3	..
Indus. Metallurgy (M.E. 102)	..	3
Fluid Mechanics (M.E. 142)	..	4
Thermodynamics and Heat Transfer (M.E. 113)	3	..
Statistics (Econ. 187)	3	..
Public Speaking (Speech 11)	..	3
Parl. Procedure (Speech 3)	1	..
Sci. Mang. & Labor (Econ. 254)	..	3

THE SOPHOMORE YEAR	1st Semester	2nd Semester
Calculus (Math. 21-22)	3	3
Gen'l Physics (Physics 21-22)	5	5
Prin. of Econ. (Econ. 11-12)	3	3
Mfg. Processes (M.E. 51-52)	2	2
Statics (C.E. 24)	..	3
Expository Writing (Engl. 16)	3	..

THE SENIOR YEAR	1st Semester	2nd Semester
Labor Economics (Econ. 141)	3	..
Collective Bargaining (Econ. 242)	..	3
Indust. Organization (Econ. 143)	3	..
Business Law (Econ. 109)	3	..
Ec. Life & Govt. Control (Econ. 183)	..	3
Motion and Time (M.E. 175)	4	..
Plant Organ. (M.E. 176)	..	4
Elec. Ccts. & Mach. (E.E. 101-102)	4	4
Electives	3	3

AGRICULTURAL ENGINEERING

For the Agricultural Engineering Curriculum see pages 38-39.

THE MEDICAL TECHNOLOGY CURRICULUM

The curriculum is divided into two parts, the preclinical period consisting of three years of work in the College of Technology (ninety-three semester hours) and the clinical period of twelve months under the supervision of the College of Medicine.

The work of the preclinical period is designed to give the students a scientific background which will enable them to learn to perform intelligently the highly specialized techniques of the modern diagnostic laboratory. The work of the clinical period consists of learning techniques, taking prescribed courses in the College of Medicine, and practical experience in the laboratories of the teaching hospitals.

The clinical period begins with the summer following completion of the unior year in the College of Technology. At the end of eleven months, if the student's work is satisfactory, the degree of Bachelor of Science in Medical Technology is conferred at the regular Commencement exercises. An additional month in the program is required, at the end of which time the student may be recommended to the Registry of Medical Technologists as eligible to take the examination for certification by that body.

FIRST YEAR	1st Semester	2nd Semester
English Composition	3	3
Introductory Chemistry	4	4
Introductory Zoology	4	..
Mathematics (Algebra & Trigonometry)	3	3
Approved Elective	..	3
Introduction to Medical Technology	0	..

SECOND YEAR	1st Semester	2nd Semester
English-American, or World Lit.	3	3
Elementary Quantitative Analysis	4	4
Zoology (Vertebrate & Comparative Anatomy).	4	4
Approved Electives	6	6

THIRD YEAR	1st Semester	2nd Semester
Organic Chemistry	4	4
Introductory Physics	3	3
Approved Electives	9	9

SUMMER	
Basic Techniques	6 hours

FOURTH YEAR	1st Semester	2nd Semester
Biochemistry for Medical Technologists	6	3
Bacteriology	7	..
Clinical Pathology	2	..
Basic Techniques	2	..
Hospital Assignments	..	6

The Graduate College

The purpose of the Graduate College is to serve the needs of college graduates who desire a broader and more thorough knowledge of scholarship and research in their chosen fields. Master's degrees may be earned by qualified students in regular or summer sessions of the University.

Programs leading to the degrees of Master of Arts and Master of Science offer advanced instruction in the field chosen, and aim to develop both the discipline and the enthusiasm necessary for original research through close association with mature scholars, both in the classroom and in the library or the laboratory. Graduate programs leading to the Master of Arts degree are offered in the following departments of the University: Classics, Economics, English, German, History, Mathematics, Music, Political Science, Psychology, and Romance Languages. Programs leading to the Master of Science degree are offered in the following departments: Agricultural Biochemistry, Agricultural Economics, Agronomy, Animal and Dairy Husbandry, Animal Pathology, Bacteriology, Biochemistry, Botany, Chemistry, Commerce, Electrical Engineering, Forestry, Horticulture, Pharmacology, Physics, Physiology, and Zoology.

Programs leading to the degrees of Master of Education and Master of Arts in Teaching are intended to increase the professional competence and capacity of teachers by instruction at an advanced level. The program leading to the Master of Education degree is designed primarily for teachers who intend to qualify for various administrative positions. The program leading to the degree of Master of Arts in Teaching is designed to include a maximum of advanced instruction in the teachers' subject matter field and aims to increase the effectiveness of classroom instruction.

The degrees of Civil Engineer, Mechanical Engineer and Electrical Engineer are professional degrees in engineering and are awarded only to graduates of the University of Vermont.

ADMISSION

Students seeking admission to the Graduate College must make application to the Dean of the Graduate College. Admission is limited to students who intend to become candidates for an advanced degree (other than Doctor of Medicine) either at The University of Vermont or at other fully accredited institutions. Students who wish to pursue studies at the graduate level but who do not intend to become candidates for degrees should enroll as special students in the appropriate undergraduate college.

In order to be admitted to the Graduate College an applicant should hold a Bachelor's degree from a fully accredited college or university and his undergraduate record must show that he is capable of successful work at the graduate level. An applicant should be prepared to submit to the Dean, along with a transcript of his undergraduate record, his scores attained in the Graduate Record Examinations, though this latter requirement may be waived in individual cases by the Dean or the department concerned. Full information concerning these examinations may be obtained from the Educational Testing Service, Box 592, Princeton, New Jersey.

Graduates of four-year institutions which are not yet fully accredited may be admitted to the Graduate College only if their undergraduate record and Graduate Record Examination scores show unusual promise.

Only applicants who desire to work along lines in which the University offers graduate programs will be admitted to the Graduate College. Because of the individual nature of most graduate study and because the facilities of the University are not unlimited, it is sometimes necessary to limit the number of graduate students in a department. A graduate student whose work is unsatisfactory may be requested at any time by the Dean or the department concerned to withdraw from candidacy and from the Graduate College.

Admission to the Graduate College does not mean that a student is automatically accepted as a candidate for an advanced degree. Acceptance to candidacy is granted only in cases where the student has fully met all undergraduate prerequisites in his chosen field of concentration and has demonstrated to the full satisfaction of the department concerned his capacity for successful study and research at the graduate level.

Students in the Graduate College therefore fall into three categories: (1) duly admitted students accepted to candidacy (2) degree candidates at other institutions who work at The University of Vermont for transfer of credit (3) duly admitted students not yet accepted to candidacy.

MINIMUM RESIDENCE REQUIREMENTS

Each candidate for a Master's degree must satisfactorily complete at least twenty hours of graduate credit while in residence at The University of Vermont, either in the regular academic year or in summer sessions. Individual departments may require a longer period of residence than the minimum stated above.

MAXIMUM TIME LIMITS

A program leading to the Master's degree must be completed within a span of three years if carried on during the regular academic year; if the program is carried on during summer sessions, it must be completed within a span of seven years. Only in special cases will credits earned outside these time limits be re-evaluated and accepted; requests for such re-evaluation must be addressed to the Dean and must be accompanied by a full statement of the extenuating circumstances. This time limit applies both to study at The University of Vermont and to courses taken in other institutions and presented for transfer of credit. For students whose graduate work has been interrupted by service in the armed forces the time limits are extended automatically by the length of time of such service.

TRANSFER OF CREDIT

Not more than eight semester hours of credit (or the equivalent thereof) for graduate courses taken in other institutions can be transferred for credit toward the Master's degree. Such courses must have been taken in a fully accredited college or university which offers graduate study and must be acceptable toward graduate degrees in that institution. Credit cannot be transferred for (1) courses which would not, if taken at The University of Vermont, receive graduate credit, (2) courses in which a grade lower than 82

per cent (B-) was received, (3) extension courses given by institutions other than The University of Vermont, (4) correspondence courses, (5) courses which are inappropriate for inclusion in any Master's program offered by The University of Vermont.

EXTENSION COURSES

Not more than eight semester hours of credit toward the Master's degree may be earned by taking extension or adult education courses offered by The University of Vermont. Graduate credit cannot be given for courses which would not offer graduate credit if given in regular or summer sessions at The University of Vermont. Only students whose academic qualifications would qualify them for admission to the Graduate College can be granted full graduate credit for work done in extension courses. Therefore students seeking graduate credit who have not been admitted to the Graduate College must have their academic credentials approved by the Dean before graduate credit can be granted.

REQUIREMENTS FOR DEGREES

A total of thirty semester hour credits is the minimum number required for the Master's degree. Credit for the preparation of a thesis under the direction of the particular department, when required, will be considered part of the program.

Each student must maintain an average of 85 (B). A course in which a grade lower than 82 (B-) is received will not be accepted toward an advanced degree. Certain departments require a higher average than the 85 specified above, and students are apprised of this before their first enrollment in those departments.

MASTER OF ARTS AND MASTER OF SCIENCE

Field of Specialization In judging the attainments of candidates, great emphasis is placed upon ability to do original research in the chosen field of specialization. Hence the number of courses required will vary with the preparation and needs of the individual student. In order to plan his individual program, a new student should consult as early as possible with the chairman of the department in which he is specializing. At least twenty hours of graduate credit (including credit for the thesis and research leading to the thesis) must be earned in the field of specialization. All course credits included in these twenty hours must have been earned in courses which are numbered above 200.

Thesis Each candidate will undertake a problem of original research under the direction of a member of the department in which he is specializing. At the conclusion of the investigation the student must present a thesis which embodies the results of his work and which demonstrates his capability for independent research. The original copy of this thesis must be bound for deposit in the University Libraries; some departments require that additional copies be bound for deposit within the department. The number of credit hours to be earned in thesis research varies between six (minimum) and fifteen (maximum), the precise number being decided on an individual basis by the department concerned.

Related Study Usually a graduate program will include advanced courses outside the field of specialization. In order to be included as part of the Master's program these supplementary courses must be approved by the department in which the student is specializing. These courses need not necessarily be courses numbered above 200, but under no circumstances can credit earned in a course numbered below 100 be included in the minimum thirty hours required of M.A. and M.S. candidates.

MASTER OF EDUCATION

The graduate program of each student admitted to candidacy for the degree of Master of Education is planned and supervised by an individual committee, which includes *ex-officio* the Deans of the Graduate College and the College of Education. A graduate program is planned in view of a student's undergraduate curriculum and in the light of his aims and purposes in pursuing his Master's degree. Programs are planned in such a way that their subject matter will be concentrated as far as possible within a general area of study. Each program must include at least thirty semester hours of approved course work, and if a student's preparation is inadequate for him to begin study at the graduate level in certain aspects of his program, additional undergraduate courses will be required.

Except under most unusual circumstances, a candidate will be required to present evidence of a full year of successful teaching experience before the degree of Master of Education can be awarded. It is strongly recommended that prospective candidates for the degree meet this requirement prior to making application for acceptance to candidacy.

MASTER OF ARTS IN TEACHING

A minimum of thirty semester hours of graduate work is required, of which not less than six semester hours shall be in education. Apart from this requirement, a student will specialize in a single department offering courses numbered above 200 or in any acceptable combination of such departments. Students who enroll for this degree must have completed an undergraduate major in the area of their specialization and must be acceptable to the department or departments concerned.

In his undergraduate and graduate work a student must complete eighteen semester hours in education which must include the following courses or their equivalent: History or Philosophy of Education, General Methods and Procedures, Student Teaching, and Educational Psychology or Principles of Education.

PROFESSIONAL DEGREES IN ENGINEERING

The advanced degrees of Civil Engineer, Mechanical Engineer, and Electrical Engineer will be granted only to engineering graduates of The University of Vermont. At least four years must have elapsed since the candidate graduated. For at least three years the candidate must have held positions of responsibility in his profession and have shown ability to design and execute important engineering work.

At least six months before the end of the year in which the degree is sought the candidate must present to the Dean of the Graduate College a

statement of his technical training and experience, together with the topic upon which he proposes to submit a thesis. The thesis must embody the results of original investigation upon some technical subject. The professional record and thesis topic must be approved by the College of Technology and by the Executive Committee of the Graduate College.

The thesis must be presented to the Dean of the Graduate College not later than three weeks prior to commencement. The thesis must then be approved by the College of Technology and by the Executive Committee of the Graduate College.

EXAMINATIONS

The examinations culminating the program of graduate study for the Master's degree are as follows:

I. FOR THE DEGREES OF MASTER OF ARTS AND MASTER OF SCIENCE:

a. A written comprehensive examination (two hour minimum) in the field of specialization.
b. An oral examination (one hour minimum) on the thesis.
c. If required by the department in which the candidate is specializing, a written examination in a field related to the field of specialization.

II. FOR THE DEGREE OF MASTER OF EDUCATION:

a. A written comprehensive examination (three hour minimum) in the field of education.
b. A comprehensive oral examination (one hour minimum) in the field of education.

III. FOR THE DEGREE OF MASTER OF ARTS IN TEACHING:

a. A written comprehensive examination (two hour minimum) in the field of education.
b. Either a written comprehensive examination (two hour minimum) or a comprehensive oral examination (one hour minimum) in the field of specialization. The choice between written and oral examination is to be determined by the department after consultation with the candidate.

Success in the written examinations is prerequisite to taking the oral examinations. Written examinations should precede the oral examination by at least two weeks, except that students taking the examinations in summer session may be permitted a shorter interval by the Dean of the Graduate College. It is recommended, however, that the interval be longer than two weeks and that the students who work for degrees in summer session plan to take the written examinations during the summer prior to that in which the oral examination is taken. One re-examination only is permitted for each of these final comprehensive examinations.

EXPENSE AND FINANCIAL AIDS

For information concerning fees and other costs, see the index. Graduate students may receive scholarship aid on the same basis as undergraduate students. Details are given under "Student Aid," for which also see the index.

FELLOWSHIPS

The Graduate College offers each year two Graduate Fellowships, each of $400 plus a tuition scholarship, which are open to applicants in any field in which the University offers a full graduate program. Holders of Graduate Fellowships are expected to carry a full time graduate program towards a Master's degree. Applications for Graduate Fellowships should be addressed to the Dean and must be completed not later than March 31 of the academic year preceding the year for which the application is made.

The George H. Walker Dairy Fellowship is awarded every third year, the next award to be made in 1957–58. It provides a stipend not less than $700, plus a tuition scholarship. It is available to graduate students who during their undergraduate courses have studied "agriculture, chemistry, and bacteriology" and who desire to study the problems relating to the production of a sanitary milk supply on comparatively small plants and farms. Applications should be addressed to the Chairman of the Department of Animal and Dairy Husbandry.

ASSISTANTSHIPS

The University of Vermont offers a number of assistantships in teaching and research. The stipends are $1,400 for an appointment of nine months duration and $1700 for an appointment of eleven months. Graduate assistants are awarded scholarships to cover tuition up to twelve hours a semester; they are eligible also for reappointment for a second year. A maximum of half-time assistance in the department is expected of a graduate assistant, and he must expect that more than one academic year will be necessary to complete the requirements for his Master's degree. While it is customary, it is not obligatory that graduate assistants select their fields of concentration in the departments in which they are appointed assistants; for example, foreign-born students appointed assistants in the Department of Romance Languages may be accepted as degree candidates by the Department of English.

Applications for assistantships should be addressed to the chairman of the department concerned and should be filed not later than March 31 of the academic year preceding that for which the application is made. Assistantships for the year 1956–57 are offered by the following departments: Agricultural Biochemistry, Agricultural Economics, Agronomy, Animal and Dairy Husbandry, Bacteriology, Biochemistry, Botany, Chemistry, Horticulture, Mathematics, Music, Pharmacology, Physics, Physiology, Romance Languages, and Zoology.

The College of Medicine

REQUIREMENTS FOR ADMISSION

The usual requirements for admission to the College of Medicine are four years of college work done in an institution listed among the "Approved Colleges of Arts and Sciences," compiled and published by the Council on Medical Education and Hospitals of the American Medical Association. The College of Medicine requires one year each of English, general chemistry, organic chemistry, physics (including laboratory), biology, and a satisfactory one semester course in quantitative chemistry. The College strongly recommends additional courses in English and mathematics (at least one year). These should be regarded by the student as minimum basic requirements. A major in science is not required.

Although the minimum requirements must be satisfactorily completed, additional well-planned courses of study in the fields of history, economics, sociology, psychology, philosophy, music and the arts should be included. This is possible if students carefully plan programs of study aimed at individual scholarship and development of a field of interest early in their academic careers. In this way the student develops a general background and at the same time prepares himself for the study of medicine. Each of these is equally important. The well-trained physician should be a well-educated person.

Students must satisfactorily complete all requirements for admission to the College of Medicine in any given year by July 1 preceding the September admission.

The Admissions Committee expects applicants to have completed a program equivalent to that outlined but reserves the privilege, at its discretion, to give favorable consideration to applicants with college work of a different type, provided it includes acceptable credits in the required courses.

Eligibility for admission to the College of Medicine of an applicant, who has fulfilled the entrance requirements as stated, is determined by the Admissions Committee of the College of Medicine on the basis of the following:

1. Personality and aptitude of the applicant for the study and practice of medicine. This is determined by recommendations and especially by personal interview with the Admissions Committee. Dates for these interviews are announced by the Committee.
2. The scholastic record of the applicant in his premedical work.
3. The Medical College Admission Test recommended by the Association of American Medical Colleges is required of each applicant. The scores made in this test are taken into consideration but are not used as a final determinant in accepting students.
4. Recommendations of the applicant's college teachers.

Because of limited teaching facilities, a maximum of fifty students is admitted to the entering class. In selection of eligible applicants for admission, preference is given according to the following priorities:

1. Qualified residents of Vermont.

2. Qualified residents of the New England states, especially those from Maine and New Hampshire.
3. Qualified residents of other areas.

Sons and daughters of the alumni of the College of Medicine of the University of Vermont are given special consideration within the framework of the above policy.

The State of Vermont by statute requires every resident of the State who enjoys reduced tuition and who enrolls in a curriculum leading to the degree of Doctor of Medicine to sign an agreement to practice medicine in Vermont for the period of one year for each year of enrollment. In lieu of this, the student may refund to the State Treasurer, through the University, the difference between the total tuition paid and the total unit cost to the State of the curriculum pursued.

Application blanks may be secured from the office of the Dean, College of Medicine, University of Vermont, Burlington, Vermont.

Applications for admission to the class entering in September of any year will close on March 1 preceding the September admission. Applications postmarked up until midnight of the last day of February will be considered. An application fee of ten dollars, payable to The University of Vermont and State Agricultural College, must accompany all applications.

THE CURRICULUM

First Year: Anatomy, physiology and biochemistry are integrated in such a fashion that topics are considered simultaneously by all departments in so far as possible. Thus when the abdomen is being dissected, the physiology of the gastro-intestinal system and the biochemistry of digestion are being considered at the same time. A course in psychobiology includes lectures, moving pictures and discussion. Small groups of ten students are met by the dean and the secretary of the faculty for informal discussion of general topics chosen by the students which are related to medicine and medical school. These exercises are conducted with the support of the Lamb Foundation.

Second Year: The curriculum is divided into three parts and correlated in time.

Course A—Morphology, Physiology, and Chemistry of the Abnormal—runs throughout the entire year and includes pharmacology, pathology, clinical pathology, psychopathology, and public health. A conjoint course meets once a week during the second semester in an attempt to relate certain aspects of clinical medicine to the preclinical sciences.

Course B—Elicitation of Data—includes history taking and examination which are taught cooperatively by the various specialists under the general supervision of an internist. This is given in the second semester only.

Course C—Introduction to Clinical Medicine—consists of didactic lectures and case presentations covering elementary medicine, pediatrics, surgery, obstetrics, gynecology and oral medicine, and is given in the second semester.

The schedule varies from week to week because the subject material presented by the different departments is correlated.

Third Year: A clinical clerkship divided into four quarters is conducted from September to the following August. One half of the year is devoted to medicine and pediatrics but included in this period are clinical conferences, discussion groups, and field trips covering preventive medicine, psychiatry, dermatology, radiology, and ophthalmology. Limited responsibility for and observation of patients in the two local hospitals are the primary activities. Rounds, tutorial sessions, and informal conferences are held. The third quarter includes a clerkship on surgery with clinical conferences for the students in neurosurgery, otolaryngology, clinical surgery, orthopedic surgery, and surgical pathology. Teaching is accomplished by tutorial instruction, rounds, staff conferences and operating room work. The final quarter is a clerkship in obstetrics and gynecology, including tutorial instruction, ward, delivery and operating room experience. Manikin work, conferences, rounds, tutorial sessions, and sessions with fresh gynecological pathological material are included.

Fourth Year: This year includes further general hospital and specialty hospital experience and, in addition, experience in the care of the ambulatory patient. Seniors attend school from September to June. They are given increasing responsibility, live at general hospitals outside of Burlington, but are supervised by staff members. Tuberculosis and psychiatric specialty hospitals are included in the rotation program. Ambulatory patient service is experienced in the Burlington Free Dispensary (operated by the College of Medicine), in the outpatient departments of the general hospitals, on home care visits, and during preceptorships with general practitioners.

All of the usual medical specialties are represented including mental hygiene clinics and cerebral palsy clinics.

The curriculum is not static and an active curriculum committee is meeting continually to evaluate the present curriculum and plan changes.

TEACHING FACILITIES

The College of Medicine Building and the College of Medicine Annex contain offices, lecture rooms, student and research laboratories. Clinical facilities for teaching in the third and fourth years include the two Burlington hospitals with a total of 420 beds (not including bassinets) and 110,000 patient days. Five general and three specialty (tuberculosis and psychiatric) hospitals in Vermont and New York State with a total bed complement of 2,463 are used.

In Burlington there are three outpatient departments with 15,040 patient visits annually, and the Home Care Service with 6,063 home visits annually. Elective preceptorships with general practitioners are available.

The University Extension

The University through its extension services aims to broaden the horizon of those who have not attended college and to afford an opportunity for those who have attended college to keep in touch with academic thought in their favorite fields or to gain information about subjects which were not studied in college.

THE SUMMER SESSION

A six weeks Summer Session offers courses on both the graduate and undergraduate level in many subjects, including art, botany, chemistry, commercial subjects, conservation, dramatic art, economics, education, English, French, geography, German, history, home economics, mathematics, music (instrumental and vocal), philosophy, physical education, physics, political science, psychology, Spanish, speech and zoology.

The offerings are diversified to meet the needs of the following various groups of students: those with adequate preparation who desire courses leading to a Bachelor's degree; those with adequate preparation who wish to do graduate work for the Master's degree; principals and superintendents of schools who desire fundamental or specialized courses in the fields of educational administration and supervision; teachers in elementary or secondary schools who seek credit toward State teachers' certificates or who desire to broaden their knowledge of special subjects; persons who desire college level courses for self-improvement. Students must have sufficient maturity and background to profit from the courses in which they enroll.

By completing satisfactorily two courses, qualified students may earn six semester hours credit towards a degree. Through work in the Summer Session it is possible to earn the degrees of Master of Arts, Master of Science, Master of Arts in Teaching, and Master of Education. A special bulletin giving a full description of courses will be sent upon application to the Director of the Summer Session.

ADULT EDUCATION

Continuing education for adults in the State of Vermont is provided under the Adult Education Program offered by the University. Members of the faculty at the University and others working under temporary appointment offer evening or extension courses in arts and sciences and education. A variety of courses is presented in evening sessions on campus throughout the college year. Some of these may be taken for credit while others are non-credit and are designed for the adult who is interested in continuing his education for the pleasure of self improvement.

Courses are given in towns and cities throughout the state wherever a group of sufficient size to meet the expense of the offering can be assembled.

Arrangements for Adult Education courses are made through the Adult Education Office, 147 Waterman Building. Length of courses varies from five to fifteen weeks. The cost of enrollment varies from $10 to $20 for non-credit courses and is $15 per semester hour for credit courses.

Any person taking a course for credit towards a degree at the University is advised to secure the approval of the appropriate dean. All persons desiring

graduate credit must secure the approval of the Dean of the Graduate College.

AUDIO-VISUAL SERVICES

The Vermont Film Library, operated by the Department of Audio-Visual Services, and jointly sponsored by the State Department of Education and the University, serves the schools, colleges, churches, societies, and individuals of the State by making materials for visual education programs available for their use on a rental or membership basis. The library owns over 1,000 sound 16mm films suited to age levels from grade one to adult, produced by companies who specialize in educational films; 1,200 3¼ x 4 slides on Vermont history, United States history, biology and ethnology; a collection of 2 x 2 slides on contemporary American art; over 100 filmstrips on aviation and mechanical education, the United Nations organization and other subjects. The Services Department provides equipment and projectionists for college classroom use and rents to other nearby groups. Consultation on audio-visual materials and their sources is also available.

THE GOVERNMENT CLEARING HOUSE

The purpose of the Government Clearing House is to promote a practical approach to the study of government by students in the University and also to provide information relative to problems of government, upon request, primarily to town and city officials in the State, but also to officials of other government units and to private citizens.

The Clearing House cooperates with such organizations as the New England Council in sponsoring such activities as the annual "Town Report Contest." It also cooperates with the Governor and other state officers, including those in the Vermont Development Commission, in sponsoring the annual Town Officers' Educational Conferences. A Public Affairs Library is maintained as a memorial to the late James P. Taylor whose efforts to expand citizen interest in good government is well known throughout the State.

CONFERENCES

During the course of the year, many conferences are held on the campus. Every week one or more groups closely associated with some phase of the University's activities meet to discuss problems and to exchange ideas. Groups interested in arranging such conferences should write to the Director of Public Relations for details.

It has become the policy of the University to hold annually in March an educational conference with the schools of the State. The project is a part of the University's contribution to the effort which is being made by the various educational forces of the State to improve institutions of all grades, from the primary school to the college and the University. In selecting a topic for the conference an effort is made to look to the future and anticipate the problems which Vermont must consider. The aim is to bring to the teachers of the State, year by year, expert reports and opinions relating to some of our many serious educational problems. This conference is held in connection with the convention of the Champlain Valley Teachers' Association.

Courses of Instruction

The several departments are arranged alphabetically, and the college in which each is located is indicated.

A separate number is used for each semester course and for each semester of a year course. The form 1, 2 indicates that the separate semesters may be taken independently for credit, while 1-2 indicates that they may not be taken independently for credit and, unless otherwise stated, must be taken in the sequence indicated.

Courses numbered from 1 to 99 are elementary and intermediate courses. Those numbered from 100 to 199 are advanced undergraduate courses; those numbered from 200 to 299 are advanced courses for undergraduates which also may be taken for graduate credit by duly qualified graduate students. Courses numbered above 300 are limited to graduate students.

The letter "S" preceding the course number indicates the course is offered normally in the Summer Session.

The number of credit hours per semester *is indicated in each course description.*

In some instances, a form such as (2-3) immediately follows the course title. This indicates the number of class hours respectively of lecture or recitation and of laboratory.

Courses bearing odd numbers are offered the first semester; even numbers the second semester, unless otherwise indicated when the Roman I (first) or II (second) is used.

AGRICULTURAL BIOCHEMISTRY

(College of Agriculture and Home Economics)

Professor Little (Chairman); Associate Professor Johnstone; Assistant Professor Foote

171 Elementary Biochemistry (3–4) An introductory treatment of the chemistry of carbohydrates, proteins, lipids, enzymes, vitamins, and hormones and their relation to processes of biological significance. The basic principles of analytical procedures involved in biochemical methods will be included. *Prerequisite:* Chemistry 131–132 or 35. Five hours. Mr. Foote.

197,198 Senior Research Each student works on a research problem under the direction of a qualified staff member and submits the findings in written form as prescribed by the department. *Prerequisite:* senior standing. Three hours. The staff.

251-252 Plant and Animal Biochemistry An intensive study of the chemical reactions, compounds and energy relationships pertinent to the survival and function of living cells. The dependence of such cells upon energy derived from the environment is emphasized during a consideration of photosynthesis, digestion, metabolism of foodstuffs (carbohydrates, fats, and proteins) and the nature and function of enzymes and coenzymes. *Prerequisite:* Chemistry 131–132 or 35. Three hours. Mr. Little. (Offered in alternate years, 1957–58.)

253 Microbial Biochemistry (2–3) An advanced course dealing with the chemical composition, energy utilization and metabolism of microbial cells. *Prerequisite:* Botany 116; Chemistry 131–132 or 35 and departmental permission. Three hours. Mr. Johnstone. (Offered in alternate years, 1957–58.)

381-382 Graduate Seminar A topical seminar with discussion of assigned and collateral reading. Required of graduate students in agricultural biochemistry. One hour. The staff.

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

AGRICULTURAL ECONOMICS

(College of Agriculture and Home Economics)

Professor T. M. Adams (Chairman); Assistant Professors Tremblay and Webster; Messrs. Sinclair and Thompkins

2 World Agriculture (2–2) Historical development and pattern of agriculture up to the present day with emphasis on the adjustment of agriculture to natural and economic phenomenon. Present pattern of crop and livestock production, trade, and consumption in Vermont, the United States, and the world. Three hours. Mr. Tremblay.

21 Agriculture Cooperation The nature and development of cooperative business enterprises, their organization, financing, and business management. *Prerequisite:* sophomore standing. Two hours. Mr. Adams.

22 Agricultural Business (2–2) A consideration of the principles and practices of the business aspects of agriculture encountered by farmers, farm organizations, and agricultural businesses. Emphasis on financial structure, tax policies and accounting methods with special emphasis on common legal problems facing farmers and agricultural businesses. *Prerequisite:* sophomore standing. Three hours. Mr. Sinclair.

103 Rural Sociology A study of the anatomy or structure of the rural community and of other rural social groupings. Introduction to some of the psychological and social controls to be observed and some practice in current method now employed in maintaining communication within rural areas. Some consideration is given to rural community problems. *Prerequisite:* Economics 11–12 or permission of the department. Three hours. Mr. Thompkins.

108 Farm Credit (2–2) The types and sources of credit used by farmers, and the lending practices and problems of credit agencies. Appraisal of farm real estate and personal property. *Prerequisite:* Economics 11–12. Three hours. Mr. Sinclair.

197,198 Senior Research Each student works on a research problem under the direction of a qualified staff member and submits the findings in written form as prescribed by the department. *Prerequisite:* senior standing. Three hours. The staff.

201-202 Farm Management (2–2) The organization and operation of a successful farm business. *Prerequisite:* Economics 11–12 and senior standing. (Agricultural Education option, junior year.) Three hours. Mr. Tremblay.

204 Marketing Farm Products (2–2) The distribution of farm products and the problems involved, with particular emphasis on the Vermont situation. *Prerequisite:* Economics 11–12. Three hours. Mr. Adams.

206 Public Problems of Agriculture Price fluctuations as they affect farming, agricultural legislation, land use, costs of local government, and other problems of contemporary interest to farmers. *Prerequisite:* Economics 11–12. Three hours. Mr. Adams.

251,252 Research Methods Efficient procedures for students engaged in scientific research. *Prerequisite:* Economics 11–12; senior standing and permission of the department. Three hours.

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

AGRICULTURAL EDUCATION

(College of Agriculture and Home Economics)

Assistant Professor Hemp (Chairman); Mr. Davison

100 Rural Education (2–2) The organization of rural education with emphasis on current problems. *Prerequisite:* junior standing. Three hours. Mr. Hemp.

102 Extension Methods (1–2) Methods and techniques of extension teaching. *Prerequsite:* junior standing. Two hours. Mr. Davison. (Offered in alternate years, 1957–58).

155 Directed Practice Teaching in Vocational Agriculture Practice teaching for an eight week's period in selected high school departments of vocational agriculture under the guidance of experienced critic teachers and the teacher trainer. *Prerequisite:* 251 and 253 or permission of the department. Six hours. Mr. Hemp.

251,252 Methods of Teaching Vocational Agriculture (2–2) First semester: determining needs and objectives. Planning and maintaining facilities for vocational high school students. Selecting, planning, and supervising farming programs of all-day students. Planning course materials and teaching all-day students. Advising an FFA chapter. Second semester: establishing and maintaining relationships in-school and out-of-school. Providing guidance, placement, and follow-up. Organizing and using advisory groups. Managing a department. Discharging professional responsibilities. Evaluating programs of vocational agriculture. *Prerequisite:* senior standing; 100 or permission of the department. Three hours. Mr. Hemp.

253 Methods of Teaching Young and Adult Farmer Classes in Vocational Agriculture (2–2) Determining needs and establishing ob-

jectives for the education of young and adult farmers. Planning courses and teaching classes. Providing on-farm instruction. Evaluating instruction. Advising related organizations. Using advisory groups in adult farmer education. *Prerequisite:* senior standing; 102 or permission of the department. Three hours. Mr. Hemp.

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

AGRONOMY (College of Agriculture and Home Economics)

Professor Midgley (Chairman); Associate Professor Wood; Assistant Professors Flanagan and Gingrich

1 General Farm Crops (2–2) Introduction to field, forage and pasture crops common in Vermont and the United States, including production, management and uses. *Prerequisite:* Botany 1 or permission of department. Three hours. Mr. Wood.

2 General Soils An introductory course dealing with the origin, formation, and classification of soils; elementary principles of fertility and management. Three hours. Mr. Gingrich

21 Field Crops (2–2) The theory and practice of producing, improving and managing field crops. *Prerequisite:* Botany 1 or permission of department. Three hours. Mr. Flanagan. (Offered in alternate years, 1957–58.)

22 Forage and Pasture Crops (2–2) The theory and practice of producing, improving and managing forage and pasture crops including study of silage and hay making. *Prerequisite:* Botany 1 or permission of department. Three hours. Mr. Wood.

101 Fertilizers Principles of plant nutrition, nutrient deficiency symptoms, grade formulation, rates and ratios for specific crops. *Prerequisite:* Agron. 2; junior standing. Two hours. Mr. Flanagan. (Offered in alternate years, 1956–57.)

153 Soil Conservation (2–2) A study of erosive forces and the physical properties, tillage, and management of soils, and of crops as applied to soil conservation. *Prerequisition:* Agron. 2; junior standing or permission of the department. Three hours. Mr. Flanagan.

197,198 Senior Research (0–3) The student works on a research problem under the direction of a qualified staff member and submits the findings in a written form prescribed by the department. *Prerequisite:* senior standing. Three hours. The staff.

224 Soil Science and Management (3–2) The geology, physics, chemistry, fertility, and biology of soils. *Prerequisite:* Agron. 153; Chem. 21–22 or 35. Four hours. Mr. Midgley.

281,282 Agronomy Seminar Discussion of agronomic topics. Students are required to present papers on selected subjects. *Prerequisite:* senior or graduate standing or permission of the department. One hour. The staff.

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

AIR SCIENCE AND TACTICS (Air Force ROTC)

Col. Herzberg (Chairman); Major Monahan; Captains Aldrich, Meurlin, and Nelson

1-2 National Defense and the Air Age Introduction to Air Force ROTC; introduction to aviation; fundamentals of global geography; international tensions and security organizations; instruments of national military security; basic military training. Two hours.

11-12 Elements and Potentials of Air Power Elements of aerial warfare; introduction to Air Force aircraft, weapons, targets, and air bases; careers in the Air Force; cadet noncommissioned officer training. Two hours.

101-102 The Air Force Officer in the Air Age Introduction to advanced AFROTC; the Air Force commander and his staff; communicating and instructing process; AF correspondence; military laws, courts and boards; applied air science and air doctrine; aircraft engineering; air navigation; meteorology; leadership laboratory. Three hours.

111-112 Leadership and Air Power Concepts Seminar on leadership concepts; career guidance; military aviation and the evolution of warfare; military aspects of world political geography; briefing for AF commissioned service; leadership laboratory. Three hours.

ANIMAL AND DAIRY HUSBANDRY

(College of Agriculture and Home Economics)

Professors Riddell (Chairman) and Newlander; Associate Professor Bradfield; Assistant Professors Atherton, Fitzsimmons; Mr. Balch

1 General Dairying (2–3) Introductory course in dairy cattle management and judging; quality milk production; Babcock test. Three hours. Messrs. Fitzsimmons and Bradfield.

2 Livestock Other Than Dairy (1–3) Types, breeds, and market classes. Two hours. Mr. Balch.

21 Milk and Milk Products (2–0) Introduction to products made from milk. History, development, role of these products in the dairy industry, markets and principles of processing. *Prerequisite:* sophomore standing. Two hours. Messrs. Atherton and Bradfield.

44 Advanced Stock Judging (0–6) Judging, fitting and showing, with emphasis on dairy cattle. *Prerequisite:* 1. Two hours. Messrs. Fitzsimmons and Balch.

93 Livestock Production (2–3) Production and management of horses, sheep, swine and beef cattle. *Prerequisite:* 2. Three hours. Mr. Balch.

104 Chemistry and Testing of Dairy Products (2–3) Chemical and physical properties of milk and milk products. Standard methods of analysis. *Prerequisite:* Chem. 1–2. Three hours. Mr. Newlander.

105 Feeds and Feeding (2–3) Feeds, rations and feeding practice. *Prerequisite:* junior standing. Three hours. Mr. Newlander.

109 Dairy Bacteriology (1–4) Relation of microorganisms to milk and milk products, methods of examination and control. *Prerequisite:* Botany 116. Three hours. Mr. Atherton.

116 Dairy Plant Engineering (1–2) Theory and practical problems in selection and use of dairy processing equipment. *Prerequisite:* Physics 5; junior standing. Two hours. Mr. Bradfield, in conjunction with the Agricultural Engineering Department. (Offered in alternate years, 1956–57.)

146 Butter, Cheese and Casein (1–6) Theory and practice. *Prerequisite:* junior standing. Three hours. Mr. Atherton. (Offered in alternate years, 1956–57.)

153 Market Milk (1–3) Milk handling from farm to consumer. Quality control, processing, cleaning methods. Grade A and Certified milk. *Prerequisite:* 21, 109; senior standing or permission of department. Two hours. Mr. Atherton.

197, 198 Senior Research The student works on are search problem under the direction of a qualified staff member and submits the findings in a written form prescribed by the department. *Prerequisite:* senior standing. Three hours. The staff.

206 Animal Nutrition Nutrients, their function and utilization, and requirements for growth, reproduction and lactation. *Prerequisite:* 105; Chem. 131–132 or 35. Two hours. Mr. Newlander.

211 Ice Cream (2–3) Principles and practices of ice cream making, including a study of physiochemical and biological factors involved; calculation of formulas; sherbets and specialties; merchandising, soda fountain management and sanitary control. *Prerequisite:* 104, 109 (which may be taken concurrently); junior standing. Three hours. Mr. Bradfield.

214 Concentrated Dairy Products (2–3) Methods and technical problems in manufacture and storage of condensed milk and milk powder. Physio-chemical characteristics of milk. Thermodynamics of condensing. Distribution and utilization of concentrated milks. *Prerequisite:* 104, 109; junior standing. Three hours. Mr. Atherton. (Offered in alternate years, 1957–58.)

251 Dairy Cattle and Milk Production (2–2) Growth and development; physiology of milk secretion; scientific feeding and management of dairy herd. *Prerequisite:* 105, senior standing or permission of department. Three hours. Messrs. Riddell and Fitzsimmons.

254 Technical Control of Milk Processing (1–3) Principles and practices of producing high quality milk, cream, cultured and flavored milks; sanitary regulations, laboratory tests and plant management. *Prerequisite:* 153 and 104; senior standing or permission of the department. Two hours. Mr. Bradfield.

260 Animal Breeding. Physiology of reproduction; theory and practical application of genetic principles to breeding of livestock. *Prerequisite:*

Botany 105 or Zoology 115; senior standing or permission of department. Three hours. Messrs. Fitzsimmons and Riddell.

281,282 Animal and Dairy Husbandry Seminar Reports and discussions of problems and special investigations in selected fields. One-two hours. (Maximum credit 1 hour senior, 3 hours graduate.) The staff.

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

ANIMAL PATHOLOGY (College of Agriculture and Home Economics)

Professor Bolton (Chairman); Associate Professor Durrell

55 Anatomy and Physiology The various anatomical structures and their physiological functions. *Prerequisite:* sophomore standing. Three hours. Dr. Durrell.

56 Diseases of Farm Animals The causes, symptoms, and prevention of diseases of farm animals. *Prerequisite:* sophomore standing. Two hours. Dr. Durrell.

116 Poultry Sanitation and Disease Control (3–2) The causes, symptoms, and prevention of parasitic, infectious, and nutritional diseases of poultry. A discussion of the hygienic and sanitary measures used in incubation, brooding and rearing poultry will be given as indicated. Demonstrations and necropsies. *Prerequisite:* Botany 116. Four hours. Dr. Bolton.

197,198 Senior Research The student works on a research problem under the direction of a qualified staff member and submits the findings in a written form prescribed by the department. *Prerequisite:* senior standing. Three hours. The staff.

351,352 Artificial Insemination Theory and fundamentals of microscopic semen analysis and the physiological and related influences on semen efficiency. *Prerequisite:* 55, 56; Botany 116; Chemistry 131–132; graduate standing and permission of the department. Four hours. The staff.

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

ART (College of Arts and Sciences)

Professor Colburn (Chairman); Assistant Professors Gowans and Mills

1 Art in the Ancient World The principles and cultural significance of painting, sculpture, and architecture from prehistoric through Roman times to ca. 330 A.D., including the ancient art of Egypt, Mesopotamia, Greece, and Hellenistic lands. Three hours. Mr. Gowans. *Prerequisite:* sophomore standing. (Offered in alternate years, 1956–57.)

2 Medieval Art Art during the Middle Ages, from ca. 330 A.D. to ca. 1400 A.D., in the Byzantine Empire and western Europe. The history of painting, sculpture, and architecture is studied from the viewpoint of (1) the development of art as a vehicle for expressing Christian ideas and (2) the formation of a coherent style from diverse Oriental, classical, and Celto-

Teutonic elements. *Prerequisite:* 1 or permission of instructor. Three hours. Mr. Gowans. (Offered in alternate years, 1956–57.)

4 Modern Art A study and appreciation of contemporary trends in painting and sculpture from the period of French Impressionism, with emphasis upon European influences. The course includes a survey of the viewpoints and achievements of modern European and American sculptors. *Prerequisite:* sophomore standing. Three hours. Mrs. Mills.

5 Renaissance and Baroque Art The development and cultural significance in western Europe of painting, sculpture, and architecture during the period from ca. 1400 to 1750, with particular emphasis on the principles and theory of Renaissance humanism and the Baroque reaction, and the art of the "Old Masters," including Van Eyck, Van der Weyden, Leonardo, Michelangelo, Bernini, and Rembrandt. Three hours. Mr. Gowans. *Prerequisite:* sophomore standing. (Offered in alternate years, 1955–56.)

6 Modern Architecture The development of architecture from 1750 to the present. Theory of Victorian eclecticism and modern architecture; analysis of the work of great modern architects, especially Gropius and the Bauhaus, Le Corbusier, and Frank Lloyd Wright. *Prerequisite:* 5 or permission of instructor. Three hours. Mr. Gowans. (Offered in alternate years, 1955–56.)

7 Painting in America The development of painting in America from colonial times to the present, with emphasis on social and economic forces which at times channelled American artistic expression. *Prerequisite:* sophomore standing. Two hours. Mr. Colburn.

11-12 Arts and Crafts Experiences in functional design using various media to develop good taste and creative ability. Techniques include block-printing, ceramics, and work with metal. A weekly lecture period relates the history and appreciation of arts and crafts to student work. *Prerequisite:* sophomore standing. Three hours. Mrs. Mills.

21-22 Drawing and Painting Composition and painting techniques, with emphasis on a clearer understanding of modern schools of painting and on individual development. To receive credit a student must complete at least two semesters. By permission of the instructor, the course may be taken a second time for credit. *Prerequisite:* junior standing. Two hours. Mr. Colburn.

For courses in ART EDUCATION, see Elementary Education 4–5, 101.

For DANCE TECHNIQUE AND ANALYSIS see Physical Education for women 50.

BOTANY (College of Agriculture and Home Economics)

Professors Marvin (Chairman), Gershoy, Sproston, and Taylor; Associate Professor Johnstone; Assistant Professor Raynor; Messrs. Vogelmann and Ward

1 Introductory Botany (2–4) Fundamental principles of biology illustrated by the morphology, physiology, and reproduction of vascular plants. A study of forms and functions, leading to an understanding of the

plant as a dynamic unit. Four hours. Messrs. Taylor, Marvin, and Miss Raynor. (An equivalent course is offered in Summer Session.)

2 General Botany (2–4) A second semester for those desiring a year of botany. Study of plant groups, their relationships to each other. Plant distribution, geographical and historical. The role of plants in the world today. *Prerequisite:* 1. Four hours. Miss Raynor.

S10 Field Botany (2–4) Native plants and their habitats. Field identification and laboratory study. A projected series of courses encompassing the plant kingdom. Four hours. The staff. (Offered in the Summer Session only.)

101 Economic Botany (2–2) The relation of plants to human history and contemporary life. Botanical and economic aspects of plants used as sources of foods, drugs, and other products of importance in everyday living. Library study, periodic reports and visits to plant utilizing industries replace formal laboratory work. *Prerequisite:* 1; junior standing or permission of the department. Three hours. Mr. Taylor. (Offered in alternate years, 1957–58.)

102 Microtechnique (1–6) Preparation and study of microscopic biological material with emphasis on vegetative and reproductive cells and their modifications. Slide making techniques; optics in relation to the microscope. *Prerequisite:* 1; junior standing or permission of the department. Four hours. Miss Raynor. (Offered in alternate years, 1957–58.)

103 Plant Physiology (2–6) Mechanisms of absorption, trans-location, synthesis, and utilization of materials; the role of internal and external factors in growth. *Prerequisite:* 1; Chem. 1–2; junior standing. Five hours. Mr. Marvin. (Offered in alternate years, 1956–57.)

105 Genetics (2–2) Basic principles and theory of modern plant and animal breeding; elementary concepts of variation, inheritance, biometry, and cytogenetics. (No student may receive credit both for this course and for Zool. 115.) *Prerequisite:* 1; Zool. 1; junior standing or permission of the department. Three hours. Mr. Gershoy. (Offered in alternate years,1956–57.)

110 Taxonomy (1–4) Principles of classification; phylogeny of vascular plants with emphasis on the evolution of the angiosperms; the species concept; variation; development and migration of floras; modern techniques and biosystematics. *Prerequisite:* 1; junior standing. Three hours. Mr. Vogelmann. (Offered in alternate years, 1957–58.)

112 Ecology (2–2) Structure and organization of plant communities; succession, climax formations; effect of environmental factors; quadrating and other field techniques. *Prerequisite:* 103 or permission of the department; junior standing. Three hours. Mr. Vogelmann. (Offered in alternate years, 1956–57.)

113,114 Morphology (2–3) Comparative study of the structure, reproduction, and phylogenetic relationships of the major plant groups. First semester: algae, fungi, liverworts and mosses. Second semester: ferns and seed plants. *Prerequisite:* 1. Three hours. The staff. (Offered in alternate years, 1956–57.)

116 General Bacteriology (1–4) Principles and techniques employed in the study of micro-organisms, their isolation and culture with reference to

human disease and public health; their importance to agriculture, industry and foods. *Prerequisite:* 1 or Zool. 1; Chem. 1–2. Three hours. Mr. Johnstone.

118 Plant Pathology (2–0) or (2–4) Diagnosis, life history, and control of plant diseases caused by fungi, viruses, bacteria, nematodes. *Prerequisite:* 1. Two hours, lectures only; four hours, lectures and laboratory. Mr. Sproston.

197,198 Senior Research The student works on a research problem under the direction of a qualified staff member and submits the findings in a written form prescribed by the department. *Prerequisite:* senior standing. Three hours. The staff.

251 Plant Anatomy and Histology (2–4) Development of the organism and accompanying integration of cellular tissues. Ontogeny of vegetative tissues; modifications of the cell wall. *Prerequisite:* 113-114; or permission of the department. Four hours. Mr. Taylor. (Offered in alternate years, 1956–57.)

252 Fungi (2–4) The reproductive processes of the common molds, yeasts, and actinomycetes and their classification. Physiological studies; antibiosis. *Prerequisite:* 103 or permission of the department. Four hours. Mr. Sproston. (Offered in alternate years, 1957–58.)

253 Cytology (2–4) The dynamics of the protoplast; nuclear division, gamete formation, syngamy and substitute methods of reproduction. Interrelation of chromosomal and genetic phenomena. *Prerequisite:* 105 or Zool. 115; Chem. 131–132 or 35 or permission of the department. Four hours. Mr. Gershoy. (Offered in alternate years, 1956–57.)

256 Cytogenetics (2–4) Normal and aberrant chromosome behavior in relation to genetic ratios, reproductive phenomena and evolutionary development. *Prerequisite:* 105 or Zool. 115; 253 or permission of the department. Four hours. Miss Raynor. (Offered in alternate years, 1957–58.)

257 Plant Growth (2–4) The nutrition of plant cells, growth hormones, cyclic variation of environmental factors, morphogenesis. *Prerequisite:* 103; Chem. 131–132 or 35 or permission of the department. Four hours. Mr. Marvin. (Offered in alternate years, 1957–58.)

381,382 Botany Seminar A topical seminar with discussion of assigned and collateral reading. Required of graduate students in botany. One hour. The staff.

***391,392,393,394* Master's Thesis Research** Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

CHEMISTRY (College of Technology)

Professors Braun (Chairman) and Gregg; Associate Professors Cook and Crooks; Assistant Professors Brown, Inskeep, Lucarini and Whitcher

Note: Credit cannot be granted for 1-2 and also 11-12; nor for 35 and also 131-132.

1-2 Introductory Chemistry (3–3) An introductory course in general inorganic chemistry. Lectures, recitations and laboratory. Acceptable as a prerequisite to advanced courses. *Prerequisite:* at least one year of high school mathematics. Four hours. The staff.

11-12 General Chemistry (3–6) Lectures, recitations and laboratory, including general experiments in elementary qualitative analysis. Recommended for those concentrating in science. *Prerequisite:* at least one year of high school mathematics. Five hours. Mr. Inskeep, Miss Brown and staff.

21-22 Elementary Quantitative Analysis (2–6) Introduction to the theory and practice of quantitative methods, both gravimetric and volumetric, including also a theoretical discussion of indicators, buffers and pH. *Prerequisite:* 1–2. Four hours.† Messrs. Whitcher and Lucarini.

35 Outline of Organic Chemistry (3–4) An introduction to organic chemistry, primarily for students in agriculture, home economics and nursing. *Prerequisite:* 1–2. Five hours. Mr. Crooks and staff.

131-132 Organic Chemistry (3–6)* Organic chemistry for chemistry majors, premedical students and those concentrating in the biological and physical sciences. *Prerequisite:* 1–2; 21–22 recommended. Five hours.‡ Messrs. Braun and Cook and staff.

141-142 Physical Chemistry (3–6)*§ Introduction to the kinetic theory and its application to gases; thermodynamics and the application to liquids and solutions; chemical equilibria; fundamentals of electrochemistry and atomic structure. *Prerequisite:* Physics 21–22; Math. 12, 21; Chem. 21–22 recommended. Five hours.‡ Messrs. Cook and Inskeep.

ADVANCED INORGANIC CHEMISTRY

108 Inorganic Preparations Laboratory preparations of inorganic compounds. *Prerequisite:* 1–2. Two hours. Mr. Crooks.

212 Advanced Inorganic Chemistry A survey of the chemistry of the elements with particular attention to the relation of structure to properties, and to coordination compounds, complex ions, radioactivity, and stereoisomerism. *Prerequisite:* credit or concurrent enrollment in 141–142. Three hours. Mr. Whitcher.

ADVANCED ANALYTICAL CHEMISTRY

221 Advanced Theoretical Chemistry Selected topics in theoretical chemistry with frequent reference to analytical applications. *Prerequisite:* credit or concurrent enrollment in 141–142. Three hours. Mr. Whitcher.

ADVANCED ORGANIC CHEMISTRY

230 Chemistry of the Carbohydrates Detailed description of the chemistry of the more common carbohydrates, including proofs of structure. *Prerequisite:* 131–132; credit or concurrent enrollment in 141–142. Three hours. Mr. Braun. (Not offered every year.)

*This course is regarded as an advanced course, meeting requirements for concentration in the liberal arts curriculum.

†May be taken by certain students for three hours credit, with only one three-hour laboratory period.

‡May be taken by certain students for four hours credit, with only one three-hour laboratory period.

§May be taken without the laboratory work for three hours credit by permission of the department.

231-232 Special Topics in Organic Chemistry An elaboration of structural and configurational isomerism, modern acid-base theory, molecular rearrangement and organic free radicals. *Prerequisite:* 131–132; credit or concurrent enrollment in 141–142. Three hours. Mr. Gregg. (Offered in alternate years, 1956–57.)

233-234 Physical Organic Physical organic chemistry, with emphasis on structural aspects and reaction mechanisms. *Prerequisite:* 131–132; credit or concurrent enrollment in 141–142. Three hours. Mr. Cook. (Offered in alternate year, 1955–56.)

236 Chemistry of Cyclic Compounds The chemistry of alicyclic and of the more common heterocyclic compounds. *Prerequisite:* 131–132; credit or concurrent enrollment in 141–142. Three hours. Mr. Braun. (Offered in alternate years, 1956–57.)

237 Identification of Organic Compounds (3–8) A discussion of the methods, both chemical and physical, of identifying organic compounds, their separation, and the determination of their functional groups. *Prerequisite:* 131–132; credit or concurrent enrollment in 141–142. Five hours. Mr. Braun and staff.

238 Organic Reactions Discussion, presented from the preparative viewpoint, of applications, limitations, and experimental conditions of the more important reactions of organic chemistry. *Prerequisite:* 131–132; credit or concurrent enrollment in 141–142. Three hours. Mr. Braun. (Not offered every year.)

ADVANCED PHYSICAL CHEMISTRY

247-248 Advanced Physical Chemistry. A consideration at a higher level of the topics discussed in 141–142. Emphasis is placed on thermodynamics, kinetics and spectra. Statistical mechanics and quantum theory are introduced. *Prerequisite:* 141–142; concurrent enrollment in Math. 22. Three hours. Messrs. Cook and Inskeep.

246, 249 Special Topics in Physical Chemistry Discussions of specific topics in physical chemistry at the advanced level. Such topics as molecular and atomic spectra, theory of solutions, quantum theory or statistical mechanics may be considered. *Prerequisite:* 247–248 or its equivalent. Three hours. The staff.

341 Chemical Thermodynamics A systematic study of the application thermodynamics in the solution of chemical problems. *Prerequisite:* 247–248. Three hours. Mr. Inskeep.

342 Chemical Kinetics The velocity of chemical reactions in both homogeneous and heterogeneous systems. *Prerequisite:* 247–248. Three hours. Mr. Cook.

SEMINARS AND RESEARCH

Seminars are required of graduate students and juniors and seniors concentrating in chemistry.

181-182 Junior Seminar (2–0) One hour. Messrs. Lucarini and Inskeep.

183-184 Senior Seminar (2–0) One hour. The staff.

197-198 Senior Research (0–6, 0–12) The student elects a field for special study in inorganic, analytical, physical or organic chemistry, works under the direction of a staff member, and submits his findings in written form and suitably bound. Required of seniors in the Chemistry Curriculum. Two hours. I. Four hours. II. The staff.

381,382,383,384 Graduate Seminar (2–0) One hour. The staff.

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

CLASSICAL LANGUAGES (College of Arts and Sciences)

Professors Kent (Chairman) and Kidder; Associate Professor Pooley; Assistant Professor Pickel; Miss Davison

GREEK

1-2 Elementary Greek The essentials of Attic Greek. Prose compositions and selected readings from Greek authors. No prerequisite. Four hours. Mr. Pooley.

11-12 Intermediate Greek Plato's *Euthyphro* and *Apology*; selections from the *Iliad* and the *Odyssey*. *Prerequisite:* 1–2 or its equivalent. Three hours. Mr. Pickel.

201 Greek Orators Selected speeches of Lysias and Demosthenes. *Prerequisite:* 11–12. Three hours. Mr. Kent. (Offered in alternate years, 1956–57.)

202 Greek Comedy Two plays of Aristophanes. *Prerequisite:* 11–12. Three hours. Miss Davison. (Offered in alternate years, 1956–57.)

203 Greek Historians Thucydides, Books I and II; selections from Herodotus and Xenophon's *Hellenica*. *Prerequisite:* 11–12. Three hours. Mr. Kent. (Offered in alternate years, 1957–58.)

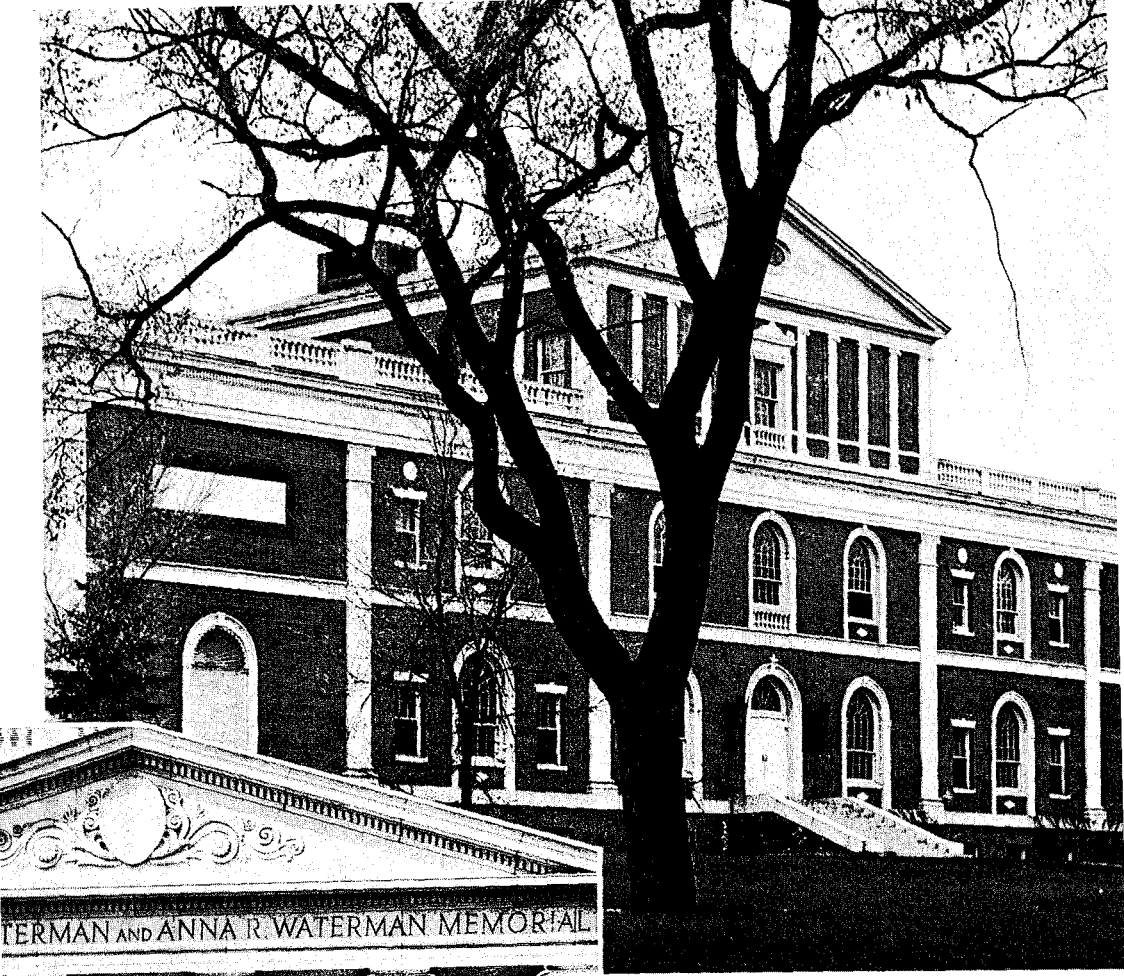
204 Greek Tragedy Sophocles' *Antigone* and Euripides' *Medea*, or two equivalent plays. *Prerequisite:* 11–12. Three hours. Mr. Pickel. (Offered in alternate years, 1957–58.)

For GREEK ART, see Art 1; for GREEK LITERATURE IN TRANSLATION, see General Literature 51; and for GREEK PHILOSOPHY, see Philosophy 107.

LATIN

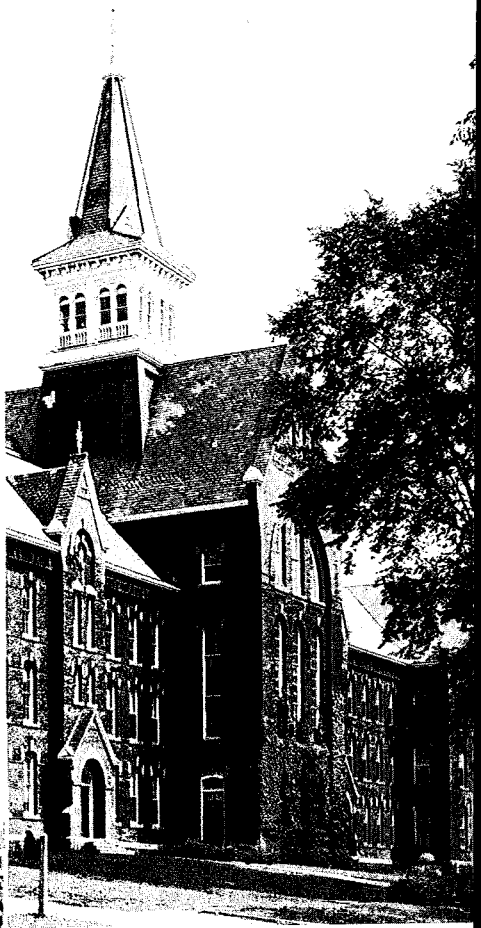
1-2 Elementary Latin The essentials of Ciceronian Latin. For students who present less than two years of high-school Latin.* *Credit is allowed only if Latin 11–12 is also completed.* Four hours. Miss Davison.

*Students who have completed two years of high-school Latin more than two years prior to their entrance into the University may be permitted by action of the department to enroll in Latin 1-2 for credit.



THE ROBERT HULL FLEMING MUSEUM

ENTRANCE TO
THE WATERMAN MEMORIAL



THE OLD MILL
UVM'S OLDEST COLLEGE BUILDING

THE COLLEGE OF MEDICINE

11-12 Intermediate Latin Extensive review of Latin syntax. Cicero, *In Catilinam I, II*; *Pro Archia.* Vergil, *Aeneid*, Books I and II. *Prerequisite:* 1–2, or two years of high-school Latin. Three hours. Miss Davison.

32 English Words Derivation of English words from Greek and Latin roots. Principles of word formation; development of meanings; training in the analysis of unfamiliar words, with special attention to scientific vocabulary. No previous knowledge of Greek or Latin required. Three hours. Mr. Pickel.

101-102 Livy and Horace Selected passages from Livy XXI and XXII; lectures on Roman historiography. Selections from Horace's *Odes*, with special attention to metre and diction. *Prerequisite:* 11–12, or four years of high-school Latin. Three hours. Messrs. Pickel and Pooley.

111-112 Latin Prose Composition May be taken concurrently with Latin 101–102. Required of students who major in Latin. *Prerequisite:* 11–12 of four years of high school Latin. One hour. Mr. Kent.

153 Republican Prose Extensive reading in Caesar and Sallust, and in the speeches of Cicero. *Prerequisite:* 101–102. Three hours. Mr. Pickel.

154 Epic Poets Extensive reading in Vergil, Ovid, and others. *Prerequisite:* 101–102. Three hours. Mr. Pickel.

221 Advanced Composition Required of those who wish to be recommended to teach Latin. *Prerequisite:* 111–112. Three hours. Mr. Pooley.

251 Roman Letters Selected letters of Cicero, Pliny, and Fronto. *Prerequisite:* 153, 154. Three hours. Mr. Pooley. (Offered in alternate years, 1956–57.)

252 Comedy Two plays of Plautus and Terence. Study of the development of this literary form. *Prerequisite:* 153, 154. Three hours. Mr. Kent. (Offered in alternate years, 1956–57.)

255 Historians of the Empire Augustus, *Res Gestae*; Tacitus, *Annals*, I-IV; selections from Suetonius and Ammianus Marcellinus. *Prerequisite:* 153, 154. Three hours. Mr. Pickel. (Offered in alternate years, 1957–58.)

256 Satire Selections from Horace and Persius; Juvenal, *Satires*, I, III, X. Study of the development of this literary form. *Prerequisite:* 153, 154. Three hours. Mr. Kent. (Offered in alternate years, 1957–58.)

381-382 Seminar Intensive study at the graduate level of Latin authors not read in the candidate's undergraduate program. Credit as arranged. The staff.

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

For LATIN LITERATURE IN TRANSLATION, see General Literature 52; for THE TEACHING OF LATIN, see Secondary Education 252.

COMMERCE AND ECONOMICS (College of Technology)

Professors Lohman (Chairman) and Briggs; Associate Professors Greif, Maybury, Nadworny, and Woodard; Assistant Professors Nyquist, Pratt, and Sacks; Messrs. Hyland, Hooley, LeSourd, Lovejoy, Mieczkowski, Severance, and Wick

***1-2 World Economic Geography** Geography as a basis for economic development; importance of resources to production, exchange, consumption, population, and national economies. Three hours. Miss Woodard and Mr. Mieczkowski.

***11-12 Principles of Economics** Fundamental economic principles as an aid to the understanding of modern economic society. *Prerequisite:* sophomore standing. Three hours. The staff.

13-14 Principles of Accounting (2–4) An elementary course in the problems of the financial control of business, with the necessary practice work. *Prerequisite:* sophomore standing. Four hours. Messrs. Briggs and Nyquist.

***15-16 Economic History of the United States** Description and analysis of capitalism as it developed first in Western Europe and later in the United States as a basis for an understanding of our modern economic systems. *Prerequisite:* sophomore standing. Recommended to be taken concurrently with 11–12. Three hours. The staff.

31 Engineering Accounting A course emphasizing cost and depreciation accounting, designed primarily to meet the needs of the engineer. *Prerequisite:* 11–12. Three hours. Mr. Briggs.

49 General Typing Instruction in typing techniques and mastery of the keyboard with the objective of accuracy in typing skill for personal use. Open to all students except secretarial studies majors and business education teacher trainees. Two hours. I and II. Mrs. Maybury.

136 Alphabetic Shorthand and Transcription Instruction in the principles of writing shorthand using alphabetic letters rather than the traditional shorthand symbols. Shorthand writing is combined with typing skill through instruction in transcribing competently on the typewriter. This course is intended for students who wish to equip themselves with skill competency for general or vocational use in a limited period of time. *Prerequisite:* senior standing or the consent of the instructor; satisfactory skill in typing on the basis of a qualifying test. Four hours. Mrs. Maybury.

165,166 Business Communications A study of the principles involved in solving business problems through the media of written communications. Format and composition are considered, and actual practice in writing letters and reports is required. *Prerequisite:* junior standing. Three hours. Mrs. Maybury.

169 Office Management Organization and supervision of office activities from the standpoint of the office manager; principles and procedures of office job analysis; selection and training of personnel; the office structure with regard to production standards, office forms, systems, equipment and supplies, flow of work and the physical layout of the office; cost control. *Prerequisite:* senior standing. Three hours. Mrs. Maybury.

*Courses accepted for credit in the College of Arts and Sciences.

BANKING, FINANCE, AND INSURANCE

***105 International Trade and Finance** Theory of international values, mechanism of adjustment of international balances, foreign exchange theory, the international aspects of monetary and banking theory, and tariff theory. *Prerequisite:* 11–12. Three hours. Mr. Mieczkowski.

109-110 Business Law I First semester: a survey of the American system of law with particular reference to some of the fundamental legal concepts relating to business, especially as found in the law of contracts, sales, bailments, and negotiable instruments. Second semester: a continuation of the study of the legal aspects of business with specific reference to the law of agency, partnerships, and corporations. *Prerequisite:* 11–12. Three hours. Mr. Wick.

111 Economics of Life Insurance Types of life insurance contracts and their application; premium and reserve computation, social security and other forms of life insurance. *Prerequisite:* 11–12 and 13–14. Three hours. Mr. Lohman.

112 Property and Casualty Insurance The principles underlying property and casualty insurance. *Prerequisite:* 11–12 and 13–14. Three hours. Mr. Lohman.

113 Urban and Industrial Land Economics Economic principles underlying the utilization and conservation of urban and industrial land resources. *Prerequisite:* 11–12. Three hours. Mr. Lovejoy.

114 Real Estate The principles underlying the leasing, purchasing, selling, valuation, and financing of real estate for personal and business uses. *Prerequisite:* 11–12 and 13–14. Three hours. Mr. Lovejoy.

120 Business Law II The law in relation to financial instruments such as documents of title for collateral security, chattel mortgages, real estate mortgages, and suretyship and guaranty. *Prerequisite:* 109. Two hours. Mr. Wick.

***201-202 Money and Banking** The functions of money, credit, and banking in modern economic society. The theory of the internal and external value of money; the control of the money market; interrelationship of monetary and fiscal policies and their effects upon national and international price movements. *Prerequisite:* 11–12. Three hours. Mr. Lovejoy.

***203 Economics of Taxation** Revenues and expenditures of federal, state, and local governments and their effects upon individuals, business institutions, and the national economy. *Prerequisite:* 11–12. Three hours. Mr. Sacks.

206 Securities Markets Analysis of the organization and operation of organized and over-the-counter securities markets; different types of securities; primary and secondary markets in the process of capital formation; securities price behavior; government and self-regulation of securities markets. *Prerequisite:* 11–12 and 13–14. Three hours. I. Mr. Lohman.

*Courses accepted for credit in the College of Arts and Sciences.

207 Corporation Finance A comparison of the various types of business forms with chief attention to the financing of corporations. *Prerequisite:* 11–12 and 13–14. Three hours. II. Mr. Lohman.

208 Investments A study of the various media of investments and of the operation of financial institutions. Special consideration of investment analyses of industrials, financial institutions, public utilities, and railroads. Practical application of available statistical and accounting tools. *Prerequisite:* 206. Three hours. Mr. Lohman.

HOTEL AND RESORT MANAGEMENT

4 Hotel and Resort Management Survey Introduction to hotel and resort management and its various aspects. Two hours. Mr. Hyland.

166 Hotel and Resort Equipment A study of various types of hotel and resort equipment, their operation and application. *Prerequisite:* 4. Three hours. I. Mr. Hyland.

167 Hotel and Resort Structures and Maintenance Materials and methods of building construction, repair and maintenance. Specification and repair of hotel and resort fixtures and furniture. *Prerequisite:* 166. Three hours. II. Mr. Hyland.

177 Hotel and Resort Administration The study of hotel and resort organization and administration. *Prerequisite:* 4. Three hours. Mr. Hyland.

178 Hotel and Resort Problems A study of the specific problems arising in the management and operation of hotels and resorts. *Prerequisite:* 177. Three hours. Mr. Hyland.

MARKETING AND MERCHANDISING

121 Principles of Marketing The place of marketing in our economy. An intensive analysis of the marketing structure by functions, institutions, and commodities. *Prerequisite:* 11–12. Three hours. Mr. Greif.

122 Problems in Marketing The application of the case method to discover solutions to problems which challenge producers and middlemen in the marketing of goods and services. *Prerequisite:* 121. Three hours. Mr. Greif.

123 Personal Salesmanship A practical approach through class participation and individual demonstration to modern salesmanship, emphasizing the approach to, presentation and close of the sale. *Prerequisite:* 121. Three hours. Mr. Greif.

125 American Marketing Speaks A symposium for the analysis of trends in the American marketing structure. Outstanding leaders in American business will present their opinions. Class analyses to follow each presentation. *Prerequisite:* 121. Three hours. Mr. Greif.

126 Operation of Small Business and Service Establishments A practical consideration of how the individual establishing his own business meets the problems of finance, location, display, merchandising, promotion, and control. Individual project development. *Prerequisite:* 121. Three hours. Mr. Greif.

131 Sales Management The new and established trends of the sales manager's job. Method of selection, training, testing, compensation and control, including marketing policies and the coordination of related departmental functions. *Prerequisite:* 121. Three hours. Mr. Greif.

132 Fundamentals of Advertising Advertising as an economic and social influence. A study of principles and techniques of copy preparation, media of selection and advertising activities. Students will receive practice in preparation of advertising copy and layout. *Prerequisite:* 121. Three hours. Mr. Greif.

INDUSTRIAL AND PERSONNEL MANAGEMENT

***141 Labor Economics** History of the American labor movement; objectives, policies, and tactics of labor unions; public policy with respect to labor organizations. *Prerequisite:* 11–12. Three hours. Mr. LeSourd.

143 Industrial Management Fundamentals of management decisions in the organization and operation of industrial plants, including production and quality control; plant layout; equipment and maintenance; personnel management and industrial relations. *Prerequisite:* 11–12. Three hours. Mr. Severance.

***242 Collective Bargaining** The collective labor agreement; techniques of the bargaining process; arbitration; the administration of the labor contract. *Prerequisite:* 141. Three hours. Mr. LeSourd.

251-252 Personnel Administration Functions and objectives of a personnel department; instruments of control, testing, and safety; incentive plans; placement, selection, and interview techniques. Field trips to factories, stores and offices. *Prerequisite:* 242. Three hours. Mr. Nadworny.

254 Scientific Management and Labor Description and analysis of the development of scientific management, reactions and relationship of organized labor to it; long-range effects of scientific management on the structure and policies of industry and organized labor. *Prerequisite:* 143. Three hours. Mr. Nadworny.

For TIME AND MOTION STUDY and PLANT ORGANIZATION, required of students in this option, see Engineering, Mechanical (M.E. 175, 176).

ACCOUNTING

161-162 Advanced Accounting Advanced valuation problems in the financial control of business. *Prerequisite:* 13–14. Three hours. Mr. Briggs.

163 Financial Statement Analysis Preparation and analysis of the more common types of accounting statements. *Prerequisite:* 13–14. Three hours. Mr. Briggs.

164 Tax Accounting The technical and accounting aspects of the income, estate, gift, and excise tax laws. *Prerequisite:* 13–14. Three hours. Mr. Nyquist.

271 Auditing The theory and practice of auditing, types of audits, audit procedures, working papers, and reports. *Prerequisite:* 161–162. Three hours. Mr. Nyquist.

*Courses accepted for credit in the College of Arts and Sciences.

272 Cost Accounting A thorough consideration of the basic principles of cost accounting and their practical application. *Prerequisite:* 161–162. Three hours. Mr. Briggs.

276 C.P.A. Problems Accounting theory and practice for those interested in professional accounting. *Prerequisite:* 161–162. Three hours. Mr. Briggs.

ECONOMICS

***181 Transportation** Social and economic aspects of the transportation problems as revealed by an analysis of the nature, history, and problems of the various transportation agencies of the United States. *Prerequisite:* 11–12; Pol. Sci. 1, 2. Three hours. Mr. Lovejoy.

***182 Public Utilities** The economics of public utility enterprise with special reference to franchises, capital structure, valuation, rate-making, and governmental regulation. *Prerequisite:* 11–12; Pol. Sci. 1, 2. Three hours. Mr. Sacks.

***183 Economic Life and Government Control** A study of the economic causes and consequences of government regulation and control of business activities. *Prerequisite:* 11–12; Pol. Sci. 1, 2. Three hours. Mr. Lovejoy.

***184 The Economics of Consumption** Consumption and consumers' choice; their relationship to the modern exchange economy; measurements of consumption; methods proposed for the increase and diversification of consumption. *Prerequisite:* 11–12. Three hours. Mr. Severance.

***187 Elementary Statistics** (2–2) The theory and interpretation of statistics, including frequency distributions, measurement of central tendency and dispersion, analysis of variance, tests of significance, the elementary theory of probability and simple correlation. *Prerequisite:* 11–12; Math. 1 and 4. Three hours. Mr. Hooley.

***286 Economic Analysis** An analysis of consumer demand, supply, market price under competitive conditions and monopolistic influences, and the theory of income distribution. *Prerequisite:* 11–12 and one other semester course. Mr. Sacks.

***288 Quality Control** (2–2) The application of statistical tools to industrial problems. Topics covered include control charts, sampling plans, index numbers and measurement of trends. *Prerequisite:* 187. Three hours. Mr. Hooley.

***292 International Economic Problems and Policies** Important aspects of international cooperation and conflict in the economic sphere; the quest for foreign markets, raw materials, investment opportunities, and population outlets. *Prerequisite:* 105. Three hours. Mr. Mieczkowski.

***293-294 Money, Income and Prices** An analysis and description of cyclical fluctuations. The problems of cyclical control, employment, and price levels, as well as overall planning, are discussed in the second semester. *Prerequisite:* 201–202 or concurrent enrollment. Mr. Severance.

*Courses accepted for credit in the College of Arts and Sciences.

***295 History of Economic Thought** The development of economic ideas from classical antiquity to modern times, with emphasis on the Classical, Historical, Socialist, Optimist, Marginalist, and Neoclassical Schools. *Prerequisite:* 286 or consent of instructor. Three hours. Mr. Hooley.

***296 Modern Economic Thought** A survey of the leading 20th Century economists and their doctrines including studies of J. B. Clark, Thorstein Veblen, Alfred Marshall, W. C. Mitchell, J. A. Hobson, J. M. Keynes, J. R. Hicks, and others. *Prerequisite:* 295. Three hours. Mr. Hooley.

***297,298 Seminar** Designed for students concentrating in the department. Review of recent books and periodical literature; discussions of topics of contemporary interest; student reports based upon personal investigation. *Prerequisite:* senior standing; consent of chairman. Three hours. The staff.

300, 301 Independent Reading and Research A course designed primarily to meet the special research problems of graduate students. Consent of the department required. Hours to be arranged. The staff.

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

SECRETARIAL STUDIES

Note: Students who have had instruction in typing and shorthand in high school will be enrolled in the proper level typing and shorthand courses on the basis of qualifying tests administered by the department.

133 Elementary Typing Instruction in typing techniques for the beginner. Emphasis is on speed and accuracy. Experience is provided in the production of a variety of business material including letters and reports, tabulation, typing from rough draft. *Prerequisite:* junior standing or the consent of the instructor. Three hours. Miss Pratt.

134 Intermediate Typing The typing skills are developed further. Practice is provided in typing a variety of business forms, statistical matter, and documents. *Prerequisite:* 73 or the consent of the instructor. Three hours. Miss Pratt.

135 Advanced Typing Development of typing skills in the production of advanced business projects. Speed and accuracy in production are emphasized. *Prerequisite:* 74 or the consent of the instructor. Three hours. Miss Pratt.

137 Elementary Shorthand Instruction in Gregg shorthand writing for the beginner. A thorough study is made of shorthand fundamentals and a basic shorthand vocabulary is developed. Application is made to business material of a practical nature. *Prerequisite:* junior standing or the consent of the instructor. Four hours. Miss Pratt.

138 Intermediate Shorthand Further development of the principles of Gregg shorthand writing. Development of writing speed and reading ability through dictation and transcription of a wide variety of business material. *Prerequisite:* 77 or the consent of the instructor. Four hours. Miss Pratt.

*Courses accepted for credit in the College of Arts and Sciences.

139 Advanced Shorthand Review of the principles of Gregg shorthand writing with emphasis on the development of word construction in an extensive vocabulary. Dictation and transcription practice with a variety of more difficult business and professional material is provided. *Prerequisite:* 78 or the consent of the instructor. Four hours. Miss Pratt.

140 Transcription This course develops the skills of shorthand and typing, and correlates them with training in transcription of a variety of business problems. *Prerequisite:* 75 and 79 or the consent of the instructor. Seven hours. Miss Pratt.

179 Seminar An opportunity to study the basic principles governing secretarial activity on the executive level. This is a problem solving experience which relates office tasks in proper sequence as found in the functioning of the office. Emphasis is given to the development of judgment and initiative, and on responsibility for making decisions and effecting execution of them. Visits are arranged for specialists in business to meet with the students and field trips are arranged for observation of offices demonstrating the principles studied. *Prerequisite:* senior standing. Three hours. Mrs. Maybury.

180 Executive Secretarial Procedures A synthesis of skills and job knowledges obtained in the professional courses studied as they are efficiently applied in a variety of secretarial duties. The student is given experience in organizing and executing production jobs and in delegating tasks to others and supervising them. *Prerequisite:* 81. Three hours. Mrs. Maybury.

DENTAL HYGIENE (School of Dental Hygiene)

Dr. Sawabini, Director (Chairman); Assistant Professors Okey, and Quinby; Drs. Conklin, Faigel, Heininger, Reiman, and Slack; Misses Coffey and Dinegan

1 Orientation to Dental Hygiene (1–0) A general study of the dental hygiene movement; history, growth, status of dental hygienist, scope of operations, standards and ethics, personal qualifications and personality traits. One hour. Miss Quinby.

2 Instrumentation (0–6) The principles and technics of instrumentation for scaling and polishing teeth with use of manikins. Examination and charting of mouth and general clinical procedures. Three hours. Miss Quinby.

11 Dental Anatomy (2–4) Study of anatomy of head and neck; the form and structure of teeth, including nomenclature and relationship; calcification and eruption of teeth; drawing, carving, and identification of individual teeth. Four hours. Dr. Heininger.

21 General and Dental Histology and Embryology (1–2) Introductory study of the microscopic structure and development of the basic tissues of the body and oral cavity. Emphasis is based upon dental and oral material. Use of microscope, colored slide projections and drawings comprise laboratory work. Two hours. Dr. Reiman.

32 First Aid (1–0) The basic principles of first aid are taught to the student in order that she may prevent and cope with emergencies that arise in the dental office. One hour. Miss Dinegan.

51 Oral Pathology (2–0) An introduction to general pathology with special consideration of the more common diseases affecting the human body. Emphasis is placed upon the pathology of the teeth and their supporting structures. Two hours. Dr. Sawabini.

52 Pharmacology and Anesthesiology (1–0) Lectures on the reaction and uses of drugs. Also a study of anesthesia, general and local, as it is used in dental practice. One hour. Dr. Faigel.

61 Radiology (1–1) The study, demonstration, and practice of the fundamentals of intra-oral radiographic technic including electrophysics; angulation of machine; placing of films in mouth and complete processing of films. One hour. Dr. Slack.

72 Dental Health Education (2–0) Demonstrations and practical applications of modern methods of dental health education. Study of teaching methods; visual aids; surveys and statistics; materials; campaigns; school dental programs. Two hours. Miss Quinby.

74 Public Health (2–0) Public health as it applies to community sanitation; communicable disease control; organization, powers and function of health departments and voluntary health agencies; relation of dentistry to public health. Two hours. Mr. Okey.

81-82 Dental Hygiene Clinic Practice (0–15) Actual clinic practice on patients beginning with simple cases and gradually progressing to more difficult cases with children and adults. Practice in the field is done by the student at local dental clinics, hospitals and in Children's Homes. Five hours. Miss Quinby and staff.

91-92 Dental Assisting, Dental Materials, Ethics and Office Management (1–0) The principles of professional ethics and economics; office management and essentials of practice building; dental assistant and materials used in dental practice. One hour. Dr. Conklin.

94 Bacteriology (2–4) An introduction to the study of infectious agents. General considerations of modes of transmission of infectious disease, manner of disease production and methods by which the body combats infection. Special consideration of infectious diseases of the oral cavity. Four hours. Bacteriology staff.

EDUCATION (College of Education and Nursing)

1-2 Orientation to Education Orientation to education as a career; consideration of opportunities in teaching; survey of the evolution and examination of the structure of the American school system; study of the role of education in society. Two hours. The staff.

7 Educational Psychology Principles of educational psychology as drawn from research, theory, and educational technique. A study of the learning process, its determining conditions and its results. Three hours. Mr. Keach.

116 Health Education The role of the classroom teacher in the total program of school and community health. An understanding of the physical development and well-being of the human body. Two hours. The staff.

120 Seminar in Education A consideration of the purpose, organization, and activities of professional organizations in education; and a study of selected professional problems which affect the welfare of teachers and the quality of the educational program. Two hours. The staff.

140 Problems in Citizenship Opportunities for study of current problems of citizenship at community, state, and national levels. Field contacts and experiences are utilized where possible. The major objective of the course is to awaken the student to the challenge of active citizenship. The course is offered for senior students in education and is arranged to fit the student teaching schedule of the final semester. Three hours. Mr. Haugen.

223-224 Reading Clinic Study of techniques in the diagnosis and correction of reading difficulties; clinical experience with remedial cases which have been accepted by the reading clinic. Enrollment by permission of the director of the reading clinic and the dean of the college. Two-four hours. Miss Otterman.

ELEMENTARY EDUCATION

Associate Professors Male and Pappoutsakis; *Assistant Professors Adams, McNeil, Mills, Phillips, Start, and Weinrich*; *Mr. Keach*

3-4 Child and Community Supervised experiences with children's groups in the community. One hour. Miss McNeil and Mr. Keach.

100 Physical Education in the Elementary School Development of a program of physical education for the elementary school. Principles, methods and materials appropriate for the several age and grade groups. Two hours. Miss Phillips.

105 Methods and Materials II Classroom management, lesson planning, and teaching. Participation in elementary schools preparatory to full-time student teaching. Three hours. Miss McNeil and Mr. Keach.

106 Student Teaching Teaching in the elementary schools of Burlington and vicinity under the guidance of cooperating teachers and college supervisors. Students spend seven full weeks in the elementary schools. *Prerequisite:* senior standing. Seven hours. Miss McNeil and Mr. Keach.

111-112 Music Ear training, music reading and writing, elementary theory, history and appreciation. Three hours. Mrs. Start and Mr. Weinrich.

113 School Music Basic principles in elementary school music teaching. *Prerequisite:* 111–112 or Music 1, 2 and 5–6. Three hours. Mr. Pappoutsakis.

121 Teaching Reading Principles underlying the teaching of reading; materials of instruction; reading readiness; vocabulary development; development of correct study skills; observation in elementary schools. *Prerequisite:* Psych. 1. Three hours. Mrs. Adams.

131 Child Development The physical, mental, social and emotional development of the child; a study of methods of guiding this development. Observation in elementary schools. Three hours. Mrs. Adams.

134 Children's Literature Literature "old and new" for children. The course aims to acquaint students with both traditional and modern

literature in prose and poetry, to help them to appreciate literature suitable for children at different age levels, and to establish criteria for judging books for children. The principles and techniques of story telling, as well as practice in this art, are an integral part of the course. Three hours. Mrs. Adams.

143-144 Methods and Materials I Principles, methods and materials in teaching language arts, social studies, science, and arithmetic in the elementary school. Observations and participation in elementary schools. Three hours. Miss McNeil and Mr. Keach.

170-171 Art for the Elementary School A study of the purposes and methods of contemporary art education in the development of the child. The course includes lectures, discussions, and direct experiences in creative art. Designed for classroom teachers. Three hours. Mrs. Mills.

JUNIOR HIGH SCHOOL EDUCATION

Professors Huden and Pearl

2 Junior High School Mathematics A review of arithmetic and elementary algebra from the viewpoint of the prospective junior high school teacher; the aims and objectives determining the selection and presentation of subject matter; selected advanced topics in arithmetic; development of skill in computation and in solving problems; use of computing devices; graphs and scale drawings. Three hours. Mr. Huden. I.

101 Organization and Management The organization, administration, and management of the junior high school for the efficient attainment of educational objectives; the establishment of desirable routine; the practice of democratic procedures; the attainment of individual and group self-discipline. *Prerequisite:* Psych. 1; junior standing. Three hours. Mr. Pearl.

162 The Junior High School Curriculum. The curriculum of the junior high school, its objectives and content; proper grade placement of curriculum content; laboratory experience in junior high schools; appropriate teaching procedures; observation and participation in various subject fields and on different grade levels; appraisal of the results of educational effort. *Prerequisite:* Psych. 1. Three hours. Mr. Pearl.

SECONDARY EDUCATION

Professors King (Chairman), Huden, Kent, and Pearl; Associate Professor Male; Assistant Professor Otterman

15 Participation Students are provided with an opportunity to observe and participate in classroom work in junior and senior high schools. One hour. The staff.

102 Principles of Education The aims and principles of American education; the organization and development of the public school system; *Prerequisite:* junior standing; Psych. 1. Three hours. Mr. Male.

107 Secondary Methods and Procedures General methods of secondary school instruction; problems of classroom management; pupil diagnosis and guidance; observation and participation. *Prerequisite:* satisfactory completion of an introductory course in education; senior standing. Three hours. Mr. Pearl.

108 Student Teaching in Secondary Schools Students are assigned to observe, participate in classroom work, and teach in junior or senior high school classes. Their teaching is directed, observed, and evaluated by critic teachers, the supervisors of student teaching, and the principals of the schools. Individual conferences with critic teachers, the supervisors of student teaching, and the principals occur at frequent intervals. *Prerequisite:* 107; high standing in professional subjects and in the field of specialization; approval by the director of student teaching. Six hours. Mr. Pearl.

126 Reading and Study in the Secondary School A course designed to acquaint the teacher with the reading and study skills which are necessary for success in the secondary school and to show how these skills may be developed at the secondary school level. *Prerequisite:* six hours of psychology and/or education. Three hours. Miss Otterman.

145,146 Learning and the Adolescent A study of the developing adolescent, psychology of learning with particular application to the adolescent, and measurement and evaluation of adolescent learning and development. *Prerequisite:* General Psychology. Three hours. Mr. Huden.

202 Philosophy of Education Educational theory based upon psychological principles, the contributions of leading educational philosophers, and present day social needs; the relationships of education to social welfare and the demands made upon education by a democratic society. *Prerequisite:* 12 semester hours in education and psychology. Three hours. Mr. Male.

211 Educational Measurements An introductory course dealing with the essential principles of measurement in education. Topics include statistics applied to education; improvement of teacher-made measures of achievement; construction of objective tests and inventories; analysis of standard tests. *Prerequisite:* 12 semester hours in education and psychology. Mr. Huden.

225 Teaching Social Studies in Secondary Schools Special methods in the field of social studies; aims and objectives; motivation; individual differences; selection of teaching material and visual aids. *Prerequisite:* 12 semester hours in education and psychology; 18 semester hours in social studies. Three hours. The staff.

227 Teaching Science in Secondary Schools A broad view of modern teaching philosophy and how it may be applied in teaching science through methods proved by experience to be workable and effective. *Prerequisite:* 12 semester hours in education and psychology; 18 semester hours in science. Three hours. I or II. Mr. Huden.

232 School Administration A general course in school administration designed for both teachers and administrators. Considers the roles of teachers and administrators in the organization and management of curriculum, extracurricular activities, pupil classification, school plant and equipment, school finance, supervision, in-service education, and community relationships. *Prerequisite:* senior standing: 12 hours in education and psychology. Three hours. I. Mr. King.

250 Guidance The underlying principles of guidance and the develop-

ment of a guidance program for the school; the organization of the school program to meet individual needs of pupils; the use of tests in guidance; ways of meeting personality and behavior problems; the guidance function of the home room; the development and use of cumulative records; counseling pupils with reference to ethical and health problems, leisure time activities, educational programs, and vocational goals. *Prerequisite:* 12 semester hours in education and psychology. Three hours. Mr. Pearl.

252 Teaching Latin in Secondary Schools The place of Latin in the curriculum; the aims of Latin teaching; ways of studying vocabulary, syntax, and derivatives; the selection and use of textbooks and illustrative material. Required for recommendation to teach Latin. *Prerequisite:* Latin 113–114. Three hours. Mr. Kent.

256 Teaching Mathematics The place of mathematics in the curriculum, organization of subject matter, aims and practices in teaching. *Prerequisite:* 15 semester hours in mathematics; 12 semester hours in education and psychology. Three hours. Mr. Huden.

257 Teaching Modern Languages Consideration of the contribution made by the study of modern languages to the general aims of the secondary curriculum; discussion and evaluation of present-day methods, textbooks, and illustrative material. *Prerequisite:* teaching field in a modern language. Three hours. The staff.

297-298 Problems in Education Individual work on a problem involving research. Problem to be selected by the student in consultation with a staff member. Enrollment by permission of the Dean and the staff member who will direct the study. Open to seniors and to graduate students who have at least 12 hours in education and psychology. Credit to be arranged. The staff.

301-302 Research in Education Problems in present-day education studied by individuals and the class; methods of investigation and standards for the presentation of material; thesis writing; presentation of individual and committee reports. *Prerequisite:* graduate standing; 12 hours in education and psychology including Educational Measurements. Three hours. Mr. Huden.

330 Seminar in Educational Administration Problems of school organization and structure, school finance, school buildings, personnel policies, educational program, and public relations. Individual and group investigation, reports, and discussion. *Prerequisite:* graduate standing; one course in administration or experience in the field. Three hours. Mr. King.

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

BUSINESS EDUCATION

Assistant Professor Pratt

102 Principles of Business Education Basic principles, practices, and problems of and trends in business education. *Prerequisite:* Psychology 1. Two hours. Miss Pratt.

105 Teaching Business Subjects Principles and techniques in the organization and the teaching of business subjects in the high school. *Prerequisite:* 102. Two hours. Miss Pratt.

MUSIC EDUCATION

Professor Bennett; *Associate Professor Pappoutsakis*; *Assistant Professors Start, and Weinrich*

131-132 Elementary School Methods and Practice Teaching The teaching of music in the primary and grammar grades. Observation and practice teaching in the schools of Burlington or vicinity. *Prerequisite:* Music 1, 2; credit or enrollment in Music 5–6; permission of Director of Student Teaching. Three hours. Mr. Pappoutsakis. (Offered in alternate years, 1955–56.)

151-152 Secondary School Methods and Practice Teaching The administration and content of required and elective high school music courses. Observation and practice teaching in the schools of Burlington or vicinity. First semester: junior high school music; second semester: senior high school music. *Prerequisite:* credit or enrollment in Music 1, 2 and Music 5–6; permission of Director of Student Teaching. Three hours. Mr. Pappoutsakis. (Offered in alternate years, 1956–57.)

155-156 Applied Music Methods Methods of teaching piano, organ, voice or violin. *Prerequisite:* three years' instruction in chosen instrument at the University, or equivalent. One hour. Miss Marston, Mr. Weinrich, and Mrs. Start.

OTHER COURSES IN EDUCATION

In addition to the courses offered during the academic year, the following courses are offered from time to time in summer sessions and in the adult education program.

Number	Title	Credit Hours
S8	Adolescent Psychology	3
S13	Elementary School Music (Music for Grades I and III)	3
S14	Music for the Junior High School	3
S50	Intensive Teacher Training	3
S105	Teaching Business Subjects	3
S109	Science Methods	3
S117	Alcohol Education	3
S122	Developmental Reading	3
S127	Science for Teachers	3
S142	Audio-Visual Materials and Methods	3
S200	The History of Arithmetic	3
S201	Administration of the Athletic Program	3
S203	Principles of Physical Education	3
S212	Child Development	3
S213	Statistical Methods in Education and Guidance	3
S214	The Slow Learner	3
S215	The Gifted Child	3
S216	Health Education	6
S218	Workshop in Curriculum	4
S219	Workshop on Economic Education	4
S226	Conservation	6
S229	Communicative Arts in Secondary Schools (Teaching English in Secondary Schools)	3

Number	Title	Credit Hours
S231	The Elementary School Principalship	3
S232	The Secondary School Principalship	3
S233	Supervision	3
S241	Science Methods (Science for Elementary Schools)	3
S244	Modern Trends in Elementary Education	3
S255	School and Society	3
S256	Basic Concepts of Mathematics	3
S303	Advanced Farm Shop	3
S304	Advanced Farm Power and Machinery	3
S307	Counseling (Techniques and Group Procedures in Guidance)	3
S308	Group Testing in Guidance	3
S309	Administration of the Guidance Program	3
S310	Occupational Information	3
S312	Individual Testing	3
S330	Seminar in Educational Administration	3
S331	Seminar in Administration for Secondary Principals	3
S343	Remedial Reading in High School and College	3

ENGINEERING, AGRICULTURAL

(College of Agriculture and Home Economics)

Associate Professors Schneider (Chairman) and Arnold

102 Farm Shop (0–6) Instruction in wood and metal working by hand and machine methods, sheet metal work, welding, rope work, tool fitting, and concrete work. Includes demonstrations and methods of teaching these operations. Problems in safety, shop care, layout, and selection of equipment. *Prerequisite:* sophomore standing. Three hours. Mr. Schneider.

103 Farm Power, Machinery and Electricity (2–2) Principles of operation and maintenance of internal combustion engines and farm tractors. Principles of operation and the maintenance of farm machinery. Principles of electricity and the utilization of electricity and electrical equipment on the farm. *Prerequisite:* sophomore standing. (May not be taken for credit by candidates for the B.S.A.E. degree.) Three hours. Mr. Schneider.

104 Farm Structures and Utilities and Soil and Water Engineering (2–2) Principles and methods of construction on the farm including planning and selection of materials. Principles of operation and selection and maintenance of farm water systems and sewage disposal systems. Principles of operation of refrigeration units used on the farm. Soil conservation practices and surveying. *Prerequisite:* sophomore standing. (May not be taken for credit by candidates for the B.S.A.E. degree.) Three hours. Mr. Schneider.

151 Farm Structures (2–2) The design of farm structures, materials, structural requirements, functional requirements, insulating, heating, and ventilating. *Prerequisite:* C.E. 131 or concurrent enrollment in C.E. 131. Three hours. Mr. Arnold. (Offered in alternate years, 1956–57.)

152 Farm Utilities (2–2) The theory and application of water systems and plumbing, sewage disposal and refrigeration. *Prerequisite:* M.E. 142 or concurrent enrollment and Physics 21–22. Three hours. Mr. Arnold. (Offered in alternate years, 1956–57.)

153 Farm Power Machinery (2–2) The theory, design, operation, and maintenance of tractors and their engines. *Prerequisite:* M.E. 82, 92, 111.

M.E. 111 may be taken concurrently. Three hours. Mr. Arnold. (Offered in alternate years, 1957–58.)

154 Agricultural Machinery and Equipment (2–2) Theory, design, and operation and maintenance of agricultural machinery and equipment. *Prerequisite:* Physics 21–22, C.E. 130. Three hours. Mr. Arnold. (Offered in alternate years, 1957–58.)

155 Soil and Water Engineering (2–2) The engineering problems involved in the application of hydrologic and agronomic data to the design, location, and construction of farm ponds, drainage and irrigation systems, and erosion control facilities. *Prerequisite:* C.E. 53 or permission of the department, and Agronomy 2. Three hours. Mr. Arnold. (Offered in alternate years, 1957–58.)

156 Electricity in Agriculture (2–2) Theory and engineering practices in the application of electricity to agriculture. *Prerequisite:* Physics 21–22. Three hours. Mr. Arnold. (Offered in alternate years, 1956–57.)

181-182 Junior Seminar (1–0) Review and discussion of current agricultural engineering research, student reports and studies of agricultural engineering problems. *Prerequisite:* junior standing and permission of the department. One hour. The staff.

183-184 Senior Seminar (1–0) Review and discussion of current agricultural engineering research, student reports and studies of agricultural engineering problems. *Prerequisite:* A.E. 181–182 or permission of the department. One hour. The staff.

ENGINEERING, CIVIL (College of Technology)

Professor Milbank (Chairman); Associate Professors Root and Marshall; Assistant Professors Fay and Knight

24 Statics (3–0) The fundamentals of statics including composition and resolution of forces, the analysis of force systems in two and three dimensions, centroids and moments of inertia. *Prerequisite:* Math. 21 or concurrent enrollment. Three hours. I, II.

51-52 Surveying (3–4) First semester: fundamental surveying methods; measurement of lines, angles, and difference in elevation; land surveying, areas, and plotting. Second semester: city and mine surveying; elements of practical astronomy; theory of curves, earthwork calculations; elements of photographic surveying; topographic surveying; elements of geodetic surveying. *Prerequisite:* Math. 11. Four hours.

53 Plane Surveying (3–4) Use of the steel tape, level, and transit; elements of topographic surveying; special problems as presented and solved in fields affected. For those not enrolled in civil engineering. *Prerequisite:* Math. 11 or Math. 1, 2. Four hours.

54 Engineering Camp Six weeks summer field practice between the sophomore and junior years. Topographic, hydrographic and route surveys; triangulation, precise leveling, and base line measurements; solar observations. *Prerequisite:* 51–52. Four hours.

103 Structural Analysis (3–3) Analysis of stresses in statically determinate structures; calculation of reactions, shears, and bending moments; wind stresses; effect of moving loads by influence lines; criteria for positioning highway and railroad type loadings; mill bents. Laboratory work in graphic statics and comprehensive analysis problems. *Prerequisite:* 131. Four hours.

104 Structural Design (3–3) Theory and design of steel and timber beams, girders, columns, truss members, base plates, direct and eccentric connections; AISC, AREA, and AASHO specifications; combined bending and axial load. Laboratory work in design of mill bents, riveted and welded plate girders, and highway bridges. *Prerequisite:* 103. Four hours.

113 Concrete and Bituminous Laboratory (0–3) Laboratory practice in testing materials used in concrete and bituminous mixtures; design of mixes to obtain specified compressive and flexural strengths; investigations of durability, yield, economy, and effect of admixtures. *Prerequisite:* 131. One hour.

114 Mechanics of Materials Laboratory (0–3) A study of experimental stress analysis methods; fundamental properties of metals, plastics, and wood; the effects of size, shape, method and speed of loading, and strain history on these properties. *Prerequisite:* 131. One hour.

130 Dynamics (3–0) The fundamentals of kinematics covering rectilinear and curvilinear motion, relative motion, Coriolis acceleration, translation, rotation, and plane motion. The fundamentals of kinetics covering translation, rotation, and plane motion of particles and rigid bodies; work, energy, power; impulse and momentum; simple harmonic motion. *Prerequisite:* 24, also Math. 21. Three hours. I, II.

131 Mechanics of Materials (3–0) The study of the elastic and plastic behavior of materials; normal and shearing stresses from axial, torsional, and flexural loading combinations; deflections due to torsion and bending; applications to statically indeterminate members; analysis of plane stress and strain, failure theories, and design criteria. *Prerequisite:* 24; also Math. 21. Three hours. I, II.

151 Engineering Contracts (2–0) Study of contract law and engineering specifications, ethics and professional conduct. *Prerequisite:* senior standing. Two hours. I, II.

155 Reinforced Concrete (3–0) Analysis of stresses in plain and reinforced concrete members. Design of reinforced concrete structures. Theory of prestressed concrete. *Prerequisite:* concurrent enrollment in 175. Three hours.

158 Substructure Analysis and Design (3–3) Evaluation of subsoil conditions and earth pressures; design of retaining walls, substructures for buildings and bridges, and cofferdams. *Prerequisite:* 155 and 173. Four hours.

157 Building Construction (3–0) Practical building construction in building materials. Construction processes and estimating. Elective course. *Prerequisite:* senior standing. Three hours.

162 Hydraulics (3–0) The mechanics of liquids with emphasis upon flow meters; flow in pipe systems; flow in open channels; elements of fluid mechanics; elements of hydraulic machinery. *Prerequisite:* 24 and 130. Three hours.

163 Hydrology (3–0) The basic theory of precipitation, run-off, infiltration and ground water. The presentation of precipitation and run-off data. The application of the data for use in development of natural water resources. Elective course. *Prerequisite:* 162 or M.E. 142. Three hours.

165 Water Supply Engineering (2–3) Sources of water supply, quantity available, uses and rates of demand; quality, examination, and treatment; collection, storage, and distribution. Laboratory periods cover field trips to and reports on existing water supply systems, design problems, and cost estimates. *Prerequisite:* 162. Three hours.

166 Sewerage and Sewage Treatment (2–3) Design of sanitary and storm sewers; methods of treatment of sewage. Laboratory periods cover field trips to and reports on existing sewage treatment plants; design problems of sewer systems and sewage treatment plants. *Prerequisite:* 162. Three hours.

168 Hydraulics Laboratory (0–3) To be taken in conjunction with 162. Laboratory studies for illustration of theory and behavior of metering devices; pipe line flow and hydraulic machinery. One hour.

173 Soil Mechanics (2–3) Identification, description, and physical properties of soils; subsurface exploration; engineering characteristics of natural deposits of soil. Laboratory practice in sampling; classification and identification; mapping; and testing for index and engineering properties. Current research and design problems considered. *Prerequisite:* 104. Three hours.

174 Transportation Engineering (3–0) Relation of highway, waterway, railway, pipeline, and airway transportation. Consideration of economic and planning studies, soils, drainage, highway and airport surfaces, geometric design of modern highways. Design of municipal airports with access roads. *Prerequisite:* 173. Three hours.

175 Indeterminate Structures (3–0) Analysis of statically indeterminate structures by consistent deformation, least work, slope deflection, and moment distribution; prefaced by determinations of deflections by virtual work, moment area, conjugate beam, and Williot-Mohr diagram. Continuous structures and rigid frames considered. *Prerequisite:* 104. Three hours.

176 Advanced Structural Design (3–3) Advanced theory and design of structures with emphasis on continuous frames and trusses. Consideration of wind stress analysis, space frames, moment connections, and camber diagrams. Comparative studies of specifications for design in steel; aluminum design. Laboratory problems in design of steel building frames and continuous highway girder and truss bridges. *Prerequisite:* 175. Four hours.

201 Indeterminate Structures (3–0) Continuation of 175 with applications to analysis of statically indeterminate structures starting with a brief

review and proceeding to the analysis of indeterminate trusses, and building frames. Elective course. *Prerequisite:* 175. Three hours. II.

202 Water Power Engineering (3–0) The hydrologic, hydraulic, and geologic studies of water power sites; selection of turbines and equipment; economic considerations. Elective course. *Prerequisite:* 162 or M.E. 142. Three hours.

ENGINEERING, ELECTRICAL (College of Technology)

Professors McKee (Chairman) and Smith; Associate Professors Hoilman and Shorey; Mr. Low.

21 Electric and Magnetic Circuits (5–0) The application of fundamental principles to the solution of electric and magnetic circuits; a study of the properties of metallic conductors; nonlinear resistances; the generation of voltages; and the behavior of circuits containing inductance and capacitance. *Prerequisite:* credit or enrollment in Math. 21. Five hours.

22 Direct Current Machines (4–0) The construction and operating characteristics of direct current generators and motors with special emphasis on internal reactions; parallel operation of generators; starting and speed control of motors; and machine efficiency. *Prerequisite:* 21. Four hours.

24 Electrical Laboratory I (0–3) Fundamental experiments in resistor combinations, meter operation, heating, and circuit analysis; direct current machine experiments such as the saturation curve; generator characteristics, and parallel operation of generators. *Prerequisite:* 21. One hour.

101-102 Electrical Circuits and Machines (3–3) The work of the first semester covers direct current and magnetic circuits and the applications of this theory to direct current machines. The work of the second semester includes the theory of alternating current circuits and the principal features of alternating current machinery. Intended for management and mechanical engineers. *Prerequisite:* Math. 22; Physics 21–22. Four hours.

103-104 Alternating Current Circuits (3–0) The analysis of alternating current circuits in the steady state. Basic circuit concepts and mathematical techniques involving trigometric functions, complex algebra and calculus are used in the study of periodically varying sinusoidal and nonsinusoidal quantities in single-phase and polyphase circuits. *Prerequisite:* 21; Math. 22. Three hours.

105-106 Electrical Laboratory II (0–3) Direct current motor characteristics, separation of losses and efficiency; three-wire distribution, Ward-Leonard control, the Amplidyne generator, and the direct current watthour meter. The application of fundamental principles to alternating current circuits including voltage vector combinations, the relations of impedance and power factor to frequency, resonance, phase rotation, and the measurement of three-phase power. *Prerequisite:* 22, 24; credit or enrollment in 104 for 106. One hour.

107-108 Alternating Current Machines (3–0) A study of the principal types of alternating current machinery from the physical and mathematical standpoint. Construction, uses, development of the theory, constants, losses

and efficiency, flux and current relations, and characteristics. First semester: single and three-phase transformers including special types; synchronous generators. Second semester: synchronous motors, polyphase induction motors and single-phase motors of various types. *Prerequisite:* 104. Three hours.

109-110 Electronics (3–0, 3–3) First semester: electron ballistics, characteristics of vacuum tubes, gas tubes, phototubes, and solid state elements; and equivalent circuit of the class A amplifier. Second semester: untuned voltage amplifiers, low and high frequency compensation, voltage and current feedback; untuned power amplifiers single stage and push-pull; tuned amplifiers class A and class C; oscillators—tuned circuit, phase shift, negative resistance, and crystal. *Prerequisite:* 102 or 103. Three hours—I. Four hours—II.

111-112 Electrical Laboratory III (0–3) The principal alternating current machine characteristics by actual test and their comparison with those calculated from test constants. Measurement techniques and special methods. First semester: transformers and synchronous generators. Parallel operation. Second semester: synchronous motors, polyphase induction motors, special experiments in related topics. *Prerequisite:* 106 and credit or enrollment in 107–108. One hour.

113 Power Transmission (3–0) A general survey of the engineering and economic principles affecting the transmission of electrical energy. Development of the basic electromagnetic and electrostatic fields and application of these principles; using the methods of geometric means, hyperbolic functions, general circuit constants, to transmission lines. The development and application of symmetrical components and their use in the solution of faulted three-phase line conditions. *Prerequisite:* 104. Three hours.

115 Communication Circuits (3–3) Long lines in steady state, filters, networks and loading. *Prerequisite:* 104. Four hours.

119 Elements of Electrical Engineering (3–3) Elements of electric and magnetic circuits and the application of these principles to the theory and performance of direct and alternating current machines. Intended for civil engineers. *Prerequisite:* Math. 22; Physics 21–22. Four hours.

201 Industrial Electronics (3–3) Characteristics of gas tubes and their application to rectifiers and inverters. Semi-conductors, photo tubes, and circuits. Electronic control of motors, elementary servo-mechanisms, radio frequency heating, timing controls, X rays. *Prerequisite:* 110. Four hours.

203 Advanced Electronics (3–3) Modulation and detection of amplitude and angular modulated waves and their application to the transmission and reception of audio and video information. Square law and linear methods of amplitude modulation and detection, the heterodyne principle. Reactance tube, Armstrong and phasitron methods of angular modulation. Limiter and discriminator circuits. The analysis of special circuits for wave shaping and for computing operations. *Prerequisite:* 110. Four hours.

204 Electromagnetic Wave Theory (3–3) Maxwell's equations, the Poynting vector, guided waves and radiation. High frequency oscillators, the Klystron, magnetron, and traveling wave tubes. *Prerequisite:* 110. Four hours.

206 U.H.F. Circuits (3–3) Circuits and techniques for use at ultra-high frequencies. *Prerequisite:* 203. Four hours.

207-208 Special Topics (2–3) Formulation and solution of theoretical and practical problems dealing with electrical circuits, apparatus, machines, or systems. *Prerequisite:* 22, 104. Three hours.

209 Transient Phenomena (3–3) The mathematical development of voltage and current transients with experimental check by means of the oscillograph. *Prerequisite:* 104. Four hours.

210 Servomechanisms (3–3) A study of the theory, performance and stability of servomechanism systems of control. Limited to candidates for the Master's degree and others with the permission of the instructor. *Prerequisite:* Math. 212 and 209. Four hours.

211-212 Power Systems (3–0) First semester: economics of electric systems; elementary corporate finance; economics of location, conductor size, station and line costs; station auxiliaries; regulatory bodies. Second semester: machine and line transients; steady state and transient stability of power systems; circuit breakers, relay systems, lightning, wave propagation, and short circuit conditions; coordination of power and telephone systems. *Prerequisite*: credit or enrollment in 107 for 211; credit in 113 for 212. Three hours.

281-282 Seminar (1–0) Presentation and discussion of advanced electrical engineering problems and current developments. *Prerequisite:* senior or graduate engineering enrollment. One hour.

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

ENGINEERING, MECHANICAL (College of Technology)

Associate Professors Tuthill (Acting Chairman) and Duchacek; Assistant Professors Carpenter, Marshall, and Paquet

3,4 Engineering Problems (0–3) The nature of engineering principles and the kinds of work done in the fields of engineering. Development of skill and systematic methods in the solution of problems related to engineering. Enrollment restricted to freshman engineering students. *Prerequisite:* 3 for 4. One hour.

51,52 Manufacturing Processes (1–3) A study of metal machining, casting, welding, forming and inspection methods including economic factors and choice of methods. Laboratory work involves further study of variables, applications and limitations of some of the more common processes. *Prerequisite:* E.G. 2; 51 for 52. Two hours.

82 Mechanical Engineering Laboratory I (0–3) An introduction to laboratory instruments, their use and calibration. Verification of thermodynamic principles. *Prerequisite:* concurrent enrollment in 92. One hour.

92 Thermodynamics I (2–0) Introduction to engineering thermo-

dynamics with particular emphasis on energy forms and the development of the First and Second Laws. Two hours.

102 Industrial Metallurgy (2–3) The fundamentals of ferrous and non-ferrous physical metallurgy. The correlation of the metallographic structure and physical properties of metals and alloys with their heat treatments and uses. Topics include studies of iron-carbon alloys, heat treatment of steels, low alloy steels, high alloy steels, tool steels, case hardening, cast irons, hardenability, precipitation hardening, copper and nickel base alloys, light metals and their alloys, heat resistant alloys and corrosion of metals. *Prerequisite:* Chemistry 2; Physics 22. Three hours.

111 Thermodynamics II (3–3) The perfect gas, and approximate relationships for real gases; steam; the application of thermodynamics principles to cycles, heat engines, compressors, and refrigeration. The three hour laboratory is a problems and analysis period. *Prerequisite:* 92. Four hours.

113 Thermodynamics (3–0) The fundamental principles of engineering thermodynamics and the application of these principles to thermodynamic cycles, prime movers, compressors, heat transfer. *Prerequisite:* Physics 21; Math. 22; C.E. 130. Three hours.

117 Mechanical Engineering Laboratory II (0–3) Coordinated with ME 111 to verify and demonstrate thermodynamic principles and applications as studied in class. Experiments dealing with steam calorimetry, the first law with unsteady flow, air flow measurement, air compression, refrigeration, heat transfer, etc. *Prerequisite:* concurrent enrollment in 111. One hour.

131 Mechanisms (3–3) The analysis of displacements, velocities, and accelerations in machines and the application of such analysis to cams, gears, and other mechanisms, with emphasis placed upon the graphical methods. A study of rolling contact, cam and gear design, flexible connectors, and miscellaneous mechanisms. *Prerequisite:* E.G. 2; CE 130. Four hours.

134 Machine Design I (3–3) Analysis of loads in machine elements and their design, considering stress, deflection, wear, cost, etc. *Prerequisite:* 131; CE 131. Four hours.

142 Fluid Mechanics (3–3) Fluid statics. Kinematics of fluid flow; thermodynamics of steady flow of any fluid; viscosity; dimensional analysis and dynamic similarity; pipe and channel flow for incompressible fluids; momentum and propulsion; resistance and lift of immersed bodies; compressible fluid flow in nozzles, wind tunnels, pipes, etc.; fluid machinery; mathematical study of fluid motion. *Prerequisite:* 111 or 113; CE 130. Four hours.

151 Machine Design II (3–3) A continuation of 134. Graphical methods. *Prerequisite:* 134. Four hours.

154 Production Engineering (2–3) An introduction to the problems involved in tooling a manufacturing plant for production. Analysis of production requirements, the design and use of cutting tools, jigs and fixtures, dies, gages, and miscellaneous auxiliary equipment; economic aspects. *Prerequisite:* 52, junior standing. Three hours.

161 Advanced Heat Power Engineering (4–3) Application of theoretical power cycles to actual plant cycles and equipment, including turbines, internal combustion engines, gas turbines, boilers, accessories, etc. Performance characteristics; analysis and selection of equipment; development of station energy balances; economic factors. *Prerequisite:* 111 or 113. Five hours.

163 Heat Transfer (2–0) Fundamental principles of heat transfer; conduction, convection, radiation; steady and unsteady state; applications to heat transfer equipment. Two hours.

164 Air Conditioning (3–3) The application of the fundamental principles of thermodynamics, heat transfer and fluid mechanics to the design and performance of air conditioning systems and equipment. *Prerequisite:* 111 or 113; 142. Four hours.

174 Industrial Engineering (3–3) Principles of industrial organization, plant facilities and layout, production and quality control, motion and time study, wage incentives, job evaluation and safety engineering. Four hours.

175 Motion and Time Study (3–3) Principles and methods of analyzing work; job improvement; stop watch studies; elemental and predetermined time standards and miscellaneous related topics. Open to students of Commerce and Economics and Management Engineering. *Prerequisite:* Economics 143. Four hours.

176 Plant Organization (2–6) Analysis of plant requirements as to location, layout and materials handling; plant services and maintenance. Open to students of Commerce and Economics and Management Engineering. *Prerequisite:* Economics 143. Four hours.

181 Seminar (2–0) Discussions of the mechanical engineering profession, the ethics, responsibilites, and status of members of the profession, and timely activities of present day practice. Current issues of pertinent publications are used as collateral reading and as guides in the study and discussion of contemporary progress in the field. *Prerequisite:* senior standing. Two hours.

244 Advanced Fluid Mechanics and Fluid Machinery (3–0) Steady compressible flow; compressible flow in pipes and channels with heat and friction; boundary layer effects; general features and factors influencing design of fluid machinery; performance features of pumps, compressors, fluid couplings, torque converters, turbines; fluid vibrations; mathematics of two dimensional flow, vorticity and circulation, stream functions. *Prerequisite:* 142. Three hours.

246 Aerodynamics (3–0) The application of the principles of fluid mechanics to the design and performance of aircraft; fluid dynamics; experimental facilities; airfoil characteristics; aspect ratio and plan-form influences; viscosity phenomena as applied to boundary layer; transition and separation on various shapes; compressibility phenomena; the optimum airfoil; performance. *Prerequisite:* 142. Three hours.

255 Mechanical Vibrations (3–0) An advanced course in the field of machine design with special emphasis on problems of vibrations. Topics include causes of vibrations, methods of study of vibratory motion, determination of vibration stresses, and methods of balancing and damping. *Prerequisite:* 151 and permission of department. Three hours. I or II.

267, 268 Advanced Heat Engines (3–0) Advanced study in theoretical thermodynamics with applications in specific types of heat engines according to the interests of the students. *Prerequisite:* 111 and permission of department. Three hours.

294 Engineering Analysis (1–6) Application of scientific principles to the analysis of comprehensive engineering problems. Particular emphasis is given to the development of a well ordered logical approach to the statement and solution of the problems and to the conclusions and decisions involved. *Prerequisite:* senior standing. Three hours.

295 Special Problems A study and investigation on a topic or problem of special interest to the student. Formal submission of results in thesis form required. Problems must be approved by the department before election of the course. Three hours. I or II.

301 Advanced Machine Design (3–0) Advanced mechanics of materials and applications to mechanical design according to the interests of the student. *Prerequisite:* 151. Three hours. I or II.

303 Balancing of Machinery (3–0) A theoretical study of balancing problems and discussion of balancing machines. *Prerequisite:* 151. Three hours. I or II.

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

ENGINEERING GRAPHICS (College of Technology)

1 Engineering Drawing (1–8) A study of the use of graphical methods in the solution of scientific and engineering problems. To accomplish this and to be able to convey such information to others, thorough instruction in orthographic projection and use of modern drafting equipment is given. This knowledge is also applied to machine drawing with emphasis on the ability to dimension properly. Three hours. Mr. Paquet.

2 Engineering Drawing (1–8) A continuation of the first semester by adding a complete coverage of descriptive geometry by both direct, mongean, and analytical methods followed by a study of all the forms of pictorial drawing. Throughout the work, theory is applied to practical problems in science and engineering. *Prerequisite:* 1. Three hours. Mr. Paquet.

12 Nomography (1–2) The theory and construction of graphical computing methods, alignment charts, and nomographs. *Prerequisite:* 1 and 2. Two hours. Mr. Paquet.

ENGLISH (College of Arts and Sciences)

Professors Pope (Chairman) and Hughes; Associate Professors Bandel, Bogorad, Dean, Marston, Trevithick, and Wainwright; Assistant Professors Jones, Long, McArthur, and Van Ghent; Messrs. Brownfield, Cochran, Guiet, Loomis, and Piper

1-2 English Composition Criticism of the common errors of writing and speech; study of words, sentences, and paragraph construction; theme writing, oral reports, study of selected literature illustrative of the principles discussed. Required of all freshmen, except those who demonstrate proficiency by a preliminary test; these freshmen must take a sophomore English course, normally English-American Literature or World Literature. Three hours. The staff.

13,14 Periodical Writing First semester: news writing and journalism; second semester: the commercial short story, articles, and other forms of periodical writing. *Prerequisite:* 1–2 or exemption therefrom. Three hours. Mr. Dean.

16 Expository Writing The writing of expository papers and articles. Required of sophomore engineers, but open to others. *Prerequisite:* 1–2 or exemption therefrom. Three hours. I, II. The staff.

18 Advanced Composition Instruction and practice in the writing of novels, plays, short stories, and poetry. The standards of the course are those of serious art. *Prerequisite:* 1–2 or exemption therefrom. Three hours. Mrs. Van Ghent.

25,26 World Literature A detailed study, in English translation, of ten masterpieces of world literature which have made significant contributions to the development of western culture. *Prerequisite:* 1–2 or exemption therefrom. Three hours. The staff.

27,28 English-American Literature A study of selected English and American authors from early to modern times. Required of students concentrating in English. *Prerequisite:* 1–2 or exemption therefrom. Three hours. The staff.

201 Chaucer The principal works of Chaucer, with emphasis on reading them as poetry, on Chaucer's literary scope and qualities, and on the picture of his time portrayed in his writings. *Prerequisite:* 25, 26 or 27, 28. Three hours. Miss Hughes.

206 Elizabethan Drama A study of drama in England from its beginning to 1642, exclusive of Shakespeare. *Prerequisite:* 25, 26 or 27, 28. Three hours. Mr. Pope. (Offered in alternate years, 1956–57.)

207-208 Shakespeare Literary study and textual interpretation of most of Shakespeare's works. *Prerequisite:* 25, 26 or 27, 28. Three hours. Mr. Pope.

211 Renaissance Poetry The major poets of Tudor and Stuart England, from Wyatt and Surrey to Donne and his followers, with special emphasis on Spenser and the development of Elizabethan lyric poetry. *Prerequisite:*

25, 26 or 27, 28. Three hours. Mr. Long. (Offered in alternate years, 1957–58.)

212 Milton The works of Milton including *Paradise Lost, Paradise Regained, Samson Agonistes,* some of the minor poems, and selections from the prose works. Lectures, discussions, and reports. *Prerequisite:* 25, 26 or 27, 28. Three hours. Mr. Bogorad. (Offered in alternate years, 1957–58.)

217 Restoration and Eighteenth-Century Drama The development of English drama from Dryden to Sheridan. The lectures, discussions, and reports consider the literary and theatrical qualities of representative plays. *Prerequisite:* 25, 26 or 27, 28. Three hours. Mr. Bogorad. (Offered in alternate years, 1956–57.)

218 Restoration and Eighteenth-Century Prose and Poetry The works, including selected novels, of significant writers from Dryden to Johnson. Particular emphasis on the development of the essay, the satires of Pope and Swift, and the works of the Johnson-Boswell circle. *Prerequisite:* 25, 26 or 27, 28. Three hours. Mr. Bogorad. (Offered in alternate years, 1956–57.)

221,222 The Romantic Period First semester: the development of the Romantic Movement through Wordsworth and Coleridge; second semester: Byron, Shelley, Keats, and other Romantic poets and prose-writers. *Prerequisite:* 25, 26 or 27, 28. Three hours. Mr. Pope. (Offered in alternate years, 1957–58.)

227-228 English Novel English fiction from its origins through the nineteenth century. Masterpieces are stressed and read critically. *Prerequisite:* 25, 26 or 27, 28. Three hours. Mr. Wainwright. (Offered in alternate years, 1957–58.)

231,232 Victorian Literature (1832–1900) A study of the lives and the works (except the novels) of the significant writers of the era by lectures, discussion, and reports. Outstanding poets and prose writers are studied as spokesmen of their own age and harbingers of the present one. *Prerequisite:* 25, 26 or 27, 28. Three hours. Mr. Wainwright. (Offered in alternate years, 1956–57.)

237 Modern Novel *Prerequisite:* 25, 26 or 27, 28. Three hours. Mr. Marston.

238 Modern Drama *Prerequisite:* 25, 26 or 27, 28. Three hours. Miss Bandel. (Offered in alternate years, 1956–57.)

239 Modern Poetry *Prerequisite:* 25, 26 or 27, 28. Three hours. Mr. Wainwright.

240 Modern Short Story Limited to seniors, except with permission of the instructor. *Prerequisite:* 25, 26 or 27, 28. Three hours. Mr. Wainwright.

251,252 American Novel Masterpieces of nineteenth-century American fiction selected on the basis of literary merit. Lectures, class discussions, oral and written reports. First semester: Hawthorne, Melville, and others; second semester: Mark Twain, Howells, James and others. *Prerequisite:* 25, 26 or 27, 28. Three hours. Mr. Trevithick. (Offered in alternate years, 1956–57.)

253 American Colonial Literature Intellectual and literary origins, in the seventeenth and eighteenth centuries, of American culture. In particular, the works of Edwards, Taylor, Franklin, Woolman, Hamilton and Jefferson. Lectures, discussions, oral and written reports. *Prerequisite:* 25, 26 or 27, 28. Three hours. Mr. Trevithick. (Offered in alternate years, 1957–58.)

254 Emerson, Thoreau and Their Circle Special attention to the essays, journals, and poetry of Emerson, and to Thoreau's *Walden.* Minor writers in the group will receive briefer treatment. Lectures, discussions, oral and written reports. *Prerequisite:* 25, 26 or 27, 28. Three hours. Mr. Trevithick. (Offered in alternate years, 1957–58.)

255 American Poetry Major American poets from the 18th century to the First World War, including Poe, Whitman, Emily Dickinson, Robinson, Frost, and others. Lectures, discussions and reports. *Prerequisite:* 25, 26 or 27, 28. Three hours. Mr. Marston. (Offered in alternate years, 1956–57.)

256 Literature of the American Frontier A study of frontier, local-color and regional writing in America from 1830 to 1920, including Parkman, Harte, Mark Twain, Garland and others. Lectures, discussions and reports. *Prerequisite:* 25, 26 or 27, 28. Three hours. Mr. Marston. (Offered in alternate years, 1957–58.)

260 Modern English The development of Modern English; Modern English usage, with readings of illustrative selections. *Prerequisite:* 25, 26 or 27, 28. Three hours. Mr. McArthur. (Offered in alternate years, 1957–58.)

262 Old and Middle English Development of the language through the Old and Middle English periods, with readings of illustrative selections. *Prerequisite:* 25, 26 or 27, 28. Three hours. Mr. McArthur. (Offered in alternate years, 1956–57.)

271 Bibliography Methods of literary study, research, and scholarship. *Prerequisite:* 25, 26 or 27, 28. Three hours. Mr. Pope. (Offered in alternate years, 1956–57.)

272 History of Criticism Principles and theories of criticism from Aristotle to the twentieth century. *Prerequisite:* 25, 26 or 27, 28. Three hours. Mr. Jones. (Offered in alternate years, 1957–58.)

273 Technique and Criticism of Poetry A study of poetic theory with close analysis of selected poems, past and present, designed to show their organic structure, the relation between poetic intention and sense, mood, tone, imagery, stanzaic form, and meter. Lectures, discussions, reports. *Prerequisite:* 25, 26 or 27, 28. Three hours. Mr. Bogorad. (Offered in alternate years, 1957–58.)

275-276 Creative Criticism A seminar devoted to critical analysis of contemporary fiction. *Prerequisite:* 25, 26 or 27, 28. Three hours. Mrs. Van Ghent.

277-278 Creative Writing The development of extended projects in the creation of literature, such as a novel, a group of short stories, or a sequence of poems. *Prerequisite:* 25, 26 or 27, 28, and one of the following: 13, 14, 16, or 18. Three hours. Mrs. Van Ghent.

282 Seminar for Prospective Teachers of English Problems of grammar and language, of literary interpretation and criticism, with allied problems useful to teachers of English. Open to seniors and graduate students. *Prerequisite:* 25, 26 or 27, 28 and Secondary Education 107. Three hours. Miss Hughes.

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

FORESTRY (College of Agriculture and Home Economics)

Professor W. R. Adams (Chairman); Assistant Professor Fordham

2 Elements of Forestry Introduction to specialization in forestry and conservation. Open to preforestry students only. Three hours. Mr. Fordham.

3 Dendrology (0–3) Field identification and characteristics of the more important forest trees and formation of forest types. One hour. Mr. Adams.

4 Dendrology of Angiosperms (2–3) Classification and silvical characteristics of the more important broad leaf forest trees of North America. Twig identification. *Prerequisite:* 3. Three hours. Mr. Fordham.

6 Dendrology of Gymnosperms Classification and silvical characteristics of the more important native and exotic coniferous forest trees of North America. *Prerequisite:* 3. Two hours. Mr. Fordham.

103-104 Woodland Management (2–3) Establishment, protection, and management of farm woodlands and small forest areas. *Prerequisite:* junior standing. Three hours. Messrs. Adams and Fordham.

105 Mensuration (1–3) Timberland surveying, timber estimating, log scaling, and growth determinations of trees and stands. *Prerequisite:* 3 or 103–104. Two hours. Mr. Fordham.

106 Utilization of Woodland Products (1–3) Sawmilling, wood products manufacture, maple products, wood preservation, and private and cooperative marketing practices. *Prerequisite:* 103 or permission of the department. Two hours.

197,198 Senior Research The student works on a research problem under the direction of a qualified staff member and submits the findings in a written form prescribed by the department. *Prerequisite:* senior standing. Three hours. The staff.

208 Biological Statistics The application of statistics to the analysis of biological data. Interpretation of statistical analysis. *Prerequisite:* Math. 1; senior standing. Three hours. Mr. Adams.

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

GENERAL LITERATURE (College of Arts and Sciences)

51 Greek Literature in Translation Lectures on the development of the various branches of Greek literature and on its chief authors, with special emphasis on Homer and the drama. Readings in standard translations from the major authors. No knowledge of Greek required. *Prerequisite:* junior standing. Three hours. Mr. Pickel.

52 Latin Literature in Translation Lectures on the development of Latin literature and on the principal Latin authors, with attention to the relation of Latin literature to Greek and English literature. Readings in standard translations from the major authors. No knowledge of Latin required. *Prerequisite:* junior standing. Three hours. Mr. Pickel.

62 German Literature in Translation Lectures on the development of German literature; reading and discussion of representative works. No knowledge of German required. *Prerequisite:* junior standing. Three hours. Mr. Kahn.

GEOLOGY (College of Arts and Sciences)

Professor Doll (Chairman); Assistant Professor Doten

1-2 Introductory Geology (3–2) The composition, structure, and surface forms of the earth, and the agencies active in their production; a general survey of the earth's history as recorded in the rocks. Field trips and lantern slides. Four hours.

11 Mineralogy (2–2) The crystallographic and physical properties of minerals, and their determination by means of the blowpipe. *Prerequisite:* 1–2. Three hours.

14 Petrology (2–2) Study of the origin and characteristics of igneous, sedimentary, and metamorphic rocks and related ore deposits. *Prerequisite:* 11. Three hours.

21 Engineering Geology (2–2) The recognition of common minerals and rocks; rock structures and their effects on engineering problems. Required of students in civil engineering, not open to others. Three hours.

101 Optical Mineralogy (1–4) Introduction to the study of the optical properties of non-opaque minerals and their determination by means of the polarizing microscope. *Prerequisite:* 14. Three hours.

102 Petrography (1–4) Classification, origin and composition of the more important igneous, sedimentary and metamorphic rocks, by means of the polarizing microscope and thin sections. *Prerequisite:* 101. Three hours.

103-104 Economic Geology (2–2) The characteristics, occurrence, distribution, production, and uses of the more important mineral resources. First semester: nonmetallics; second semester: metallics. Trips to Vermont localities of economic interest. *Prerequisite:* 14. Three hours.

111 Structural Geology (2–2) Structural features of the earth's crust produced by earth movements. Emphasis on the mechanics of folding,

fracturing, faulting, and rock flowage, and the relation of such structures to mountain building. *Prerequisite:* 14. Three hours.

112 Field Geology (1–6) Field methods in the geologic mapping of an assigned area. One conference a week on the problems and progress of the field work; a written report on the area, accompanied by a field map, submitted at the end of the course. *Prerequisite:* 111. Three hours.

121 Paleontology (2–2) Invertebrate fossils; their evolution, morphology and classification, and their importance in the interpretation of earth history. *Prerequisite:* 14. Three hours.

207 Igneous Geology (2–2) Detailed consideration of the paragenesis of igneous rocks, with laboratory work on selected suites of specimens. *Prerequisite:* 102. Three hours.

208 Metamorphic Geology (2–2) Detailed consideration of metamorphic processes and types of metamorphic rocks, with appropriate laboratory study of metamorphic suites. *Prerequisite:* 102. Three hours.

215 Geomorphology (2–2) The land forms of the surface of the earth and their origins; external and internal forces modifying the earth. The physiographic provinces of North America are emphasized. *Prerequisite:* 14. Three hours.

216 Glacial Geology (2–3) A survey of the origin, mechanics and effects of past and present glaciations. *Prerequisite:* 215. Three hours.

222 Index Fossils (2–2) Characteristic fossils of various geologic horizons, with emphasis on their uses for correlation purposes, especially in strata of economic importance. *Prerequisite:* 121. Three hours.

223 Sedimentation (2–2) The processes active in the erosion, transportation and deposition of sediments, their consolidation into sedimentary rocks, and methods of sedimentary petrology. *Prerequisite:* 14. Three hours.

224 Stratigraphy (2–2) The sequential development and distribution of the sedimentary rocks. *Prerequisite:* 121. Three hours.

GERMAN (College of Arts and Sciences)

Associate Professor White (Chairman); Assistant Professors Kahn, Webster, and Wurthmann

1-2 Elementary German A beginning course, using modern techniques, with emphasis on the spoken language of everyday use. Oral, aural, and written practice in speaking, reading, and comprehension, based on the memorization of texts in the form of dialogues. Tape recordings of the materials are available for student listening as an aid to speaking and comprehension. *Credit is allowed only if German 11–12 is also completed.* Four hours. The staff.

11-12 Intermediate German Reading and discussion, as far as possible in German, of selected modern texts. Review of grammar and practice in translating technical and scientific expository prose. Emphasis is upon the development of vocabulary, knowledge of idioms, auditory comprehension and facility in reading. *Prerequisite:* 1–2 or equivalent. Three hours. The staff.

101-102 Introduction to German Literature Selected works of Goethe, Schiller, and Lessing, and a survey of the development of German literature from the beginnings to the twentieth century, with practice in hearing, writing, and speaking German. *Prerequisite:* 11–12. Three hours. Mr. Webster.

121-122 Composition and Conversation Guided conversation, discussion, and oral and written drill in German. Emphasis is placed upon increasing the student's oral and written command of German. Free composition, oral reports, and translation into German are required. *Prerequisite:* 11–12 or equivalent and permission of the instructor. Three hours. Mr. Wurthmann.

131-132 Scientific German Reading and translation of moderately difficult scientific prose and review of grammar. Emphasis is upon development of the ability to read accurately and efficiently original German in the branch of science in which the student is specializing. After the first few weeks, individual assignments are made in the field of each student's main scientific interest. *Prerequisite:* 11–12 or equivalent. Three hours. Mr. Wurthmann.

205 Goethe's Faust Reading, analysis, and interpretation of Parts I and II of *Faust* and other works by Goethe. Collateral readings on the Faust theme in German and other literatures. *Prerequisite:* 101–102. Three hours. Mr. White (Offered in alternate years, 1957–58.)

206 German Literature: 1800-1850 Reading and interpretation of works representative of the main literary trends of this period. Lectures and reports on selected poetry, prose works and dramas by Kleist, the Romantics, Grillparzer, Heine, and others. *Prerequisite:* 101–102. Three hours. Mr. White. (Offered in alternate years, 1957–58.)

207 German Literature: 1850-1900 Reading and interpretation of important works of this period in poetry, prose and drama. Lectures and reports on selected works by such representative authors as Hebbel, Keller, C. F. Meyer, Stifter, Nietzsche, and Wagner. *Prerequisite:* 101–102. Three hours. Mr. White (Offered in alternate years, 1956–57.)

208 German Literature: The 20th Century Readings, reports, lectures on authors of the period in poetry, prose and drama. Representative works of Hauptmann, Rilke, Hofmannsthal, George, Thomas Mann, Kafka, and others will be read. *Prerequisite:* 101–102. Three hours. Mr. White. (Offered in alternate years, 1956–57.)

221-222 Advanced Composition and Conversation Guided conversation, discussion, and advanced oral and written drill in German. Study of modes of expression and stylistic devices of modern German, based on reading and analysis of selected texts. Problems in translating literary and technical English prose into German. *Prerequisite:* 121–122 or equivalent. Three hours. Mr. Kahn.

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

HEBREW (College of Arts and Sciences)

1-2 Elementary Hebrew Reading, pronunciation, elements of grammar and conversation; exercises in composition and translation, designed to prepare the student to understand the Hebrew Scriptures and modern Hebrew literature. Three hours. Mr. Kahn.

11-12 Intermediate Hebrew Translation, conversation, and reading of texts designed to give some knowledge of the development of Hebrew life, thought, and culture from Biblical times to the present. *Prerequisite:* 1–2 or equivalent. Three hours. Mr. Kahn.

HISTORY (College of Arts and Sciences)

Professors Evans and Schultz (Chairman); Associate Professors Pooley and Putnam; Messrs. Fletcher and Page, Miss Davison

1,2 Ancient History A survey of the ancient Greek and Roman worlds. *Prerequisite:* 1 for 2. Three hours. Miss Davison.

5,6 Medieval Europe The history of Europe from the late Roman Empire to the Renaissance, with particular emphasis on political and cultural developments. *Prerequisite:* 5 for 6. Three hours. Mr. Pooley.

11,12 European Civilization European ideas and institutions in world history. *Prerequisite:* 11 for 12. Three hours. Messrs. Fletcher and Page.

21-22 The American Colonies American history to 1783. *Prerequisite:* sophomore standing, 21 for 22. Three hours. Mr. Putnam.

23,24 History of the United States American history since 1783. *Prerequisite:* sophomore standing; 23 or 31 for 24. Three hours. Messrs. Schultz and Page.

26 History of Vermont A history of Vermont since its foundation. *Prerequisite:* sophomore standing. Three hours. Mr. Fletcher.

31 Historical Development of American Foreign Policy Foreign relations of the United States, 1775–1900. *Prerequisite:* sophomore standing. Three hours. Mr. Fletcher.

111-112 Early Modern History The Renaissance, the Reformation, and sixteenth century Europe, with special attention to the economic and social history of the period. *Prerequisite:* one course in history. Three hours. Mr. Evans.

113,114 Europe in the Modern Age History of Europe from the seventeenth century to 1914. *Prerequisite:* one course; 113 for 114. Three hours. Mr. Evans.

123-124 American History since 1900 *Prerequisite:* one course in history. Three hours. Mr. Putnam.

201,202 English History England in world history since Roman days. *Prerequisite:* junior standing; one year of European history, 201 for 202. Three hours.

213-214 Canadian History Canadian development from the French exploration and settlement to the present with emphasis on the evolution of self-government and relations with the United States. *Prerequisite:* two courses. Three hours. Mr. Putnam. (Offered in alternate years, 1957–58.)

227-228 American Frontiers The westward movement to the end of the nineteenth century and its influence in shaping American ideals and institutions. *Prerequisite:* junior standing; 21-22 or 23, 24. Three hours. Mr. Putnam. (Offered in alternate years, 1956–57.)

241-242 French Revolution and Napoleon French history from 1789 to 1815, with special attention to the impact of French ideas and power upon Europe. *Prerequisite:* 113, 114 and one other course. Three hours. Mr. Evans.

251-252 Contemporary History The world since 1918, stressing the background of current events. *Prerequisite:* two courses, preferably 113, 114 and 123-124. Three hours. Mr. Evans.

257,258 American Statesmen The thought and practical politics of American statesmen. *Prerequisite:* junior standing; 23 for 257; 24 and 257 for 258. Three hours. Mr. Schultz. (Offered in alternate years, 1957–58.)

261-262 Latin-American History The political, social and economic development since the Spanish Conquest. *Prerequisite:* two courses. Three hours. Mr. Putnam. (Offered in alternate years, 1956–57.)

280-281 Seminar Advanced study in a selected field. Open to graduate students and to seniors by permission. Three hours. Mr. Putnam. (Offered in alternate years, 1957–58.)

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

HOME ECONOMICS (College of Agriculture and Home Economics)

Associate Professors Trotter (Chairman), Bailey, Caldwell, Godfrey, and Knowles; Assistant Professors M. Brown, Brownfield, Colton, Newton and Williams; Miss H. Brown, Mrs. Jamieson, and Mrs. Bickford

1-2 Orientation The problems of adjustment to college life; evaluation of professional opportunities in home economics. One hour. Mrs. Trotter.

FOOD AND NUTRITION

11 Food Selection The essential dietary requirements for growth and health with applications to individual and family groups. Three hours. Miss Bailey and Mrs. Jamieson.

52 Food and Nutrition (1–4) The principles of food preparation with laboratory application and the fundamentals of normal nutrition. For students in nursing education. Three hours. Misses Bailey and Williams.

53 Survey of Food Preparation (2–4) Basic principles of food preparation, with some laboratory application. Four hours. Miss Williams and Mrs. Jamieson.

55-56 Food Preparation (1–6) The scientific principles and fundamental processes underlying food preparation, with practical applications. *Prerequisite:* Chemistry 2 and, concurrently, Chemistry 35. Three hours. Miss Williams.

103 Food Preservation and Economics (1–4) The scientific principles and methods involved in the preservation of food. The factors of production, processing and distribution governing the buying of foods. *Prerequisite:* 56. Three hours. Miss Bailey.

104 Meal Management (1–5) The principles involved and practice in planning, preparing, and serving family meals at different cost levels. *Prerequisite:* 53 or 56. Three hours. Misses Bailey and Williams.

106 Principles of Nutrition (2–2) Nutrition and the individual; people's food habits and the problems involved in food selection to promote good nutrition. *Prerequisite:* 56. Three hours. Miss Williams.

152 Diet Therapy (2–2) The adaptations of the normal diet in conditions affected by or affecting the utilization of food. *Prerequisite:* 251. Three hours. Miss Bailey.

251 Nutrition and Diet (3–2) The principles of human nutrition; the nutritive value of foods with application in calculating food requirements and diets for children, adults and family groups. *Prerequisite:* 55–56; Elementary Biochemistry 171; Zoology 52. Four hours. Miss Bailey.

253 Readings in Foods A critical survey of the literature on the recent developments in food research. *Prerequisite:* senior standing; 55–56; Elementary Biochemistry 171. Two or three hours.

254 Experimental Food Preparation (1–4) Methods and techniques used in experimental work in foods. Independent laboratory study of problems in food preparation. *Prerequisite:* 55–56; H.M. 63–64; Elementary Biochemistry 171. Three hours. Miss Williams.

256 Readings in Nutrition A critical survey of the literature on recent developments in nutrition. *Prerequisite:* 251. Two or three hours. Miss Bailey.

RELATED ART

15 Design (1–4) The fundamentals of color and design. Three hours. Misses Caldwell and Colton.

57 Costume Design (0–4) Color and design fundamentals and principles applied to costume planning. *Prerequisite:* 15. Two hours. Miss Colton.

107 History of Costume (1–4) History of costume as a source of inspiration for modern costume design. *Prerequisite:* 57 and T&C 58. Three hours. Miss Caldwell.

108 Home Furnishing I (1–4) The application of the fundamental elements of color and design to the problems involved in furnishing the home. *Prerequisite:* T&C 106. Three hours. Miss Colton.

256 Home Furnishing II (1–4) Studies in home decorating with special emphasis given to period furnishing, its present use and influence upon modern furnishing. *Prerequisite:* 108. Three hours. Miss Caldwell.

TEXTILES AND CLOTHING

16 Textiles and Clothing Selection (2–2) Textiles, their selection and care, as a basis for appropriate personal apparel. *Prerequisite:* RA 15. Three hours. Misses Caldwell and Colton.

58 Clothing Construction I (0–6) The development of techniques of clothing construction with the ease of fabric manipulation and previous construction experience as the basis for the selection of the class problems. *Prerequisite:* 16. Three hours. Misses Colton and Newton.

109 Consumer Problems (2–2) The factors of production and distribution as related to the buying of merchandise for the family, home, and institution. *Prerequisite:* 16, or permission of the department. Three hours. Miss Newton.

110 Clothing Construction II (0–6) The further development of construction techniques with emphasis on tailoring problems. *Prerequisite:* 58 or permission of the instructor. Three hours. Miss Newton.

162 Textiles (1–4) Testing techniques and a study of the new developments in textiles. *Prerequisite:* 109 and Chemistry 35. Three hours. Miss Newton.

258 Costume Design and Construction (1–4) The development of the original costume plan by draping and flat pattern design. *Prerequisite:* 110. Three hours. Miss Caldwell.

HOME MANAGEMENT

62 House Planning Functional housing, including problems of financing, site location, utilization of space. Two hours. Miss Knowles.

63-64 Household Technology (1–2) The application of scientific principles to the selection, operation and care of household equipment. Two hours. Miss Knowles.

112 Home Management (2–2) A study of how families use their material and human resources to secure their goals. *Prerequisite:* Economics 12. Three hours. Miss Knowles.

160 Home Management Residence Practical application of home management and group living in the Home Management Residence. A charge of $11.00 per week is made to cover cost of board and partial operating expenses. Students not living on campus are also charged $40.00 for room rent. *Prerequisite:* 112. Three hours.

263 Home Management Problems Application of economic and sociological principles to some problems of the home and family. *Prerequisite:* 63–64; 112; Psychology 1. Three hours. Miss Knowles.

INSTITUTIONAL MANAGEMENT

118 Food Production (1–6) Practical application of principles, methods, and techniques used in large quantity food preparation. *Prerequisite:* F &N 56. Three hours. Misses Godfrey and H. Brown.

165 School Lunch Management (1–6) The organization, operation, and control of different types of school lunches. Opportunities for some practical training in menu planning, and in the buying, preparation, and serving of food in quantities. *Prerequisite:* F&N 56. Three hours. Misses Godfrey and H. Brown.

167 Institution Marketing Present day food markets, and problems in institutional buying, with some training in buying techniques and procedures. *Prerequisite:* 118. Two hours. Miss Godfrey.

168 Institutional Equipment Institution kitchen, serving room, dining room layouts, including materials, fabrication, construction, installation, operation and care. *Prerequisite:* 118. Two hours. Miss Godfrey.

169 Food Cost Control (1–4) A study of adequate systems of food control for various types of food service. *Prerequisite:* 118. Three hours. Miss Godfrey.

266 Institution Administration The organization and personnel management of various types of food service units. *Prerequisite:* 118; Elementary Biochemistry 171. Three hours. Miss Godfrey.

HOME ECONOMICS EDUCATION

121 Demonstration Techniques (0–4) Practice in the presentation of information and the teaching of skills by visual methods. *Prerequisite:* junior standing. Two hours. Miss Knowles.

171 Methods of Teaching Methods of teaching homemaking in junior and senior high schools, and general administration of homemaking departments in secondary schools. *Prerequisite:* Psychology 1. Three hours. Miss M. Brown.

172 Student Teaching Supervised observation and teaching in approved secondary schools of the State. *Prerequisite:* 171. Seven hours. Miss M. Brown.

174 Special Problems in Home Economics Education Individual investigation on selected study to meet special needs of students. *Prerequisite:* 171. Two or three hours. Miss M. Brown and staff.

276 Teaching Adults (1–2) Problems of organization and of teaching classes in home economics to meet the needs of adults; supervised experience in techniques of teaching adults. *Prerequisite:* 171 and either Secondary Education 45, Secondary Education 46, or Agricultural Education 100. Two hours. Miss M. Brown.

FAMILY LIVING

130 Child Development Growth and development of the child within the family group. Opportunity for direct observation of children of preschool age. *Prerequisite:* Psychology 1; junior standing. Three hours. Mrs. Brownfield.

180 Family Relationships An examination of the changing structure and functions of the American family; the effects of interpersonal family

relationships on the behavior and personality of the developing individual; the periods of courtship, engagement and marriage are studied. *Prerequisite:* Psychology 1; junior standing. Three hours. Mrs. Brownfield.

SEMINARS AND RESEARCH

195,196 Senior Problems The student works under a staff member in one of the fields of Home Economics and submits the findings in written form prescribed by the department. *Prerequisite:* senior standing. One to three hours.

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

HORTICULTURE (College of Agriculture and Home Economics)

Professor Blasberg (Chairman); Associate Professor Hopp; Mr. Calahan

51,52 General Horticulture (3–0) (2–2) A survey of the field of horticulture. First semester: the requirements of horticultural crops for productive growth. Mr. Blasberg. Second semester: fundamentals supporting some of the horticultural practices. *Prerequisite:* Botany 1 or permission of the department, 51 for 52. Three hours. Messrs. Blasberg and Hopp.

54 Small Fruit Culture (2–2) Some fundamental principles underlying plant growth and fruit production and the relation of these principles to practice. *Prerequisite:* Botany 1. Three hours. Mr. Blasberg.

56 Plant Propagation (1–2) The history, theory, and practice of multiplying plants by various methods. *Prerequisite:* Botany 1. Two hours. Mr. Hopp.

151 Advanced Tree Fruits (2–2) A study of cultural practices and the principles involved in modern fruit production. *Prerequisite:* 52. Three hours. Mr. Calahan. (Offered in alternate years, 1956–57.)

152 Plant Breeding (2–2) Application of the principles of genetics to practical plant breeding. *Prerequisite:* Botany 105 or Zool. 115. Three hours. Mr. Hopp. (Offered in alternate years, 1956–57.)

153 Advanced Vegetable Culture (2–2) A study of the culture of the more important vegetable crops and a review of some of the recent experimental work. *Prerequisite:* 52. Three hours. Mr. Hopp. (Offered in alternate years, 1957–58.)

197,198 Senior Research The student works on a research problem under the direction of a qualified staff member and submits the findings in a written form prescribed by the department. *Prerequisite:* senior standing. Three hours. The staff.

201 Plant Nutrition (2–4) The effect of soil management, fertilizers, environmental factors and mineral deficiencies on the functioning and performance of plants. *Prerequisite:* Botany 103, Chem. 131–132 or 35, or permission of the department. Four hours. Mr. Blasberg. (Offered in alternate years, 1957–58.)

281,282 Horticulture Seminar Discussion of horticultural topics. Students are required to prepare and present papers on selected subjects. Open to graduate students and seniors by permission. One hour. The staff.

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

MATHEMATICS (College of Technology)

Professors Hershner (Chairman) and Fraleigh; Associate Professor Dwork; Assistant Professors Nicholson, Riggs, Simond, and Smith; Mr. Lighthall and Miss Morrissey

1 Elementary College Algebra For students who do not intend to concentrate in science or mathematics. Recommended minimum preparation: one year each of secondary school algebra and geometry. Three hours.

2 Plane Trigonometry For students who do not intend to concentrate in science or mathematics. *Prerequisite:* 1 or 9. Three hours.

4 Mathematics of Finance The mathematical theory of finance applied to interest and investments, annuities, and life insurance. *Prerequisite:* 1 or 9. Three hours.

7,8 Fundamentals of Mathematics To provide an understanding of basic logical and mathematical ideas (both ancient and modern) and some of their applications to other fields of knowledge. Emphasis is on fundamental concepts and logical methods of reasoning rather than on the development of techniques. Many of the usual topics of algebra, trigonometry, and analytic geometry are considered in their relation to certain basic concepts pervading all mathematics. For students in the arts, social sciences, and others. Recommended minimum preparation: one year each of secondary school algebra and geometry. *Prerequisite:* 7 for 8. Three hours.

***9 College Algebra** For students who intend to concentrate in science or mathematics, but who are not sufficiently well prepared to take Mathematics 11. Recommended minimum preparation: two years of secondary school algebra and one year of secondary school geometry. Four hours.

***11-12 Freshman Mathematics** For students who intend to concentrate in science or mathematics. This course includes plane trigonometry, plane analytic geometry, differential calculus with applications, and integration of algebraic functions. *Prerequisite:* 9, or a grade of 80 or better in Mathematics 1, or the equivalent. Five hours.

*The enrollment of students who desire to take Mathematics 11-12 will depend on their previous record and their work on a mathematics placement test given at the University during freshman orientation week. Normally only those who have an A or B secondary school record in mathematics including two years of algebra, one year of geometry and a half year of trigonometry, and who do well on the mathematics placement test, will be enrolled in Mathematics 11. Those who do not qualify for Mathematics 11 will be enrolled in Mathematics 9. A student who takes Mathematics 9 in the fall of his freshman year and who, because of his chosen curriculum, needs to have completed Mathematics 12 prior to the beginning of his sophomore year, will need to take Mathematics 12 during the summer between his freshman and sophomore years.

21,22 Sophomore Mathematics For students who intend to concentrate in science or mathematics. First semester: solid analytic geometry and formal integration with applications. Second semester: infinite series, partial differentiation, multiple integration, and elementary differential equations. *Prerequisite:* 12; 21 for 22. Three hours.

32 Theory of Equations Properties of polynomials in a field, the theory of partial fractions, equations in the rational, real and complex number fields, symmetric functions, discriminants, resultants, and the solution of systems of equations of higher degree. *Prerequisite:* 12. Three hours.

203 Theory of Determinants and Matrices A study of the basic concepts, theorems, and applications of determinants and matrices, including the theory of vector spaces and quadratic forms. *Prerequisite:* 22. Three hours. (Offered in alternate years, 1956–57.)

207-208 Advanced Calculus A critical study of the calculus beginning with limits, continuity, differentiation, and Riemann integrals, together with a treatment of those topics not included in the earlier course as a foundation for more advanced courses in analysis and applied mathematics. *Prerequisite:* 22. Three hours.

209,210 Modern Geometry Projective geometry, differential geometry, foundations of geometry, algebraic geometry, and topology. *Prerequisite:* 22; 209 for 210. Three hours. (Offered in alternate years, 1956–57.)

211 Differential Equations Solutions of linear ordinary differential equations, the Laplace transformation, and series solutions of differential equations. *Prerequisite:* 22. Three hours.

212 Applied Mathematics Boundary-value problems, orthogonal functions, and vector analysis. *Prerequisite:* 211. Three hours.

213,214 Applied Mathematics First semester: partial differential equations, solutions of partial differential equations of mathematical physics, and functions of a complex variable. Second semester: calculus of variations, difference equations, and integral equations. *Prerequisite:* 212; 213 for 214. Three hours.

215-216 Modern Higher Algebra An introduction to the fundamental concepts of modern higher algebra—in particular: groups, rings, fields, integral domains, lattices, polynomials, matrices, and vector spaces. Special emphasis is given to Boolean algebra and its applications. *Prerequisite:* 32 or one course numbered above 200. Three hours. (Offered in alternate years, 1957–58.)

218 Mathematical Statistics A study of frequency distributions including the calculation of moments, standard deviations and related quantities, the theory of least squares and its application to scientific problems, the Chi-square test and Student's t-test with a discussion of the validity of statistical results. *Prerequisite:* 22. Three hours. (Offered in alternate years, 1957–58.)

220 Vector Analysis An introduction to vector methods including the elements of vector algebra and vector calculus with applications to physics

and mechanics. *Prerequisite:* 22. Three hours. (Offered in alternate years, 1956–57.)

231-232 Functions of a Complex Variable Differentiation and integration of a function of a complex variable, mapping of elementary functions, infinite series, properties of analytic functions, analytical continuation, calculus of residues, contour integration, integral functions, meromorphic functions, Riemann surfaces, and conformal representation. *Prerequisite:* 208. Three hours. (Offered in alternate years, 1956–57.)

233-234 Theory of Functions of Real Variables The functions of real variables, including such topics as point sets and measure, transfinite numbers, Riemann and Lebesgue integrals, and sequences of functions. Considerable outside reading is assigned. *Prerequisite:* 208. Three hours. (Offered in alternate years, 1957–58.)

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

MEDICAL TECHNOLOGY (College of Medicine)

Introduction to Medical Technology During the first semester of the freshman year, the students are expected to attend a series of weekly, one-hour sessions which serve as an introduction to medical technology. These sessions are held in the medical technology laboratory at the College of Medicine.

101-102 Basic Technics Principles, procedures, and sources of error in medical laboratory tests. Includes hematology, bacteriology, serology, parasitology, blood bank, urinalysis and basal metabolism. Lectures and laboratory sessions during last six weeks of summer preceding fall semester. Six hours. Seminars and special problems, fall semester. Two hours. Miss Maxson.

111-112 Biochemistry for Medical Technologists First semester: This course includes the course in medical biochemistry as given to medical students (for description see catalogue of the College of Medicine) and in-includes additional work in preparation of reagents and analytical procedures. Second semester: The course includes the lectures in medical biochemistry as given to the medical students but does not include the laboratory work. Dr. Pierce and staff.

Hospital Assignments Rotating assignments in various departments of hospital, medical college, and public health diagnostic laboratories designed to give the student actual experience in medical laboratory procedures. Spring semester and summer following graduation. Six hours.

MILITARY SCIENCE AND TACTICS (Army ROTC)

Lt. Col. Cox (Chairman); Major Powers; Captains Nelson and Reybold; 1st Lt. Logan

1-2 Our Army and History Organization of the Army and ROTC; individual weapons and marksmanship; American military history; school of the soldier and exercise of command. Two hours.

11-12 Firepower Military map and aerial photograph reading; crew-served weapons and the firepower potential; gunnery and firepower control; school of the soldier and exercise of command. Two hours.

101-102 The Army Leader Leadership; military teaching methods; organization, functions, and missions of the arms and services; small unit tactics and communications; school of the soldier and exercise of command. Three hours.

111-112 Command Operations; logistics; military administration and personnel management; service orientation; school of the soldier and exercise of command. Three hours.

MUSIC (College of Arts and Sciences)

Professor Bennett (Chairman); Associate Professor Pappoutsakis; Assistant Professors Kinsey, Marston, Start, and Weinrich

HISTORY AND THEORY OF MUSIC

1,2 Survey of Musical Literature Orchestral, chamber, choral, and operatic music for concert and radio listeners. No previous technical knowledge is required. First semester: from Palestrina to Beethoven; second semester: from Schubert to Stravinsky. Three hours. Mr. Bennett.

4 Survey of Opera A course for opera listeners. The Metropolitan Opera repertory, also early and recent operas will be studied—works by Monteverdi, Purcell, Gluck, Mozart, Beethoven, Weber, Rossini, Bellini, Donizetti, Meyerbeer, Wagner, Verdi, Gounod, Bizet, Puccini, Moussorgsky, Debussy, Strauss, Berg, Britten, Menotti and others. Attention will be given to the sources of the texts, to national and individual styles, and to various theories concerning the union of drama with music. No previous technical knowledge is required. Three hours. Mr. Bennett.

5-6 Elementary Sight-singing, Ear-training, and Theory Three hours. Mrs. Start.

7-8 Elementary Harmony Structure and use of chords; harmonization of melodies in various styles; simple original composition. *Prerequisite:* familiarity with scales and keys, and ability to read simple music at the piano. Three hours. Mr. Kinsey.

11-12 Advanced Sight-singing, Ear-training, and Theory *Prerequisite:* 5–6. Three hours. Mr. Pappoutsakis.

201-202 Advanced Harmony and Harmonic Analysis *Prerequisite:* 7–8. Three hours. Mr. Kinsey.

205-206 Counterpoint *Prerequisite:* 7–8. Three hours. Mr. Bennett.

207-208 Orchestration and Conducting The characteristics of instruments; arranging for orchestra; technique of the baton; principles of instrumental technique. *Prerequisite:* 7-8; 201–202 is also desirable. Three hours. Mr. Pappoutsakis. (Offered in alternate years, 1956–57.)

209-210 Advanced Orchestration Arranging for full orchestra, including a study of the less frequently used instruments. This course presupposes a knowledge of the range, transposition, and characteristics of the

usual orchestral instruments, and the ability to arrange music of moderate difficulty for strings, woodwind and brass. *Prerequisite:* 207–208. Three hours. Mr. Pappoutsakis. (Offered in alternate years, 1957–58.)

221,222 History of Music Changes in musical structure and style, and their relation to contemporaneous artistic, literary, religious, and social movements. First semester: the Renaissance, Bach, Mozart; second semester: Beethoven, Romanticism, Brahms, the Twentieth Century. *Prerequisite:* 1, 2 and 7-8. Three hours. Mr. Bennett.

MUSIC EDUCATION

131,132 Elementary School Methods and Practice Teaching The teaching of music in the primary and grammar grades. Observation and practice teaching in the schools of Burlington or vicinity. *Prerequisite:* 1, 2; credit or enrollment in 5–6. Three hours. Mr. Pappoutsakis. (Offered in alternate years, 1957–58.)

151,152 Secondary School Methods and Practice Teaching The administration and content of required and elective high school music courses. Observation and practice teaching in the schools of Burlington or vicinity. First semester: junior high school music; second semester: senior high school music. *Prerequisite:* credit or enrollment in 1, 2, and 5–6. Three hours. Mr. Pappoutsakis. (Offered in alternate years, 1956–57.)

155,156 Applied Music Methods Methods of teaching piano, organ, voice or violin. *Prerequisite:* three years' instruction in chosen instrument at the University, or equivalent. One hour. Mr. Kinsey, Mr. Weinrich and Mrs. Start.

For SCHOOL MUSIC, see Elementary Education 111–112 and 113–114.

APPLIED MUSIC

41,42 Choir Study of works by Bach, Handel, Palestrina, modern Russian composers and others. Weekly services; Christmas, Lenten-Easter, and other concerts; annual opera; Baccalaureate service. Three hours of rehearsal weekly, if taken for credit. *One hour. Mr. Bennett, director; Miss Marston, organist.

43,44 Orchestra Study of symphonic and other instrumental literature. The orchestra plays at concerts and the opera, alone and with the choir. Three hours of rehearsal weekly. *One hour. Mr. Pappoutsakis, conductor.

47,48 Piano Adapted to the student's purposes and needs; may include repertoire, technic, improvising accompaniments to melodies, and sight-reading. *One or two hours. Mr. Kinsey.

49,50 Organ Preparation for recital and church service playing, including hymns and accompaniments. *One or two hours. Miss Marston.

*All courses in applied music may be taken for several years, but no student may receive credit toward graduation totalling more than six semester hours in choir or orchestra or both together. One hour of credit per semester will be given for one private lesson in piano, organ, voice, or violin under a member of the department, and five hours practice per week, on condition that the instruction be accompanied or preceded by either Music 1, 2 or 7-8; two hours credit will be given for two private lessons and ten hours practice per week, on the same condition.

53,54 Voice Instruction in accepted natural vocal production; repertoire (in the course of four years) of old Italian songs, German lieder, modern French songs, oratorio and operatic arias. *One or two hours. Mr. Weinrich.

55,56 Violin Study of fundamental technic and tone production, preparing for orchestral, chamber music and solo performance. For those qualified, advanced study of artist repertoire. *One or two hours. Mrs. Start.

For the fees for instruction and use of organ, see the Index under "Fees."

NURSING (College of Education and Nursing)

Professor Crabbe (Chairman); Associate Professors Bailey, Gjessing, Harshberger, Lamden, Oakley, Schein; Assistant Professors Ichter, Milligan, and Woodruff; Instructors Caffina, Darrel, Dustan, Palmer, and Phelps

1-2 Introduction to Nursing In the first semester, the community health picture is generally surveyed, including health accomplishments, problems and resources. With this background, a beginning appreciation of the role of the nurse in nurse-patient relationships is developed. The second semester course is an introduction to the practice of nursing, primarily in meeting the patient's personal needs. Emphasis is placed on application of principles and development of social, communicative, and manual skills. Two hours; four hours. Miss Milligan.

3 Fundamentals of Nursing (Summer Session) The continued study of the practice of nursing, developing the ability to give patient-centered care based on the application of principles and the acquisition of skills. Learning experiences are provided in the laboratory and in the hospital with patient contact. *Prerequisite:* 1–2. Three hours. Miss Milligan.

5 History of Nursing Designed to orient the student to the philosophy of professional nursing. Through a study of the heritage of modern nursing the student gains insight into attitudes and ideals upon which to examine and enrich her own philosophy. Movements in the social structure which affect nursing are studied in relation to their historical development. Two hours. Miss Crabbe.

7 Home Nursing (0–2) Care of the family during illness. *Prerequisite:* junior standing in home economics curriculum. One hour. Miss Milligan.

9-10 Chemistry for Nurses (3–2) The course has a two-fold objective —to present chemistry in the culture of today; to provide a basic understanding of normal and abnormal human physiology. During the first semester there is a review of inorganic chemistry in which medical applications are stressed; this is followed by a month's consideration of organic chemistry as a basis for physiologic chemistry. The second semester is devoted to biochemistry with a consideration of the structure of important compounds, digestion, absorption, metabolism and excretion. The laboratory is designed to familiarize students with common chemicals and their reactions. Four hours. Messrs. Schein, Lamden, and Gjessing.

12 Microbiology (Summer Session) An orientation to the general principles of microbiology as a basis for understanding the role of microorganisms in health and disease. Emphasis is placed on microbial control, infection, and immunity. Applications to environmental sanitation are considered. Three hours. Misses Woodruff and Ichter.

15-16 Human Anatomy and Physiology The fundamentals of structure and the principles of function of the normal human body are presented as a scientific foundation for study in the professional field for students of nursing and dental hygiene. Laboratory study emphasizes anatomical and physiological principles through dissection, physiological experiments and examination of histological preparations. Three hours. Misses Ichter and Woodruff.

19-20 Medical and Surgical Nursing A presentation of learning opportunities of the various aspects of medical and surgical nursing with the integration of pharmacology, pathology, geriatrics, communicable diseases, emergency nursing, social and health aspects, rehabilitation and principles of health teaching. Diet therapy and operative asepsis technique are correlated with the course. Patient-centered ward classes reinforce classroom content. Clinical practice provides the opportunity for the student to apply theoretical learning. Nine hours. Mrs. Darrel, Mrs. Palmer, Mrs. Phelps, and Miss Milligan.

118 Survey of Contemporary Nursing A study of nursing education and nursing service as conducted today. An overview of the problems confronting the professional nurse and the steps being taken toward the solution of these problems. Two hours. Miss Oakley.

123 Obstetric and Gynecologic Nursing Correlated theory and practice in the principles, dynamics, and management of health conditions incident to childbearing. Development of nursing skills, both communicative and technical, through guided experience in the obstetric, gynecologic, and related out-patient services. Emphasis is placed on the expanding opportunities in maternity nursing from a primarily therapeutic role to one of family-centered care. Six hours. Miss Caffina.

125 Pediatric Nursing Instruction and field experience with both well and sick children. Students are led to an understanding, not only of disease and nursing care appropriate to pediatric conditions, but of the effect of illness on the development of the individual child. Emphasis is placed on the nurse as a functioning member of the pediatric health team. The importance of teaching the child and his parents, both by motivation and example, is stressed in all aspects of the course. Experience in the care of sick children is provided. Four hours.

127 Psychiatric Nursing A sequence of learning experiences designed to assist the student in the development of an appropriate understanding of the mentally ill patient. The clinical experience is planned around the role of the nurse in caring for such patients and is an integral part of the total preparation of the basic professional nurse. Inter-personal relationships are explored as they influence patient care. Students participate in varied treatment programs. Six hours.

129 Tuberculosis Nursing An epidemiological approach to the control of communicable disease. The broad implications for prevention and rehabilitation, focusing on the care of the patient with tuberculosis. International, national and local programs for prevention and control of communicable diseases are emphasized. Guided experience in patient care is combined with clinics, conferences and individual instruction, serving to increase understanding of the patient with long-term illness as well as to gain skill in nursing care and treatment of patients with tuberculosis. Three hours.

131 Principles of Public Health Nursing A study of public health nursing functions, trends, and activities, with special emphasis on the role of nurses in family health services. Two hours. Misses Harshberger and Dustan.

132 Principles of Public Health A consideration of the organizational framework and basic services of health agencies as well as the evolution and trends in public health programs. Two hours. Dr. Aiken.

133 Public Health Nursing in the Community Supervised field instruction in public health nursing agencies: Division of Public Health Nursing, Vermont Department of Health, or the Burlington Visiting Nurse Association. Two hours.

181 Senior Seminar A problem-solving course including care of selected patients, participation in managerial functions of a hospital nursing unit, and the nurse's role in national disaster. Six hours. The staff.

PHILOSOPHY AND RELIGION (College of Arts and Sciences)

Professor Dykhuizen (Chairman); Associate Professors Davis, Feuer, and Hall; Assistant Professor Wessen

PHILOSOPHY

1 Introduction to Philosophy A presentation of the chief problems of philosophy. *Prerequisite:* sophomore standing. Three hours. Messrs. Dykhuizen and Feuer.

2 Logic The principles and conditions of correct thinking with emphasis on the detection of fallacies of thought. *Prerequisite:* sophomore standing. Three hours. Mr. Feuer.

4 Ethics An examination of the ideas underlying man's moral behavior. The aim is to develop an acceptable and coherent theory of conduct. *Prerequisite:* sophomore standing. Three hours. Mr. Dykhuizen.

20 Social Philosophy of American Agriculture European backgrounds; the history of American thought regarding agriculture in this country; the more important agricultural problems of today in the light of American democratic thought. Normally open for credit only to students in agriculture. *Prerequisite:* senior standing. Three hours. I. Mr. Dykhuizen.

107,108 History of Philosophy First semester: ancient and medieval philosophy; second semester: modern philosophy. *Prerequisite:* 1, junior standing. Three hours. Mr. Dykhuizen.

109 History of American Philosophy The thought of leading American philosophers from colonial times to the present. *Prerequisite:* 1, junior standing. Three hours. The staff.

202 Contemporary Philosophic Thought A study of the philosophic ideas of such men as Russell, Dewey, and Whitehead, and of such movements as pragmatism, logical empiricism and existentialism. *Prerequisite:* 1; junior standing. Three hours. Mr. Feuer. (Offered in alternate years, 1957–58.)

206 Social Philosophy The meanings and values inherent in social life. *Prerequisite:* 1 or 4; junior standing. Three hours. Mr. Feuer. (Offered in alternate years, 1956–57.)

214 Intellectual Background of Modern Life Intellectual movements which have influenced the thought and life of today. *Prerequisite:* senior standing or permission of the instructor. Three hours. Mr. Dykhuizen.

For ECONOMIC PHILOSOPHY, see Economics 295 and 296; and for POLITICAL PHILOSOPHY, see Political Science 211, 212.

RELIGION

1-2 History of Religion Religion from early primitive forms to the great world religions of the present. Study of the living religions of today with most emphasis given to Hinduism, Buddhism, Confucianism, Shinto, Judaism, Islam, and Christianity. *Prerequisite:* sophomore standing. Three hours. Mr. Hall.

11-12 Old and New Testament A critical study of the Jewish-Christian tradition. It includes much reading in the Scriptures as well as in background material. *Prerequisite:* sophomore standing. Three hours. Mr. Hall.

PHYSICAL EDUCATION (Men)

Associate Professors Post (Chairman) and Evans; Assistant Professors Donnelly and Strassburg; Mr. LaPointe

Required Courses: A two-year program of general physical education, to be completed during the freshman and sophomore years, is required of all college men. Those with serious physical defects may be given restricted work or may be excused by the Director of Student Health. *The semester hours listed for physical education are in addition to the total number of hours required for a degree in a specific curriculum.*

Freshman and Sophomore Physical Education A seasonal sports program with attention given to posture, body-building exercises, and the fundamentals and skills of various sports and physical activities. Aims to develop and improve skills, coordination and endurance; to establish regular habits of exercise; and to instill an intelligent attitude toward and interest in sports activities. Fall-winter: football, touch football, cross country, tennis, calisthenics, basketball, volleyball, wrestling, apparatus and tumbling, handball, swimming, skiing, badminton. Winter-spring; badminton, basketball, calisthenics, volleyball, wrestling, handball, apparatus and tumbling,

swimming, skiing, indoor and outdoor track, softball, tennis, baseball. Two hours weekly. One hour. The staff.

Men students interested in physical education electives should see the women's physical education section for the following course descriptions: First Aid, Water Safety, Dance Technique and Analysis.

PHYSICAL EDUCATION (Women)

Assistant Professor Phillips (Chairman); Misses Hood, Howe, and Peterson

Required Courses: A two-year program of physical education, normally completed during the freshman and sophomore years, is required of all college women. Medical and physical examinations are required of all new students, and recommendations are made as to the quantity and type of activity advisable. *The semester hours listed for physical education and hygiene are in addition to the total number of hours required for a degree in a specific curriculum.*

The required uniform consists of a regulation short and shirt, white rubber soled tennis shoes, white ankle socks, a regulation black leotard and colored skirt. All uniforms must be of a regulation style and color.

1-2 Freshman Physical Education Provides experiences in team, individual and dual sports, dance, and body mechanics to stimulate the desire for optimum fitness essential for a well-integrated personality, to develop desirable attitudes and skills in responsible cooperative behavior and democratic understandings for the socially mature person, and to develop competencies for re-evaluating experiences in terms of individual needs and capacity for growth in intelligent self-direction. Two hours weekly. One hour.

11-12 Sophomore Physical Education Provides opportunities for electing a variety of activities to develop competencies in special interest areas: archery, badminton, basketball, bowling, field hockey, folk dancing, square dancing, modern dancing, fencing, golf, recreational games, Red Cross Life Saving, Red Cross Water Safety Instructors' Course, riflery, sailing, softball, skiing, skating, swimming, table tennis, tennis, and volleyball. Two hours weekly. One hour.

22 First Aid (1–1) Includes the Standard and Advanced First Aid Courses of the American Red Cross. The Red Cross certificate is given upon successful completion. Open to men and women. One hour credit in all colleges except Arts and Sciences.

26 Water Safety (2–2) Includes material in the American National Red Cross Water Safety Instructors' Training Course. Upon successful completion of course the Red Cross certificate is given. *Prerequisite:* at least 18 years of age; hold an active Red Cross Senior Life Saving Certificate. Open to men and women. Two hours credit in all colleges except Arts and Sciences.

41-42 Hygiene Principles and problems in personal and community health. Required of all women students except those in the nursing curriculum. One hour weekly. One hour.

50 Dance Technique and Analysis (1–4) The history, technique, theory and composition elements of movement as it is found in dance and the related arts. Training through technique, improvisation, compositional problems and performance. *Prerequisite:* sophomore standing or consent of instructor. Open to men and women. Three hours credit in all colleges.

PHYSICS (College of Arts and Sciences)

Professors Walbridge (Chairman), Holmes and Skapski; Associate Professors Rooney and Woodward; Assistant Professor Crowell

Note: Full credit can be granted for not more than one of the following year courses: 1-2; 5-6; 21-22.

1-2 Introductory Physics (2–2) For students not concentrating in a science. Subjects included are mechanics, heat, sound, light, electricity, and magnetism. Demonstration lectures, presenting experimental facts and theoretical conclusions, are closely coordinated with laboratory work. *Prerequisite:* one year each of secondary school algebra and geometry. Three hours. The staff.

5-6 General Physics (3–2) For students concentrating in a biological science. The first semester deals with mechanics and heat; the second with sound, light, electricity, magnetism and atomic physics. *Prerequisite:* Math. 1, 2 or 7, 8 or 11. Four hours. The staff.

21-22 General Physics (4–2) For engineers and students concentrating in a physical science. The first semester deals with mechanics and heat; the second with sound, light, electricity, magnetism, and atomic physics. *Prerequisite:* Math. 21–22 taken concurrently. Five hours. The staff.

131,132 Development of Science (3–0) The history of formation of the scientific method from the earliest beginning until the present time; the rise and fall of different scientific concepts and theories; the accumulation of information from observation and experiment and the evolution of the experimental method; the relation between science, technology and their contemporary cultural and social environment. *Prerequisite:* a one year college course in mathematics, and either physics or chemistry. Three hours. Mr. Skapski.

171,172 Modern Physics (2–2) First semester: behavior of electrons in electric and magnetic fields, photoelectricity, thermonic emission, simple vacuum tube circuits, particles and waves. Second semester: atomic structure, X rays and crystals, nuclear transformations, nuclear power and semiconductors. *Prerequisite:* 22* and Math. 21–22 for 171; 171 or E.E. 110 for 172. Three hours. Mr. Rooney.

211,212 Mechanics and Wave Motion (3–0) Continuation and developments of the principles and methods of mechanics with emphasis on the integration of fundamental physical principles with mathematics and with the extension of these principles to wave motion. First semester: forces and other vector quantities, work and energy; second semester: the dynamics of rigid bodies and wave motion. *Prerequisite:* 21*; Math. 211 taken concurrently; 211 for 212. Three hours. Mr. Woodward. (Offered in alternate years, 1956–57.)

*May be replaced by Physics 5-6 with the consent of the department.

221,222 Heat and Thermodynamics Experimental facts and theoretical principles of heat. First semester: thermometry, expansion, specific heat and gas laws (2–2); second semester: thermal conduction and thermodynamics (3–0). The basic theory of the conduction of heat and the relation between work and heat; various thermodynamical cycles and the thermodynamics of radiation. *Prerequisite:* 21* and Math. 21–22 for 221; 221 and Mathematics 211 for 222. Three hours. Mr. Woodward. (Offered in alternate years, 1956–57.)

241,242 Electricity and Magnetism (2–2) The fundamental principles; magnetic and electric field strengths and potentials. Resistance and energy relations in direct current circuits; capacitance and inductance; applications to transient phenomena; alternating currents. First semester: basic principles of magnetism and electrostatics, resistance and energy relations; second semester: capacitance, inductance and alternating currents. *Prerequisite:* 22* and Math. 211 taken concurrently for 241; 241 for 242. Three hours. Mr. Holmes.

261,262 Optics (2–2) A geometrical theory of reflection and refraction, mirrors and lenses; the wave properties of light, interference and diffraction, polarized light. First semester: the centered optical system; second semester: physical optics and spectroscopy. *Prerequisite:* 22* for 261; Math. 21–22 for 262. Three hours. Mr. Woodward. (Offered in alternate years, 1955–56.)

271,272 Advanced Electron and Atomic Physics (3–0) Further consideration of some of the subject matter of 171, 172 with special attention to more advanced mathematical theory. First semester: free electrons and electromagnetic radiations, spectroscopy; second semester: special relativity, X rays, nuclear physics. *Prerequisite:* 172 and Math. 211; 271 for 272. Three hours. Mr. Walbridge. (Offered in alternate years, 1956–57.)

275, 276 Selected Chapters in Theoretical Physics (3–0) Selected chapters from theoretical physics, especially a brief outline of the theories of elementary particles and atoms. *Prerequisite:* 171, 172 and Math. 211, 212; 275 for 276. Three hours. Mr. Skapski. (Offered in alternate years, 1955–56.)

301, 302 Seminar Members of the staff and graduate students meet once a week to study contemporary advances in physics and for reports on research being done in the department. One hour. The staff.

303-304 Quantum Mechanics (3–0) Theoretical background of quantum mechanics including the approaches of DeBroglie, Schroedinger and Heisenberg; Direc's symbolic theory; relativistic quantum mechanics and Dirac's relativistic electron; applications of the above theories to atoms, molecules and the solid state. *Prerequisite:* 272 or 276. Three hours. Mr. Skapski. (Offered on demand.)

305,306 Electromagnetic Theory (3–0) The field equations, stress and energy, waves and radiation. *Prerequisite:* 241, 242, Math. 211 and 220; 305 for 306. Three hours. Mr. Crowell. (Offered on demand.)

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

*May be replaced by Physics 5-6 with the consent of the department.

POLITICAL SCIENCE (College of Arts and Sciences)

Professor Nuquist (Chairman); Associate Professors Babcock, Haugen, and Little; Assistant Professor Hilberg; Messrs. Eastman, Ettinger, Gould, Heussler, Simon, and Steele

1,2 American Government First semester: state and local governments; second semester: national government. Three hours. The staff.

11,12 Introduction to Political Science First semester: elements of political science; second semester: comparative governmental institutions. Three hours. Mr. Nuquist.

51,52 International Relations First semester: development and principles of international politics; second semester: international organization. *Prerequisite:* sophomore standing and 51 for 52. Three hours. Messrs. Little, Hilberg, Gould, Heussler, and Simon.

54 Geographic Backgrounds of Politics *Prerequisite:* 51. Three hours. Mr. Babcock.

61,62 Local Government First semester: government of counties, towns, and other rural units; second semester; municipal government. *Prerequisite:* sophomore standing. Three hours. Mr. Nuquist.

71 Government of Great Britain *Prerequisite:* sophomore standing. Three hours. Mr. Haugen.

72 Governments of Continental Europe *Prerequisite:* sophomore standing. Three hours. Mr. Haugen. (Offered in alternate years, 1956–57.)

74 Governments of the British Empire and the Commonwealth *Prerequisite:* sophomore standing. Three hours. Mr. Haugen. (Offered in alternate years, 1957–58.)

75 Governments of the Far East *Prerequisite:* sophomore standing. Three hours. Mr. Little or Mr. Hilberg. (Offered in alternate years, 1956–57.)

76 Governments of Latin America *Prerequisite:* sophomore standing. Three hours. Mr. Gould. (Offered in alternate years, 1956–57.)

191,192 Honors or Special Readings For undergraduates only. Three to six hours. The staff.

211,212 Political Theory First semester: development of political theory; second semester: recent political theory. *Prerequisite:* two courses. Three hours. Messrs. Babcock and Steele.

216 American Political Thought The development of American political thought from the colonial period to recent times. *Prerequisite:* 1, 2 or 11, 12 and one other course or Economics 11–12, or History 23, 24. Mr. Steele. Three hours.

221,222 Constitutional Law First semester: an historical and analytical study of the problems of judicial review, the judicial power, the relation between state and nation, citizenship, the police power of the state in relation to private rights; second semester: an historical and analytical study of the problems of the legislative power, the executive power, due process of law,

interstate and foreign commerce, the Bill of Rights. *Prerequisite:* 1, 2 or 11, 12 and one other course, or Economics 11, 12; junior standing. Three hours. Mr. Gould.

226 Administrative Law *Prerequisite:* 241. Three hours. Mr. Nuquist. (Offered in alternate years, 1957–58.)

227 International Law Principles and applications of public international law. *Prerequisite:* 51, 52. Three hours. Mr. Little. (Offered in alternate years, 1956–57.)

231 The Legislative Process Study of congressional organization and procedure. *Prerequisite:* 11, 12 or 1, 2, and one other course. Three hours. Mr. Haugen. (Offered in alternate years, 1957–58.)

232 Lawmaking and Public Policy Influence of the executive and problems of congressional control. *Prerequisite:* 1, 2, or 11, 12, and one other course. Three hours. Mr. Haugen. (Offered in alternate years, 1957–58.)

241 Organization and Function of Public Administration *Prerequisite:* 1, 2 or 11, 12 and one other course. Three hours. Mr. Nuquist.

242 Administrative Procedures *Prerequisite:* 241. Three hours. Mr. Nuquist. (Offered in alternate years, 1956–57.)

151,252 American Foreign Policy First semester: the development of American foreign policy; second semester: the formation of American foreign policy. *Prerequisite:* any course except 1, 2; 251, History 31 or permission of the instructor for 252. Three hours. Mr. Little or Mr. Hilberg (*Note: 251 will not be offered in 1956–57*; *see History 31.*)

253-254 World Politics An analysis of the foreign policies of countries other than the United States, with emphasis on selected problems in Europe, Latin America, and the Pacific Area. *Prerequisite:* 51, 52. Three hours. Mr. Little or Mr. Hilberg. (Offered in alternate years, 1957–58.)

256 International Administration Theory and practice in international agencies. *Prerequisite:* 51, 52. Three hours. Mr. Little. (Offered in alternate years, 1956–57.)

263 State Government Organization and administration of state government. *Prerequisite:* 1, 2 or 11, 12 and one other course. Three hours. Mr. Babcock.

265,266 Intergovernmental Relations First semester: problems of the federal system; second semester: national-state-local cooperative administration of selected public functions. *Prerequisite:* 1, 2 or 11, 12 and one other course or Econ. 11–12. Three hours. Mr. Haugen. (Offered in alternate years, 1956–57.)

271,272 Political Parties and Pressure Groups First semester: political parties; second semester: citizen participation and interest groups. *Prerequisite:* 1, 2 or 11, 12 and one other course. Three hours. Mr. Steele.

281,282 Popular Government Seminar for students who intend to pursue graduate study in political science, international relations, or public administration, or to enter the public service. The staff.

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

POULTRY HUSBANDRY (College of Agriculture and Home Economics)

Associate Professor Henderson (Chairman)

1 General Poultry Husbandry (2–2) The principles of poultry husbandry and their application to general farm conditions. Three hours. Mr. Henderson.

56 Poultry Judging and Selection (1–4) A consideration of the physiological and morphological characters correlated with egg production. The judging of standard bred poultry, laboratory practice in judging both utility and exhibition poultry. *Prerequisite:* 1. Three hours. Mr. Henderson.

101 Poultry Feeding (3–2) Feeding poultry for egg production, growth and fattening. Practice in compounding rations. Experimental work and feeding problems. *Prerequisite:* junior standing and permission of department. Four hours. Mr. Henderson. (Offered in alternate years, 1957–58.)

102 Incubation and Brooding (2–4) General biology as applied to incubation and the fundamental principles underlying incubation practices. The theory and practice of brooding chicks and other poultry. *Prerequisite:* 1; junior standing and permission of department. Four hours. Mr. Henderson. (Offered in alternate years, 1956–57.)

103 Processing and Packaging Poultry Products (2–2) The principles of marketing as they apply to eggs and poultry meat. Candling, grading, and packing eggs for market. Preparation of poultry for market. A one-week inspection trip to the Boston market for which there is a charge of $25.00. *Prerequisite:* 1; junior standing. Three hours. Mr. Henderson. (Offered in alternate years, 1957–58.)

197,198 Senior Research Each student works on a research problem under the direction of a qualified staff member and submits the findings in written form as prescribed by the department. *Prerequisite:* senior standing. Three hours. The staff.

PSYCHOLOGY (College of Arts and Sciences)

Professors Chaplin (Chairman) and Ansbacher; Associate Professor Murdock; Assistant Professor Foster; Messrs. Cann and Vris

1 General Psychology An introduction to the entire field, emphasizing the normal adult human being. *Prerequisite:* sophomore standing. Three hours. The staff.

4 The Psychology of Human Adjustment A comparative study of

the major classical and contemporary schools of psychoanalytic thought showing how each treats the problems of development, adjustment, maladjustment, and psychotherapy. *Prerequisite:* 1. Three hours. The staff.

6 Applied Psychology The application of the methods and principles of psychology to problems in the fields of business, industry, penology, personal adjustment, and the armed services. *Prerequisite:* 1. Three hours. The staff.

104 Statistical Methods in Psychology Measures of central tendency and variability; the normal probability curve; reliability; testing of hypotheses; correlation techniques. *Prerequisite:* 1; Math. 1 or the equivalent. Three hours. Mr. Ansbacher.

105 Child Psychology The development of the human mind from birth to maturity. *Prerequisite:* 1. Three hours. Mr. Murdock.

106 Character and Personality A survey of approaches used and results obtained in the study of the nature of the mature individual. *Prerequisite:* 1. Three hours. Mr. Murdock.

108 Abnormal Psychology The more unusual mental processes, the methods of observing and interpreting them, and their bearing on our understanding of the normal mind. *Prerequisite:* 1. Three hours. Miss Foster.

201 Social Psychology Principles, problems and research techniques of social psychology; beliefs and attitudes; groups, morale, leadership. *Prerequisite:* 1. Three hours. Mr. Ansbacher.

202 Physiological Psychology (2–2) Relationships between psychological processes and the functions of the nervous system and endocrine glands. *Prerequisite:* 1. Three hours. Mr. Chaplin.

203 Systematic Psychology A comparative study of the leading contemporary schools of psychological thought. *Prerequisite:* 1. Three hours. Mr. Chaplin.

205-206 Psychological Tests (2–2) A survey with emphasis on the most important clinical tests of ability and personality; and training in the administration of individual intelligence tests. *Prerequisite:* 104. Three hours. Mr. Ansbacher.

207-208 Experimental Psychology (2–4) The student performs experiments designed to develop skill in psychological methods of procedure and thought. *Prerequisite:* 104. Four hours. Messrs. Chaplin and Murdock.

381-382 Advanced Readings Readings, with conferences, to provide those working for the M.A. degree with the background for, and specialized knowledge relating to, their research. Credit as arranged. The staff.

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

ROMANCE LANGUAGES (College of Arts and Sciences)

Professors Daggett (Chairman) and Johnston; Associate Professor Doane; Assistant Professors Loy, Towne, Whittemore, and Schwartz; Messrs. Parker and Romey

FRENCH

1-2 Elementary French Grammar, pronunciation, composition, translation, dictations, and use of the spoken language, for beginners and those who present less than two years of preparatory French. *Credit is given only if Intermediate French is also completed.* Four hours. Mr. Whittemore and others.

11-12 Intermediate French Grammar, composition, translation, and conversation. The class work is conducted, as much as possible, in French. *Prerequisite:* 1–2 or two years of preparatory French. Three hours. Mr. Parker and others.

101-102 Introduction to French Literature Recitations, lectures, outside reading, and reports. Selected texts of outstanding French authors from medieval times to the present are the basis of study. *Prerequisite:* 11–12. Three hours. Messrs. Doane and Johnston.

121-122 Composition and Conversation Composition, conversation, and phonetics. Required of those who wish to be recommended to teach French. *Prerequisite:* good standing in 11–12. Three hours. Mr. Whittemore.

207,208 French Literature: 19th Century Recitations, lectures, outside reading, and reports. A careful study of the outstanding authors of the romantic, realistic, and naturalistic schools. *Prerequisite:* 101–102, 207 for 208. Three hours. Mr. Daggett.

211 French Literature: 18th Century Selected readings, lectures on the main currents of the literature of the century with emphasis on Montesquieu, Diderot, Voltaire, and Rousseau. Lesage, Marivaux, and Beaumarchais will be studied in the drama. *Prerequisite:* 101–102. Three hours. Mr. Johnston. (Offered in alternate years, 1957–58.)

212 French Literature: 20th Century Readings, reports, lectures on the principal literary movements in this period based on a careful study of selected work of outstanding authors. *Prerequisite:* 101–102. Three hours. Mr. Johnston. (Offered in alternate years, 1957–58.)

213,214 French Literature: 17th Century Lectures, recitations, outside reading, and reports. The influence of society, the Academy, and the Church on the literature of the period is emphasized. *Prerequisite:* 101–102; 213 for 214. Three hours. Mr. Daggett. (Offered in alternate years, 1956–57.)

223-224 Advanced Composition and Conversation Translation into French of difficult English prose, free composition and discussion of questions of style. Practice in advanced conversation. Required of those who wish to be recommended to teach French. *Prerequisite:* 121–122. Three hours. Mr. Daggett.

281-282 Senior Seminar Special readings and research. Required of all senior concentrators. One hour.

381,382 Graduate Seminar Offered for resident candidates for the Master of Arts degree; further opportunities for independent work are provided. Three hours.

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

ITALIAN

1-2 Elementary Italian Grammar, composition, translation, and practice in the spoken language for beginners. *Prerequisite:* permission of the department. Three hours. Mr. Johnston.

11-12 Intermediate Italian Grammar, composition, translation, and conversation. *Prerequisite:* 1–2 or its equivalent. Three hours. Mr. Johnston.

SPANISH

1-2 Elementary Spanish Grammar, composition, and translation for beginners, with frequent practice in pronunciation and use of the spoken language. For beginners and those who present less than two years of preparatory Spanish. *Credit is given only if Intermediate Spanish is also completed.* Four hours. Mr. Schwartz and others.

11-12 Intermediate Spanish Readings from selected authors. Composition, grammar, and practice in conversation. Spoken Spanish is used to a considerable extent in class. *Prerequisite:* 1–2 or two years of preparatory Spanish. Three hours. Mr. Towne and others.

101-102 Introduction to Spanish Literature Recitations, lectures, outside reading, and reports. Selections from the outstanding works of Spanish literature from the medieval period to the present are studied. *Prerequisite:* 11–12. Three hours. Mr. Schwartz

121-122 Conversation and Composition Composition, conversation, and phonetics. Required of those who wish to be recommended to teach Spanish. *Prerequisite:* good standing in 11–12. Three hours. Mr. Romey.

205-206 Spanish-American Literature The evolution of Latin-American thought as reflected in the literatures of the various Spanish-speaking countries from the 15th century to the present. *Prerequsite:* 101–102 and permission of the department. Three hours. (Not offered 1955–56.)

207 Spanish Literature: 19th Century The principal literary currents of the 19th century, from Romanticism to the "Generation of 1898." Representative readings from the poetry, drama, and novel of the period. *Prerequisite:* 101–102. Three hours. Mr. Schwartz. (Offered in alternate years, 1957–58.)

208 Spanish Literature: 20th Century The origins and main aspects of the intellectual conflicts in modern Spain, as reflected in the literary works from the "Generation of 1898" to the present. *Prerequisite:* 207. Three hours. Mr. Schwartz. (Offered in alternate years, 1957–58.)

213,214 Spanish Literature: Golden Age Selected readings from

the novel, poetry, drama of the 16th and 17th centuries with special attention to Cervantes and the dramatists. *Prerequisite:* 101–102, 213 for 214. Three hours. Mr. Schwartz. (Offered in alternate years, 1956–57.)

281-282 Senior Seminar Special readings and research. Required of all senior concentrators. One hour.

381,382 Graduate Seminar Offered for resident candidates for the Master of Arts degree; further opportunities for independent work are provided. Three hours.

391,392,393,394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

RUSSIAN (College of Arts and Sciences)

1-2 Elementary Russian Grammar, translation, extensive practice in the spoken and written language. For beginners. *Prerequisite:* sophomore standing. Three hours. (Not offered 1956–57.)

11-12 Intermediate Russian Systematic review of grammar; composition; extensive oral practice. Readings from Pushkin, Lermontov, Gogol, Tolstoy, and others. *Prerequisite:* 1–2, or its equivalent. Three hours. (Not offered 1956–57.)

SOCIOLOGY (College of Arts and Sciences)

1-2 Introductory Sociology The basic features of group behavior; sociological concepts, social organization, and social interaction. *Prerequisite:* sophomore standing. Three hours. Messrs. Davis and Feuer.

3 Marriage and the Family Sociological study of family institutions in America and in other societies; recent trends and problems; auxiliary use of psychological, anthropological, and historical materials. *Prerequisite:* junior standing. Three hours. Mr. Davis.

102 Social Problems A descriptive analysis of particular social problems. *Prerequisite:* 1–2 or Phil. 4 or Psych. 1; junior standing. Three hours. Mr. Davis.

104 Cultural Anthropology Social organization, culture, and personality in preliterate societies. *Prerequisite:* junior standing, and either 1–2, or Psychology 1 or comparable work in other social sciences. Three hours. Mr. Davis.

112 Community Organization Ecology and social organization of communities, urban and rural; historical development of communities; main institutions and other groupings; contemporary social welfare agencies and practices; field trips to local and State agencies and institutions. *Prerequisite:* 1–2, or Psychology 1, or consent of the instructor. Three hours. Mr. Wessen.

201 Comparative Social Institutions and Social Evolution Evolution of basic types of human societies; comparison of kinship, economic, political,

class, and expressive institutions, in terms of preliterate communities, feudal China and India, modern industrial societies (USA, USSR). *Prerequisite:* at least one full year course in sociology or anthropology, and 12 hours comparable work in history, economics, or political science. Three hours. Mr. Davis.

SPEECH (College of Arts and Sciences)

Professors Huber (Chairman) and Luse; Associate Professor Falls; Assistant Professor Lewis; Messrs. Oppfelt, Parker, and Vanderslice

1 Basic Speech The elements of speech and their practical application to the individual. Exercises for developing better communication through vocal and bodily control. Three hours. I, II. The staff.

3 Parliamentary Procedure Study and practice in the fundamentals of conducting a meeting. The class meets twice a week with one hour of outside preparation. *Prerequisite:* sophomore standing. One hour. Mr. Huber.

11 Public Speaking Preliminary analysis, gathering material, organization and delivery of speeches with special attention on the use of visual aids and the speech to inform. Two thirds of the time is devoted to student performance. Three hours. I, II. The staff.

12 Argumentation Inductive, deductive, causal, and reasoning from analogy as applied to the speaking situation; designed to develop through performance skill in logical expression of thought. *Prerequisite:* 11. Three hours. I, II. Mr. Huber.

14 Group Discussion The basic methods of procedure in committees, round table discussions, lecture forums, symposiums, panels, and other types of discussion; designed to develop through performance skill in the thought processes involved in discussion leadership. *Prerequisite:* 11. Three hours. Mr. Parker.

31 Oral Interpretation of Literature The basic principles and techniques of oral interpretation of literature. Emphasis is placed on the analysis and appreciation of poetry, prose and drama through the development of ability in communicating the logical, emotional and aesthetic values of literature to an audience. *Prerequisite:* 1 or permission of instructor. Three hours. I, II. Mr. Falls and Miss Luse.

41 Acting A beginning course in the fundamentals of acting, including improvisation, character analysis, and styles of acting. Performance in short classroom acting projects is required through the semester. *Prerequisite:* 1 or permission of the instructor. Three hours. I, II. Mr. Falls.

71 Voice Science The physical, anatomical, physiological, and phonetic factors of speech. *Prerequisite:* 1; sophomore standing. Three hours. II. Miss Luse. (Offered in alternate years, 1956–57.)

74 Introduction to Speech Correction A basic course in the causes, symptoms, and treatment of speech disorders. *Prerequisite:* 1; sophomore standing. Three hours. I. Miss Luse.

111 Persuasion Human motivation, attitudes and how to change them; emotion, stereotypes, attention, and audience psychology; training in their use through student performance. *Prerequisite:* six hours, including 11. Three hours. Mr. Huber. (Offered in alternate years, 1956–57.)

116 Speech Composition A study of speech style and rhetorical criticism by analysis of great speeches and by writing longer speeches. *Prerequisite:* six hours, including 11. Three hours. Mr. Huber. (Offered in alternate years, 1956–57.)

140 Play Production The elements of play production except acting and directing; scene design, lighting, makeup, costumes and stage and theatre management. *Prerequsite:* six hours of speech or permission of the instructor. Three hours. I. Mr. Vanderslice. (Offered in alternate years, 1957–58.)

142 Play Directing An intensive lecture-laboratory course in the problems and techniques of directing plays: staging, script analysis, production techniques, and rehearsal techniques. *Prerequisite:* six hours including 41 or permission of the instructor.

145,146 Development of Western Theatre A survey of the history of the theatre and drama in western civilizations from earliest rituals to the contemporary theatre. Plays from all major periods are read and discussed. *Prerequisite:* junior standing; English 25, 26 or 27, 28. Three hours. Mr. Falls. (Offered in alternate years, 1956–57.)

161 Elements of Radio and Television Broadcasting The social, psychological, historical, educational, and technical aspects of radio and television together with laboratory work in announcing, interviewing, and production of various types of programs. *Prerequisite:* six hours, including 1. Three hours. Mr. Lewis.

162 Writing for Radio and Television The fundamental principles and techniques of writing for radio and television, with emphasis on adaptations, documentaries, and dramatic scripts. *Prerequisite:* 161 or permission of the instructor. Three hours. Mr. Lewis.

171,172 Speech Correction The etiology, symptoms and treatment of voice and articulatory disorders; the problems of stuttering and organic disorders of speech. The etiology and problems of the aurally handicapped and their rehabilitation. *Prerequisite:* 74. Three hours. Miss Luse and Mr. Oppfelt. (Offered in alternate years, 1955–56.)

WORLD PROBLEMS (College of Arts and Sciences)

101-102 World Problems Each semester a different major issue of particular importance to men and women in the modern world will be presented by various instructors from the humanities, the sciences, and the applied arts. The topic for the spring semester, 1956, is "Freedom and Authority as this Problem Affects the Educated Man of the Modern Western World." Lectures, weekly seminars, readings, and written reports. This course does not count toward concentration requirements. *Prerequisite:* senior

standing or permission of the director. Three hours. Mr. Trevithick and others.

ZOOLOGY (College of Arts and Sciences)

Professors Moody (Chairman) and Lochhead; Associate Professor Rowell; Assistant Professors Paulsen and Potash; Messrs. Bell, Mitchell, and Torch

1 Introduction to Zoology (2–4) An examination of the structure and function of selected animal forms designed to give the general student a greater appreciation of the world of animals and man, and the science student a background for further study in zoology. Four hours. Miss Paulsen and staff. I and II.

2 Principles of Evolution (3–2) Survey of biological principles connected with the development of life on the earth; evidences that evolution occurs; history of animal and human evolution; means by which evolution occurs. *Prerequisite:* 1. Four hours. Mr. Moody and staff.

21 Organic Evolution A non-laboratory course for students interested in the theory of evolution. For material covered see description of 2. A student may not receive credit for both 2 and 21. *Prerequisite:* sophomore standing. Three hours. Mr. Moody.

31 General Entomology (2–4) Introduction to the study of insects, with emphasis on morphology, physiology, and evolution. *Prerequisite:* 1. Four hours. Mr. Potash.

41 Vertebrate Zoology (2–4) Survey of Phylum Chordata; structure and biology of vertebrate animals; dissection of typical submammalian vertebrates. *Prerequisite:* 1. Four hours. Mr. Mitchell.

52 Physiology Introduction to some chemical and mechanical fundamentals of animal physiology, with special reference to man. *Prerequisite:* 1, junior standing; some knowledge of chemistry. Three hours. Mr. Lochhead.

102 Comparative Anatomy (2–4) Study of the evolution of the organ systems of vertebrates, accompanied by the dissection of a mammal. *Prerequisite:* 41. Four hours. Mr. Mitchell.

104 Animal Ecology (2–4) Relationships between animals and their environments; dynamics of animal populations; aspects of wildlife conservation. *Prerequisite:* one year of zoology; a course in inorganic chemistry. Four hours. Mr. Potash. (Offered in alternate years, 1957–58.)

111 Vertebrate Embryology (2–4) General principles of development; comparisons of organogenesis in frog, chick, and mammal. *Prerequisite:* 41, junior standing. Four hours. Mr. Rowell.

112 Comparative Histology (2–4) Microscopic anatomy of invertebrate and vertebrate tissues. Basic tissue similarities and specializations in relation to function. *Prerequisite:* 41; 111 or Botany 102. Four hours. Mr. Rowell.

115 Heredity Principles of inheritance and their physical basis. (No student may receive credit both for this course and for Botany 105.) *Pre-*

requisite: junior standing and two semesters of courses selected from botany, psychology, and zoology. Three hours. Mr. Moody.

150 Invertebrate Zoology (2–4) Anatomy, physiology, and life histories of selected representatives of the more important invertebrate phyla. Required of all students concentrating in zoology. *Prerequisite:* 1, and 41 or 31; junior standing. Four hours. Mr. Lochhead.

202 Primate Anatomy (0–8) Detailed dissection of the monkey. *Prerequisite:* 100; senior standing. Four hours. (Offered in alternate years, 1957–58.)

216 Human Genetics Principles of human inheritance; population genetics; interaction of heredity and environment; application of principles of heredity to human problems on both individual and social levels. *Prerequisite:* 115 or Botany 105. Three hours. Mr. Moody.

236 Fresh-Water Biology (2–4) Organisms of lakes, ponds and streams; their adaptations to varying physical, chemical and biotic conditions. *Prerequisite:* a course in invertebrate zoology, or entomology, or ecology, and a course in inorganic chemistry. Four hours. Mr. Potash. (Offered in alternate years, 1956–57.)

270 Modern Evolutionary Theory Contributions of modern research in genetics, systematics, distribution, experimental embryology, serology, and related fields to problems of the means and methods of evolutionary change. *Prerequisite:* a course in evolution and one in heredity or genetics. Three hours. Mr. Moody. (Offered in alternate years, 1956–57.)

281-282 Seminar Review and discussion of current zoological research. Required of graduate students and seniors concentrating in zoology; open to others by special permission only. One hour. The staff.

391-392-393-394 Master's Thesis Research Investigation of a research topic under the direction of an assigned staff member, culminating in an acceptable thesis. Credit as arranged.

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ANDREW EDGERTON NUQUIST, Ph.D. — *Director of Government Clearing House*

OFFICERS AND ASSISTANTS IN ADMINISTRATION, RETIRED

MARY RUSSELL BATES, Ph.B. — *Associate Librarian*
MARY OLIVE BOYNTON, Ph.B. — *Librarian, Medical Library*
HELEN BARNES SHATTUCK, A.B. — *Librarian, Billings Library*
ELIJAH SWIFT, Ph.D. — *Dean, College of Arts and Sciences*
FORREST WILKINS KEHOE, B.S. — *Superintendent of Buildings and Grounds and Associate Registrar*
BENNETT COOPER DOUGLASS, Ph.D. — *Dean, College of Education and Nursing*
WILLIAM EUSTIS BROWN, M.D. — *Dean, College of Medicine*
LAURA LOUDON — *Assistant, Public Relations*
MARY JEAN SIMPSON, Ph.B. — *Dean of Women*

OFFICERS OF INSTRUCTION

EMERITI

BERTHA MAY TERRILL, A.M., Sc.D. — *Professor Emeritus of Home Economics*
FRED KINNEY JACKSON, M.D. — *Professor Emeritus of Physiology*
DAVID MARVIN, M.D. — *Professor Emeritus of Pharmacology*
CHARLES FLAGG WHITNEY, M.D. — *Professor Emeritus of Physiological Chemistry and Toxicology*
CHARLES FRANCIS DALTON, M.D. — *Professor Emeritus of Public Health*
CHARLES KIMBALL JOHNSON, M.D. — *Professor Emeritus of Pediatrics*
CHARLES PERKINS MOAT, B.S. — *Assistant Professor Emeritus of Public Health*
ELBRIDGE CHURCHILL JACOBS, S.B., A.M. — *Professor Emeritus of Geology and Mineralogy*
THOMAS STEPHEN BROWN, M.D. — *Professor Emeritus of Anatomy*
LYMAN ALLEN, M.D. — *Professor Emeritus of Clinical Surgery*
GEORGE MILLAR SABIN, M.D. — *Professor Emeritus of Clinical Surgery*
ARTHUR BECKWITH MYRICK, Ph.D. — *Professor Emeritus of Romance Languages and Literatures*
HENRY FARNHAM PERKINS, Ph.D. — *Professor Emeritus of Zoology*
ASA RUSSELL GIFFORD, A.M. — *Professor Emeritus of Intellectual and Moral Philosophy*
CLARENCE HENRY BEECHER, M.D. — *Professor Emeritus of Medicine*
EMMUS GEORGE TWITCHELL, M.D. — *Professor Emeritus of Ophthalmology, Otolaryngology and Rhinology*
SARA MOULTHROP HOLBROOK, A.M. — *Assistant Professor Emeritus of Education*
BENJAMIN DYER ADAMS, M.D. — *Assistant Professor Emeritus of Surgery*
MYRON ELLIS WITHAM, C.E. — *Assistant Professor Emeritus of Mathematics*

MRS. ELIZABETH BRADISH — *Instructor Emeritus in Music*
ROY ORVILLE BUCHANAN, B.S. — *Associate Professor Emeritus of Electrical Engineering*
ELIJAH SWIFT, Ph.D. — *Professor Emeritus of Mathematics*
HOWARD BOWMAN ELLENBERGER, Ph.D. — *Professor Emeritus of Animal and Dairy Husbandry*
ELEANOR STENSON CUMMINGS, A.B. — *Associate Professor Emeritus of Physical Education for Women*
OLIVER NEWELL EASTMAN, M.D. — *Professor Emeritus of Gynecology*
WILLIAM EUSTIS BROWN, M.D. — *Professor Emeritus of Preventive Medicine*
DANIEL BERNARD CARROLL, Ph.D. — *Professor Emeritus of Political Science*
JOHN BELLOWS DeFOREST, Ph.D. — *Professor Emeritus of Romance Languages*
BENNETT COOPER DOUGLASS, Ph.D. — *Professor Emeritus of Education*
WILLIAM LAWRENCE GARDNER, B.S. — *Associate Professor Emeritus of Physical Education*
RALPH MAYNARD HOLMES, Ph.D. — *Professor Emeritus of Physics*
JULIAN IRA LINDSAY, A.M. — *Professor Emeritus of English*
VIOLA RUSSELL, M.D. — *Instructor Emeritus in Public Health*
JAMES ATKINS BULLARD, Ph.D. — *Professor Emeritus of Mechanics and Mathematics*
WILLIAM SCRIBNER KIMBALL, Ph.D. — *Associate Professor Emeritus of Mathematics*
JOHN TRUMBULL METCALF, Ph.D. — *Professor Emeritus of Psychology*
HOWARD GUY MILLINGTON, C.E. — *Assistant Professor Emeritus of Mathematics*
FRED DONALD CARPENTER, Ph.D., L.H.D. — *Professor Emeritus of German*
LEON W. DEAN, A.B. — *Associate Professor Emeritus of English*
HOVEY JORDAN, M.S., A.M. — *Professor Emeritus of Histology and Embryology*
FLORANCE BEESON KING, Ph.D. — *Professor Emeritus of Home Economics*
ELIZABETH KUNDERT, M.D. — *Assistant Professor Emeritus of Psychiatry*
MIRIAM NATILEE MARSTON, A.M. — *Assistant Professor Emeritus of Music*
HENRY LEE MILLS, D.V.M. — *Instructor Emeritus in Public Health*
CATHERINE FRANCES NULTY, Ed.M. — *Associate Professor Emeritus of Economics*

THE FACULTY

Dates after names represent the year of original appointment.
Asterisk indicates member of Graduate Faculty.

JOHN ABAJIAN, JR., M.D. (1940–42; 1945) — *Professor of Anesthesia*
NELLE ALEXANDER ADAMS (Mrs. W. R.), A.M. (1926) — *Assistant Professor of Education*
*THURSTON MADISON ADAMS, Ph.D. (1943) — *Professor of Agricultural Economics*
*WILLIAM RITCHIE ADAMS, Ph.D. (1926) — *Professor of Forestry*
ROBERT BASCOM AIKEN, M.D. (1941) — *Associate Professor of Preventive Medicine*
FREDERICK CECIL ALDRICH, B.Ed., Captain U. S. Air Force (1954) — *Assistant Professor of Air Science and Tactics*
SINCLAIR TOUSEY ALLEN, JR., M.D. (1948) — *Associate Professor of Medicine*
ELLSWORTH LYMAN AMIDON, M.D. (1933) — *Professor of Medicine*
RICHARD WALKER AMIDON, M.D. (1949) — *Instructor in Clinical Medicine*
*HEINZ LUDWIG ANSBACHER, Ph.D. (1946) — *Professor of Psychology*
RICHARD DAVISON APLIN, M.S. (1953) — *Instructor in Agricultural Economics* (On leave, 1955–56)
EARL LEE ARNOLD, Ph.D. (1953) — *Associate Professor of Agricultural Engineering*

HENRY VERNON ATHERTON, Ph.D. (1949–51; 1953)
Assistant Professor of Dairy Manufacturing
ROBERT SHILLING BABCOCK, Ph.D. (1946) *Associate Professor of Political Science*
FLORENCE EMILY BAILEY, M.S. (1923) *Associate Professor of Home Economics*
DONALD JAMES BALCH, M.S. (1952) *Instructor in Animal and Dairy Husbandry*
*BETTY BANDEL, Ph.D. (1947) *Associate Professor of English*
RALPH JOHN BANNISTER (1950) *Instructor in X-Ray Technique*
JAMES HENRY BANNON, M.D. (1955) *Assistant Professor of Clinical Medicine*
BERNARD BENJAMIN BARNEY, M.D. (1955) *Instructor in Clinical Surgery*
JOHN FRYE BELL, M.D. (1947) *Associate Professor of Orthopedic Surgery*
JOHN WILLIAM BELL, M.D. (1955) *Assistant Professor of Clinical Surgery*
ROSS TAYLOR BELL, Ph.D. (1955) *Instructor in Zoology*
*HOWARD GORDON BENNETT, A.M. (1925) *Professor of Music*
JOHN HARDESTY BLAND, M.D. (1949) *Associate Professor of Medicine*
*CHARLES HUGO BLASBERG, Ph.D. (1944) *Professor of Horticulture*
JOHN DOUGLAS BOARDMAN, M.D. (1955)
Instructor in Clinical Obstetrics and Gynecology
*SAMUEL NATHANIEL BOGORAD, Ph.D. (1946) *Associate Professor of English*
*WESSON DUDLEY BOLTON, D.V.M. (1950) *Professor of Animal Pathology*
DAVID MARSH BOSWORTH, M.D. (1922–25; 1942) *Consultant in Orthopedic Surgery*
RICHARD EMILE BOUCHARD, M.D. (1955) *Instructor in Medicine*
*ALEC BRADFIELD, M.S. (1945) *Associate Professor of Dairy Manufacturing*
*CHARLES ERNEST BRAUN, Ph.D. (1928) *Pomeroy Professor of Chemistry*
LELAND LAWRENCE BRIGGS, M.B.A. (1927) *Professor of Economics*
GEORGE WILSON BROOKS, M.D. (1953) *Instructor in Psychiatry*
CONSTANCE LORRAINE BROWN, M.S. (1928) *Assistant Professor of Chemistry*
MARION HUNTINGTON BROWN, M.S. (1942) *Assistant Professor of Home Economics*
MRS. EDITH DOROTHY BROWNFIELD, M.S.W. (1953)
Assistant Professor of Home Economics
JACK RYAN BROWNFIELD, M.A. (1954) *Instructor in English*
JEAN BULLOCK, M.S. (Jan., 1956) *Assistant Professor of Medical Social Service*
ROY VEDDER BUTTLES, M.D. (1950) *Assistant Professor of Pathology*
MOLLY CAFFINA, M.A. (1954) *Clinical Instructor in Nursing*
ROBERT NOLAN CAIN, M.D. (Jan. 1953) *Instructor in Clinical Surgery*
CHARLES LYMAN CALAHAN, M.S. (1948) *Lecturer in Horticulture*
MARTHA MARIE CALDWELL, M.S. (1954) *Associate Professor of Home Economics*
THOMAS WRIGHT MOIR CAMERON, Ph.D., D.Sc. (1942)
Visiting Professor of Tropical Medicine
MICHAEL ARTHUR CANN, M.A. (1954) *Instructor in Psychology*
MARTIN JOHN CANNON, M.D. (1953) *Instructor in Clinical Obstetrics and Gynecology*
MAURICE RAYMOND CARON, M.D. (1953) *Instructor in Psychiatry*
HOWARD JULIAN CARPENTER, M.S. (1947)
Assistant Professor of Mechanical Engineering
*ALFRED HAYES CHAMBERS, Ph.D. (1948)
Associate Professor of Physiology and Biophysics
WILBERT FRANKLIN CHAMBERS, Ph.D. (1955)
Instructor in Histology and Embryology
*JAMES PATRICK CHAPLIN, Ph.D. (1947) *Professor of Psychology*
RUPERT ADDISON CHITTICK, M.D. (1944) *Professor of Psychiatry*

BENJAMIN FRANKLIN CLARK, M.D. (1952)
Assistant Professor of Obstetrics and Gynecology
PAUL DENNISON CLARK, M.D. (1930) *Associate Professor of Pediatrics*
ROBERT WILLARD COCHRAN, M.A. (1954) *Instructor in English*
ESTHER HAZEL COFFEY (1955) *Instructor in Dental Hygiene*
JULIUS GEORGE COHEN, M.D. (1950) *Instructor in Psychiatry*
FRANCIS PEABODY COLBURN, Ph. B. (1942) *Professor of Art*
SUSANNA BOYLSTON COLTON, M.S. (1954) *Assistant Professor of Home Economics*
RICHARD KISTLER CONKLIN, D.D.S. (1950) *Instructor in Dental Hygiene*
CLINTON DANA COOK, Ph.D. (1952) *Associate Professor of Chemistry*
ROBERT WILLIAM COON, M.D. (1955) *Professor of Pathology*
DOROTHY BLACK CORBIN, M.D. (1940–42; 1950) *Instructor in Pediatrics*
ROY EDWARD CORLEY, M.D. (1937) *Associate Professor of Pediatrics*
WILLIAM ELLIS COX, B.S., Lieutenant Colonel, U. S. Army (1953)
Professor of Military Science and Tactics
FAYE CRABBE, A.M. (1943) *Professor of Nursing*
ALBERT JAMES CRANDALL, M.D. (1939) *Instructor in Clinical Surgery*
GEORGE CHAPMAN CROOKS, Ph.D. (1930) *Associate Professor of Chemistry*
ALBERT DARY CROWELL, Ph.D. (1955) *Assistant Professor of Physics*
JOHN CHARLES CUNNINGHAM, M.D. (1946) *Shipman Professor of Ophthalmology*
*MALCOLM DANIEL DAGGETT, Ph.D. (1945) *Professor of Romance Languages*
JOHN FIDLAR DALY, M.D. (1949) *Professor of Dermatology*
ANNE McNEIL DARREL (Mrs. B.) M.S. (1954) *Instructor in Nursing*
ARTHUR KENT DAVIS, Ph.D. (1955) *Associate Professor of Philosophy and Religion*
JEAN MARGARET DAVISON, A.M. (1955) *Instructor in Classical Languages and History*
WILLIAM STEPHEN DEMPSEY, M.D. (1951) *Instructor in Clinical Surgery*
GINO ALDO DENTE, M.D. (1950) *Instructor in Clinical Anesthesia*
EMILY MARY DINEGAN, R.N. (Jan., 1956) *Instructor in First Aid*
ROLAND FREEMAN DOANE, D.U. (1925) *Associate Professor of Romance Languages*
*CHARLES GEORGE DOLL, Ph.D. (1927) *Professor of Geology and Mineralogy*
RAYMOND MADIFORD PEARDON DONAGHY, M.D. (1946)
Professor of Neurosurgery
JOHN EDWARD DONNELLY, M.A. (1952)
Assistant Professor of Physical Education for Men
ROBERT KINGSLAND DOTEN, Ph.D. (1951) *Assistant Professor of Geology*
ROBERT LEE DRIVER, M.D., Ph.D. (1955) *Associate Professor of Pharmacology*
HOWARD DUCHACEK, M.S.A.E. (1949) *Associate Professor of Mechanical Engineering*
*FRED WILLIAMS DUNIHUE, Ph.D. (1936) *Professor of Histology and Embryology*
*WINFIELD BOOTH DURRELL, D.V.M. (1949)
Associate Professor of Animal Pathology
LAURA CORBIN DUSTAN, M.N. (1954) *Instructor in Nursing*
JULIUS SOLOMON DWORK, Ph.D. (1954) *Associate Professor of Mathematics*
*GEORGE DYKHUIZEN, Ph.D. (1926)
Marsh Professor of Intellectual and Moral Philosophy
OLIVER ROLFE EASTMAN, M.D. (1948) *Assistant Professor of Obstetrics and Gynecology*
ROBERT WEBSTER EASTMAN, LL.B. (1953) *Instructor in Political Science*
DONALD M. ELDRED, M.A. (1949) *Instructor in Clinical Psychology*
LOUIS WILLIAM ESPOSITO, M.D. (1954) *Instructor in Clinical Urology*
ALBERT CHURCHILL ETTINGER, M.A. (1955) *Instructor in Political Science*

JOHN CLIFFORD EVANS, B.S. (1937) *Associate Professor of Physical Education for Men*
*PAUL DEMUND EVANS, Ph.D. (1930) *Professor of History*
WILLIAM THOMAS FAGAN, JR., M.D. (1953) *Instructor in Clinical Urology*
DAVID S. FAIGEL, D.D.S. (1954) *Instructor in Dental Hygiene*
GREGORY ALEXANDER FALLS, Ph.D. (1952) *Associate Professor of Speech*
DOUGLAS PATTEN FAY, M.S. (1953) *Assistant Professor of Civil Engineering*
LEWIS SAMUEL FEUER, Ph.D. (1951–54; 1955) *Associate Professor of Philosophy*
ROBERT FITZSIMMONS, M.S. (1949)
Assistant Professor of Animal and Dairy Husbandry
THEODORE ROSS FLANAGAN, Ph.D. (1953) *Assistant Professor of Agronomy*
WILLARD ALLEN FLETCHER, Ph.D. (1955) *Instructor in History*
ARTHUR HOWARD FLOWER, JR., M.D. (1950) *Assistant Professor of Dermatology*
JOSEPH CLAYTON FOLEY, M.D. (1954) *Instructor in Radiology*
MURRAY WILBUR FOOTE, Ph.D. (1947–51; 1953)
Assistant Professor of Biochemistry (Agr.)
ROY EDWARDS FORDHAM, M.S. (1954) *Assistant Professor of Forestry*
JOHN LOUIS PHILIPPE FOREST, M.D. (1942) *Instructor in Clinical Psychiatry*
ERALD FAIRBANKS FOSTER, M.D. (1931) *Instructor in Public Health*
HARRIET WILSON FOSTER, Ph.D. (1954) *Assistant Professor of Psychology*
*PERCY AUSTIN FRALEIGH, Ph.D. (1927) *Flint Professor of Mathematics*
ALDO GINO FRANCESCHI, M.D. (1946) *Instructor in Clinical Urology*
PAUL KENDRICK FRENCH, M.D. (1924) *Professor of Clinical Medicine*
*FRED WILLIAM GALLAGHER, Ph.D. (1944) *Professor of Bacteriology*
*ALEXANDER GERSHOY, Ph.D. (1923) *Professor of Botany*
JOE RAY GINGRICH, Ph.D. (1955) *Assistant Professor of Agronomy*
ERLAND CHENEY GJESSING, Ph.D. (1954) *Associate Professor of Biochemistry*
ARTHUR GLADSTONE, M.D. (1936) *Associate Professor of Clinical Surgery*
RUTH LORETTA GODFREY, M.S. (1945) *Associate Professor of Home Economics*
LYMAN JAY GOULD, M.A. (1953) *Instructor in Political Science*
ALAN GOWANS, Ph.D. (1954) *Assistant Professor of Art*
*DONALD CROWTHER GREGG, Ph.D. (1946) *Professor of Chemistry*
EDWIN CHARLES GREIF, M.S. (1950) *Associate Professor of Economics*
STANLEY JOSEPH GROSS, M.D. (1955) *Assistant Professor of Obstetrics and Gynecology*
HOWARD THEODORE GUARE, M.D. (1952) *Assistant Professor of Clinical Radiology*
PIERRE GUIET, M.A. (1954) *Instructor in English*
CARLETON RAYMOND HAINES, M.D. (1950–52; 1954) *Instructor in Surgery*
RAYMOND AVERY HALL, A.M. (1923) *Associate Professor of Religion*
CALVIN HANNA, Ph.D. (1955) *Assistant Professor of Pharmacology*
JANE YARD HARSHBERGER, M.A. (1954) *Associate Professor of Nursing*
ROLF NORDAHL BRUN HAUGEN, Ph.D. (1947) *Associate Professor of Political Science*
PAUL EDWIN HEMP, Ed.D. (1955) *Assistant Professor of Agricultural Education*
DONALD CEDRIC HENDERSON, M.S. (1944) *Associate Professor of Poultry Husbandry*
*IVAN RAYMOND HERSHNER, JR., Ph.D. (1953) *Professor of Mathematics*
ALLEN FORREST HERZBERG, M.B.A., Colonel U. S. Air Force (1954)
Professor of Air Science and Tactics
ROBERT WILLIAM HEUSSLER, B.A. (Feb. 1956) *Lecturer in Political Science*
RAUL HILBERG, Ph.D. (Feb. 1956) *Assistant Professor of Political Science*
CHARLES WILLIAM HOILMAN, M.S. (1949)
Associate Professor of Electrical Engineering

JANE LOUISE HOOD, M.A. (1952) *Instructor in Physical Education for Women*
RICHARD WENDROTH HOOLEY, M.A. (1952) *Instructor in Economics*
*RICHARD JOHN HOPP, M.S. (1947) *Associate Professor of Horticulture*
MARTHA BACON HOWE, M.A. (1953) *Instructor in Physical Education for Women*
ROBERT BRUCE HUBER, Ph.D. (1946) *Professor of Speech*
*JOHN CHARLES HUDEN, Ph.D. (1950) *Professor of Education*
*MURIEL JOY HUGHES, Ph.D. (1942–44; 1945) *Professor of English*
JOHN J. HYLAND, JR. (1955) *Instructor in Economics*
JEAN ELOISE ICHTER, M.S. (1948–52; 1953) *Assistant Professor of Nursing*
RICHARD GUY INSKEEP, Ph.D. (1953) *Assistant Professor of Chemistry*
ELBRIDGE EUGENE JOHNSTON, M.D. (1951) *Assistant Professor of Medicine*
*STUART LYNDE JOHNSTON, Ph.D. (1940–44; 1946) *Professor of Romance Languages*
WILLIAM HERBERT JOHNSTON, M.D. (1952) *Instructor in Clinical Radiology*
*DONALD BOYES JOHNSTONE, Ph.D. (1948) *Associate Professor of Microbiology*
LEONIDAS MONROE JONES, Ph.D. (1951) *Assistant Professor of English*
HARRY HELMUTH KAHN, M.A. (1950–53; 1954) *Assistant Professor of German*
SHEILA BRISCO KAPLOW, (Mrs. L. S.) B.A. (1954) *Instructor in Pharmacology*
EVERETT THOMPSON KEACH, M.Ed. (1955) *Instructor in Education*
JAY EDGAR KELLER, M.D. (1950) *Instructor in Clinical Surgery*
*JOHN HARVEY KENT, Ph.D. (1950)
Roberts Professor of Classical Languages and Literature
GEORGE VINCENT KIDDER, Ph.D. (1922)
Professor of Classical Languages and Literature
THOMAS CLAIR KING, Ed.D. (1951) *Professor of Education*
DAVID LESLIE KINSEY, M.A. (1950) *Assistant Professor of Music*
FRIEDRICH WILHELM KLEMPERER, M.D. (1955)
Assistant Professor of Clinical Medicine
STEPHEN CECIL KNIGHT, JR., M.S. (1952) *Assistant Professor of Civil Engineering*
ESTHER LUCILE KNOWLES, M.S. (1945) *Associate Professor of Home Economics*
ROY KORSON, M.D. (1951–52; 1954) *Assistant Professor of Pathology*
RAYMOND FRANK KUHLMAN, M.D. (1951) *Assistant Professor in Orthopedic Surgery*
MORRIS WILLIAMS LAMBIE, M.D. (1955) *Assistant Professor of Clinical Medicine*
*MERTON PHILIP LAMDEN, Ph.D. (1947) *Associate Professor of Biochemistry*
RALPH ROBERT LAPOINTE, B.S. (1951) *Instructor in Physical Education for Men*
PETER PAUL LAWLOR, M.D. (1939)
Assistant Professor of Otolaryngology and Rhinology
EUGENE LEPESCHKIN, M.D. (1947) *Associate Professor of Experimental Medicine*
DAVID ALLEN LeSOURD, M.A. (1952) *Instructor in Economics*
WILLIAM J. LEWIS, Ph.D. (1954) *Assistant Professor of Speech*
LEON ROBERT LEZER, M.D. (1954) *Assistant Professor of Preventive Medicine*
HARRY LIGHTHALL, JR., M.S. (1955) *Instructor in Mathematics*
*GEORGE THOMAS LITTLE, Ph.D. (1950) *Associate Professor of Political Science*
(On leave second semester)
*JOHN ERNEST LITTLE, Ph.D. (1945) *Professor of Biochemistry* (Agr.)
*JOHN HUTCHISON LOCHHEAD, Ph.D. (1942) *Professor of Zoology*
EDWIN GEORGE LOGAN, B.A., 1st Lt. U.S.A. (1955)
Assistant Professor of Military Science and Tactics
*PHILIPP HANS LOHMAN, Ph.D. (1945) *Converse Professor of Commerce and Economics*
LITTLETON LONG, Ph.D. (1949) *Assistant Professor of English*

CHAUNCEY CHESTER LOOMIS, JR., M.A. (1955) *Instructor in English*
WALLACE FRANCIS LOVEJOY, M.A. (1954) *Instructor in Economics*
PAUL REVERE LOW, B.S. (1955) *Instructor in Electrical Engineering*
JOHN ROBERT LOY, Ph.D. (Feb. 1956) *Assistant Professor of Romance Languages*
CARL LUCARINI, A.M. (1928) *Assistant Professor of Chemistry*
ELEANOR MERRIFIELD LUSE, Ph.D. (1947) *Professor of Speech*
JOHN FREDERICK LYNCH, M.D. (1939) *Instructor in Clinical (Industrial) Surgery*
HERBERT CHRISTIAN McARTHUR, Ph.D. (1950) *Assistant Professor of English*
JAMES BISHOP McGILL, M.D. (1952) *Instructor in Surgery*
ROBERT JAMES McKAY, JR., M.D. (1950) *Professor of Pediatrics*
EDD RUTHVEN McKEE, M.S., E.E. (1934) *Professor of Electrical Engineering*
MARGUERITE DOW McNEIL, M.Ed. (1955) *Assistant Professor of Education*
EDWARD DOUGLAS McSWEENEY, M.D. (1923) *Assistant Professor of Gynecology*
ALBERT GEORGE MACKAY, M.D. (1933) *Professor of Surgery*
WILLIAM HOOPER MACMILLAN, B.A. (1954, Jan.)
Assistant Professor of Pharmacology
JOHN VAN SICKLEN MAECK, M.D. (1948)
Associate Professor of Obstetrics and Gynecology
*GEORGE ALBERT MALE, Ph.D. (1952) *Associate Professor of Education*
J. EDWARD MARCEAU, D.D.S. (1950–52; 1954) *Instructor in Dental Hygiene*
CLARE KENT MARSHALL, (Mrs. E. R.) M.D. (1955) *Instructor in Clinical Psychiatry*
EARLE ROBERT MARSHALL, Sc.D. (1955) *Associate Professor of Civil Engineering*
GILBERT ADAMS MARSHALL, M.S. (1947)
Assistant Professor of Mechanical Engineering
*FREDERICK CARVER MARSTON, JR., Ph.D. (1948) *Associate Professor of English*
HERBERT LLOYD MARTIN, M.D. (1954) *Assistant Professor in Clinical Neurology*
*JAMES WALLACE MARVIN, Ph.D. (1939) *Professor of Botany*
INA MAXSON, M.S. (1947) *Assistant Professor of Medical Technology and Assistant in Clinical Pathology*
MRS. SALLY BERRY MAYBURY, Ed.D. (1944) *Associate Professor of Economics*
HAROLD EDWARD MEDIVETSKY, M.D. (1937)
Assistant Professor of Clinical Medicine
JAVIER CAPETILLO MENESES, M.D. (1955) *Instructor in Pathology*
NEIL FINLEY MEURLIN, B.S., Captain, U. S. Air Force (1952)
Assistant Professor of Air Science and Tactics
*ALVIN REES MIDGLEY, Ph.D. (1951) *Professor of Agronomy*
BOGDAN MIECZKOWSKI, Ph.D. (1954) *Instructor in Economics*
REGINALD VENN MILBANK, M.S. (1946–48; 1949) *Professor of Civil Engineering*
DONALD BARKER MILLER, M.D. (1951) *Associate Professor of Chest Surgery*
JEAN BEATTIE MILLIGAN, M.A. (1953) *Assistant Professor of Nursing*
ERNEST LEE MILLS, M.D. (1955) *Instructor in Clinical Anesthesia*
ISABEL CLARK MILLS (MRS. C. H.), A.M. (1932) *Assistant Professor of Art*
RODGER DAVID MITCHELL, Ph.D. (1954) *Instructor in Zoology*
JAMES LEO MONAHAN, B.S., Major, U. S. Air Force (1955)
Assistant Professor of Air Science and Tactics
*PAUL AMOS MOODY, Ph.D. (1927) *Howard Professor of Natural History and Zoology*
GRACE ELIZABETH MORRISSEY, M.A. (1953) *Instructor in Mathematics*
DOROTHY JACKSON MORROW, M.D. (1952) *Insturctor in Clinical Pediatrics*

RUFUS CLEGG MORROW, M.D. (1951)
Associate Professor of Otolaryngology and Rhinology
BENNET BRONSON MURDOCK, JR., Ph.D. (1951) *Associate Professor of Psychology*
MILTON JOSEPH NADWORNY, Ph.D. (1952) *Associate Professor of Economics*
GEORGE DELNO NELSON, JR., B.S., Captain, U. S. Army (1954)
Assistant Professor of Air Science and Tactics
JOSEPH HOWARD NELSON, Captain, U. S. Air Force (1954)
Assistant Professor of Air Science and Tactics
CHESTER ALBERT NEWHALL, M.D. (1929) *Thayer Professor of Anatomy*
*JOHN ALVIN NEWLANDER, Ph.D. (1919) *Professor of Animal and Dairy Husbandry*
AUDREY EVELYN NEWTON, M.S. (1955) *Assistant Professor of Home Economics*
GEORGE HUBERT NICHOLSON, A.M. (1923) *Assistant Professor of Mathematics*
*ANDREW EDGERTON NUQUIST, Ph.D. (1938) *Professor of Political Science*
ELBERT AUSTIN NYQUIST, B.B.A., C.P.A. (1953) *Assistant Professor of Economics*
LENA RAUB OAKLEY, M.A. (1947) *Associate Professor of Nursing*
ROBERT EMMETT O'BRIEN, M.D. (1955) *Instructor in Clinical Medicine*
CHARLES HENRY OKEY, Ph.D. (1950) *Assistant Professor of Bacteriology*
GLENN RICHARD OPPFELT, M.A. (1954) *Instructor in Speech*
LOIS MIRIAM OTTERMAN, Ed.D. (1952) *Assistant Professor of Education*
HENRI LOUIS PACHE, M.D. (1951) *Instructor in Clinical Surgery*
FREDERICK LEON PAGE III, M.A. (1955) *Instructor in History*
GUY MILTON PAGE, JR., LL.B. (1953) *Instructor in Speech*
HAROLD GORDON PAGE, M.D. (1954) *Instructor in Surgery*
MARY HUNT PALMER (Mrs. E.), B.S. (1953) *Instructor in Nursing*
*IPPOCRATES PAPPOUTSAKIS, Mus.B. (1940) *Associate Professor of Music*
VICTOR H. PAQUET, B.S. (1949) *Assistant Professor of Mechanical Engineering*
MALCOLM SKEELS PARKER, M.A. (1953) *Instructor in Romance Languages*
MARLYN JACK PARKER, M.S. (1955) *Instructor in Speech*
ELIZABETH PAULSEN, Ph.D. (1946–50; 1952) *Assistant Professor of Zoology*
HERBERT DEAN PEARL, A.M. (1941–45; 1947) *Professor of Education*
OSCAR SYLVANDER PETERSON, JR., M.D. (1944)
Associate Professor of Radiology and Associate in Biophysics
PATRICIA MARIE PETERSON, M.S. (1955) *Instructor in Physical Education*
CHARLOTTE BILLINGS PHELPS, (Mrs. R. H.) B.S. (1954) *Instructor in Nursing*
FREDA PHILLIPS, M.S. (1954) *Assistant Professor of Physical Education for Women*
FRANK GIVENS PICKEL, Ph.D. (1955)
Assistant Professor of Classical Languages and History
*HAROLD BARNARD PIERCE, Ph.D. (1937) *Professor of Biochemistry*
WINTHROP WALKER PIPER, M.A. (1955) *Instructor in English*
JAMES EUGENE POOLEY, A.M. (1928)
Associate Professor of Classical Languages and History
*WILLARD BISSELL POPE, Ph.D. (1934)
Frederick Corse Professor of English Language and Literature
ARCHIBALD THOMPSON POST, Ed.M. (1929)
Associate Professor of Physical Education for Men
MILTON POTASH, Ph.D. (1951) *Assistant Professor of Zoology*
PLATT RUGAR POWELL, M.D. (1949) *Associate Professor of Urology*
GEORGE McLEOD POWERS, A.B., Major, U. S. Army (1954)
Assistant Professor of Military Science and Tactics

HENRY LEWIS PRATT, M.D. (1952) *Instructor in Clinical Obstetrics and Gynecology*
MARY LOUISE PRATT, M.Ed. (1955) *Assistant Professor of Economics*
WILLIAM ARTHUR PRATT, M.D. (1950) *Instructor in Clinical Medicine*
*HERBERT EVERETT PUTNAM, Ph.D. (1931) *Associate Professor of History*
PHYLLIS MELVILLE QUINBY, B.S. (1949) *Assistant Professor of Dental Hygiene*
*WILHELM RAAB, M.D. (1939) *Professor of Experimental Medicine*
JAMES WALSH RALEIGH, M.D. (1955) *Assistant Professor of Clinical Medicine*
*LOUISE ADELE RAYNOR, Ph.D. (1946) *Assistant Professor of Botany*
ELMER McCREADY REED, M.D. (1948)
Assistant Professor of Otolaryngology and Rhinology
WALFORD TUPPER REES, M.D. (1925) *Professor of Clinical Surgery*
EDWARD K. REIMAN, D.D.S. (1951) *Instructor in Dental Hygiene*
PHILIP CURTIS REYBOLD, B.S., Captain, U. S. Army (1955)
Assistant Professor of Military Science and Tactics
*WILLIAM HUGH RIDDELL, Ph.D. (1948) *Professor of Animal and Dairy Husbandry*
HEATH KENYON RIGGS, Ph.D. (1953) *Assistant Professor of Mathematics*
*WILLIAM van BOGAERT ROBERTSON, Ph.D. (1945)
Professor of Biochemistry and Associate Professor of Experimental Medicine
DAVID ROMEY, M.A. (Feb. 1955) *Instructor in Romance Languages*
ALBAN BENNETT ROONEY, M.S. (1922) *Associate Professor of Physics*
JAMES ALBERT ROOT, M.C.E. (1948) *Associate Professor of Civil Engineering*
JOSEPH ROSENSTEIN, M.D., (1955) *Assistant Professor of Clinical Radiology*
LYMAN SMITH ROWELL, M.S. (1925) *Associate Professor of Zoology*
CHARLES BRUSH RUST, M.D. (1948) *Assistant Professor of Orthopedic Surgery*
SEYMOUR SACKS, Ph.D. (1955) *Assistant Professor of Economics*
MARION LESLIE SARGENT (Mrs. R. K.) (Feb. 1956) *Instructor in Speech*
RICHARD HENRY SAUNDERS, JR., M.D. (1950) *Associate Professor of Medicine*
WADI I. SAWABINI, D.D.S. (1950) *Instructor in Dental Hygiene*
ROBERT NEWTON SAXBY, M.D. (1950) *Instructor in Clinical Radiology*
*ARNOLD HAROLD SCHEIN, Ph.D. (1947) *Associate Professor of Biochemistry*
EDWIN CALVIN SCHNEIDER, M.S. (1946)
Associate Professor of Agricultural Engineering
*HAROLD SEESSEL SCHULTZ, Ph.D. (1946) *Professor of History*
GEORGE ADAM SCHUMACHER, M.D. (1950) *Professor of Neurology*
KESSEL SCHWARTZ, Ph.D. (1953) *Assistant Professor of Romance Languages*
MALCOLM FLOYD SEVERANCE, M.A. (1951–52; 1953) *Instructor in Economics*
WILLIAM IRELAND SHEA, M.D. (1952) *Instructor in Clinical Surgery*
LAURENCE FOREST SHOREY, M.S. (1926) *Associate Professor of Electrical Engineering*
*FERDINAND JACOB MORRIS SICHEL, Ph.D. (1937) *Professor of Physiology and Biophysics*
MORRIS LEON SIMON, M.A. (1954) *Instructor in Political Science*
RUTH GERTRUDE SIMOND, Ph.D. (1948) *Assistant Professor of Mathematics*
JAMES EDWIN SIMPSON, M.D. (1953) *Instructor in Orthopedic Surgery*
ETHAN ALLEN HITCHCOCK SIMS, M.D. (1950)
Associate Professor of Biochemistry and Medicine
*ADAM STANISLAS SKAPSKI, Ph.D. (1953) *Professor of Physics*
HOWARD DARELL SLACK, D.D.S. (1950) *Instructor in Dental Hygiene*
WILLIAM JOSEPH SLAVIN, M.D. (1942)
Associate Professor of Obstetrics and Gynecology

*DURWOOD JAMES SMITH, M.D. (Jan., 1953) *Professor of Pharmacology*
*HOWARD MARSHALL SMITH, JR., M.S. (1947) *Professor of Electrical Engineering*
ROBERT PEASE SMITH, M.D. (1951–54; 1956) *Instructor in Medicine*
ROLAND FREDERICK SMITH, Ph.D. (1954) *Assistant Professor of Mathematics*
ARTHUR BRADLEY SOULE, JR., M.D. (1928) *Professor of Radiology*
†JOSEPH WORCESTER SPELMAN, M.D. (1948) *Associate Professor of Pathology and Lecturer in Medical Jurisprudence*
*THOMAS SPROSTON, JR., Ph.D. (1946) *Professor of Botany*
ERNEST STARK, M.D. (1945) *Associate Professor of Pathology*
SADAH SHUCHARI START (MRS. W.P.) (1946–48; 1949) *Assistant Professor of Music*
EDWARD WILLIAM STEELE, JR., Ph.D. (1951–53; 1955) *Instructor in Political Science*
CHARLES WATTLES STEPHENSON, M.D. (1948) *Assistant Professor of Psychiatry*
NORMAN KENNETH STRASSBURG, M.Ed. (1946) *Assistant Professor of Physical Education for Men*
WALTER ALVA STULTZ, Ph.D. (1937) *Associate Professor of Anatomy*
BORYS SURAWICZ, M.D. (1955) *Instructor in Medicine*
RALPH DANIEL SUSSMAN, M.D. (1946) *Associate Professor of Clinical Pediatrics*
BURTON S. TABAKIN, M.D. (1954) *Instructor in Medicine*
DAVID LATHAM TABER, M.D. (1953) *Instructor in Clinical Obstetrics and Gynecology*
CHARLES IVES TAGGART, D.M.D. (1942) *Assistant Professor of Oral Hygiene and Dental Medicine*
*FRED HERBERT TAYLOR, Ph.D. (1943) *Professor of Botany*
CHRISTOPHER MARLOWE TERRIEN, M.D. (1939) *Associate Professor of Clinical Medicine*
LOUIS GEORGE THABAULT, M.D. (1939) *Instructor in Surgery*
ENOCH HAROLD TOMPKINS, M.S. (1955) *Instructor in Agricultural Economics*
REUBEN TORCH, Ph.D. (1953) *Instructor in Zoology*
RANDOLPH SHEPARDSON TOWNE, A.M. (1928) *Assistant Professor of Romance Languages*
EDWARD LAWRENCE TRACY, B.S. (1943) *Instructor in Public Health*
RAYMOND HERMAN TREMBLAY, Ph.D. (1953) *Assistant Professor of Agricultural Economics*
*JACK TREVITHICK, Ph.D. (1946) *Associate Professor of English*
VIRGINIA YAPP TROTTER, M.S. (1955) *Associate Professor of Home Economics*
KEITH FRANK TRUAX, M.D. (1932) *Associate Professor of Surgery*
ARTHUR FREDERICK TUTHILL, M.S. (1946) *Associate Professor of Mechanical Engineering*
MARSHALL COLEMAN TWITCHELL, JR., M.D. (1942) *Assistant Professor of Ophthalmology*
HIRAM EUGENE UPTON, M.D. (1930) *Associate Professor of Clinical Medicine*
FREDERICK WILLIAM VAN BUSKIRK, M.D. (1946) *Associate Professor of Radiology*
RALPH LESLIE VANDERSLICE, JR., B.A. (1955) *Instructor in Speech*
DOROTHY BENDON VAN GHENT, Ph.D. (1952–54; 1955) *Assistant Professor of English*
KENNETH EVERSON VARNEY, M.S. (1946) *Assistant Professor of Agronomy*
HUBERT WALTER VOGELMANN, Ph.D. (1955) *Instructor in Botany*

†Resigned January, 1956.

THOMAS VRIS, Ph.D. (1955) — *Instructor in Psychology*
BENJAMIN BOOTH WAINWRIGHT, A.M. (1925) — *Associate Professor of English*
*NELSON LEE WALBRIDGE, Ph.D. (1924) — *Professor of Physics*
LESTER JULIAN WALLMAN, M.D. (1948) — *Associate Professor of Neurosurgery*
RICHARD CARLETON WARD, B.A. (1954) — *Instructor in Botany*
TRUMAN MARION WEBSTER, A.B. (1945) — *Assistant Professor of German*
FRANCIS ALEXANDER WEINRICH, M.A. (1950) — *Instructor in Music*
GEORGE WILLIAM WELSH, 3rd, M.D. (Jan. 1956) — *Instructor in Medicine*
ALBERT FOBERG WESSEN, Ph.D. (Feb. 1956) — *Assistant Professor of Medical Sociology*
WENDELL JENNISON WHITCHER, Ph.D. (1952) — *Assistant Professor of Chemistry*
JAMES FELLOWS WHITE, Ph.D. (1955) — *Associate Professor of German*
†JOHN HOWARD WHITTEMORE, A.M. (1953) — *Assistant Professor of Romance Languages*
HILTON ADDISON WICK, LL.B. (1949) — *Instructor in Economics*
BLAIR WILLIAMS, M.S. (1949–50; 1951) — *Assistant Professor of Home Economics*
MARTIN WESLEY WILLIAMS, Ph.D. (1953) — *Instructor in Physiology*
*WALTER LeROY WILSON, Ph.D. (1949) — *Assistant Professor of Physiology and Biophysics*
GEORGE ANTHONY WOLF, JR., M.D. (1952) — *Professor of Clinical Medicine*
†EPHRAIM WOLL, M.D. (1949) — *Associate Professor of Pathology*
GLEN MEREDITH WOOD, Ph.D. (1950) — *Associate Professor of Agronomy*
FLORENCE MAY WOODARD, Ph.D. (1923) — *Associate Professor of Economics*
NORMA LOWYN WOODRUFF, M.A. (1952) — *Instructor in Nursing*
RICHARD S. WOODRUFF, M.D. (1950) — *Assistant Professor of Pathology*
LLOYD ABRAM WOODWARD, M.S. (1920) — *Associate Professor of Physics*
ALBERT W. WURTHMANN, M.A. (1947) — *Assistant Professor of German*
WILLIAM GREENHILL YOUNG, M.D. (1949) — *Assistant Professor of Psychiatry*
HABIBUZ ZAMAN, M.D. (1955) — *Instructor in Pathology*

ASSOCIATES

LAWRENCE B. AHRENS, M.D. — *Research Associate in Pharmacology and Medicine*
ROBERT C. ALLEN, M.S. — *Research Associate in Animal Pathology*
ROBERT R. BILLUPS, M.S. — *Research Associate in Chemistry*
F. ARNOLD CACCAVO, M.D. — *Clinical Associate in Surgery*
HARRY L. COLOMBO, M.D. — *Clinical Associate in Medicine*
JOHN P. CORLEY, M.D. — *Clinical Associate in Medicine*
HARRY W. DANIELL, M.D. — *Research Associate in Pharmacology*
EDWARD E. FRIEDMAN, M.D. — *Clinical Associate in Medicine*
WILLIAM H. HEININGER, M.D. — *Clinical Associate in Medicine*
HERMAN C. HERRLICH, Ph.D. — *Research Associate in Experimental Medicine*
FREDERICK M. LAING, M.S. — *Research Associate in Botany*
DONALD G. LAREAU, M.D. — *Teaching Associate in Medicine*
MURDO G. MacDONALD, M.D. — *Clinical Associate in Medicine*
CEDRIC L. MATHER, M.D. — *Teaching Associate in Medicine*
JOHN H. McCREA, M.D. — *Clinical Associate in Medicine*
JOHN S. SAIA, M.D. — *Clinical Associate in Medicine*
JANE THURLOW, B.S. — *Research Associate in Pathology*
LOUIS J. WAINER, M.D. — *Clinical Associate in Medicine*

†Resigned January, 1956.

ASSISTANTS

TEACHING AND RESEARCH ASSISTANTS

HAROLD ERNEST ADAMS, M/Sgt.	*Assistant in Military Science*
HOWARD R. BERRIMAN, M/Sgt.	*Assistant in Military Science*
MRS. LEONA W. BESSEE, R.N.	*Research Assistant in Medicine*
MRS. ARLENE ROGERS BICKFORD, B.S.	*Teaching Assistant in Home Economics*
MARY BREEN, B.S.	*Teaching Assistant in Clinical Pathology*
HELEN IONE BROWN, M.S.	*Teaching Assistant in Home Economics*
ROBERT H. CURRIER, B.S.	*Teaching Assistant in Medicine*
JAMES P. CURTIN, Sgt.	*Assistant in Military Science*
MRS. EVELYN W. DIORIO, B.S.	*Research Assistant in Anatomy*
MRS. RHEA S. DORN, A.B.	*Research Assistant in Pharmacology*
WILDA ROMAYNE GIGEE, A.B.	*Research Assistant in Experimental Medicine*
MARY T. GREENE, M.S.	*Research Assistant in Botany*
PATRICIA HELEN HARTE, B.S.	*Research Assistant in Home Economics*
JOHN W. HOLTON JR., M/Sgt.	*Assistant in Air Science*
MRS. ELEANOR P. JAMIESON, B.S.	*Teaching Assistant in Home Economics*
ROBERT J. JENSEN, S/Sgt.	*Assistant in Air Science*
JANICE ELOISE LARRABEE, B.A.	*Research Assistant in Physiology and Biophysics*
EDWARD FREDERICK MERRILL, B.S.	*Teaching Assistant in Biochemistry*
BARBARA ALICE MOORE	*Teaching Assistant in Biochemistry*
JEAN MARGARET RYAN, B.S.	*Research Assistant in Pathology*
MRS. FLORENCE TEPFER SCHEIN, M.S.	*Research Assistant in Pathology*
CRISTINA ELIZABETH SCHWEIKER, M.S.	*Research Assistant in Biochemistry*
DOROTHY W. SEARS, B.S.	*Research Assistant in Medicine*
JAMES G. SKINNER, T/Sgt.	*Assistant in Air Science*
RICHARD E. STAFFORD, T/Sgt.	*Assistant in Air Science*
YVONNE K. STARCZEWSKA	*Research Assistant in Experimental Medicine*
MRS. LOUISE K. TANNER, B.A.	*Research Assistant in Pharmacology*
EDWARD F. TINDALL, A.B., M/Sgt.	*Assistant in Air Science*
CHARLES FREDERICK TRAVERSE JR., B.S.	*Assistant in Athletics*
WING M. WOON	*Research Assistant in Pathology*
MRS. SUSANNE ZEHL	*Teaching Assistant in Biochemistry*

HEAD RESIDENTS

MISS BERNICE ATWELL *Warner House*
MRS. HARRIET BICKFORD *Delta Delta Delta*
MRS. EMILY BILLHARDT *Grassmount*
MRS. MARY BRAUER *Sigma Nu*
MRS. MARION CARLETON *Southwick Hostess and Asst. Head Resident Redstone*
MRS. HELENA COLLINS *Collins House*
MRS. GRACE COUGHLIN *25 Orchard Terrace*
MRS. ALICE DENNO *Pi Beta Phi*
MRS. LENA DYER *Redstone Hall*
MISS ETHEL EDDY *Coolidge Hall*
MRS. LOU M. EDDY *Kappa Alpha Theta*
MRS. LESLIE ELGOOD *Sanders Hall*
MRS. CHRISTINE FROST *Gamma Phi Beta*
MRS. ELLEN GARDNER *24 Bradley St.*
MISS KATHERINE GUTCHELL *Roberts House*
MRS. CORA KIMBALL *Allen House*
†MRS. MARJORIE LANOUETTE *Robinson Hall*
MRS. LUCY LANTZ *Alpha Chi Omega*
MRS. SYBIL LEWIS *Phi Sigma Delta*
MRS. KATHERINE J. MOORE *Old Mill Dorm*
MRS. JESSIE J. PEARL *East Hall Dorm*
MRS. MYRNA PHELPS *Phelps House*
MISS CARRIE POWER *Slade Hall*
MRS. CONSTANCE REEVE *Elmwood Hall*
MRS. ELIZABETH ROBINSON *Alpha Epsilon Phi*
MRS. GLADYS SEVERANCE *Converse Hall*
MRS. VIOLA SHEEHAN *Lambda Iota House*
MISS ANASTASIA STEBBINS *49 Fletcher Place*
MRS. VIVA B. STODDARD *Claggett House*
MRS. FLORENCE WELD *Lyman Hall*
MISS CATHERINE WILCOX *Alpha Delta Pi*

LIBRARY STAFF

HARRISON ALLEN BRANN, B.D., M.S.L.S. *Documents Librarian*
MRS. JEAN E. FLETCHER, B.A. *Reference Assistant*
GLADYS FLINT, A.B. *Librarian, Wilbur Library*
MRS. JEAN HALLIDAY, M.A. *Librarian, Medical Library*
ROBERT DUNCAN HARVEY, M.S. *Assistant Director: Public Services*
MRS. HELEN OUSTINOFF, B.A. *Assistant Director: Technical Services*
HELEN E. PFATTEICHER, M.A., B.S.L.S. *Wilbur Library Assistant*
SAMUEL GILBERT PRENTISS, B.S. in L.S. *Reference Librarian*
MARION REILLY *Circulation Librarian*
ERROL C. SLACK, B.S. in L.S. *Cataloguer*
DAVID E. SPARKS, M.A. *Cataloguer*

MUSEUM STAFF

MRS. LOIS GRAFFAM *Curator of Art*
MRS. JOAN O'BRIEN *Administrative Assistant to Director*

†Deceased December, 1955.

FOOD SERVICE STAFF

MRS. AGATHA ATWOOD, B.S.	*Catering Supervisor*
HELEN IONE BROWN, M.S.	*Director of Waterman Cafeteria*
MRS. MARY LAVINE	*Soda Fountain Supervisor*
MRS. SUSAN SABOSKI, B.S.	*Assistant Director of Cafeteria*
MRS. CLAIRE SHIELDS, B.S.	*Dietitian, Robinson Hall*
MRS. LYNN WILLEY, B.S.	*Food Production Supervisor*

INFIRMARY STAFF

ELIZABETH WILSON, R.N.	*Director of Infirmary*
IDA BOGUE, R.N.	*Infirmary Nurse*
MRS. FLORENCE ENGLISH, R.N.	*Infirmary Nurse*
IRENE HALLOCK, R.N.	*Infirmary Nurse*
MRS. WANDA HORTON, R.N.	*Infirmary Nurse*
ELIZABETH KEOUGH, R.N.	*Infirmary Nurse*
MRS. GENEVIEVE E. MURPHY, R.N.	*Infirmary Nurse*

ADMINISTRATIVE ASSISTANTS

KARL A. ANDREN, B.S.	*Assistant, Public Relations*
JOSEPH J. AYERS	*Administrative Assistant, Pharmacology*
ANNIS O. BARNEY, Ph.B.	*Manager of University Store*
N. EDWARD BARTLETT	*Administrative Assistant, Physical Education and Athletics*
CORNELIA J. BAYLIES, A.B.	*Administrative Assistant, Dean's Office, College of Medicine*
FLORENCE K. BRODIE	*Administrative Assistant, Buildings and Grounds and Purchasing*
LYMAN COTE	*Trainer and Assistant, Physical Education and Athletics*
ELIZABETH N. DOWNER, Ph.B.	*Administrative Assistant, Dean's Office, College of Agriculture*
RAYMOND L. FINEHOUT, B.A.	*Assistant, Public Relations*
RUDOLPH J. FISCHER	*Assistant Superintendent, Buildings and Grounds*
HELEN E. FRENCH	*Cashier*
SIBYL HOWE, B.L.I.	*Social Worker, Mental Health Clinic*
LEONE JACKSON	*Staff Artist, College of Agriculture*
MYRON H. JORDON	*Administrative Assistant, Accounting*
MRS. KARIN KRISTIANSSON, M.A.	*Editorial Assistant, College of Agriculture*
MRS. EDYTHE B. LADD, R.N.	*Dispensary Nurse*
FRANK C. MALLORY	*Director of Medical Photography*
DOROTHY PEARSON, A.B.	*Recorder*
GEORGE SAUNDERS, B.S.	*Assistant Accountant*
MRS. MARILYN SHARP	*Film Librarian*
CARL H. VON LAUTZ	*Administrative Clerk, College of Agriculture*
ARLINE M. WATKINS, A.B.	*Assistant Manager, University Store*
MARCIA WEBBER, B.S.	*Physical Therapist*

SENIOR TECHNICIANS

JOHN C. BOLDOSSER	*Pathology*
DALLAS BOUSHEY	*Anatomy*
NORMA V. COLCLOUGH, B.S.	*Pharmacology*
JOHN H. PORTER, B.A.	*Regulatory Service*
EARL H. STONE	*Agricultural Engineering*
DEAN H. URIE, B.S.	*Forestry*

GRADUATE ASSISTANTS

OSCAR R. ATKINSON, JR. (*Botany*)
SIDNEY E. BARNARD
(*Animal and Dairy Husbandry*)
JAMES P. BARRETT (*Bacteriology*)
DOMINIQUE P. CASAVANT (*Physics*)
KENNETH S. CHAPMAN
(*Animal and Dairy Husbandry*)
ANNE E. COGHLAN (*Home Economics*)
JOHN A. EBERWEIN (*Chemistry*)
J. RONALD FISHBEIN (*Botany*)
ROBERT S. FISHMAN (*Mathematics*)
GEORGE J. GIFFIN (*Residence Halls*)
JOHN L. GROVER (*Chemistry*)
GERTRUDE HOERNESS
(*Agricultural Biochemistry*)
WILLARD B. HOWE (*Chemistry*)
ANDRE HURTGEN (*Romance Languages*)
JAMES M. KELLIHER (*Chemistry*)
DONALD L. KJELLEREN (*Chemistry*)
RUDOLPH KOUBA
(*Animal and Dairy Husbandry*)
BETTY LaGRANGE (*Biochemistry*)
MICHAEL J. MASCIALE (*Chemistry*)
PAUL E. McMAHON (*Chemistry*)
ADELLE V. MITCHELL (*Zoology*)
DAVID NASJLETI (*Romance Language*)
JANE O'KEEFE (*Music*)
DANIEL C. PEASE, JR. (*Botany*)
ROBERT E. PHILLIPS (*Pharmacology*)
RAYMOND RESNER (*Zoology*)
JACK E. RUSSELL
(*Agricultural Biochemistry*)
ARTHUR H. SCOTT (*Mathematics*)
DONALD H. SLOCUM
(*Agricultural Biochemistry*)
C. THOMAS YOUNG (*Mathematics*)

GRADUATE FELLOWS

EUGENE M. BEAUPRE (*Pathology*)
HERBERT BODEN (*Chemistry*)
EDWIN S. ENGLISH (*Chemistry*)
ADDISON H. MERRICK (*English*)
JOHN W. SHY (*History*)
BRUCE G. SOMERS (*Chemistry*)

UNIVERSITY COMMITTEES—EFFECTIVE SEPTEMBER 1, 1955

Admissions: E. C. Schneider (Chairman), M. P. Lamden, J. E. Little, M. J. Nadworny, K. Schwartz, J. Trevithick, A. F. Tuthill, H. C. Collins, the Deans.

Adult Education: L. S. Rowell (Chairman), F. P. Colburn, J. C. Huden, H. C. McArthur, I. Pappoutsakis, H. K. Riggs, R. H. Kroepsch.

Athletic Council: P. P. Lawlor (Chairman), S. N. Bogorad, R. V. Milbank, W. H. Riddell.

Buildings and Grounds: C. E. Braun (Chairman), C. H. Blasberg, Col. W. E. Cox, J. W. Marvin, J. A. Root, Dr. A. B. Soule, G. M. Wood, D. D. Demsky, R. H. Kroepsch.

Calendar: D. B. Johnstone (Chairman), E. C. Greif, R. H. Kroepsch, A. E. Nuquist, W. J. Whitcher.

Ceremonies: D. C. Gregg (Chairman), H. J. Carpenter, R. A. Hall, Sally Maybury, C. A. Newhall, A. E. Nuquist, W. B. Pope, R. H. Tremblay, F. Weinrich.

Curriculum: J. P. Chaplin (Chairman), F. W. Dunihue, G. A. Male, H. M. Smith, T. J. Sproston, G. T. Little.

Library: P. D. Evans (Chairman), C. D. Cook, M. D. Daggett, J. C. Huden, L. Long, Louise Raynor, W. V. Robertson, M. C. Haviland, R. D. Harvey.

Museum: F. P. Colburn (Chairman), Betty Bandel, G. C. Crooks, C. G. Doll, M. Potash, H. E. Putnam, W. Raab, A. Gowans.

Personnel Policy: R. H. Kroepsch (Chairman), M. C. Haviland, L. R. Kelley, P. R. Miller, G. A. Wolf.

Policy: P. A. Moody (Chairman), J. P. Chaplin, Esther Knowles, P. H. Lohman, A. G Mackay, W. B. Pope.

Public Relations: H. D. Pearl (Chairman), R. S. Babcock, E. C. Grief, J. V. Maeck, L. E. Van Benthuysen, J. W. Spaven, the Deans.

Radiological Safety: O. S. Peterson, Jr. (Chairman), E. L. Amidon, N. L. Walbridge, A. H. Schein, R. H. Saunders, Jr., J. Abajian, Jr., F. J. M. Sichel, P. K. French, A. B. Soule.

Religious Life: T. M. Adams (Chairman), R. A. Hall, R. W. Hooley, H. Kahn, S. C. Knight, G. A. Marshall, Dorothy Morrow, J. E. Pooley.

Residence: H. C. Collins (Chairman), L. R. Kelley, L. Latham, C. A. Newhall, H. D. Pearl, E. M. Root.

Student Advisory: B. B. Murdock (Chairman), H. V. Atherton, A. H. Chambers, Muriel Hughes, L. M. Jones, Eleanor Luse, M. F. Severance, Florence Woodard, D. P. Hardy, G. Kennedy, Margaret Wing, R. H. Kroepsch, A. Coutts.

Student Aid: H. C. Collins (Chairman), Elizabeth Paulsen, H. D. Pearl, N. Strassburg, G. N. Clerkin, E. R. Stockwell, Margaret Wing, the Deans.

Student Health: Elizabeth Wilson (Chairman), R. W. Amidon, J. F. Bell, Faye Crabbe, Freda Phillips, A. T. Post, Phyllis Quinby, C. W. Stephenson, Rankin Harris, A. Coutts.

Student Personnel: G. Dykhuizen (Chairman), R. N. B. Haugen, I. R. Hershner, Jean Ichter, F. C. Marston, T. M. Webster, R. N. Searles, the Deans.

AGRICULTURAL EXPERIMENT STATION STAFF

The Agricultural Experiment Station has as its essential functions to conduct research in agriculture and home economics, to administer certain regulatory statutes, and to publish the results of such work.

JOSEPH EDWARD CARRIGAN, M.A., LL.D., D.Ec.Sc.	*Director*
PAUL ROBERT MILLER, M.S.	*Associate Director*
EDMUND MORTON ROOT, B.S.	*Assistant to the Director*
THURSTON MADISON ADAMS, Ph.D.	*Agricultural Economist*
WILLIAM RITCHIE ADAMS, JR., Ph.D.	*Forester*
[1]RICHARD DAVISON APLIN, M.S.	*Assistant Agricultural Economist*
EARL LEE ARNOLD, Ph.D.	*Associate Agricultural Engineer*
HENRY VERNON ATHERTON, Ph.D.	*Assistant Dairy Husbandman (Manufacturing)*
DONALD JAMES BALCH, M.S.	*Assistant Animal Husbandman*
CHARLES HUGO BLASBERG, Ph.D.	*Horticulturist*
WESSON DUDLEY BOLTON, D.V.M., M.S.	*Animal Pathologist*
ALEC BRADFIELD, M.S.	*Associate Dairy Husbandman (Manufacturing)*
WINFIELD BOOTH DURRELL, D.V.M., M.S.	*Associate Animal Pathologist*
DWIGHT KIMBALL EDDY, B.S.	*Acting Assistant Agricultural Economist*
ROBERT FITZSIMMONS, M.S.	*Assistant Dairy Husbandman*
THEODORE ROSS FLANAGAN, Ph.D.	*Assistant Agronomist*
MURRAY WILBUR FOOTE, Ph.D.	*Assistant Biochemist*
ROY E. FORDHAM, M.S.	*Assistant Forester*
ALEXANDER GERSHOY, Ph.D.	*Geneticist*
JOE RAY GINGRICH, M.S.	*Assistant Agronomist*

[1]On military leave.

GLEN WAYNE GOSS, B.A.	*Assistant Editor*
DONALD CEDRIC HENDERSON, M.S.	*Poultryman*
RICHARD JOHN HOPP, M.S.	*Associate Horticulturist*
DONALD BOYES JOHNSTONE, Ph.D.	*Microbiologist*
ALICE MARGARET LAUGHLIN, M.S.	*Assistant Biochemist*
JOHN ERNEST LITTLE, Ph.D.	*Biochemist*
GEORGE BUTTERICK MacCOLLOM, Ph.D.	*Assistant Entomologist*
JAMES WALLACE MARVIN, Ph.D.	*Plant Physiologist*
SUSAN BREWSTER MERROW, M.Ed.	*Assistant Nutritionist*
ALVIN REES MIDGLEY, Ph.D.	*Agronomist*
MARIANNE MUSE, M.S.	*Home Economist*
JOHN ALVIN NEWLANDER, Ph.D.	*Associate Animal Husbandman*
WILLIAM HUGH RIDDELL, Ph.D.	*Animal and Dairy Husbandman*
EDWIN CALVIN SCHNEIDER, M.S.	*Agricultural Engineer*
[2]ROBERT ORVILLE SINCLAIR, B.S.	*Assistant Agricultural Economist*
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FRED HERBERT TAYLOR, Ph.D.	*Plant Morphologist*
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RAYMOND HERMAN TREMBLAY, Ph.D.	*Associate Agricultural Economist*
KENNETH EVERSON VARNEY, M.S.	*Assistant Agronomist*
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KATHLEEN BEAVINGTON WEBB, B.S.	*Associate Editor*
LLOYD RUSSELL WILLIAMS, B.S.	*Assistant Editor*
GLEN MEREDITH WOOD, Ph.D.	*Associate Agronomist*

ENGINEERING EXPERIMENT STATION STAFF

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REGINALD V. MILBANK, M.S.	*Civil Engineer*
ARTHUR F. TUTHILL, M.S. (Acting)	*Mechanical Engineer*

AGRICULTURAL EXTENSION SERVICE STAFF

The Vermont Agricultural Extension Service is a cooperative undertaking of the State of Vermont, the College of Agriculture, the United States Department of Agriculture, and the several counties of the State. It has a State staff, with headquarters at the University, and a staff of county extension agents in each county. Its purpose is "to aid in diffusing among the people . . . useful and practical information on subjects relating to agriculture and home economics, and to encourage the application of the same." It works primarily with the rural people of the State, including both adults and children.

JOSEPH EDWARD CARRIGAN, M.A., LL.D., D.Ec.Sc.	*Director*
PAUL ROBERT MILLER, M.S.	*Associate Director*

[2]On leave July 1, 1955–June 30, 1956.

ROBERT POWERS DAVISON, M.Ed.	*Associate Director and State Agricultural Agent Leader*
EDMUND MORTON ROOT, B.S.	*Assistant to the Director*
THURSTON MADISON ADAMS, Ph.D.	*Agricultural Economist*
DONALD JAMES BALCH, M.S.	*Assistant Animal Husbandman*
WILLARD LEONARD BICKFORD, B.S.	*Acting Assistant Dairyman*
CHARLES HUGO BLASBERG, Ph.D.	*Horticulturist*
WESSON DUDLEY BOLTON, D.V.M., M.S.	*Animal Pathologist*
CHARLES LYMAN CALAHAN, M.S.	*Horticulturist*
WARREN ALBERT DODGE, B.S.	*Dairyman*
ROBERT FITZSIMMONS, M.S.	*Dairyman, Breeding*
RAYMOND THOMAS FOULDS, JR., B.S.	*Forester*
GLENN WAYNE GOSS, B.S.	*Assistant Editor*
DONALD CEDRIC HENDERSON, M.S.	*Poultryman*
[1]VERLE RANDALL HOUGHABOOM, M.S.	*Associate Agricultural Economist*
[2]WILLIAM PATRICK LEAMY, B.S.	*Assistant Dairyman*
MARJORIE ELLINWOOD LUCE, B.S.	*State Home Demonstration Leader*
GEORGE BUTTERICK MacCOLLOM, Ph.D.	*Entomologist*
JOHN DOTY MERCHANT, B.S.	*State 4-H Club Agent Leader*
LEONARD SMITH MERCIA, M.S.	*Poultryman*
MARY PAULINE ROWE, B.S.	*Associate State 4-H Club Agent Leader*
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MRS. LOIS ALGER SOULE, B.S.	*Clothing Specialist*
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ANDREW TESSMAN, B.S.	*Agricultural Engineer*
JAMES ROGER WADSWORTH, V.M.D., M.S.	*Animal Pathologist*
WINSTON ARTHUR WAY, M.S.	*Agronomist*
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LLOYD RUSSELL WILLIAMS, B.S.	*Assistant Editor*
ANNA MARION WILSON, M.S.	*Nutritionist*

COUNTY AGRICULTURAL AGENTS

Addison County

Agricultural: LUCIEN DEMERS PAQUETTE, B.S.	Middlebury
JOHN FRANKLIN STEPHENSON, B.S. (Assistant)	Middlebury
ERDEN WELLS BAILEY, B.S. (Assistant)	Middlebury
Home Demonstration: MRS. LEONA WARREN THOMPSON, B.S.	Middlebury
Club: HARRIET ELLICE PROCTOR, B.S.	Middlebury

Bennington County

Agricultural: JOHN CALVIN PAGE, M.S.	Bennington
Home Demonstration: MRS. MARION STONE HARRIS, B.S.	Bennington
Club: ROBERT KENNETH BECHTOLD, B.S.	Bennington

[1]On leave Oct. 1, 1955–Sept. 30, 1956.
[2]On leave July 1, 1955–June 30, 1956.

Caledonia County

Agricultural: PHILIP KAIR GRIME, B.S.	St. Johnsbury
Home Demonstration: MRS. ALICE JOHNSON BLAIR, B.S.	St. Johnsbury
Club: MRS. MARGARET TOWER BECK, B.S.	St. Johnsbury

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Agricultural: ROBERT LACKIE CARLSON, B.S.	Essex Junction
KENNETH STEWART GIBSON, M.S. (Assistant)	Essex Junction
Home Demonstration: MRS. JENNIE SWETT SMITH, B.S.	Essex Junction
Club: MARGARET CALLAHAN WENTZEL, M.Ed.	Essex Junction

Essex County

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WALTER GENE ROCKWOOD, B.S. (Assistant)	St. Albans
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Club: LILLIAN ANDREWS, B.S.	St. Albans

Grand Isle County

Agricultural: ROBERT ELLIS WHITE, B.S.	North Hero
Club: HARRIET STORRS NICHOLS WHITCHER, B.S.	North Hero

Lamoille County

Agricultural: SILAS HAMILTON JEWETT, B.S.	Morrisville
Home Demonstration: MRS. ELIZABETH EMMONS ROBINS, B.S.	Morrisville
Club: JOHN FRANKLIN ADAMS, B.S.	Morrisville

Orange County

Agricultural: GORDON VOLNEY FARR, B.S.	Chelsea
Home Demonstration: MARY ANNA BURBANK, B.S.	Chelsea
Club: ELIZABETH ALDEN PURDY, B.S.	Chelsea

Orleans County

Agricultural: ROGER DAVIS WHITCOMB, B.S.	Newport
JOHN ROBERT PRICE, B.S. (Assistant)	Newport
Home Demonstration: MRS. MARION McIVER BUCKLAND, B.S.	Newport
Club: MRS. MARION SKINNER MORIARTY, B.S.	Newport

Rutland County

Agricultural: WILLIAM MICHAEL COREY, M.S.	Rutland
DAVID PAUL NEWTON, B.S. (Assistant)	Rutland
Home Demonstration:	
Club: EDWIN EMIL BERGSTROM	Rutland
CHESLEY PECK HORTON, M.Ed. (Assistant)	Rutland

Washington County

Agricultural: GORDON EARL BUTLER, B.S.	Montpelier
Home Demonstration: MRS. HAZEL C. BROWN, M.S.	Montpelier
Club: ERMA JOSEPHINE HARD, B.S.	Montpelier

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Agricultural: RAYMOND IRVING PESTLE, JR., M.S.	Brattleboro
Home Demonstration: MRS. ROSETTA SQUIRES PYLE, B.S.	Brattleboro
Club: CHADWICK CUMMINGS ARMS, B.S. (Acting)	Brattleboro

Windsor County

Agricultural: WILLIAM WILLARD STONE, B.S.	Woodstock
JOYCE WILLIAM SUMNER, B.S. (Assistant)	Woodstock
Home Demonstration: MRS. JENNIE ARMSTRONG HALL, B.S.	Woodstock
Club: MRS. ISABELLE PAIGE BARDEN, B.S.	Woodstock

RELATED SERVICES STAFF

The Related Services Division renders various services in the fields of agriculture and home economics, such as inspection of feed, seeds, and fertilizer; analysis of soils, milk, and other agricultural products on request; diagnosis of diseases of plants, poultry, and other livestock; and conduct of short courses and educational conferences.

JOSEPH EDWARD CARRIGAN, M.A., LL.D., D.Ec.Sc.	*Director*
PAUL ROBERT MILLER, B.S.	*Associate Director*
ROBERT POWERS DAVISON, M.Ed.	*Associate Director*
EDMUND MORTON ROOT, B.S.	*Assistant to the Director and Farm Superintendent*
WESSON DUDLEY BOLTON, D.V.M., M.S.	*Animal Pathologist*
ALEC BRADFIELD, M.S.	*Associate Dairy Husbandman (Manufacturing)*
WINFIELD BOOTH DURRELL, D.V.M., M.S.	*Associate Animal Pathologist*
ROBERT FITZSIMMONS, M.S.	*Assistant Dairy Husbandman*
RICHARD JOHN HOPP, M.S.	*Associate Horticulturist*
LUCIEN DEMERS PAQUETTE, B.S.	*Superintendent, Morgan Horse Farm*
HENRY LEONARD SAWYER, JR., B.S.	*Assistant Chemist*
JOHN FRANKLIN STEPHENSON, B.S.	*Assistant Superintendent, Morgan Horse Farm*
JAMES ROGER WADSWORTH, V.M.D., M.S.	*Assistant Animal Pathologist*
ROBERT THOMAS WETHERBEE, M.S.	*Chemist*

The Alumni Council

Organized in 1920, the objectives of the Alumni Council are to advance the interests and influence of the University; to strengthen the relations between the alumni and the University; to encourage sufficient class organization; to aid and assist in the establishment of alumni associations and promote their interest and effectiveness; to report from time to time to the Board of Trustees any facts and recommendations by the Council deemed material or for the interests of the University; to act as a medium that may make known the ideas of the alumni to the University, and the wishes of the University to the alumni; to keep in touch with the undergraduate activities, and to act in an advisory capacity through the Executive Committee and office of Alumni Council to such of the undergraduates as may desire to consult it in reference to their occupation after graduation.

The Alumni Council is composed of one member from each of the fifty classes last graduated, one member from each active alumni club, twenty members at large, one half of such members being women.

President: Neil Tolman, '26, 1625 Eye St., N.W., Washington, D. C.

Secretary: Isabelle Y. Gallup, 530 North St., Burlington, Vt.

Alumni Editor: Karl A. Andren, 55 Bilodeau Ct., Burlington, Vt.

Chairman of Finance Committee: David W. Webster, 31 Cliff St., Burlington, Vt.

Co-Chairmen of Commencement: John H. Suitor, '38, Deerfield, Mass., and Dudley H. Davis, '43, 233 Crescent Rd., Burlington, Vt.

Chairman of Undergraduate Activities: Clinton D. Cook, Jr., 64 Bilodeau Ct., Burlington, Vt.

Chairman of Scholarship Committee: Orson W. Jay, '32, 441 So. Union St., Burlington, Vt.

Ex-Officio: William M. Lockwood, '27, 273 S. Prospect St., Burlington, Vt.; Lawrence F. Killick, '22, 34 Woodcrest Lane, Burlington, Vt.; Harold C. Collins, '28, 127 Mansfield Ave., Burlington, Vt.; and Chester B. Eaton, '34, 10 Harvard St., Rutland, Vt.

Athletic Council: John W. Goss, '10; Loren E. Palmer, '29; Robert P. Davison, '35 and William Gilbertson, '50.

Honorary Members:

President Dr. Carl W. Borgmann, 25 Colchester Ave., Burlington, Vt.
Dr. Clarence H. Beecher, '00, 151 Robinson Pkwy., Burlington, Vt.

CLASS REPRESENTATIVES

1906 Robert L. Whipple, 4 Wheeler Ave., Worcester, Mass.
1907 To be named.

1908 William L. Blanchard, 89 Walton Park, Melrose Highlands, Mass.
1909 William L. Gardner, 17 Overlake Park, Burlington, Vt.
1910 Albert Valentine Kieslich, 167 North Ave., Burlington, Vt.
1911 Ray R. Allen, South Hero, Vt.
1912 Albert L. Gutterson, 49 Cherry Hill, Springfield, Vt.
1913 Charles P. Smith, Jr., Appletree Point, Burlington, Vt.
1914 Harold F. Johnson, 60 Hopkins Pl., Longmeadow, Mass.
1915 Joseph B. Johnson, 1 Hillcrest Rd., Springfield, Vt.
1916 Morris R. Wilcox, 152 Lyman Ave., Burlington, Vt.
1917 F. Raymond Churchill, Middlebury, Vt.
1918 George C. Stanley, 86 Loomis St., Burlington, Vt.
1919 Herbert D. Pearl, 58 DeForest Rd., Burlington, Vt.
1920 Mrs. Elizabeth Howe Putney, 955 Shelburne Rd., Burlington, Vt.
1921 Mrs. Helen Stiles French, Rt. 1, Hinesburg Rd., Burlington, Vt.
1922 Lawrence F. Killick, 34 Woodcrest Lane, Burlington, Vt.
1923 Wesley W. Smith, Jr., Middlebury, Vt.
1924 Daniel B. Dyer, St. Johnsbury, Vt.
1925 Leon D. Latham, Jr., 112 Bradley Rd., Burlington, Vt.
1926 Olney W. Hill, 539 St. Paul St., Burlington, Vt.
1927 N. Dean Rowe, Johnson, Vt.
1928 Sabin C. Abell, Box 568, Burlington, Vt.
1929 Constans M. Holden, 257 So. Union St., Burlington, Vt.
1930 Mrs. Evelyn Wright Court, 524 So. Willard St., Burlington, Vt.
1931 John A. Bradish, Williston, Vt.
1932 James W. Marvin, South Burlington, Vt.
1933 Mrs. C. Antoinette Hubbard Loudon, 17 Ledgemere St., Burlington, Vt.
1934 John C. Arnold, Jr., 125 Ledge Rd., Burlington, Vt.
1935 Donald C. Gregg, 199 Howard St., Burlington, Vt.
1936 Mrs. Gladys Sussdorf Keelty, 10 Abnaki Ave., Essex Jct., Vt.
1937 Feno H. Truax, Box 22, Vergennes, Vt.
1938 Albert C. Spaulding, III, 27 Kingsland Terr., Burlington, Vt.
1939 Mrs. Martha Douglass Peterson, 142 No. Church St., Rutland, Vt.
1940 David E. Stowell, 178 Howard St., Burlington, Vt.
1941 Kenneth W. Johnson, University of Mass., Amherst, Mass.
1942 Hazen F. Wood, 31 Mansfield Ave., Essex Junction, Vt.
1943 Paul N. Sutton, 140 Summit St., Burlington, Vt.
1944 Robert R. Pond, Spear St., Burlington, Vt.
1945 Mrs. Harriet Pearl Grant, 156 Summit St., Burlington, Vt.
1946 Charles A. Plumley, Box 93, Rutland, Vt.
1947 Houghton D. Pearl, Farm & Trade School, Thompson Island, Boston 11, Mass.
1948 Philip E. Robinson, Massapequa, L. I., N. Y.
1949 Mitchell J. Hunt, Penn. Economy League, Inc., Greentree Bldg., Rm. 7, West Chester, Penna.
1950 Franklin M. Peabody, 19 Ogden St., Glen Falls, N. Y.
1951 Edward F. Streeter, Wilmington, Vt.
1952 Charles F. Black, Stowe, Vt.
1953 Rodney Belden, Hq. 12th Air Force A-1, APO-12, c/o P.M., N. Y. City.
1954 Martha J. Edson, 82 Davis St., Rutland, Vt.
1955 Clinton H. Thompson, 420 College St., Burlington, Vt.

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Term Expires 1956

John S. Wright, 1 West 54th St., New York 19, N. Y.
Thomas J. Mulcare, Jr., '09, 414 Mt. Auburn St., Cambridge 38, Mass.
Mrs. Alice Hamilton Myers, '37, 387 So. Union St., Burlington, Vt.
Robert F. Patrick, '25, Shelburne, Vt.

Term Expires 1957

Leon W. Dean, '15, 308 So. Prospect St., Burlington, Vt.
H. Marian Way, '23, 115 Summit St., Burlington, Vt.
Dr. Albert G. Mackay, 120 Ledge Rd., Burlington, Vt.
Charles H. Stevens, '28, 36 Hillcrest Rd., Burlington, Vt.

Term Expires 1958

Dr. W. A. R. Chapin, '15, 40 Riverside Ter., Springfield, Mass.
Mrs. Natalie Noyes Viets, '20, P. O. Box 7, Hyde Park, Vt.
Mrs. Ethel Southwick Eastman, '09, Appletree Point, Burlington, Vt.
Raymond A. Briggs, '18, Overlake Park, Burlington, Vt.

Term Expires 1959

Dr. John C. Cunningham, Bilodeau Ct., Burlington, Vt.
Mrs. Laura P. Meredith, '17, Montpelier, Vt.
Col. Dana G. McBride, '18, Burlington, Vt.
Jesse E. Sunderland, '24, St. Albans, Vt.

Term Expires 1960

David W. Howe, '14, 385 So. Prospect St., Burlington, Vt.
Mary Jean Simpson, '13, East Craftsbury, Vt.
Mrs. Lilian Cohen Samuelson, '30, 165 Crescent Rd., Burlington, Vt.
Robert L. Carlson, '42, 37 So. Summit St., Essex Jct., Vt.

CLUB REPRESENTATIVES

Out-of-State

Boston, Mass.—Dr. Walter S. Denning, '29, 28 Davis Ave., Brookline, Mass.
Buffalo (Western N. Y.)—Chas. F. Blair, '99, 810 White Bldg., Buffalo, N. Y.
California—Mrs. Lilla M. Armstrong, 501 N. Citrus Ave., Los Angeles, Calif.
Chicago, Ill.—Elias Lyman, Jr., 6820 So. Jeffery, Chicago, Ill.
Cleveland, Ohio—Earle W. Brailey, '14, 509 Euclid Ave., Cleveland 14, Ohio.
Detroit, Mich.—Edward D. Trowbridge, '26, 1340 Bishop Rd., Grosse Pointe 30, Mich.
Hartford, Conn., Alumnae—Mrs. Lucy Eaton Ellis, 263 Brimfield St., Wethersfield, Conn.
Hartford, Conn., Alumni—Jas. H. Naylor, Jr., '37, 5 Main St., Hartford, Conn.
Hampshire County, Mass.—James P. Reed, '10, R. F. D. 3, Amherst, Mass.
Maine Club—Joyce E. Byington, '45, 11 State St., Portland, Me.
New York Alumni—Clesson S. Cummings, '22, 60 Hudson St., Rm. 1620, New York 13, N. Y.
New York Medical Alumni—Dr. Allen M. Margold, '25, 148 East Ave., Norwalk, Conn.
New York Capital District—Dr. Arthur Q. Penta, '25, 1301 Union St., Schenectady 8, N. Y.

Philadelphia, Pa.—Edward G. Howe, '24, 517 W. Mt. Airy Ave., Philadelphia 19, Pa.
Pittsburgh, Pa.—Harold E. Hazen, '24, 435 Avenue D, Pittsburgh 21, Pa.
Rochester, N. Y.—Arthur B. Corey, 155 Summit Dr., Rochester, N. Y.
Springfield, Mass.—Raymond G. Kinsler, 409 Trafton Rd., Springfield, Mass.
Washington, D. C.—Neil Tolman, '26, 1625 Eye St., N.W., Washington, D. C.
Worcester, Mass.—G. Stanley Flagg, '32, 4 Robert Ave., Auburn, Mass.

Vermont

Addison County—Arthur B. Delano, '11, R.D. 1, Whiting, Vermont
Burlington Alumni—Albert C. Spaulding, Burlington, Vt.
Burlington Alumnae—Mrs. Ursala Kimball Jordan, '20, 449 So. Prospect St., Burlington, Vt.
U. V. M. Medical—Dr. Peter P. Lawlor, 65 Pine St., Burlington, Vt.
Caledonia County—James B. Campbell, '09, 15 Summer St., St. Johnsbury, Vt.
Bennington County—Dr. John C. Armstrong, '25, No. Bennington, Vt.
Franklin and Grand Isle Counties—Donald C. Pierce, '31, 20 Lakeview Terrace, St. Albans, Vt.
Lamoille County—Edward C. Glysson, '22, Hyde Park, Vt.
Orleans and Essex Counties—Dr. Deane F. Mosher, '41, c/o Newport Clinic, Newport, Vt.
Rutland County—Raymond E. Holway, '25, Box 347, Rutland, Vt.
Washington County (Orange, Williamstown and Washington)—Hubert S. Brooks, Jr., '51, 7 Clarendon Ave., Montpelier, Vt.
Windham County—Mrs. Harriett P. Bolles, '33, 23 Williams Terrace, Bellows Falls, Vt.
Windsor County—Wilbur Y. Handy, '15, 10 Harvard St., Springfield, Vt.

Enrollment Statistics

SUMMARY OF RESIDENT ENROLLMENT

FALL SEMESTER, 1955–56

THE UNDERGRADUATE COLLEGES:	*Men*	*Women*	*Total*
Arts and Sciences	623	292	915
Technology	682	86	768
Education and Nursing	85	365	450
Agriculture and Home Economics	253	164	417
TOTAL	1643	907	2550
College of Medicine	170	10	180
Graduate College	43	13	56
Unclassified Division	31	21	52
School of Dental Hygiene		31	31
TOTAL	1887	982	2869

UNDERGRADUATE COLLEGES BY CLASSES:	*Men*	*Women*	*Total*
Class of 1956	306	161	467
Class of 1957	371	185	556
Class of 1958	411	242	653
Class of 1959	555	319	874
TOTAL	1643	907	2550

BREAKDOWN OF UNDERGRADUATE, UNCLASSIFIED, GRADUATE, MEDICAL AND DENTAL HYGIENE STUDENTS:	*Men*	*Women*	*Total*
In-state	921	454	1375
Out-of-state	966	528	1494
TOTAL	1887	982	2869

In addition to the above regularly enrolled students are the following:

Residents—Medical	30
Pre-clinic Nurses	45
TOTAL	75

GRAND TOTAL—FALL SEMESTER 1955—2944

	Arts	*Tech*	*E&N*	*A&H*	*In-State*	*Out-of State*	*Total*
Class of 1956	179	119	84	85	223	244	467
Class of 1957	189	176	91	100	268	288	556
Class of 1958	224	199	124	106	288	365	653
Class of 1959	323	274	151	126	438	436	874
TOTAL	915	768	450	417	1217	1333	2550

ENROLLMENT BY DIVISIONS

I. COLLEGE OF ARTS AND SCIENCES

	In-State			*Out-of-State*			*In & Out Total*
	M	*F*	*T*	*M*	*F*	*T*	
Class of 1956	50	17	67	81	31	112	179
Class of 1957	52	23	75	79	35	114	189
Class of 1958	46	19	65	100	59	159	224
Class of 1959	69	40	109	146	68	214	323
TOTAL	217	99	316	406	193	599	915

By curricula:	*Men*	*Women*	*Total*
General Liberal Arts	436	273	709
Pre-dental	33	0	33
Pre-medical	154	19	173
TOTAL	623	292	915

II. COLLEGE OF TECHNOLOGY

	In-State			*Out-of-State*			*In & Out Total*
	M	*F*	*T*	*M*	*F*	*T*	
Class of 1956	60	3	63	50	6	56	119
Class of 1957	74	3	77	86	13	99	176
Class of 1958	84	9	93	93	13	106	199
Class of 1959	149	14	163	86	25	111	274
TOTAL	367	29	396	315	57	372	768

By Curricula:	*Men*	*Women*	*Total*
Engineering (Undecided)	6	3	9
Civil Engineering	92	0	92
Electrical Engineering	116	2	118
Management Engineering	29	0	29
Mechanical Engineering	122	0	122
Commerce and Economics	301	36	337
Secretarial	0	6	6
Professional Chemistry	15	5	20
Medical Technology	1	34	35
TOTAL	682	86	768

III. COLLEGE OF EDUCATION AND NURSING

	In-State			*Out-of-State*			*In & Out Total*
	M	*F*	*T*	*M*	*F*	*T*	
Class of 1956	13	37	50	5	29	34	84
Class of 1957	11	49	60	2	29	31	91
Class of 1958	21	50	71	4	49	53	124
Class of 1959	26	64	90	3	58	61	151
TOTAL	71	200	271	14	165	179	450

By Curricula:	*Men*	*Women*	*Total*
Elementary	3	195	198
Junior High	32	25	57
Secondary	42	30	72
Business	6	13	19
Music	2	12	14
Nursing	0	90	90
TOTAL	85	365	450

IV. COLLEGE OF AGRICULTURE AND HOME ECONOMICS

	In-State			*Out-of-State*			*In & Out Total*
	M	*F*	*T*	*M*	*F*	*T*	
Class of 1956	31	12	43	16	26	42	85
Class of 1957	38	18	56	29	15	44	100
Class of 1958	46	13	59	17	30	47	106
Class of 1959	51	25	76	25	25	50	126
TOTAL	166	68	234	87	96	183	417

By Curricula:	*Men*	*Women*	*Total*
Agriculture (General)	201	11	212
Agricultural Engineering	26	0	26
Pre-forestry	8	0	8
Pre-veterinary	18	4	22
Home Economics	0	149	149
TOTAL	253	164	417

V. COLLEGE OF MEDICINE

	In-State			*Out-of-State*			*In & Out Total*
	M	*F*	*T*	*M*	*F*	*T*	
Class of 1956	14	1	15	28	1	29	44
Class of 1957	16	1	17	22	1	23	40
Class of 1958	22	2	24	21	1	22	46
Class of 1959	14	2	16	33	1	34	50
TOTAL	66	6	72	104	4	108	180

VI. GRADUATE COLLEGE

	Men	*Women*	*Total*
In-state	17	9	26
Out-of-state	26	4	30
TOTAL	43	13	56

VII. UNCLASSIFIED DIVISION (Special Students)

	In-State			*Out-of-State*			*In & Out Total*
	M	*F*	*T*	*M*	*F*	*T*	
Arts & Sciences	8	15	23	11	1	12	35
Technology	3	0	3	1	0	1	4
Agriculture & Home Ec.	6	0	6	0	0	0	6
Education & Nursing	0	5	5	2	0	2	7
TOTAL	17	20	37	14	1	15	52

VIII. SCHOOL OF DENTAL HYGIENE

	In-State	*Out-of-State*	*Total*
Second Year	12	6	18
First Year	10	3	13
TOTAL	22	9	31

Degrees and Prizes

Commencement—Sunday, June 12, 1955

SCHOOL OF DENTAL HYGIENE

Ruth Marie Anton, Barre
Joan Pisanelli Brochu, Hardwick
Valentina Anne Buczek, Poultney
Sally Louise Cook, Burlington
Patricia Jane Curran, Newport
Betty Lou Davis, Manchester
Stella Catherine Drapala, Brattleboro
Regina Mary Frost, Springfield
Margaret Louise Goyette, Barre
Patricia Ann Haron, Port Washington, N. Y.
Marjorie Inez Reed, Craftsbury
Mary Phillips Roberts, Rutland
Annette Doris Rowell, Hardwick
Marie Louise Rugo, Barre
Lois Dorothy Wightman, Vergennes
Lucie Anne Woods, Woodstock

COLLEGE OF EDUCATION AND NURSING

BACHELOR OF SCIENCE IN NURSING

Joy Lila Arioli, Barre
Jane Elizabeth Aronson, Proctor
Fratia Louise Dunn, North Troy
Beverly Cole Gallic, Arlington, Va.
Dale Elizabeth Hulburd, Burlington
Rita Marion Johnson, Proctor
Beatrix Hanson Jones, West Hartford, Conn.
Mary Anne LaFonte, White Plains, N. Y.
Priscilla Mae Libby, Mount Vernon, N. Y.
Ann Lord, Kezar Falls, Me.
Patricia Ann McKiernan, Somerville, N.J.
Patricia Ann Rule, Arlington, Mass.
Barbara Forbes Sowles, Winooski
Nancy R. Storm, Baldwinsville, N. Y.
Jane Van Derwerker Story, Hudson Falls, N. Y.
Nancy Ruth Williams, Manchester, Mass.

BACHELOR OF SCIENCE IN NURSING EDUCATION

Louise Aline Demers, St. Johnsbury

BACHELOR OF SCIENCE IN BUSINESS EDUCATION

Mary Katherine Mulqueen, Rutland
Joanne Carroll Murray, Williamstown
Melva Eleanor Sheeran, West Orange, N. J.

BACHELOR OF SCIENCE IN MUSIC EDUCATION

Marlene Evelyn Goodenough, East Hartford, Conn.
Alayne June Tomlinson, Stowe

BACHELOR OF SCIENCE IN EDUCATION

Dolores Maria Amor, Montpelier
Mary Jane Anderson, Washington Depot, Conn.
Judith Henderson Astone, Burlington
Ruth Anderson Atkinson, Brattleboro
Kathryn Eva Ballou, Essex Junction
Ruel Guy Barrett, Fairlee
Judith Elaine Black, Hyde Park
Dale Miner Blandin, Hanover, N. H.
Evelyn Gertrude Bond, Brattleboro
Linda Frances Brettler, New York, N. Y.
*Sara Libby Brown, Burlington
Devona Lee Bussiere, South Woodbury
*Ruth Ward Carrier, Brattleboro
Pauline Marie-Marthe Choquette, North Troy
*Myrtle A. Smith Clark, Bristol, Conn.
Ruth Jean Clark, Burlington
*Constance E. Cleveland, St. Albans
Nancy Jane Collins, Burlington
Adrianne Elliott Cowles, Burlington
Constance Maxine Cox, Bristol
Roberta Elaine Cushman, Tunbridge
*Anna Elizabeth Daly, Winooski Park

*As of October 16, 1954.

Donald Robert Dufour, Lyndonville
Joanne Mary Dufresne, Winooski
Nancy Ruth Ehrhardt, Nutley, N. J.
Beth Buchan Elrick, South Royalton
Joyce Prevost Eng, Burlington
†Barbara Anne Erikson, Pembroke, Mass.
Anne Farnsworth, Burlington
*Ivis Belle Flint, Burlington
Clement Alvin Forte, Fair Haven
Joan Elinor Gilmore, Rutland
Gloria Anna Greene, St. Albans
Linda Ross Hadley, Burlington
Marjorie Clare Haflinger, Maywood, N. J.
Marie Linda Hauptman, Bronxville, N. Y.
*Benjamin William Heath, Rochester
Nancy Evora Hinsdill, Troy, N. Y.
Linda Dianne Howlett, Bridport
Robert William Hutchinson, W. Springfield, Mass.
*Helen Louise Hyde, Royalton
Peter Johnson Ideman, Burlington
Nancy Bennett Jordan, Burlington
Beverly Rohr Kelley, E. Longmeadow, Mass.
Betty Ann Kidder, Rochester
Lois Caroline King, Burlington
Elaine G. Knapp, Stowe
Janet Helen Lawson, Websterville
Lola Jean Long, Danville
Mary Lucille Martin, East Corinth
Wilbur Bulman McAllister, Jr., Bennington
Margaret Ann McGowan, Trenton, N. J.
Marjorie Mary McGrath, Burlington
Vivian Ellen Menke, Ridgefield Park, N.J.
Barbara Lee Mett, Schenectady, N. Y.
Audrey Barrett Mowry, Montpelier
Janet Mae Parker, West Rutland
*Alexandra Cecilia Perrault, St. Albans
Mary Alice Pfotzer, Warwick, N. Y.
Louise Mabelle Phelps, North Hartland
Constance Louise Pierce, Montpelier
Mary Geraldine Quinn, Poultney
Harriet Ruth Raymond, Burlington
*Elsie Leach Rodgers, New Haven
Reneé Felice Rosenbaum, New York, N.Y.
Babette Rosenbush, Baltimore, Md.
Richard Lyman Russell, Waterbury
Carolyn Mae Silsby, St. Johnsbury
Marilyn Rae Skinner, St. Johnsbury
Roslyn Slosberg, Montpelier
Evan Alton Sweetser, Morrisville
Carol Judith Victorsohn, Mt. Vernon, N. Y.
*Mary Alice Walter, Winooski
Elaine Diane Wittenstein, Rockville Centre, N. Y.
Marcia Inez Young, Somers, N. Y.

COLLEGE OF TECHNOLOGY

BACHELOR OF SCIENCE IN CHEMISTRY

John Armand Eberwein, Pittsfield, Mass.
Willard Branham Howe, Philadelphia, Pa.
Arthur Stanley Rosenberg, Teaneck, N. J.
Bruce George Somers, *cum laude*, St. Johnsbury

BACHELOR OF SCIENCE IN COMMERCE AND ECONOMICS

†Harold Coburn Avery, Jr., Burlington
Fredericka Mary Blumenstock, Merchantville, N. J.
Howard Harvey Braithwaite, Larchmont, N. Y.
Willard Henry Breen, Waterbury
Carlton Madison Brown, Jr., West Wardsboro
Daniel Alan Burack, Brooklyn, N. Y.
John James Burns, Jr., Burlington
Peter Ivan Colodny, Mt. Vernon, N. Y.
Robert Joseph Crawford, Oradell, N. J.
James Francis Cronin, Brant Lake, N. Y.
Jerome David Cutler, Yonkers, N. Y.
Abraham Edwin Dan, Brooklyn, N. Y.
†Wilfred Eaton Dewey, Reading, Mass.
Marshall Thorburn Fay, Jr., Proctor
*Harvey Stuart Frischling, Brooklyn, N. Y.
Dale Edward Gardner, Catonsville, Md.
Morton Gewirtz, Brooklyn, N. Y.
Richard Donald Goldstein, Springfield, Mass.
‡Barry Alan Granick, Newark, N. J.
†Cyril Frank Greene, Jr., Montpelier
†Norman Mailler Hayes, Burlington
Robert Leslie Heinze, Rockville Centre, N. Y.
Irwin Herling, Mt. Vernon, N. Y.
John Edward Hubbard, Franklin
Keith Howard Jampolis, Brooklyn, N. Y.
James Peter Johnson, Portland, Me.
Herbert Stephen Klein, Rockville Centre, N. Y.
Bernard Levy, New York, N. Y.
Richard Allan Lewis, Brookline, Mass.
Robert E. Mallozzi, Jr., Darien, Conn.
Edward George Nemer, Lewiston, N. Y.
Gerald Michael Olson, Ossining, N. Y.

*As of October 16, 1954.
†As of March 5, 1955.
‡As of December 17, 1954.

Robert Duane Park, Bennington
Joseph Leopold Rolak, New Bedford, Mass.
Bernard Roth, New York, N. Y.
John Samuelson, New York, N. Y.
Fred Grant Smith, Rutland
Bruce Richard Spaulding, *cum laude*, Nashua, N. H.
Roger Eliot Spear, Jr., Wellesley Hills, Mass.
*Marianna Brady Stelle, East Orange, N. J.
Robert Chase Stetson, Springfield, Mass.
LaVerne Anson Trinkino, Jr., Binghamton, N. Y.
*James Joseph Vincent, New London, Conn.
Paul Stuart Vogel, Flushing, Long Island, N. Y.
Ronald Preston Ward, Burlington

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

Ovila Leodore Bibeau, Essex Junction
Richard Webster Cowles, Bloomfield, Conn.
Vernon Elwyn Currier, Island Pond
Rollin Lee Dye, Brattleboro
Robert Wolcutt Foster, Burlington
Melton Myron Miller, Jr., *cum laude*, Burlington
Michael Francis Semans, Dorchester, Mass.
Ernest Joseph Tesconi, Rutland
Walter Peter Tokarz, Jefferson, Mass.

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

David Rupert Chittick, Waterbury
Edward Book Knutson, Chelmsford, Mass.
Neal Thompson Lovelette, Richford
Paul R. Low, South Hero
Earl Elliott Schiring, Burlington
Frank Blakely Stalker, Winooski
Nelson Collins Stiles, Burlington
Lawrence Tyrell Sullivan, Bellows Falls

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

Francis Eugene Calevro, Barre
Lowell Zane Carpenter, Peru, N. Y.
Lawrence Snow Damon, Burlington
Richard Paul Desautels, Burlington
Clyde Bradley Doolittle, Jr., Worcester, Mass.
Forrest Neill Higley, West Brattleboro
Masa-Aki M. Hotta, Fair Haven
Guy Lewis Johnson, St. Albans
Jeremiah Eugene McGinley, Springfield
Dennis Paul Saunders, Washington, D. C.
*Albert Conway Saurwein, St. Albans
Russell Allen Thompson, Colchester
Robert Maybury Thurber, Burlington
Harold E. Weinberger, Brooklyn, N. Y.

BACHELOR OF SCIENCE IN MEDICAL TECHNOLOGY

†James Manlius Perkins, Haverhill, Mass.
Patricia Anne Silsby, St. Johnsbury
Janet Austin Stewart, Ballston Spa, N. Y.

COLLEGE OF AGRICULTURE

BACHELOR OF SCIENCE IN AGRICULTURE

Sidney Earl Barnard, Vergennes
Willard Leonard Bickford, Burlington
†Paul Werner Bohne, Bennington
Samuel Cutting III, Trumbull, Conn.
Everett Joseph Dargie, East Ryegate
Dean Robert Elliott, *cum laude*, Barton
Robert John Hamilton, Wyckoff, N. J.
Karl David Haviland, Red Bank, N. J.
Robert Engle Hylton, Manhasset, N. Y.
Donald Kenneth Josselyn, South Burlington
Peter Burton Kenyon, Rochester, N. Y.
Larned Moffett Ketcham, Jr., White Plains, N. Y.
Joseph Edward Kivlin, *cum laude*, Shoreham

*As of October 16, 1954.
†As of March 5, 1955.

Ronald Fay Larrow, South Hero
Raymond Edwin Leonard, Pittsford
Thomas James Moore, Saxtons River
†Clement Paul Nadeau, Highgate Center
†Richard Augustus Neis, Kirkville, N. Y.
‡Thomas Ross Roughton, Staten Island, N. Y.
Henry Meyer Schwartz, Holliswood, N. Y.
William Lee Steadman, Jr., Lincoln
Norman Orien Stevens, Pittsford
Douglas William Scott Sutherland, Wellesley, Mass.
Willard Tobias Tresler, South Hero
Richard Frank Wood, Brandon
Chris Henry Zwirner, Briarcliff Manor, N. Y.

BACHELOR OF SCIENCE IN AGRICULTURAL ENGINEERING

Robert Bruce Boutwell, Rutland
John William Lear, Chatham, N. J.
John Howard Matheson, South Orange, N. J.
David Porter Perrin, Barre

BACHELOR OF SCIENCE IN HOME ECONOMICS

Helen Louise Anderson, Craftsbury
Jane Emily Anderson, Montpelier
Judith Diane Arkin, Newport
Claire Margaret Battles, West Rutland
Bette Anne Bayowski, West Orange, N. J.
Nancy Burt Brown, Brandon
Margaret Ann Carleton, West Newbury
Roena Jones Hardy, Waitsfield
Marylin Preston Hinsdale, Burlington
Barbara Schaefer Idleman, Norwalk, Conn.
Elinor Parker Jamieson, *cum laude*, Randolph
Nancy Evelyn Jones, Poultney
Diana Mae Kiessling, Middlebury, Conn.
Mary Joanne McGlaflin, Northfield
Kathryn Folsom Melby, North Ferrisburg
Elizabeth Ann Melloon, Concord, Mass.
Nancy Hewitt Nott, White River Junction
Audrey Smith Pratt, Queens Village, New York, N. Y.
Barbara Ann Raab, Glen Ridge, N. J.
Joan Eleanor Rohrlick, Montreal, Que., Canada
Joyce Marion Sargent, Marshfield
Nancy Louise Scott, Vergennes
Shirley Jean Vanderpool, Brattleboro
Kathryn Beatrice Waldman, Brightwaters, N. Y.
Serie Elizabeth Wigton, Grosse Pointe, Mich.

COLLEGE OF ARTS AND SCIENCES

BACHELOR OF ARTS

Miriam Joyce Aho, Chester
Benjamin Glasser Aibel, New York, N. Y.
*William Joseph Baldwin, Jr., Springfield
George Nicholas Bardis, Brattleboro
Virginia Lawrence Anderson Barrett, Thetford
Louis Martin Barth, Bronx, N. Y.
William Southgate Battles, Rutland
Walter Beck, South Orange, N. J.
Marjorie Stanwood Billings, Saranac Lake, N. Y.
Alfred Martin Bloch, Bronxville, N. Y.
Eleanor Jean Boraks, Newton, Mass.
Victor Dow Borst, III, Brooktondale, N.Y.
Margaret Drusilla Brown, Wycombe, Pa.
*William Sumner Brown, Longmeadow, Mass.
Nancy Paula Brumberg, Brooklyn, N. Y.
Kathleen Fay Bryson, New Britain, Conn.
Richard George Caldwell, Tenafly, N. J.
Anthony Peter Calorusso, Jr., North Tonawanda, N. Y.
Kathryn Joan Carangelo, Red Bank, N. J.
Martin Conrad Carr, Brooklyn, N. Y.
Frederick Theodore Cioffi, Rochester, N. Y.
Ditza Cohany, Lakewood, N. J.
Robert Laib Cohen, Jackson Heights, N. Y.
Donald Robert Cook, Burlington
Joseph Francis Costello, Rutland
Therese Jeannette Coté, Jonesville
*Leighton Earle Cox, Wallingford
Robert Jack Crawford, Evanston, Ill.
Carol Jane Crossman, *cum laude*, New York, N. Y.

*As of October 16, 1954.
†As of March 5, 1955.
‡As of December 17, 1954.

Lewis Robert Dan, High View, N. Y.
Rudolph Henry Deetjen, Jr., Belleville, N. J.
Patricia Ruth Dolan, Westfield, N. J.
Ronald John Doornbosch, Rochelle Park, N. J.
†Michael Carlin Duban, Garden City, N.Y.
Diane Grace Eastman, Woodsville, N. H.
Viola Anne Edlund, Staten Island, N. Y.
Lawrence Zachary Epstein, Mt. Vernon, N. Y.
George Donald Ewins, West Berkshire
Gareth Murray Fay, Proctor
Raymond Lawrence Finehout, Swanton
Raymond John Flannery, Waterbury
Donald Watt Forsyth, Interlaken, N. J.
Gerry Germain Germain, New York, N.Y.
Michael Richard Golding, Brooklyn, N. Y.
Donald J. Goldman, Bronx, N. Y.
Eugene Francis Golis, Dumont, N. J.
I. Bradley Gordon, Brooklyn, N. Y.
Harmon Sheldon Graves, III, Burlington
Hal Lee Greenfader, Flushing, N. Y.
Marilyn Reynolds Griffen, White Plains, N. Y.
Richard Roy Griffith, Rochelle Park, N. J.
Rosalyn Honey Gross, Rockville Centre, N. Y.
Luther Frederick Hackett, Burlington
Mary Chapman Hagar, Burlington
†Joanne Haigis, Burlington
Abigail Payne Nelson Hall, Burlington
Thomas Layton Hall, Wellesley Hills, Mass.
†Donald Cedric Henderson, Burlington
David Hershberg, Burlington
Franklin Harry Hopkins, Stamford, Conn.
Vivian Lorraine Jacobs, Springfield
Walter Rollins Johnson, Rutland
Jacquelyn Mary Joyce, Ludlow
William Kacher, Haverhill, Mass.
James Thomas Kalperis, Westbrook, Me.
Robert Carl Kaplan, Brooklyn, N. Y.
Charles Edward Karp, Mt. Vernon, N. Y.
Robert Alan Katz, Nyack, N. Y.
Hope Keeler, Wethersfield, Conn.
Lois Lorraine Kenny, East Orange, N. J.
Frances Ellen Kidder, Burlington
Rupert Rugg King, Jr., Burlington
Irwin Soloman Klein, Brooklyn, N. Y.
*Harry Hopson Knox, Yonkers, N. Y.
Marshall Myron Kroot, Portland, Me.
Valerie Kuebler, West Newton, Mass.
Peter Robert Laibson, *cum laude*, Brooklyn, N. Y.
Irving Leffler, New York, N. Y.
Alice Flora Leonard, Barton
Eleanor Doris Levin, Brooklyn, N. Y.
Joan Inez LeViness, Larchmont, N. Y.
Peter Darragh Louderback, Babylon, N.Y.
Lewis Lubar, Brookline, Mass.
†Frank Lucarelli, Schenectady, N. Y.
Francis Louis Maccini, Wellesley, Mass.
Arnold Manheim, Burlington
Daniel Thomas Manning, Jr., Au Sable Forks, N. Y.
June Marble, West Woodstock
George Augustus Martin, Saxtons River
‡Jane Margaret Matia, Cleveland, Ohio
Joyce Deslys Merrill, Westwood, N. J.
Carolyn Pamela Merritt, West Hartford, Conn.
Jerome Harold Meyers, Bronx, N. Y.
Robert Norman Millman, Lake Mohegan, N. Y.
Marcia Louise Mockridge, Nutley, N. J.
Carol Jean Moran, Springfield, Mass.
Jane Margaret Morrison, Danielson, Conn.
Alan Stephen Mufson, New York, N. Y.
Dorothy Margaret Myer, *cum laude*, Westport, Conn.
*Joel Murray Needleman, Newport
Edith Elizabeth Nichols, Maplewood, N.J.
*Carl Gordon Notkin, Montreal, Quebec, Canada
*Dorothy Martel O'Brien, Turners Falls, Mass.
Barbara Elizabeth O'Hara, Wethersfield, Conn.
Bernard William O'Hara, Mooers, N. Y.
†William Andrew Olden, New Bedford, Mass.
Beryl Louise Oliver, Livingston, N. J.
Janet Helen Parent, Hinesburg
Barbara Mae Parker, Cuttingsville
Robert Clifton Parker, Morrisville
Judith Mary Patten, Cuttingsville
Doris Dickov Pearl, Ticonderoga, N. Y.
†Daniel Cone Pease, Jr., Meriden, Conn.
Sandra Bonney Perry, New Bedford, Mass.
†Joseph Henry Plante, Massena, N. Y.
Sally Ann Ploof, Burlington
Curtis Raymond, Elsmere, N. Y.
‡George Stanford Robertson, Jr., Chathamport, Mass.
Anthony Morrow Rockhill, Flushing, N.Y.
Mark Anschel Rosenblatt, Newton, Mass.
Marjorie Mae Rowell, *cum laude*, Burlington
Joan Alice Rulison, Flushing, N. Y.
Ellen Ruth Safford, Glens Falls, N. Y.
Marion Sarah Sallah, Winooski
Rhea Salsburg, Hartford, Conn.
Jay Elliott Selcow, Bayonne, N. J.

*As of October 16, 1954.
†As of March 5, 1955.
‡As of December 17, 1954.

Elmer Russell Sherman, Jr., Staten Island, N. Y.
Philip Snyder, New York, N. Y.
Sally Joan Solomon, Springfield, Mass.
Herzl Robert Spiro, *cum laude*, Burlington
Joan Leslie Staring, Washington, D. C.
Alione Ely Stark, Lyme, Conn.
Stanley Irwin Stein, Brooklyn, N. Y.
Earl Lewis Steinman, New Britain, Conn.
David Alan Stephens, Burlington
Erwin Bernard Suchman, Irvington, N. J.
Patricia Ann Sweeny, Croton-on-Hudson, N. Y.
Frances Carol Szyman, Claremont, N. H.
Harold John Thomas, Jr., Burlington
Mary Mildred Tierney, Waterbury
Chester Brooks Tillotson, Fort Edward, N. Y.
Kenneth Arthur Vanderbilt, Staten Island, N. Y.
*Nicholas T. Victor, Saco, Me.
Richard Noyes Viets, Hyde Park
Anthony Ladislav Vydra, Flushing, N. Y.
Marilyn Ann Covell Wakefield, Wells
*Beverlee Mae Ward, Rutland
Martin Louis Warren, Brooklyn, N. Y.
Kenneth Neil Weinstein, New Rochelle, N. Y.
Marion Florence Weisbard, Brooklyn, N. Y.
Hetty Jane White, Short Hills, N. J.
Philip Goodrich Whitney, *cum laude*, West Lebanon, N. H.
Helene Widder, Forest Hills, N. Y.
Margery J. Armstrong Wiedman, Brooklyn, N. Y.
Johanna Wislocki, Milton, Mass.
†William Yueyin Wong, Montpelier
Richard Graham Woodward, Underhill
Isadore Zalkin, Greenfield Park, N. Y.

BACHELOR OF SCIENCE

*William Edward Allard, Jr., *cum laude*, Rutland
*Eugene Modano Beaupre, *cum laude*, Barre
*Anthony James Calciano, Bristol, Conn.
*Barton Jerome Gershen, Burlington
George Lawrence Hard, *magna cum laude*, Burlington
Daniel Arthur Hart, Rutland
Francis Markoe Jackson, Burlington
*Peter Paul Lawlor, Jr., Burlington
George Galli Lucchina, Barre
Alvin Rees Midgley, Jr., *cum laude*, Burlington
*Francis Lee Perry, Rutland
Olin Dennis Samson, Franklin
Carol Jane Sutherland, *cum laude*, Essex Junction
*Harvey Ira Wilner, Bronx, N. Y.

ADVANCED DEGREES

MASTER OF EDUCATION

*Erna Lowry Benedict, B.Ed. (UVM), 1947, Burlington
*Aubrey Leon Brier, A.B. (Norwich), 1950, Sheldon
*Thomas Paul Clairmont, B.S. (UVM), 1948, Ludlow
*Marjorie Davies, B.Ed. (Plattsburgh State Teachers), 1943, Granville, N. Y.
*William Pike Farrar, B.S. (UVM), 1950, Craftsbury
*John Jeffrey Herbert, Ph. B. (St. Michael's), 1940, Winooski
*Edward Francis Heyman, B.S. (Castleton Teachers), 1948, Essex Junction
Thesba Natalie Johnston, B.S. (Lyndon Teachers), 1948, Montpelier
*Robert Albert Leach, A.B. (Alabama), 1941, Bedford, Mass.
*Daniel Joseph Meegan, Jr., B.S. (UVM), 1950, Keeseville, N. Y.
*George Herbert Northrop, B.S. (UVM), 1950, St. Albans
*James Trygve Riddervold, B.S. (Davidson), 1949, Derry, N. H.
Sebastian Michael Russo, B.S. (Fitchburg State Teachers), 1950, Middlebury
*Alden Robert Twiss, B.S. (UVM), 1950, North Troy
Aroline Urquhart, B.Sc. (Edinburgh), 1954, West Newbury
Margaret Callahan Wentzel, B.S. (Alabama Polytechnic), 1948, Essex Junction
*Ralph Clinton Whitney, B.S. (Middlebury), 1933, Franklin, N. Y.
*Rudolph Orville Woodcock, B.A. (UVM), 1948, Craftsbury

*As of October 16, 1954.
†As of March 5, 1955.

MASTER OF ARTS IN TEACHING

*Arthur Nelson Jarvis, B.S. (Edinboro State Teachers), 1949, Chazy, N. Y.
*William Edward Kerr, B.S. (C.C.N.Y.), 1935, Jackson Heights, N. Y.
*Sheldon Claremore Meaker, B.A. (UVM), 1951, Winthrop, Mass.
*George Sandford Nevens, Jr., A.B. (Bowdoin), 1950, Sheffield, Mass.
†Burton Allen Sisco, B.S. (UVM), 1950, Burlington

MASTER OF SCIENCE

AGRICULTURAL BIOCHEMISTRY

*Mary Thorne Greene, B.S. (UVM), 1946, Morrisville
Thesis: The Determination of Xanthinin and Xanthatin in Extracts of Xanthium.

AGRICULTURAL ECONOMICS

Charles Elmer McAllister, B.S. (UVM), 1954, Montpelier
Thesis: Utilization of Milk by Local Vermont Dealers.

Robert Orville Sinclair, B.S. (UVM), 1944, Burlington
Thesis: The Economic Effects of Bulk Milk Handling on the Dairy Industry of Vermont.

ANIMAL AND DAIRY HUSBANDRY

Kochukaleekal John Eapen, B.Sc. (Allahabad), 1951, Travancore-Cochin, India
Thesis: An Analysis of the Holstein-Friesian Cow Families in the University Farm Herd.

BACTERIOLOGY

†Robert Carter Allen, B.S. (UVM), 1952, Burlington
Thesis: A Study of Interference Between Animal Viruses.

BIOCHEMISTRY

†Cristina Elizabeth Schweiker, A.B. (Middlebury), 1951, Schenectady, N. Y.
Thesis: Effects of Prolonged Massive Administration of Ascorbic Acid to the Guinea Pig.

BOTANY

Richard Arthur Barr, B.S. (UVM), 1950, Horseheads, N. Y.
Thesis: Inhibition of Microörganisms by Vinylite Plastic.

Lawrence Wayne Erbe, B.S. (UVM), 1953, Burlington
Thesis: A Study of the Fertility Relationships of *Lotus Corniculatus*, Tetraploid *L. Tennis* and their F_1 Hybrid Progeny.

Kenneth Deane Fisher, B.S. (UVM), 1953, Burlington
Thesis: Investigations on the Fungicide 2,3-Dichloro,-1,4-naphthoquinone.

Kathryn Ann Mears, B.S. (UVM), 1950, Marshfield
Thesis: Studies in Species Hybridization in the Genus Lotus.

*As of October 16, 1954.
†As of March 5, 1955.

CHEMISTRY

*Ronald Crewe Chisholm, B.S. (MI.T.), 1952, Balboa, C. Z.
Thesis: The Thermal Rearrangement of 2,6-Di-t-butyl-4-methyl-4-bromo-2,5-cyclohexadienone.

Peter Fianu, B.S. (UVM), 1953, Burlington
Thesis: The 2,4,6-Tri-t-amylphenoxy Radical.

Barbara Ann Johnson, B.S. (UVM), 1953, Benningotn
Thesis: The Oxidation of 3,5-Di-t-butyl-4-hydroxybenzaldehyde.

Frank Vartuli, B.S. (UVM), 1953, Winooski
Thesis: The Oxidation of Benzhydryl Aryl Sulfides.

COMMERCE

Louis Anthony Affinito, B.S. (St. Michael's), 1953, New Haven, Conn.
Thesis: Corporate Depreciation Policies During Times of Rising Prices.

Elbert Austin Nyquist, B.B.A. (Northeastern), 1952, Jericho
Thesis: A Study of Industrial Communication, Principles and Practices.

HOME ECONOMICS

*Marion Unger Harsh, B.S. (Hood), 1951, Greencastle, Pa.
Thesis: Objectivity in the Use of Color and Design in Decorating.

PATHOLOGY

Leonard Samuel Kaplow, B.S. (Rutgers), 1941, Burlington
Thesis: A Histochemical Procedure for Localizing and Evaluating the Alkaline Phosphatase of Hematopoietic Cells in Smears of Blood and Bone Marrow.

PHYSICS

Robert Roland Billups, B.S. (St. Michael's), 1949, Winooski
Thesis: Some Experimental Data on Surface Tension of Solids.

MASTER OF ARTS

HISTORY

Morton Maimon, B.S. (West Chester State Teachers), 1953, Philadelphia, Pa.
Thesis: William Pitt Fessenden: The Senate and Cabinet Years.

POLITICAL SCIENCE

*Amy Ella Goodell, B.S. (Middlebury), 1922, Barre
Thesis: The United States Speaks Softly to Japan, 1931–1941.

COLLEGE OF MEDICINE

DOCTORS OF MEDICINE

Nicholas George Alexiou, A.B., Manchester, N. H.
Robert Anthony Astone, A.B., Beacon, N. Y.
Richard Hubbard Bailey, B.S., Claremont, N. H.

*As of October 16, 1954.

Samuel Barrera, B.S., Middlebury
Bruce Andrew Becker, B.S., Brooklyn, N. Y.
George Bouras, B.S., M.S., Newmarket, N. H.
Peter Vero Bove, B.A., Bristol, Conn.
Edward Francis Bridges, B.A., Mars Hill, Me.
Stanley Livingston Burns, Jr., A.B. *cum laude*, Proctor
Richard Keith Clarke, B.S., Burlington
John Thomas Conroy, B.S., Meriden, Conn.
Ramon Sy-Juco de Jesus, B.S., Malabon, Rizal, P. I.
Paul Edward Demick, A.B., Orleans
George Theodore Diamondopoulos, B.A., Anthens, Greece
Arthur Richard DiMambro, B.S., Dover, N. H.
Timothy James Driscoll, Jr., B.S., M.S., Portsmouth, N. H.
John Richard Fitzgerald, B.S., Winooski
Henry Charles Forrester, B.S., Weehawken, N. J.
Herbert Gershovitz, B.S., *cum laude*, Providence, R. I.
Theodore Joseph Goodman, B.S., *cum laude*, Chelsea, Mass.
Bernard Norman Gotlib, B.A., Bangor, Me.
Duane Edgar Graveline, B.S., Newport
Raymond Lewis Hackett, B.A., Saco, Me.
Ernest Oliver Herreid, B.S., Urbana, Ill.
George Frank Higgins, B.A., Presque Isle, Me.
Walter Louis Hogan, B.S., West Hartford, Conn.
Edward Suter Irwin, B.S., M.S., O.D., Burlington
Eugene Donald Jacobson, A.B., Bridgeport, Conn.
Victor Kaljot, New York, N. Y.
Marshall Gene London, A.B., Hartford, Conn.
Robert William McCauley, A.B., Springfield, Mass.
Arthur Joseph McPadden, Jr., A.B., Bridgeport, Conn.
Robert Henry Mintzer, B.S., Burlington
Leo Richard Parnes, B.S., Brighton, Mass.
Edwin Oxman Polish, B.S., Philadelphia, Pa.
Robert Lee Pratt, A.B., Syracuse, N. Y.
Richard Benjamin Raynor, B.S., Forest Hills, N. Y.
Arthur Urban Roberge, B.S., Winooski
Albert Anthony Romano, A.B., White River Junction
Richard Sumner Rosen, B.S., M.S., Brookline, Mass.
Robert Theodore Silvery, A.B., A.M., Belmont, Mass.
Stuart James Smith, A.B., M.Ed., Burlington
Paul Giles Stevens, A.B., Gardner, Mass.
Ronald Roger Striar, B.A., Bangor, Me.
Stanley Walzer, A.B., *cum laude*, Forest Hills, N. Y.
Arthur Sigmund Weissbein, A.B., *cum laude*, Methuen, Mass.

DEGREES HONORIS CAUSA

Clara Augustine Eastman, Lyndon Center	Doctor of Education
George Albert Russell, Arlington	Doctor of Science
Alan Carter, Middlebury	Doctor of Music
Alan Tower Waterman, Washington, D. C.	Doctor of Science
Robert Francis Joyce, Rutland	Doctor of Divinity

PRIZES

THE GEORGE H. WALKER DAIRY PRIZE—Willard Leonard Bickford, '55
THE ELWIN L. INGALLS 4-H PRIZE—Lois Nancy Jones, '57; Bryce Clark Elliott, '57
BURPEE AWARD IN HORTICULTURE—Bertie Reynold Boyce, '55

THE GERMAN PRIZE—Bruce George Somers, '55

KIRBY FLOWER SMITH LATIN PRIZE—Judith Elaine Black, '55

THE EDWARD PAGE BUTLER DEBATING PRIZES—*Frist:* Sandra Jean Winterberger, '58; *Second (tie):* Leonie Joy Strachan, '56, Ada Floraine Pratt, '57; *Third (tie):* Patricia Anne May, '57, Nancy Ellen Samuel, '58

THE ROBERT ASHTON LAWRENCE DEBATING PRIZES—*First:* Herzl Robert Spiro, '55; *Second:* Edwin Stewart English, '56; *Third (tie):* Leonard Kronman, '55, John All Burgess, '57

THE ROBERT ASHTON LAWRENCE AND GEORGE EDWIN LAWRENCE DEBATING PRIZES—Herzl Robert Spiro, '55

THE HANNAH G. SOLOMAN PRIZE—Jacquelyn Mary Joyce, '55

THE B'NAI B'RITH PRIZE—Frank Edward Thurston, Jr., '56

THE A. ATWATER KENT PRIZE—Earl Elliott Schiring, '55

THE EDMUND F. LITTLE CUP—Forrest Neill Higley, '55

PHELPS PRIZE—Ovila Leodore Bibeau, '55

THE FRED T. KIDDER MEDAL—Luther Frederick Hackett, '55

THE WASSON ATHLETIC PRIZE—Lawrence Snow Damon, '55

THE ATHLETIC COUNCIL MANAGERIAL PRIZE—William Broderick Blakeman, '56

CARBEE MEDICAL PRIZE—Stanley Livingston Burns, Jr., A.B., '55

WOODBURY PRIZES IN MEDICINE—Edwin Oxman Polish, B.S., '55

LAMB FOUNDATION PRIZES—*First:* Leo Richard Parnes, B.S., '55; *Second:* Eugene Donald Jacobson, B.A., '55; *Third:* Richard Sumner Rosen, B.S., M.S., '55

THE VERMONT BANKERS ASSOCIATION PRIZE—George Donald Ewins, '55

ALPHA LAMBDA DELTA AWARD—Carol Jane Crossman, '55, Marjorie Mae Rowell, '55

Loan Funds, Scholarships, and Prizes

LOAN FUNDS

AMERICAN AGRICULTURALIST RESEARCH FOUNDATION For juniors and seniors in home economics.

REV. STEPHEN G. BARNES To provide loans or gifts for needy students to attend religious conferences.

CHARLES H. BAYLEY Established in 1937 by Laura Morse Bayley in memory of her husband.

JOHN H. AND MARY A. BLODGETT Established in 1938 by bequest of Mary A. Blodgett of Bellows Falls, preference to be given to graduates of the Kurn Hattin and Warner Memorial Homes and to residents of Rockingham.

DR. MOSES DYER CARBEE, '73 Established by Mrs. May D. Carbee in memory of her husband for students of the College of Medicine.

ELIZABETH CHAPMAN Established by bequest in 1950.

CLASS OF 1923 Available to students in the academic colleges.

CLASS OF 1929 Established in 1936, for students in the academic colleges.

ABRAHAM H. COHEN Established in 1955 as an emergency fund for male students.

THE CONSOLIDATED FUND Composed of the following: the Class of 1924 Fund, the Class of 1925 Fund, the Emergency Loan Fund, the Julia I. Bates Fund, the Student Loan Fund, the B. F. Taylor Fund, the New York Alumni Fund of November, 1927, the Edmund Seymour Fund, the Kidder Loan Fund, and the Lydia M. Blood Loan Fund.

LEONARD PERLEY DICKINSON For students in engineering, preference to be given to those in electrical engineering.

ASA FISKE Established for women students by Annette Fiske Mereness in memory of her father.

MARY GRAVES Established for women students by Annette Fiske Mereness in memory of her mother.

JOSEPH LAWRENCE HILLS Established by friends of Dean Hills, who completed fifty years of service to the University in 1937.

STEPHEN DWIGHT AND LIDA MASON HODGE For women students in the College of Arts and Sciences.

CORNELIUS A. JEUDEVINE Established by Allen E. Jeudevine as a memorial to his son to aid Vermont men in obtaining a liberal education.

CHARLES S. AND ETTA M. KEHOE For deserving students.

LADIES OF THE FACULTY For women students. Not more than fifty dollars is loaned to any one student.

SEALAND W. LANDON, '74 Established by Susan W. Landon in memory of her brother.

DR. JOSEPH E. LUMBARD Established in 1946 by the gift of Mr. J. Edward Lumbard, Jr., for students in the College of Medicine.

MEDICAL COLLEGE Established in 1933 by Medical College alumni for students in the College of Medicine.

ANNETTE FISKE MERENESS For the benefit of women students.

CHARLES D. AND CARRIE D. ORDWAY Bequeathed by Charles D. Ordway in 1933, for Vermont students.

MARY MAUD PATRICK Established by Epsilon Sigma as a memorial to Mary Maud Patrick for students in elementary education.

PHI BETA KAPPA Available to members of the senior class; preference being shown to members of the society.

ELIZABETH D. AND CLIFFORD R. PROCTOR Established in 1953 for students in the College of Medicine.

RIXFORD MANUFACTURING COMPANY For students from Highgate.

HENRY BIGELOW SHAW, '96 Established in 1938 by Mrs. Willard Pope in memory of her brother, Henry Bigelow Shaw of the Class of 1896, for young men who have been graduated from the University and who wish to study at Harvard University Law School.

MARY A. SHAW AND FANNY E. SHAW Established by Mrs. Willard Pope, daughter of Mary A. Shaw, for women students.

F. H. AND GRACE M. SHEPARDSON For deserving students, subject to such regulations as the Board of Trustees shall prescribe.

HORACE E. STEVENS, '70 Established in 1926 by his relatives for students in engineering.

EMILY AND THOMAS TELFER Established by Mrs. Thomas Telfer.

TERRILL-HOLBROOK For women students, preference being shown to those in Home Economics.

THE WOMEN'S STUDENT HEALTH COUNCIL FUND For women designated by the Dean of Women and the Chairman of the Department of Physical Education for Women, under special regulations as to interest and repayment.

SCHOLARSHIPS

LIZZIE P. ALLEN Founded in 1900 by Lizzie P. Allen, a descendant of Ira Allen, founder of the University.

THE ALUMNI MEMORIAL SCHOLARSHIPS Appropriated annually by the Executive Committee of the Alumni Council to provide scholarships for male students. These awards are made upon the recommendation of a committee of the Alumni Council designated for that purpose. Each scholarship is named in memory of an alumnus.

FRANKLIN BALDWIN Established in 1915 by bequest of Mr. Baldwin for students from Putney.

REV. LUCIUS E. BARNARD (1853) Established by bequest in 1903.

REUBEN CLARK BENTON (1854) Established by bequest for students from Waterford and Lunenburg, Vermont, or from Minneapolis, Minnesota.

ADA S. BLAIR Established by bequest in 1926.

ELIZABETH F. BRIGHAM Established by bequest in 1910; preference to be given to students from Brigham Academy.

MARCIA P. BROWNE Established by bequest for women students.

EMORY N. BURRITT Established by bequest for women students.

SARAH L. BURRITT Established by bequest for women students.

EZRA HOYT BYINGTON Founded in 1905 in memory of Mr. Byington by Mrs. Louisa J. Byington for students from Hinesburg, or students bearing the name of Byington, Boynton, Hoyt, or Wortman, or in some way related to these families.

MOSES D. CARBEE, '73 Established by a bequest from Mrs. May D. Carbee in memory of her husband; available for medical students.

DR. WALTER CARPENTER Established by bequest; preference to be given to sons of clergymen and physicians.

ELIZABETH CHAPMAN Established by bequest in 1950.

CLASS OF 1861 Endowed and made available in 1891.

CLASS OF 1881 Endowed in 1937 by William H. Rice.

JOHN H. CONVERSE, '61 Established in 1882.

LIZZIE S. CONVERSE Founded by bequest of Sarah Elizabeth Converse for students of classics.

CHARLES M. COX Income from this trust fund provides a scholarship of $200 for a student in agriculture, preferably to one majoring in dairy or poultry husbandry, on the basis of need, character, and scholarship.

CRAFTSBURY Founded in 1900 for relatives of Mr. and Mrs. Nathan S. Hill, or residents of Craftsbury or Isle LaMotte.

PHILIP HENRY CREER Founded by Ex-Gov. Redfield Proctor for students from Proctor.

ESSO 4-H Awarded each year by the Esso Standard Oil Company of New Jersey to an incoming freshman in the College of Agriculture on the basis of need, character, and scholastic ability, plus at least three years of 4-H work. If satisfactory grades are maintained, one hundred dollars per year will be paid the recipient for the succeeding three years.

ROLLO J. FRANCISCO Established by bequest in 1951.

DR. EDWARD EVERETT HAWES Established by bequest in 1946; available for medical students.

ALBERT T. HENDERSON Established in 1945 by a bequest from William J. Henderson in memory of his son.

FRANCIS WHELPLEY HICKOK, '71 Founded in 1902 by Mrs. Julia F. Hickok, widow of James W. Hickok, '37, in memory of their son.

DR. CHARLES H. HOOD Given by the Charles H. Hood Dairy Foundation, and awarded to upperclass students studying milk production.

LOUISA H. HOWARD Founded in 1882; available for men.

CHARLES A. HOYT '58 Established by bequest in 1904.

ISLE LaMOTTE Founded in 1884 by Nathan S. Hill; for students from Isle LaMotte or from Craftsbury.

SARAH B. JACOBS Founded in 1882; available for graduates of Brigham Academy only.

EDITH BLANCHE KIDDER Established by Joseph W. Kidder for students in the College of Medicine; preference to be given to legal residents of Barre.

ROBERT J. KIMBALL Founded in 1900 for students from Randolph. The Trustees of Randolph High School may make nominations for this scholarship.

CELINDA A. B. LILLEY Founded in 1880 for women students.

LYNDON INSTITUTE Endowed by George E. P. Smith, '97; awarded annually to a graduate of Lyndon Institute nominated by the faculty of that school.

CHARLES MUNSON MARSH Established by bequest in 1893 for students from Woodstock by Charles P. Marsh in memory of his son.

CHARLES P. MARSH Established by bequest in 1893; for men and women from Windsor County.

EDWIN WRIGHT MARSH, '72 Founded in 1883 by Charles P. Marsh, '39 in memory of his son; for students from the town of Weathersfield or from Windsor County.

MARGARET PATTERSON McDANIELS Established in 1941 by a bequest of George M. McDaniels in memory of his mother; preference to be given to applicants from the towns of Craftsbury and Greensboro.

DANIEL PITKIN MINER Established by bequest in 1943; for native-born students, not over twenty-five years of age.

MORETOWN AND MIDDLESEX Founded by the Rev. E. C. Bass, '59.

JUSTIN S. MORRILL Founded in 1900 by Senator Justin S. Morrill; for students from Strafford.

JOHN ORDRONAUX Founded in 1909; for students in the Academic and Medical Colleges.

PARKER Founded in 1880 by Rev. Charles C. Parker, D.D., '41, in memory of himself and his son, Charles Edmund Parker, '67.

ARTHUR W. AND LOUISE S. PERKINS Established in their memory in 1947 by their son and daughters. The income provides aid for students of high character and reasonably good scholarship who are graduates of a secondary school in Rutland. School authorities in Rutland are to be consulted regarding the qualifications of candidates who are not already enrolled in the University.

MINNIE A. PICKERING Established in 1938 by gift in memory of her daughter.

CHARLES W. RICH, '36 Founded in 1883 for students in the College of Arts and Sciences.

SEARS-ROEBUCK FOUNDATION Four of $200 for men in agriculture and two of $100 for women in home economics are awarded annually to incoming freshmen.

WILLIAM G. SHAW, '49 Originally founded in 1892 by bequest of one thousand dollars and recently increased by his daughter, Mrs. Willard Pope; available for men students.

CHARLES D. SIAS Established by bequest in 1943; available for men.

SAMUEL SIDNEY SMITH Founded in 1896 by bequest of Mrs. Elisa Smith in memory of her husband.

SOLDIERS' Founded in 1913 by a group of Civil War veterans for students who are descendants of soldiers in the Civil War.

SOPHIA STOW Endowed in 1937 by bequest of George L. Stow, '73, in memory of his mother; for students of classical languages.

DR. DANIEL WASHBURN Founded in 1853 for young men; preference to be given to those studying for the ministry.

JOHN AND MARY WATERMAN Endowed in 1923 by Charles W. Waterman, '85, in memory of his father and mother; for residents of Waitsfield or Denver, Colorado.

WESTFORD Founded in 1882 by Luke P. Poland; available first to students from the town of Westford.

HATTIE LAURA WETHERBY WESTON Established by bequest in 1936.

JOHN A. S. WHITE Established by bequest; for students from Washington County or from Vermont.

JAMES B. WILBUR The University of Vermont Trust Fund, amounting to over one million dollars, was established by James B. Wilbur as an endowment for scholarships for Vermont students who are in need of assistance to undertake college work and who have earned entrance or college records that indicate extraordinary scholastic ability.

CLAYTON J. WRIGHT Established by bequest; available first for students from the town of Williston.

PRIZES

THE AIR FORCE ASSOCIATION AWARD, a silver medal, is awarded to the advanced class cadet who has the highest over-all average in the Air Force ROTC.

THE ALPHA DELTA LAMBDA AWARD, a book, is presented by the National Council to the senior member who has the highest average for four years. Certificates are awarded to the senior members who have maintained an average of 90 or more for four years.

THE ALPHA ZETA PROFICIENCY AWARD is given to that agricultural student who in his freshman year is deemed the most proficient in scholarship, extracurricular activities, and self-support.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERING AWARD, a certificate, is awarded annually to the student member who has been the most outstanding in the activities within the branch for the academic year.

THE AMERICAN LEGION MEDAL, presented by Burlington Post No. 2, is awarded annually to the Air ROTC cadet who has demonstrated the most outstanding qualities of character and leadership.

THE AMERICAN LEGION TROPHY, a silver shield, presented by Burlington Post, No. 2, is annually awarded to the ROTC company which is the most proficient in attendance, neatness, set-up and drill.

THE ARNOLD AIR SOCIETY AWARD, a silver medal, is awarded annually by the honorary society of the Air Force ROTC, named in honor of General H. H. Arnold, to the most proficient cadet of the freshman class.

THE ATHLETIC COUNCIL MANAGERIAL PRIZE of twenty-five dollars is awarded annually to that senior sports manager who has shown the greatest proficiency.

THE BENEDICT ESSAY PRIZE was established by Robert Dewey Benedict of the Class of 1848, to be awarded annually to the member of the senior class who presents the best essay on the subject of international arbitration.

THE BENNETT ESSAY PRIZE, endowed by Philo Sherman Bennett, provides an annual prize for the best essay discussing the principles of free government.

BORDEN AGRICULTURAL PRIZE is awarded annually to that eligible student in the College of Agriculture who on entering his senior year has the highest average grade of all eligible students in all preceding college work. Students who have included in their courses of study two or more dairy subjects are eligible for the award.

THE B'NAI B'RITH PRIZE of $25 is given annually by the Joseph Frank Lodge of Burlington to that student who has done most to encourage interfaith cooperation and activities.

THE BURPEE AWARD IN HORTICULTURE, an annual award of $100 donated by the W. Atlee Burpee Company, is made on the basis of scholarship, practical experience, and interest in flower and vegetable growing.

THE BUTLER DEBATING PRIZES were endowed by Edward Page Butler, '70, for the promotion of extemporaneous debate. From the income of this fund of $1200 three prizes may be awarded annually to the three women students who have shown the greatest ability in debate.

THE CARBEE MEDICAL PRIZE was established by Mrs. May D. Carbee in memory of her husband, Moses Dyer Carbee, M.D., 1873. The income from the fund is given annually to the student in the College of Medicine who shows the greatest proficiency in the subject of obstetrics.

THE CARPENTER GERMAN PRIZE is awarded in memory of Professor Fred D. Carpenter to that student in the intermediate German course who has demonstrated the greatest degree of progress and improvement.

THE CARPENTER TENNIS AWARD, presented in appreciation of Professor Fred D. Carpenter's service as coach of the tennis team and as a member of the Athletic Council, is awarded annually to that member of the varsity tennis squad who has demonstrated the greatest degree of progress in tennis proficiency during the season.

THE CONVERSE PRIZES IN COMMERCE AND ECONOMICS were established by John Heman Converse, '61, by gift of a fund of $1000, the income from which may be used in whole or in part for prizes.

THE ALAN COUTTS SCHOLARSHIP TROPHY, presented in honor of the Dean of Men, is awarded annually to that men's dormitory which attains the highest scholastic average for the previous year.

THE CRAIG TROPHY, donated by Major M. E. Craig in honor of the 1936–37 Rifle Team, has each year engraved upon it the name of the man making the highest cumulative score throughout the year in the principal matches in which the rifle team competes.

THE EMERSON PRIZE IN HISTORY, offered annually in memory of Samuel Franklin Emerson, Professor of History for forty-two years, is awarded to an undergraduate for the best original essay on any topic chosen from any field of history.

THE GERMAN LITERARY PRIZE is awarded annually by the Goethe Lodge of Burlington for general excellence in German.

THE GOLDBERG PRIZE, a gold watch, is awarded annually by Phi Chapter of Phi Sigma Delta Fraternity to that senior man who, in addition to achieving an over-all average of at least 80, plans to continue with graduate work, who has excelled in intramural athletics, and who has contributed to the University as a sincere and respected individual, exemplifying the character and personality of Bailey Herman Goldberg, '50.

THE HOWARD PRIZES were provided by a bequest of $1250 from Mrs. Hannah T. Howard, the income of which is awarded in prizes to students in the College of Arts and Sciences for excellence in the work of the freshman year.

THE ELWIN LEROY INGALLS PRIZE is provided from a fund established in 1934 to honor Elwin Leroy Ingalls, '96, who had then completed twenty years of continuous service as State 4-H Club Leader. It is awarded annually to a University student of outstanding merit as shown in character, 4-H Club record, and scholastic attainment in college.

THE JACOBSEN TROPHY was donated in 1951 by Colonel Earl H. Jacobsen, the first Professor of Air Science and Tactics assigned to the University. Upon it is engraved each year the name of the cadet in the Air Force ROTC making the highest cumulative smallbore rifle marksmanship score throughout the year.

THE A. ATWATER KENT PRIZE IN ELECTRICAL ENGINEERING is provided by the income of a fund of $5,000 and is awarded annually to the most improved senior in electrical engineering. The names of the winners are placed on a tablet which is located in the Waterman Building.

THE KIDDER MEDAL is provided by the income of a fund of $400, established in memory of Dr. F. T. Kidder, '80, a trustee of the University. The specially engraved gold medal is awarded to the male student ranking first in character, leadership, and scholarship.

LAWRENCE DEBATING PRIZES were established by Edwin Winship Lawrence, '01. The first group of three prizes is established in memory of his brother, Robert Ashton

Lawrence, '99, and is offered annually to students who exhibit the greatest proficiency in debate. A $10,000 fund provides for these prizes.

The second group of prizes, established in memory of his brother, Robert Ashton Lawrence, '99, and his father, George Edwin Lawrence (Middlebury College, '67) is awarded to the three students participating in a joint debate between representatives of the University and Middlebury College who, in the opinion of the judges chosen, show the greatest proficiency in this debate.

THE EDMUND F. LITTLE CUP is provided by the income from a fund established by Arlington P. Little, '01, It is awarded annually for meritorious work in mechanic arts.

THE LOYAL LEGION MEDAL is presented annually by the Vermont Commandery of the Military Order of the Loyal Legion to the most proficient junior cadet of the Reserve Officers' Training Corps.

THE MORTAR BOARD SCHOLARSHIP CUP is awarded annually to the women's dormitory attaining the highest scholarship average for the first semester.

THE NU SIGMA NU AWARDS are given annually in the College of Medicine to the outstanding students in the freshman and junior classes.

THE OMICRON NU CUP is awarded to the student in home economics who attains the highest scholastic average during her freshman year.

THE OUTING CLUB SKI TROPHY is awarded annually to the member of the varsity ski team who has shown outstanding leadership, character, and athletic attainment in skiing during the past year.

THE PHELPS PRIZE IN CIVIL ENGINEERING, derived from a fund of $900, was endowed in memory of Edward Haight Phelps, '72, by his father, Edward J. Phelps. The prize is awarded annually to an outstanding senior in civil engineering.

THE INSTITUTE OF RADIO ENGINEERING AWARD, a certificate and a voucher for one year's dues as a member after graduation, is awarded annually to the student member who has shown the greatest professional development, accomplishment, and interest in the activities of the student branch.

THE COLONEL WADSWORTH RAMSEY-SMITH TROPHY AND PRIZE, in the amount of ten dollars, are awarded annually to the outstanding senior cadet of the Reserve Officers Training Corps. The name of the senior is inscribed on the trophy, a saber, which is maintained by the Military Department. This award is presented by Mrs. Ramsey-Smith, in honor of her husband.

THE SEYMOUR HORTICULTURAL FUND of $2500 was given by William W. Seymour in memory of his father, Henry E. Seymour, 1835. The income from the fund is used in part for a prize for that senior who has done the best work in original horticultural research.

THE MARY JEAN SIMPSON CUP is awarded annually to that senior woman who best exemplifies the qualities of character, service, and constructive influence which Miss Simpson strove to set before the women students during her term of office as Dean of Women.

THE KIRBY FLOWER SMITH LATIN PRIZE is derived from a $3000 fund established by his wife as a memorial to Kirby Flower Smith, '84. An award is made annually to the student having the highest standing in second year college Latin.

THE HANNAH G. SOLOMON PRIZE is awarded by the Burlington Section of the National Council of Jewish Women to the senior woman who has exhibited in the highest degree the qualities of scholarship, leadership, and service.

THE SONS OF THE AMERICAN REVOLUTION MEDALS are presented annually by the Vermont Society, Sons of the American Revolution, one to the member of

each class in the Reserve Officers Training Corps who is outstanding in character, conduct, leadership, and in theoretical and practical knowledge of the year's course.

THE SEAMANS TROPHY, presented by the local chapter of Tau Epsilon Phi Fraternity in memory of Henry Seamans, '24, is awarded annually to a senior for outstanding qualities of leadership, loyalty and service to the University, active participation in athletics, and winning the respect and regard of his fellow students.

THE STROH TROPHY is awarded annually in honor of Charles Stroh, '34, to the member of the baseball team who achieves the highest total of runs-batted-in during scheduled games each year.

THE SUNDERLAND MEMORIAL TROPHY is awarded annually to that senior man who has best exemplified those qualities of character, leadership, and persistence in overcoming obstacles, which were outstanding traits in the life of Russell O. Sunderland, '38. Each recipient's name is engraved on the permanent trophy, and the Boulder Society makes a suitable personal award.

THE THOMAS TROPHY is awarded annually to that senior student in agriculture who most closely exemplifies the character of John M. Thomas.

THE VERMONT BANKERS ASSOCIATION PRIZE, a $100 Government Savings Bond is awarded annually to the best senior student from Vermont in the field of finance.

THE VETERANS OF FOREIGN WARS MEDALS AND PLAQUES, presented by the Howard Plant Post 782, are awarded annually to the freshman cadet of the Army ROTC unit who demonstrates the highest proficiency in leadership, drill, and military science and to the cadet commander of the best Air ROTC drill squad. Their names are inscribed upon the plaques, which are maintained by the military departments.

THE GEORGE H. WALKER DAIRY PRIZE is derived from a fund of $2000, donated by George H. Walker, one of the founders of the Walker-Gordon Milk Company. It is awarded annually to an outstanding senior in dairy studies.

THE WALL STREET JOURNAL AWARD, a silver medal and a one year subscription to the *Wall Street Journal*, is awarded annually to the member of the senior class who shows the greatest proficiency in the field of finance.

THE WASSON ATHLETIC PRIZE is derived from an endowment of $250, given by Mrs. Pearl Randall Wasson in memory of her husband, Dr. Watson L. Wasson, '01. The income provides a prize for the member of the senior class who has maintained the highest standard of academic scholarship and athletic attainment.

WIRTHMORE 4-H One hundred dollars is awarded annually to a freshman 4-H member who has done outstanding work in 4-H dairy or dairy feeding projects.

THE WOODBURY MEDICAL PRIZES are derived from a fund of $1000 created by Mrs. Pauline S. Woodbury in memory of her husband, Dr. Urban A. Woodbury, '59. The first prize is awarded annually to the student who has shown the greatest proficiency in the clinical subjects in his senior year. The second prize is awarded to that member of the sophomore class who has received the highest standing of the class in all subjects of the freshman and sophomore years.

General Index

ACADEMIC CALENDAR

SPRING	January	31	Tuesday	Second semester enrollment.*
SEMESTER	February	1	Wednesday	Second semester enrollment.
1956	February	2	Thursday	Classes begin.
	February	17	Friday	Kake Walk holiday.
	February	18	Saturday	Kake Walk holiday.
	March	17	Saturday	Midterm reports due in deans' offices.
	March	24	Saturday	Spring recess begins at 11 a.m.
	April	3	Tuesday	Classes resume.
	May	1	Tuesday	Founder's Day Convocation, 10 a.m.
	May	24	Thursday	Pre-examination day; no classes.
	May	25	Friday	Final examinations begin.
	May	30	Wednesday	Memorial Day holiday.
	June	5	Tuesday	Last day of examinations.
	June	10	Sunday	Commencement.

1956 SUMMER SESSION: JULY 9–AUGUST 18

FALL	September	14	Friday	Preliminary Days Program begins.
SEMESTER	September	18	Tuesday	Enrollment for all new students.*
1956	September	19	Wednesday	Enrollment for all other students.
	September	20	Thursday	Classes begin; Opening Convocation, 10 a.m.
	November	10	Saturday	Midterm reports due in deans' offices.
	November	21	Wednesday	Thanksgiving recess begins at 11 a.m.
	November	26	Monday	Classes resume.
	December	19	Wednesday	Christmas recess begins; no classes
	January	3	Thursday	Classes resume.
	January	21	Monday	Midyear examinations begin.
	January	30	Wednesday	Last day of examinations.
	January	31	Thursday	Intersemester recess begins.
SPRING	February	5	Tuesday	Second semester enrollment.*
SEMESTER	February	6	Wednesday	Second semester enrollment.
1957	February	7	Thursday	Classes begin.
	February	22	Friday	Kake Walk Holiday.
	February	23	Saturday	Kake Walk Holiday.
	March	23	Saturday	Midterm reports due in deans' offices.
	April	13	Saturday	Spring recess begins; no classes.
	April	23	Tuesday	Classes resume.
	May	1	Wednesday	Founders Day Convocation, 10 a.m.
	May	30	Thursday	Memorial Day holiday; pre-examination day.
	May	31	Friday	Final examinations begin.
	June	10	Monday	Last day of examinations.
	June	16	Sunday	Commencement.

*Enrollment dates for medical students are announced in the College of Medicine Bulletin.

CALENDAR

1956

JANUARY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	--	--	--	--

FEBRUARY

S	M	T	W	T	F	S
--	--	--	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	--	--	--

MARCH

S	M	T	W	T	F	S
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4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

APRIL

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	--	--	--	--	--

MAY

S	M	T	W	T	F	S
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13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	--	--

JUNE

S	M	T	W	T	F	S
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3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

JULY

S	M	T	W	T	F	S
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8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	--	--	--	--
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AUGUST

S	M	T	W	T	F	S
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12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	--
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SEPTEMBER

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16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	--	--	--	--	--	--

OCTOBER

S	M	T	W	T	F	S
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14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	--	--	--
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NOVEMBER

S	M	T	W	T	F	S
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11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	--
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DECEMBER

S	M	T	W	T	F	S
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9	10	11	12	13	14	15
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23	24	25	26	27	28	29
30	31	--	--	--	--	--

1957

JANUARY

S	M	T	W	T	F	S
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27	28	29	30	31	--	--
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FEBRUARY

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17	18	19	20	21	22	23
24	25	26	27	28	--	--
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MARCH

S	M	T	W	T	F	S
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24	25	26	27	28	29	30
31	--	--	--	--	--	--

APRIL

S	M	T	W	T	F	S
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28	29	30	--	--	--	--
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MAY

S	M	T	W	T	F	S
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12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	--
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JUNE

S	M	T	W	T	F	S
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16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	--	--	--	--	--	--


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