

*1971-1972*  
*University of Massachusetts*  
*Bulletin*  
*General Information – Amherst*



The *Undergraduate Catalog* of the University of Massachusetts at Amherst consists of the *Courses and Faculty Bulletin* and the *General Information Bulletin*. All students are responsible for observing the rules and regulations thus published, as well as those published in the *Student Handbook*. The University reserves, for itself and its departments, the right to change its announcements or regulations whenever such action is deemed appropriate or necessary.

It is the policy of the University of Massachusetts that any and all acceptance of students for admission be without regard to race, color, or national origin.

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*Adventure in Higher Learning*

1971-1972 GENERAL INFORMATION BULLETIN  
UNIVERSITY OF MASSACHUSETTS AT AMHERST



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# *The Board of Trustees*

## *Organization of 1971*

## *Term Expires*

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# *A Message from the Chancellor*



The University of Massachusetts at Amherst is a publicly supported institution which, in law, equity and tradition, makes us accountable to the citizens of the Commonwealth through the established processes of state government. This public accountability, in turn, places irrefutable and legitimate demands upon the University which profoundly effect the nature and scope of our purpose. Among these is the critical demand for providing an educational program of excellence and diversity to the broadest possible cross section of the people in this state.

At its most fundamental level, and perhaps the level most salient to prospective students, the University represents a rich combination of material resources and human expertise, of increasingly varied programs and diverse people, through which the individual is uniquely at liberty to test himself, to shape and extend his own capacity for knowing and for caring.

As students, your participation in this process, your commitment and tenacity, your questioning and even your impatience are not only welcomed, they are vital to the University's success in the future.

*Randolph W. Bromery*

RANDOLPH W. BROMERY  
*Acting Chancellor*





# Academic Calendar 1971-1972

## 1971

Graduate School Registration	Tues.	Sept. 7
Undergraduate Registration	Wed.	Sept. 8
Undergraduate course changes	Thurs.	Sept. 9
First day of classes	Fri.	Sept. 10
Holiday	Mon.	Oct. 11
<i>Monday class schedule</i> will be followed	Wed.	Oct. 20
Holiday	Mon.	Oct. 25
Thanksgiving recess begins after last class	Wed.	Nov. 24
Classes resume	Mon.	Nov. 29
Counselling period begins (classes <i>not</i> suspended)	Mon.	Nov. 29
<i>Thursday class schedule</i> will be followed	Tues.	Nov. 30
Counselling period ends	Fri.	Dec. 3
Christmas recess begins after last class	Wed.	Dec. 22

## 1972

Reading days	Mon.	Jan. 3
	Tues.	Jan. 4
Final examinations begin	Wed.	Jan. 5
Last day of final examinations	Fri.	Jan. 14
Graduate School Registration	Fri.	Jan. 21
Undergraduate Registration	Mon.	Jan. 24
Undergraduate course changes	Tues.	Jan. 25
First day of classes	Wed.	Jan. 26
Holiday	Mon.	Feb. 21
<i>Monday class schedule</i> will be followed	Thurs.	Mar. 23
Spring vacation begins after last class	Sat.	Mar. 25
Classes resume	Mon.	Apr. 3
<i>Monday class schedule</i> will be followed	Fri.	Apr. 7
Holiday	Mon.	Apr. 17
Counselling period begins (classes <i>not</i> suspended)	Mon.	May 1
Counselling period ends	Fri.	May 5
Last day of classes	Fri.	May 12
Reading days	Sat.	May 13
	Mon.	May 15
Final examinations begin	Tues.	May 16
Last day of final examinations	Thurs.	May 25
Commencement	Sat.	May 27



# *General Information*

THE UNIVERSITY OF MASSACHUSETTS is the state university of the Commonwealth, founded in 1863 under provisions of the Morrill Land Grant Act passed by the United States Congress one year earlier. The University is a member of the great community of land grant colleges and state universities serving the nation as principal resources of higher education for the country's citizenry. Incorporated as Massachusetts Agricultural College in April, 1863, the institution was opened to a handful of students in 1867. Rooted in the liberal arts tradition (its early presidents were graduates of Dartmouth, Williams, Amherst, and Harvard), it has grown steadily from the four teachers and four wooden buildings available for its opening session. Reflecting the broadening interests of its students, the General Court of the Commonwealth of Massachusetts authorized a second name, Massachusetts State College, in April, 1931. Sixteen years later in May, 1947, the institution became the University of Massachusetts. Now it has grown to a state university system of three major campuses.

Situated in one of the most picturesque sections of the state, the University on its Amherst campus joins with its academic neighbors—Amherst, Smith, and Mount Holyoke Colleges—the newly-founded Hampshire College—in maintaining the rich tradition of educational and cultural activity associated with this beautiful Connecticut Valley region. The University's campus in Amherst consists of approximately 1,200 acres of land and 150 buildings. These structures include classroom and laboratory facilities as well as residence halls and other units.

To augment the Commonwealth's facilities at the university level, the University of Massachusetts at Boston was opened in September, 1965. The University at Boston offers educational programs comparable in quality to those available in Amherst. Day sessions, late-afternoon classes, and evening school, as well as full summer sessions all will eventually be offered in the new Boston program. The total resources of the University are dedicated to giving all qualified students full opportunities to develop their capabilities for service in a growing society.

The University's new Medical School at Worcester, founded in 1962 by an Act of the Legislature, enrolled its first class in 1970.

# Admissions

Applications for admission for the Amherst campus may be obtained by writing to the Admissions Office in Amherst. Applications for the Boston campus may be obtained by writing to the Admissions Office in Boston. See last page in this Bulletin.

## WHEN TO FILE

High School seniors are advised to file their applications in the fall of their senior year. Unless applicants have superior records, they should not submit applications until the first set of marks are recorded in the fall.

## DEADLINE DATES

Applications must be *received* and *complete* no later than:

In-State—March 1.

Out-of-State—February 1.

Foreign—February 1.

## TESTS REQUIRED

The Scholastic Aptitude Test may be taken on any of the scheduled dates, although the December testing date is preferred. The March and May dates are too late for seniors, but are appropriate for juniors taking the test for guidance purposes.

*Amherst campus applicants* for admission are required to submit results of the Scholastic Aptitude Tests given by the College Entrance Examination Board. Although Achievement tests are not required, it is strongly recommended that all applicants submit three Achievement tests, one of which should be English Composition, the other two being the applicant's choice.

*All Boston campus applicants* must submit SAT's and three Achievement tests including English Composition.

*All postgraduate and out-of-state students* are required to submit SAT's and three Achievement tests including English Composition. Foreign students must submit either SAT's or TOEFL (Test of English as a Foreign Language).

ALL COLLEGE BOARD TEST REPORTS MUST BE SENT DIRECTLY TO THE UNIVERSITY FROM THE COLLEGE BOARD TESTING CENTER. Be certain that you request to have your scores sent to the campus to which you applied. Be certain to give the correct College Board number for your choice of campus. No action can be taken on an application until official scores have been received.



## PREPARATORY STUDIES

The applicant's secondary school preparation must indicate the capacity to handle the quality of scholastic work which the University has established as its standard of achievement. A prerequisite for admission is the satisfactory completion of a four year high school course or its equivalent. A minimum of sixteen units should be offered, distributed according to the following recommendations:

English .....	4
College Preparatory Mathematics .....	3*
Foreign Language (2 years of one language) .....	2
U.S. History .....	1
Laboratory Science .....	1

\* Preferably two years of algebra and one of plane geometry.

The minimum of five other units should be offered in the areas of mathematics, science, foreign language, history and social studies, or free electives (not more than four units). These free electives afford the student the opportunity of electing other high school offerings, while at the same time covering the fundamental requirements of college preparatory work. Free electives might include, for example, music, art, typewriting, aeronautics, agriculture, home economics, etc. Students planning to major in physical sciences or mathematics should, if possible, offer two years of algebra, one of plane geometry, and one-half year of trigonometry. Preparation in analytic or solid geometry, chemistry, physics, and introductory calculus is also strongly recommended.



Students planning to pursue an engineering curriculum should offer two years of algebra, one of plane geometry, and one-half year each of trigonometry and solid geometry. Chemistry and physics are also advised. Those deficient in the mathematics requirements should plan to make it up during the summer prior to entrance or should expect to take five years to complete the college course.

Several of the University's schools and colleges do stipulate intermediate language proficiency as a graduation requirement. Students planning to major in these areas will find at least three years of secondary school language preparation advantageous. (See appropriate sections of this bulletin.)

Exceptional candidates whose secondary preparation is not within the framework of the above recommendations may be considered for admission. Their suitability for admission will be based on their other intellectual aptitudes and achievements and their readiness for the University curriculum.

### NON-RESIDENT CANDIDATES

The University of Massachusetts is limited to a 5% non-resident quota with thousands applying for the few vacancies available, making admission highly competitive for non-residents of Massachusetts. See "Residence status."

## TRANSFERS

Any student who has been previously enrolled in a college is considered a transfer and must file a transfer application form. The University considers for transfer only those applicants who have completed a minimum of two years of work at another institution.

Priority is given to transfer candidates from Massachusetts who complete a two-year transfer program at any of the Commonwealth's state or city supported community and junior colleges. Remaining transfer vacancies are filled on a competitive basis by candidates seeking transfer from other institutions. Transfer vacancy for the out-of-state resident is extremely limited.

A minimum of 45 semester credits must be taken in residence at the University in order to receive a bachelor's degree.

Applications must be *received* and *complete* prior to April 1 for Fall semester consideration, and prior to November 1 for Spring semester consideration. It is the student's responsibility to be sure that all transcripts, including the most current, have been forwarded to the admissions office before the stated deadline dates. Decisions are made late in the semester prior to proposed entrance.

## CAMPUS VISITATIONS

*Amherst:* We recognize the importance of a firsthand acquaintance with the colleges you may be considering, and we hope that you will find it possible to visit our campus for your own information and satisfaction. *An interview is, however, not part of the admission procedure.* It is physically impossible for the admissions staff to interview all applicants; therefore, personal conferences will be scheduled only if the candidate or his guidance counselor has a question which cannot be readily resolved by correspondence.

Group information sessions are conducted on certain scheduled week days only. Candidates who wish to come to a group session should contact the admissions office and request the scheduled group session dates. The admissions office is not open on Saturdays.

Guided tours by student guides are available throughout the year. Tour information may be obtained by writing the University Guide Service at the Campus Center.

## NOTIFICATIONS OF DECISIONS

In most cases applicants will be notified by mid-April of the action taken on their applications. Applicants who present strong academic records, enthusiastic school recommendations, and satisfactory College Board scores will receive earlier notification. This early notification should reassure the well-qualified applicant regarding college entrance and enable the student who has selected the University as his choice of college to settle his plans. Applicants accepted at an early date, however, are under no pressure to make a final decision in regard to their choice of college before the Candidate's Reply

Date. In this way the burden of multiple applications on high school guidance counselors and college admissions officers may be lessened.

## VETERANS APPLICATIONS

Veterans must submit a regular freshman or transfer application, whichever is appropriate, and submit results of Scholastic Aptitude Tests taken within the past two years.

## VETERANS AFFAIRS

The veteran coordinator is a staff member of the Financial Aid Office. All University matters involving veterans affairs should clear through the Financial Aid Office.

Eligible dependents of veterans who are entering the University for the first time should present a Certificate of Eligibility at registration. This may be obtained from the nearest Veterans Administration office. Board, room, and fees must be paid in advance whether the student is enrolled under the G.I. Bill or not.

Veterans' dependents who are transferring to the University from another institution or who have done summer work at another institution should present a supplemental Certificate of Eligibility at registration. This may be obtained through the veterans office at the institution last attended.

## PHYSICAL EXAM

Physical examination by their personal physician is required of all entering freshmen, re-entering students and all students participating in athletics. Physical report forms for this examination will be mailed to each student with the bill for the first semester and must be completed and returned to the University Health Services 10 days before the opening of the semester. Evidence of a *successful* smallpox vaccination and active tetanus immunization are required.

## RESIDENCE STATUS

As a state institution the University offers a low rate of tuition to all students entering from the Commonwealth. Eligibility for admission under the low residential rate is determined in accordance with the following policy established by the Board of Trustees.

A student must present evidence satisfactory to the Treasurer of the University that his domicile is in the Commonwealth of Massachusetts in order to be considered eligible to register in the University as a resident student. This means that he must have established a "bona fide" residence in the Commonwealth with the intention of continuing to maintain it as such.

The domicile of a minor shall follow that of the parents unless such minor has been emancipated. In case of emancipation the student, in addition to the requirements of these regulations respecting residence, shall present satisfactory proof of emancipation. Minors under guardianship shall be re-



quired to present, in addition to the certification of the domicile of the guardian, satisfactory documentary evidence of the appointment of the guardian. No student shall be considered to have gained residence by reason of his attendance in the University nor shall a student lose residential preference during his continuous attendance at the University. The residence of a wife shall follow that of the husband.

The prescribed form of application for classification as to residence status must be submitted by each student. Misrepresentation of facts in order to evade the payment of out-of-state tuition shall be considered sufficient cause for suspension or permanent exclusion from the University. Discretion to adjust individual cases within the spirit of these rules is lodged with the Chancellors of the University.

## ORIENTATION FEE

Members of the incoming freshman class attending the summer orientation program on the Amherst campus will pay a non-refundable fee of \$30 to cover the cost of meals, housing, testing and counseling. All incoming transfer students must attend a summer pre-registration program on the Amherst campus. There is a \$15 non-refundable fee required of transfers to cover the costs of pre-registration, counseling, and lodging.

## PAYMENT DUE DATES

In accordance with University policy, all charges for tuition, fees, board and room rent in University residences are due and payable approximately one month prior to the date of registration of each semester. Bills will be rendered in advance and payment may best be made by mail. Students may not register until all University charges are paid.

## FRESHMAN ORIENTATION

All students entering as freshmen must attend a two-and-one-half-day orientation program at a specified time during the summer prior to entrance. The program consists of academic placement testing, counseling, and pre-registration for courses to be taken during the coming semester and orientation to social and academic opportunities available to undergraduates. Each student is assigned a faculty adviser who will help in the selection of courses and planning of a class schedule. On the final day of each of these periods, a special program is held for parents so that they may learn more about the University.

## GRADING SYSTEM

Enrollment in and graduation from the University involve both quality and quantity of work. The quantity of work is measured by the credits obtained by successful completion of courses. The quality of work is measured by grades.

Each grade is equated with a quality point as noted below. The quality point average required for continued enrollment and for graduation is set by the Faculty Senate. At present the graduation requirement is a cumulative average of 1.80. Beginning with the Class of 1972, the cumulative average required for graduation is 2.0.

Grades are reported according to the following letter system: Grades of A, AB, B, BC, and C are given for satisfactory work; grades of CD, D, and F are given for unsatisfactory performance. A grade of CD, or D in a single course indicates little aptitude or application on the part of the student in that particular subject. Grades of CD, D, and F in a number of courses are indicative of work below standard for college work.

A—EXCELLENT—Outstanding accomplishment, showing distinction in intellectual achievement. This grade is not automatically assigned to those students who have received the highest ranks in a class.

AB—INTERMEDIATE—A and B.

B—GOOD—Performance of consistently high quality.

BC—INTERMEDIATE—B and C.

C—ACCEPTABLE—Performance which fulfills essential course requirements in quality and quantity and which meets the accepted standard for graduation from the University.

CD—INTERMEDIATE—(below graduation standard)—C and D.

D—PASSING—(but not satisfactory)—Performance which falls below the standard for graduation but for which course credit is granted.

F—FAILING—Performance undeserving of course credit.

INC.—INCOMPLETE—(subject to conditions).

P—PASS—Indicates passing grade in special Pass-Fail registration. Quality points per semester hour will be assigned as follows:

A, 4.0; AB, 3.5; B, 3.0; BC, 2.5; C, 2.0; CD, 1.5; D, 1.0; F, 0; P (not included in computation of grade averages).

To compute the semester grade point average, as well as the cumulative average, the total points earned are divided by the total credits carried.

In computing grade point averages the following will not be included:

1. Grades not earned at the University.
2. Courses satisfied by advanced placement.
3. A pass-fail course which has been successfully completed.

Any student whose semester quality point average falls below cumulative requirement is warned of his status by the Registrar and informed of the rules governing dismissal. Students who achieve high averages are placed in one of three honors groups each semester, as follows: First Honors: 3.8 or higher; Second Honors: 3.4 to 3.7 inclusive; and Third Honors: 3.0 to 3.3 inclusive.



## *Classification of Undergraduate Part-Time Students*

### 1. DEGREE STUDENTS

#### *FULL-TIME STUDENTS*

All students carrying 12 or more credits must be accepted as degree candidates and assigned to a graduating class.

#### *REDUCED LOAD STUDENTS*

Full-time students may obtain exemption from the minimum load requirements set by the Faculty Senate only upon approval of their academic dean based upon recommendation of the appropriate one of the following: Health Service, Area Director, Office of Non-resident Student Affairs, or Counseling Center. Such exemption is ordinarily not granted except upon the basis of health or critical personal or academic problems. A regular student may not enter the non-classified degree category, nor the Special Student category.

*Reduced Load Students* are considered as full-time students, in *all* benefits, fees, and obligations. They continue in a class designation. The only exception made in their case is to the minimum load regulation. Although reduced load students carry less than the minimum load, the appropriate semester and cumulative quality point requirements for retention do apply and the semester counts as one of the ten toward graduation. Reduced load students bear a regular Student I.D. card.

## NON-CLASSIFIED DEGREE STUDENTS

Students who are admitted to degree status on the same basis as full-time students, but with the expectation of only part-time pursuit of the degree are considered *Non-Classified Students*. They are given a classification of "NC." For their initial enrollment they are processed as incoming freshmen or transfer students. They are assigned to a major department, to provide appropriate counseling and pre-registration advising.

*Non-Classified Students* are not entitled to student benefits, other than departmental support. They are billed by the credit with other fees assessed only as appropriate to Special Students (below). At pre-registration a special billing card is filled out by student and adviser. To be eligible for continued enrollment, non-classified students must maintain a cumulative average equal to the graduation average of the University. They bear a Special Student I.D. card.

The category "Non-Classified" is an original admissions category and is not designed as a category into which full-time students may revert for purposes of part-time study.

## 2. NON-DEGREE STUDENTS

### *SPECIAL STUDENTS*

A transient student accepted for one or two courses on a *non-continuing* basis is assigned to this category (Class designation "SP"). No evaluation of transfer credentials or course advising is offered to students in this category nor are they entitled to any student benefits. Their continuance is not automatic, but at the discretion of the appropriate admissions officer. A minimum of the graduation average of the University would be required for an "SP" to continue. They bear a Special Student I.D. card. The Special Student category is an original admissions category and is not intended as a category into which full-time students may revert for purposes of part-time study.

### ADVISORY SYSTEM

All freshmen select a tentative educational objective and are assigned a faculty adviser within that academic area.

In the second semester of the freshman year, each student is given an opportunity to change to a new department or to remain in his current department. In succeeding semesters, students may change to another major department by execution of a Major Change Card (available in the Registrar's Office).

It is the function of his adviser to help the student in adjusting himself to the work and life of the University. Academic progress reports issued by the Registrar's Office are sent to the advisers periodically, and the students are expected to report to their advisers from time to time to discuss their academic standing.

The University also forwards reports of academic standing to the parents. Both students and parents are encouraged to consult with the adviser whenever there are problems regarding studies or personal adjustments to college life.

## SUPERIOR STUDENTS

The University regularly provides superior students with challenging educational programs extending from the freshman through the senior year. These include Advanced Placement and Special Honors Programs.

Many entering students are able to achieve advanced standing and credit for college-level courses successfully completed in their secondary schools as part of the College Entrance Examination Board Advanced Placement Program or an equivalent. The University also administers a number of its own advanced placement tests. A student who demonstrates he is proficient in a basic college subject may bypass the beginning course and go on to advanced work in the subject. Also, up to thirty semester hours of credit may be granted students of high standing who can fulfill the requirements of some of their courses through independent study.

The College Honors Program provides special guidance and courses for students of superior ability. Students are selected for the program as freshmen or sophomores. The Senior Honors Program recognizes merit and gives highly qualified students time and opportunity for independent study under closer, more personal direction than is ordinarily provided in the University curriculum. Students who complete their work satisfactorily are eligible for graduation with honors.

## GUIDED TOURS

Through the University Guide Service, ARCON, guided tours are available during the regular academic year on weekdays from 1:30 to 3:30 p.m., Saturdays from 9:00 a.m. to 12:30 p.m., and Sundays from 1:00 to 3:00 p.m.

## MOTOR VEHICLE REGULATIONS

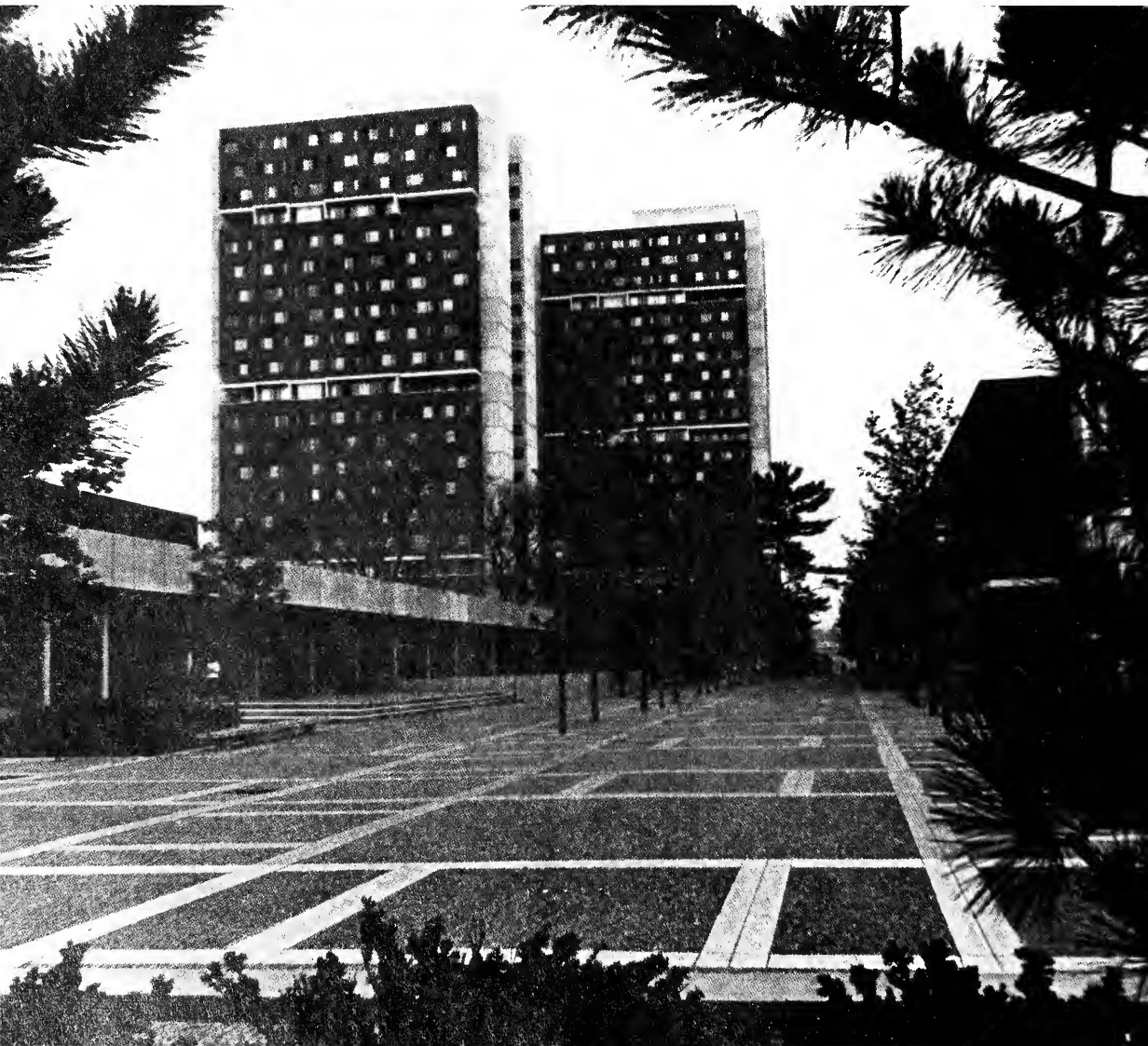
All student, faculty and staff motor vehicles must be registered with the Parking Office, Hampshire House, Room 105.

All students may be permitted to have a motor vehicle on campus provided it is registered with the Parking Office, and complies with published University regulations.

Copies of the University regulations concerning motor vehicles should be obtained at the Parking Office, Hampshire House, Room 105.

Visitors are requested to use the new multi-level Campus Center Parking Garage unless another lot is suggested.

All areas are under roving security surveillance. Visitors may secure information at the Parking Control Booths or at the Security Building. Inquiries concerning parking should be directed to the Parking Authority, University of Massachusetts, Amherst, Massachusetts 01002.



# *Student Housing Policy*

The Amherst campus is oriented to a program that recognizes the educational advantages of both classroom instruction and extracurricular experiences. Residence hall living provides valuable exposure in this regard. Consistent with this philosophy, it is the policy of the Board of Trustees to require undergraduates to be housed in University residence halls.

## EXEMPTIONS

Exemptions from this policy are married students, members of fraternities and sororities having authorization within approved maximum capacities for their houses, and students commuting from the home of their parents or spouse. Students who are living in University residences seek permission to live off campus by submitting a request to the appropriate Area Director. Others forward a similar request to the Office of Non-resident Student Affairs before they appear on campus for their first registration.

## ROOM ASSIGNMENTS

Residence halls are opened to sophomores, juniors, and seniors on the day before registration. Upperclass students have the opportunity to select rooms in the Spring of the preceding year. Rooms are assigned in order of receipt of proper application. Notification of assignment is made on the fall semester bill mailed in July.

Freshmen will be notified three to five days before registration when to arrive on campus to participate in Freshman Week activities. An effort is made to assign freshmen roommates from different geographical areas who have similar interests.

## HOUSING PLANS

The University recognizes the desirability of providing a variety of living arrangements, and toward fulfillment of this goal offers three basic systems: Residential colleges, the so-called "traditional" residence halls, and new suite or apartment-style residence halls. All three programs offer opportunities for intellectual, cultural, and social activities, and all three include some coeducational units, in which the sexes are separated by floors or wings.

Residence halls, dining facilities and other projects constructed by the University of Massachusetts Building Authority are self-amortizing by the collection of rents and student fees. Such facilities are constructed at no cost to the taxpayers.

*The Central and Northeast Residence Areas* consist of twenty-one residence units housing 4,000 students. Occupancy of halls varies from 118 to

332. Most rooms are designed for double occupancy although some are triples. A few singles are available to counselors and upperclassmen. A "traditional" residence hall is a house with a long standing tradition of fellowship, unity and loyalty; a personalized tradition, differing with each residence. The "traditional" hall, by its very nature, provides opportunity for meaningful friendship in a relaxed atmosphere.

*The Orchard Hill Residential College* represents a planned and conscious emphasis in student residences, which is to make these residences more private, more quiet and more academic in tone than is generally true of large residential units. Each of the units within the college has student personnel and faculty as advisers. These advisers provide cultural as well as academic participation in the units and coordinate the collegiate aspect of the academic program. Approximately 1,300 students live in this area consisting of two men's and two women's residence halls.

*The Southwest Residential College* operates on the assumption that a "college" within a university may function to provide more effective small group identities and a maximum of contact by the students and members of the faculty. Special sections of selected courses are designated for residents of both residential colleges. Music and dramatic events, special lectures and discussions take place in residence halls. Faculty Fellows of the college and students participate equally in the planning of these. Students of the colleges are welcome to participate in as many of these activities as they find to their advantage. The Southwest Residential College comprises 5,500 students in both high-rise and low-rise buildings.

*The Sylvan Residence Area* offers new suite-type dormitories, affording students an opportunity to build a close living relationship within a small group by sharing quarters in a suite or apartment-type arrangement.

Most residence hall rooms are provided with basic furniture which includes beds, mattresses and mattress covers, dressers, desks, desk chairs, closets and mirrors. Fireproof lamps and wastebaskets are provided in about half of the University's residence halls. Where they do not exist students are expected to provide their own. In addition to this, most residence halls have study lounges, kitchenettes, laundry facilities and vending machines. The residence halls within the residential colleges are also provided with window draperies and lounge chairs.

Each student is expected to provide his own pillow, linen and blankets. However, there is a local rental service which can supply a weekly change of bed linen and towels; blankets and a pillow may also be rented.

Certain residence halls are equipped with room telephones. Students who elect to reside in these residence halls will be charged an additional fee per semester for the basic telephone service.

Students are urged to bring a minimum of personal effects; it is also advisable for them to wait until they see their accommodations before adding to their wardrobes.





## RESIDENCE HALL STAFF—AREA DIRECTORS

Each residence area is administered by an Area Director, to whom all staff personnel in a residence hall report. Area Directors plan and direct all student personnel administrative activities for the residence halls in a given campus residential area; supervise the professional staff and student assistants in the residence halls; advise elected officers and committee chairmen in the residence halls; provide individual and group advising.

## HEADS OF RESIDENCE—RESIDENCE DIRECTORS

The Heads of Residence and Residence Directors are responsible to the Area Directors. They work jointly with the counselors and Housing Office in the operation of residence halls. They provide leadership and support to the residence hall staff; facilitate the work of elected house government officers and committee chairmen, serving as resource persons and discussing University expectations with them; provide individual and group advisement out of concern for the welfare of students within the residence halls; and carry out administrative responsibilities associated with the operational aspects of residence halls.



## COUNSELORS

Counselors receive direct supervision from the Heads of Residence and receive general supervision from the Area Directors. Their duties include: helping to establish, in the residence halls, a climate in which students will feel free to seek assistance and in which the educational goals of the University are emphasized; providing individual students with advice and counsel with respect to personal, social and academic matters; working jointly with the Heads of Residence and house government in providing for the daily operation of the residence hall; interpreting and maintaining regulations with respect to student life on campus; and assisting the Head of Residence with administrative tasks in the residence halls.

## ROOM RENT

It is Board of Trustees' policy that "charges established . . . shall not be refundable to a student after he has occupied his assigned accommodation except upon certification of the Dean of Students that such student has withdrawn from the University because of involuntary entry into military service or other reason of extreme emergency, the refund in such event to be the balance of the charge paid over that applicable to the period of actual occupancy plus one week." Further information, for which students are held responsible, is contained in the *Student Handbook*.

Residence halls are constructed, equipped, and maintained at no cost to the taxpayers through funding provided by bonds issued by the University of Massachusetts Building Authority. Room rents are fixed so as to provide a fund sufficient to pay building and operating costs—i.e., to amortize the bonds. In order to meet payments on the various residence hall bond issues and to assure the minimum possible room rent, maximum occupancy must be maintained. (The fewer students who pay room rent, the more every student ultimately must pay to meet the fixed indebtedness to pay off the bondholders.) This requires that a student be held financially responsible for room rent once registering for and occupying a room in a residence hall.

The fee for most “traditional” University residence halls is \$275 per student per semester. Students choosing to live in one of the residential colleges pay a fee of \$305. (There are rooms in a few University residence halls available at \$305 which are not included under the residential college program.) Students who choose to live in the new suite-type dormitories will pay \$350.

### ROOM SECURITY DEPOSIT

Students who are required to live in University residence halls must pay a \$100 room security deposit over and above the regular room rent. The deposit shall be paid upon initial entrance to the University and shall be refunded as follows:

- a. upon graduation from the University;
- b. upon voluntary withdrawal from the University, release of assigned housing, or intention not to re-register filed in writing with the Registrar provided such notice is filed *45 days prior to the registration date of the next semester*;
- c. upon involuntary call into military service; or
- d. upon academic dismissal from the University.

A student forfeits the deposit if, having reserved housing, he or she does not occupy it, unless written notice in accordance with regulation on voluntary withdrawal (above) has been given and accepted, or upon dismissal from the University for disciplinary reasons.

### APARTMENTS FOR MARRIED STUDENTS

The University owns and operates three groups of apartments for faculty, married graduate and married undergraduate students: University Apartments, Lincoln Apartments and North Village (“modular”) Apartments. As they become available, these apartments are offered to applicants according to a predetermined order of priority and assignment procedure. It is suggested that married students apply for Lincoln Apartments and North Village Apartments as soon as possible. Due to many previously received applications, however, it may be unlikely that an apartment can be assigned by the desired occupancy date. Applications and specific information may be obtained from the Off-Campus Housing Office, Whitmore Administration Building.



## OFF-CAMPUS HOUSING

A card file of off-campus house, apartment, and room rentals is maintained by the Off-Campus Housing Office. Also provided is information about local realtors, garden apartment developments, classified newspaper rentals, and persons seeking roommates. Every effort is made to assist students to obtain off-campus housing. However, a personal visit is usually necessary to review rental listings due to daily changes in the card file and the fact that all off-campus arrangements must be made by the parties involved. Brochures and other information may be obtained from the Off-Campus Housing Office, Whitmore Administration Building.

## INSURANCE

It is not possible for the University to carry insurance which will compensate students or their families for losses suffered on the campus due to such hazards as fire, theft or water damage. For most families such insurance is highly desirable, either as an extension of present home insurance or as a special contract.

## FOOD SERVICES

The University Food Services caters the food requirements of the University, except those services offered by the Campus Center Complex. Five dining commons serve students on a five-day meal ticket contract. All freshmen, sophomores, and juniors residing in University residence halls are required to purchase the five-day meal ticket. Either a 10-meal or 15-meal ticket may be selected, which is valid for either two or three meals per day, Monday through Friday. Students over 21 years old prior to the start of the semester, are exempt from the plan. Students who are members of fraternities or sororities may be permitted to board at their respective fraternities or sororities, upon receiving written permission from their respective student personnel deans. Those not required to board on campus may eat at a dining commons on a cash basis; they may purchase one of the regular meal tickets for 10 or 15 meals per week, or they may purchase a five-day single-meal ticket at a lower rate. Week-end meal tickets are also available. Snack bar services are available at Worcester Commons and Hampden Dining Commons during regular hours of operation.

# Expenses

## AMHERST CAMPUS

Expenses are approximately \$2,000 per year for the normally economical student. First-year costs are usually greater than those of the other three years and there is less opportunity for earnings. Therefore, a student is advised to have a definite plan for meeting the expenses of the first year before entering. The following estimate of a year's expenses, based chiefly upon last year's costs, includes only those items which are strictly University-related and does not include amounts for clothing, laundry, travel, etc. These costs vary slightly from year to year. Tuition for residents of Massachusetts is \$200 per year and for others \$600. The University reserves the right to change any fees without advance notice.

## ESTIMATED ANNUAL EXPENSES—AMHERST

Tuition (residents of Massachusetts) .....	\$ 200.00
Room rent in University residence halls .....	610.00*
Telephone (where available) .....	25.00
Board at University dining halls (five-day plan) .....	613.00**
Athletic Fee .....	30.00
Physical Education Fee .....	20.00
Campus Center Fee .....	60.00
Fine Arts Fee .....	6.00
Student Activities Tax (approx.) .....	40.00
Student Health Service Fee .....	70.00
Student Medical/Surgical Insurance, 12 months' coverage (optional) .....	30.00
Books, stationery, laboratory and other supplies (approx.) .....	200.00
Estimated total .....	<u>\$1,904.00</u>

\* Median rate—there are other rates of \$550 and \$700 per year.

\*\* See prior section on Food Services for alternative plans. Two-meal rate on five-day plan is \$543 per year.

## INITIAL PAYMENT FOR FRESHMEN—AMHERST

Tuition (residents of Massachusetts) .....	\$ 100.00
Room rent in University residence halls .....	305.00*
Telephone (where available) .....	12.50
Board at University dining halls (five-day plan) .....	306.50**
Athletic Fee .....	15.00
Physical Education Fee .....	10.00
Campus Center Fee .....	30.00
Fine Arts Fee .....	3.00
Student Activities Fee (approx.) .....	20.00
Student Health Service Fee .....	35.00
Student Medical/Surgical Insurance	
12 months' coverage (optional) .....	30.00
Books, stationery, laboratory and other	
supplies (approx.) .....	100.00
Estimated total .....	<u>\$ 967.00</u>

These are only approximate figures. A bill will be rendered to the parent of each student prior to the beginning of the semester.

\* Median rate—there are other rates of \$275 and \$350 per semester.

\*\* See prior section on Food Services for alternative plans. Two-meal rate on five-day plan is \$271.50 per semester.

## BOSTON CAMPUS

The direct costs involved in attending the University of Massachusetts at Boston are appreciably lower than those for attending the University of Massachusetts at Amherst. Major difference is the cost for room and board; since the University of Massachusetts at Boston was created as a non-residential college, its students live and board at home or under non-college arrangements.

Certain other expenses which are obligatory at the University of Massachusetts at Amherst are not required for the University of Massachusetts at Boston students.

The following schedule of tuition and fees includes only those items which are strictly college-related and does not include amounts for clothing, laundry, travel, etc.

Expenditure for books, stationery, and other supplies is estimated to be \$100 for all full-time students.

## SCHEDULE OF TUITION AND FEES—BOSTON

	<i>Full-time</i>	<i>Part-time</i>
Tuition (residents of Massachusetts) .....	\$200	\$100
Tuition (non-residents) .....	600	300
Student Activities Fee .....	30	20
Student Medical/Surgical Insurance, 12 months' coverage (optional) .....	30	30
Student Health Fee .....	24	12

The initial payment for first semester expenses, required of freshmen at the time of fall registration, is \$157 for students who are legal residents of Massachusetts and \$357 for non-resident students.

### IN-STATE TUITION

As a state institution, the University offers the privilege of in-state tuition to all students entering from the Commonwealth. Eligibility for admission under the low residential rate is determined in accordance with the policy established by the Trustees and detailed under "Residence Status," page 12.

### TELEPHONE

Students electing to live in residence halls with room telephones will pay an additional service charge for local telephone service. Toll charges will be billed directly by the New England Telephone Company. Freshmen assigned to facilities with room telephones may request reassignment and such requests will be accommodated, space permitting.

### OTHER FEES AND PAYMENTS

#### *Athletic Fee*

Funds received from this charge are used to support comprehensive men's and women's intercollegiate programs as well as intramural programs.

#### *Physical Education Fee*

Income from this fee is used to support the required physical education program, intramural athletics and general recreation.

#### *Campus Center Fee*

Funds received from this charge are used to support the Student Union and the Campus Center and meet the operating costs of their various activities.

#### *Fine Arts Fee*

Funds received from this fee are used to support a varied and comprehensive program of fine arts events for the cultural enrichment and enjoyment of the undergraduate body.

### *Student Activity Tax*

This tax, collected by the University, is authorized annually by vote of the Student Senate and approved by the Board of Trustees. It supports student government, and an extensive and varied range of cultural and social activities for students. In addition, payment entitles each student to admission to many campus events, and includes a subscription to the daily student newspaper, the annual yearbook, the student handbook, and a student guide to the campus.

### *Health Services Fee*

Funds received from this charge are used to support the medical, psychiatric, and health services provided by the staff of the Health Center.

### *Medical-Surgical Insurance*

This is an *optional* plan intended to supplement the care received by students at the Health Center. It provides hospital, medical and surgical care on a twelve-month basis for injuries or illness during the school year, holidays, summer vacation and other times when the student is off campus. Students who register for the fall semester have only *one opportunity* to enter or reject this program each year, at the time of payment of the fall semester bill. It is also offered on the spring semester bill for new spring registrants only. Married students desiring family coverage under the plan now in existence at the University are advised to contact the Student Health Services. All candidates for and members of intercollegiate athletic teams *are required* by the Athletic Department to subscribe to the supplementary insurance plan.

### *Commencement Fee*

A commencement fee of \$10 will be assessed students in September of their senior year, as commencement exercises and events are intended to be self-supporting.

### *Special Undergraduate Students*

The Special Student tuition rate is \$10 per credit for Massachusetts residents, up to a maximum of \$100, and \$30 per credit for non-residents, up to a maximum of \$300. All students must pay a \$1 identification card fee yearly, and students taking three or more *courses* a semester must pay a Campus Center fee and a health fee.

### *Payment Due Dates*

In accordance with University policy, all charges for tuition, fees, board and room rent in University Residence Halls are due and payable prior to the date of registration of each semester. Bills will be rendered in advance with due date shown and payment may best be made by mail. Students may not register until all University charges are paid.





### *Scholarship Payments*

It is the responsibility of all scholarship holders to see that the University is adequately notified prior to the time fee bills are prepared. Known scholarships are shown on the fee bills. If such items are not shown, deductions may not be made from the bill until satisfactory evidence has been presented to the Cashier's Office by the recipient.

### *Late Payment and Registration*

Any student who does not make payment of his semester charges by the date specified may be required to pay a late payment fee of \$5. The process of completing arrangements for housing and board according to schedules set forth by the University is to be considered a part of general registration procedures.



## *Credit by Special Examination*

Students receiving credit by special examination must pay \$5 per credit before the examination may be taken. This fee is non-refundable.

## REFUNDS

### *Tuition and Fee Refunds*

A student who leaves the University for any reason, except as specified below, before a semester is completed will be granted a pro rata refund of tuition and fees. A student who makes an advance payment and then for any reason does not attend any part of the next semester or term at the University will be given a full refund of tuition and fees. The \$15 matriculation payment required of new students is not refundable. A student who is involuntarily called into military service before the completion of a semester will be given a pro rata refund of tuition and fees provided that he receives no academic credit for the work of that semester. If academic credit is given, there will be no refund.

Refunds are first applied to reimburse scholarship or loan funds (up to the full amount), and any remaining amount is refunded to the student or parent. A student who is suspended or expelled from the University for disciplinary reasons forfeits all rights to a refund.

### *Refund Schedule*

#### *Regular Term*

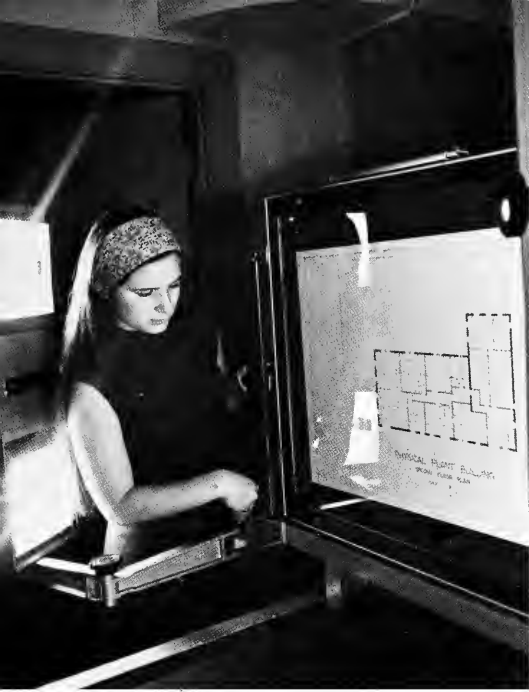
- a. Within the first two weeks from the beginning of semester or term—(Registration Day)—80%.
- b. During the third week—60%.
- c. During the fourth week—40%.
- d. During the fifth week—20%.
- e. After the fifth week—no refund.

#### *Summer Session*

- a. During the first week—60%.
- b. During the second week—20%.
- c. After the second week—no refund.

### *Room Rent and Board Refunds*

There will be no refund of prepaid room rent after the semester has begun. A student who has made an advance payment of room rent will be granted a full refund of prepaid room rent if he fails to attend any part of the next semester or term or does not reside in a residence hall or other housing. Students involuntarily called to military service may be granted a refund on a pro rata basis. Prepaid board will be refunded on a special per diem basis.



## *Student Personnel Services*

Student Personnel Services comprises a number of agencies with primary concern for students' non-academic (out of the classroom) activities—residence halls, health, counseling, student activities, security, admissions, records, non-resident student affairs, career planning, financial aid, and related services.

Dr. Randolph W. Bromery, the Vice-Chancellor for Student Affairs, is in charge of Student Personnel Services. Dr. William F. Field is Dean of Students.

*The Dean of Students* directs and supervises the activities of all Student Personnel Services in order that they might serve most effectively to meet the broad educational goals of the University.

*The Associate Dean of Students* is responsible for the general administration of all residence halls and the activities program of men and women undergraduates. The Associate Dean's Office includes in its staff grouping the Housing Office, Coordinator of Student Activities, Campus Center Manager, the Area Coordinators and all Heads of Residence.

The Amherst campus is oriented to a program that recognizes the educational advantages of both classroom instruction and extracurricular experiences. Residence hall living provides valuable exposure in this regard. Consistent with this philosophy, it is the policy of the Board of Trustees to require



undergraduates to be housed in University residence halls. Several residential options are available to students. Each of four major residence areas is administered by an Area Director.

Each Area Director exercises general responsibility for the entire student personnel staff in his residence area, and is responsible in turn to the Vice-Chancellor for Student Affairs. Specifically, the area staff comprises an Assistant for Student Affairs, an Academic Coordinator, and a Business Manager, who are involved with the social, academic, and financial concerns of students. These staff members, in addition to the Heads of Residence and student staff in each residence hall, are responsible to the Area Director, who coordinates their functions. The goal is to create an autonomous unit within the larger University community which will meet student needs on a local level.

*The Assistant Dean of Students—Coordinator of Student Activities* administers and coordinates all student activities ranging from individual needs to organized clubs, the Classes, the Campus Center Governing Board and the Student Senate. The base of operation is the Student Activities Office in the Campus Center which is composed of Recognized Student Organizations (R.S.O.) financial and accounting service and the Program Office whose personnel advise and assist in the planning and execution of student projects and programs.

*The Office of Non-resident Student Affairs* is responsible for administrative liaison with and development of programs for non-resident students—commuters, fraternity residents, and sorority residents. The Greek Area Coordinator and Fraternity Manager are located in these offices.

*The Dean of Women* serves off-campus women students, including sorority residents and provides academic counseling for married women students. She serves as adviser and administrative liaison for women's organizations, Alpha Lambda Delta, Mortar Board, and Scrolls, and serves on the Committee on

the Status of Women. The office also has short-term emergency loans and information on special loans and fellowships for women.

*The Housing Office* has responsibility for the supervision of residence hall room assignments, room changes, and serves as a central source of information for off-campus housing listings.

*The Campus Center Manager* administers and coordinates the management policies for the Student Union-Campus Center. The duties include close coordination with the Campus Center Governing Board, serving on various committees concerned with student services and supervision of the Campus Center staff and services. Major areas of responsibility include the University Store, Campus Center Food Services, Student Union Lobby and Games Area, Campus Center overnight accommodations, Parking Garage, Print Shop, and all additional services contained in the Campus Center Complex.

*The Director of International Programs*, located in the Office of the Provost, assists and coordinates international programs, including the study abroad programs of the University of Massachusetts. Students can obtain information from the Office of International Programs on a range of overseas study programs, including those operated by other American colleges and universities and by foreign institutions. This office also has information on low-cost international travel, international student identity cards, financial aid for study abroad, and work opportunities overseas. Students planning to go abroad for work, study, or travel should consult the Director in making these plans. The Director also coordinates Marshall and Rhodes Scholarships.

*The Foreign Student Adviser* offers assistance to foreign students, faculty and staff, and should be consulted in regard to all matters pertaining to their official immigration status while in the United States. In addition, the adviser may be consulted regarding any other problems which a person from another country may encounter while at the University. These questions may include help in finding housing, help with financial matters including the authorization of foreign student loans, relations with American students and the community, and personal problems. An attempt is also made to help in coordinating community service projects, such as speaking engagements, trips to the United Nations, etc., host families and International Club activities. The Foreign Student Office is part of the International Programs Office.



*The Admissions and Financial Aid Office* is responsible for all administrative procedures with respect to undergraduate admissions to the University including liaison with high school guidance counselors, Community College staff personnel and other admissions officers for transfer students; passes on readmission of returning and reentering students, and admissions standards set in coordination with the Vice-Chancellor for Academic Affairs and academic departments. The admissions deans also serve as advisers to the various academic year classes.

*The Registrar's Office* is responsible for registration (enrollment) and matriculation of undergraduate students at the University, administrative procedures relating to course loads (adding and dropping courses), course of study, withdrawals, producing grade reports, transcripts, and maintaining the permanent academic record cards.

*The Office of Transfer Affairs* is a resource center for all matters pertaining to the transition process of students entering the University from other institutions of higher education. (Nearly one-fourth of all newly entering students are transfers. The major portion of transfer students come from the state supported Community Colleges.) This Office also coordinates with the Community College system the mechanism for admission, credit evaluation, financial aid, and orientation. This office is also concerned with the adjustment process for transfers, and works with the other Student Personnel Services at both institutions in an attempt to assist the transfer in making a smooth and comfortable adjustment to the University.



*The Counseling Center's* basic aim is to support the student's efforts to develop into a mature, useful, self-fulfilled member of society. The Center's day-to-day work with the student-client involves psychological counseling on personal, social, educational and vocational problems.

All individual counseling contacts with members of the Counseling Center staff are strictly confidential. No information is released to members of the University community, to parents or to outside agencies (such as graduate schools, law enforcement agencies, or draft boards) without the student's explicit authorization in advance. When the need arises, the Counseling Center staff also administers psychological tests for assessing students' abilities, interests, and personalities. Such tests are interpreted to students as part of the counseling process.

*The Career Planning and Placement Service* responsibilities include vocational counseling and the administration of the affairs involved in aiding students to seek appropriate positions and careers. While providing vocational and career counseling for all undergraduates, the emphasis is on aid to seniors in planning their future following graduation and providing them with the best means for finding permanent employment. The office arranges for employers from business, industry, schools, and other areas to visit the campus to interview prospective graduates during the school year.

Cumulative student personnel records, occupational information and industrial literature libraries, preparation of credentials including personal resumes and recommendations, coupled with counseling and guidance, are provided to aid seniors and registered graduates in accomplishing their career objectives.

## *Health Services*

The University Health Services provide guidance for the development of optimum physical, emotional, and social welfare in the University community.

In the Health Center are located an outpatient department, with supporting X-ray, laboratory, and physical therapy facilities, and an in-patient clinic for the care of students who need hospitalization.

Hospitalization for conditions requiring more specialized care than is available in the Health Center can be arranged at the Cooley Dickinson Hospital in Northampton.

Any care rendered on the campus by members of the staff of the Health Services is provided without additional charge to those who have paid the student health fee. The provision for care off campus can be arranged by the Health Services, but the cost of this care is a responsibility of the student. A supplementary insurance program has been developed to provide for most hospital and surgical care not available at the Health Center. This optional program can be elected in September only. The insurance provides coverage for 12 months. *All candidates for and members of intercollegiate athletic teams are required to subscribe to this supplementary insurance plan.*

The health status of participants in the athletic program, both intramural and intercollegiate, is under Health Services supervision; and care is available for injuries resulting from these activities.

Recognition of the specific emotional needs of students in an educational environment has led to the provision of an active mental health program including diagnostic and limited treatment services.

Students are urged to consult a member of the Health Services staff as soon as any indication of a physical or emotional disorder is evident. It is much easier for the staff, and less time-consuming for the student, to rectify minor difficulties before they have become sources of disability.

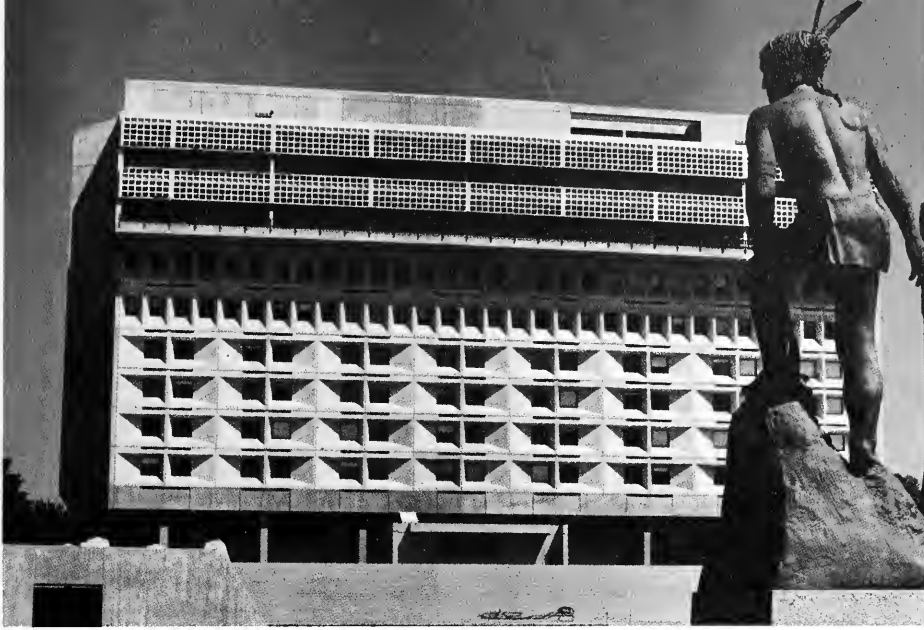
Students who are under medical supervision prior to entrance are urged to have their physicians write the Health Services, giving reports and instructions in appropriate detail. In brief, the Health Services attempt to provide all students with a coordinated and comprehensive program of health supervision formerly provided by their family physicians.

All visits and information gained as a result of visits to the Health Services are treated as confidential and no such information will be released without the express permission of the student.

The Health Education staff concerns itself with helping to develop attitudes and behavioral patterns which will promote healthful personal and community living.

The Environmental Health and Safety staff operates to ensure a safe and healthful environment for all who live or work on campus. Food services, housing, radiation use, building and traffic safety, and fire control are major areas of activity.





## *Student Activities*

### CAMPUS CENTER COMPLEX

The Campus Center Complex is composed of the Murray D. Lincoln Campus Center building, the Parking Garage and the Student Union. It houses the offices of the Assistant Dean of Students and his Student Activities staff, the Campus Center Manager and his staff and the University Ombudsman. The activities staff provides services in programming activities and maintaining and accounting various student funds. Service departments of the complex include: the University Store which carries a complete stock of books, assorted novelties and sundry supplies; the Lobby Counter, the Campus Information Center, includes bus ticket information and sales, newspaper and sundry sales, night and weekend checkcashing; the Cashier's Office; automatic U.S. Post Office; special event ticket sales office; barber shop; games area; music library and listening lounge; overnight accommodations with parking facilities and food services varying from snacks to light meals in one of four cafeterias to elegant dining in the top of the Campus restaurant and cocktail lounge. Meeting rooms, lounges, reading rooms, art galleries are available for student and general campus use. The Campus Center Governing Board, comprised of undergraduate and graduate students, alumni, faculty and staff, determines policy for the operation of the center. A standing committee of the Board, the Program Council, which is composed wholly of students, selects, plans and executes all Center activities in art, music, dance, movies, special events, etc. Any student may apply for membership.

Construction and operating costs are met from student fees and income generated from general operation, particularly the Food Service Department, the University Store and overnight accommodations. Continuing Education is also housed in the Campus Center Complex which is heavily used for conferences, institutes, workshops and short courses.

In effect, a portion of every dollar generated within the Complex is recycled back into the Center to benefit the student body in one form or another; that is, through building services, Program Council activities, the assistance of professional staff, and refurbishing and renovations to lounges, furniture, etc. Full utilization of income for these and other positive purposes are also, of course, major factors in maintaining student fees at a low reasonable rate.

The Campus Center hosts programs sponsored by the Division of Continuing Education, the alumni of the university, and many service organizations.

## STUDENT ACTIVITIES OFFICE

The Student Activities Office in the Campus Center is the focal point for student social, community action, social action, governmental, cultural and educational enrichment activities, in addition to serving as the headquarters for Recognized Student Organizations (RSO) and the Program staff. It provides resource material and counsel on program planning, organizational work and leadership training, entertainment selection and procurement, service and aid projects for campus and community, special interest activities and recreation, as well as counsel on budgeting, purchasing, contracting and other business procedures. The Student Activities Office also provides a banking, bookkeeping and auditing service for student organizations.

Participation in extracurricular activities offers opportunities to further the broader objectives of a college experience. The knowledge, skill, and judgement developed in the classroom can be tested and refined through use in many organizational settings. More than fifty professional organizations exist on campus as a means of extending the classroom interest through closer contact with members of the faculty and representatives of the professions. Student government offers a forum for debate on matters of importance to the entire University community. There are several student publications as well as a student FM radio station. Approximately 400 student organizations range in interest from political, religious and cultural, to social, professional, and recreational.

Such activities can be a profitable means of fostering maturity and general enrichment in those students who wish to take advantage of all that the University can offer. In encouraging participation in these activities, the University and the Student Activities staff ask only that students carefully assess the academic demands on their time and ability in order that they may profit

as much as possible from a total University program devoted first and foremost to academic studies.

The University expects that no student will be excluded from membership in any club, society, fraternity, sorority, or other organization for reasons of race, religion, or national origin. Campus groups which may belong to national bodies which openly or covertly endorse such discrimination would be in violation of this University principle.

## STUDENT GOVERNMENT

All undergraduate students of the University are members of the Student Government Association (SGA). SGA is divided into two parts: the Student Senate and the General Court of Justice (Judiciary).

The Student Senate has vested in it all legislative and executive functions of student government to the end of promoting the welfare of the student body. Any member of the undergraduate student body in good standing is eligible to run for election to a Student Senate seat based on certain election requirements. Stockbridge students are represented on the Stockbridge Student Senate.

The Senate usually meets once a week, with considerable committee work throughout the week. Any undergraduate can be appointed to a Senate committee, by application to the Senate's Administrative Vice-President. Meetings are open to any member of the University community.

In addition to Student Senate, there are provisions in the constitution and bylaws of each residence unit for elected house governments.

Students (both senators and non-senators) are also represented on a number of Faculty Senate and University committees and subcommittees. Appointments are made by the President of the Student Senate.

Within the past several years, the scope of involvement of the Student Senate with the other sections of the University community has broadened tremendously. All students share in the responsibility of supporting and improving their student government.

## FACULTY SENATE COMMITTEE ON STUDENT AFFAIRS

The Bylaws of the University Faculty Senate provide for a Committee on Student Affairs as follows:

- (a) Its composition shall be eight members of the Faculty, nine undergraduates, and the Dean of Students *ex officio*.
- (b) It shall review and make recommendations on all non-academic discipline, student rights, dormitory life, and all other matters of common concern to the faculty and students which are not within the scope of responsibility of some other regular or special committee of the Senate. It shall advise the Dean of Students and recommend policies for the operation of Student Personnel Services. It shall promote and protect the academic freedoms and civil liberties of students and

shall hear complaints alleging the suppression, abridgement, or abuse of such freedoms and liberties. The Committee may also consider the policy aspects of extracurricular activities, but this authority shall not be construed as granting the Committee supervisory powers over the Student Senate or over other recognized student organizations.

## SELECTED STUDENT ORGANIZATIONS

There are more than 450 recognized student organizations at the University of Massachusetts, Amherst. Among these are:

### *Campus Publications*

*The Daily Collegian*. Daily newspaper published by undergraduates.

*Index*. The University yearbook.

*Spectrum*. Publication of essays, short stories, poems, and art.

*Yahoo*. Humor magazine.

*Engineering Journal*. Quarterly open to science and engineering students for the publication of technical articles and essays of general interest.

### *University Music Organizations*

Campus music organizations provide experience in musical and allied activities for performers and technicians with various kinds of interest and ability. The University Symphony Orchestra, bands, and the choral organizations are in the Department of Music. Membership is open to all students, faculty, alumni, and others in the area community.

*University Symphony Orchestra*. Membership is open, by audition, to all University students. The orchestra has developed rapidly into a large ensemble capable of performing the standard symphonic literature and contemporary works as well. Students who exhibit exceptional performing ability are given an opportunity, through competition, to appear as soloists with the orchestra in performance of major solo literature. Occasionally, distinguished guest artists are invited to appear. Membership in the University Symphony can constitute academic enrollment in a University course, and thus carry with it University credit toward requirements.

*University Symphony Band*. The University Symphony Band is open by audition to all University students. The band's extensive repertoire includes contemporary works for band and for wind ensemble, as well as the standard symphonic band literature. Enrollment in the Symphony Band allows a student to earn credit toward University graduation requirements.

*University Marching Band*. The University Marching Band is open by audition to all University students. Enrollment in the band allows a student to earn credit toward University graduation requirements. In addition, students accepted for membership earn exemption from required physical education during the football season.



*University Varsity Band.* The University Varsity Band is open to all University students. It is designed to offer instrumental participation to students whose schedule or lack of experience prohibits membership in the more advanced group.

*University Chorus.* The University Chorus, with a membership of more than one hundred voices, rehearses and performs oratorios and other large choral works in cooperation with various instrumental groups from the Music Department.

*University Chorale.* The University Chorale specializes in the preparation of the finest à cappella choral literature to be performed in concert on campus and on tour. In addition to the large performing chorus, students may take part in a madrigal group or other small vocal ensembles.

*University Music Theatre.* The University Music Theatre produces standard works from the repertoire of musical theater. Membership is open to persons interested in an art form which provides experience in many elements of musical performance as well as in staging, acting, and other theater activities.



### *The University of Massachusetts Theatre*

The University of Massachusetts Theatre, an activity of the Department of Speech, schedules several plays a year, a program designed to give every student the opportunity of seeing living examples of the dramatic heritage of Western civilization in all forms and styles. The productions serve as the laboratory for all students majoring in theatre; however, all phases of work on these productions are open to all students regardless of school or major.

### *The University Debate Union*

The University Debate Union is an academic and co-curricular activity of the Department of Speech. Each year debate teams research and debate an intercollegiate proposition dealing with an important international or national

problem. The debaters attend tournaments at colleges and universities throughout the United States. In addition to tournament debating, the Debate Union provides ample opportunities to participate in forums on significant contemporary issues before a variety of off-campus and on-campus audiences. The Union is open to all undergraduate students on campus.

### *Student Honor and Service Societies*

*Adelphia.* The men's senior honor society brings together the men in the University who are leaders in various branches of student activity. The society strives to preserve valuable traditions and customs and to advance the University in all ways. Membership is limited to a total of 20 men from the senior and junior classes.

*Mortar Board.* The national honor society for senior women has been represented on this campus by the Isogon Chapter since 1955. Selection of not less than five or more than 35 women is made on the basis of scholarship (B cumulative average), leadership, and service to Alma Mater. The purpose of the society is to promote University loyalty, to advance the spirit of service and fellowship among University women, to maintain a high standard of scholarship, to recognize and encourage leadership, and to stimulate and develop a fine type of college woman.

*Maroon Key.* The men's sophomore honorary-service society, composed of students recognized for leadership abilities and University services.

*Scrolls.* Women's sophomore honorary-service society, elected at the end of the freshman year.

*Revelers.* A group of upperclassmen chosen to promote and encourage freshman interest and participation in campus activities and other service-oriented projects.

*Alpha Phi Omega, national service fraternity.* The Kappa Omicron Chapter conducts an active program of service to the campus and the community. It is dedicated to the principles of leadership, fellowship, and service. The chapter conducts or supports various projects (Used Book Exchange, Homecoming Concert, Annual Foreign Students Convocation, United Nations Week, Peace Corps) in the interests of making contributions to brotherhood throughout the world.

*Gamma Sigma Sigma.* A national service sorority based on the ideals of service, friendship, and equality—open to all University women.

*Delta Sigma Rho-Tau Kappa Alpha.* A national honorary forensic fraternity open to students who have had at least two outstanding years in forensic or debate activity and are in the upper 35 percent of their class.

### *University Guide Service—ARCON*

The University Guide Service, ARCON, inaugurated in 1965, disseminates information about the University and conducts tours for visitors and official guests.

In the conviction that ARCON must uphold the highest standards of responsibility and leadership, the fraternity men and sorority women of the junior class who compose this organization are interviewed and screened in the spring preceding their year of voluntary service by a group of faculty, administrators and students. After their selection, the guides undergo intensive training.

### *Professional and Special Interest Clubs*

Approximately fifty professional clubs, established in connection with the various major courses of study, stimulate students' professional interest in their chosen fields and afford opportunity for discussion of technical subjects of mutual interest.

Special interest groups cover an even wider range of interest, in many cases offering subjects not covered in the academic areas of the University. A partial list includes: Free University, Young Socialists Alliance, Flying Redmen, Precisionettes, Young Republicans, Amateur Radio, Student Afro-American Society, University Mobilization Committee, Students for a Democratic Society, Draft Counseling Services, University-State Communications Council, Volunteer Fire Department, Belchertown Volunteers, National Ski Patrol, Coalition for Environmental Quality, Community Action Foundation, Outing Club, Ski Club, SCUBA Club, Equestrian, Crew Club, Bike Club, Square Dance, Science Fiction, Collegiate Flying Club, Greek Council, Student Union/Campus Center Governing Board, Residential Area Governments, and a variety of religious and other organizations.





## *Fraternities and Sororities*

Social fraternities include Alpha Tau Gamma (Stockbridge School), Beta Kappa Phi, Delta Chi, Pi Lambda Phi, Kappa Sigma, Lambda Chi Alpha, Phi Mu Delta, Phi Sigma Delta of Zeta Beta Tau, Phi Sigma Kappa, Sigma Alpha Mu, Sigma Alpha Epsilon, Sigma Phi Epsilon, Tau Epsilon Phi, Theta Chi, Zeta Nu. An Inter-Fraternity Council, consisting of representatives of these fraternities, has charge of rushing and all general matters dealing with fraternity life. A cooperative organization—the Fraternity Managers' Association—pools the financial resources of all sixteen fraternities for purposes of effecting orderly, economical purchasing and accounting procedures. A professional fraternity manager administers the association's program.

Sororities include Alpha Chi Omega, Chi Omega, Iota Gamma Upsilon, Kappa Alpha Theta, Kappa Kappa Gamma, Lambda Delta Phi, Pi Beta Phi, Sigma Delta Tau, Sigma Kappa, and Sigma Sigma Sigma. The Panhellenic Council, made up of representatives from the sororities, supervises rushing and other sorority matters.

## FINE ARTS COUNCIL

The Fine Arts Council is composed of five undergraduates and five faculty members appointed by their respective Senates. The Council meets regularly with its professional staff to plan a varied, balanced series of events for the University community. Presently included are the Celebrity Series, five pairs of outstanding classical artists or ensembles; the Chamber Music Series, five single concerts by leading small ensembles; two distinguished contemporary dance ensembles in extended residencies; two off-Broadway theatre groups in half-week residencies; four two-day film festivals, and numerous special events. The Fine Arts Council also supports the University Art Gallery and University Music Theatre.

The University Art Gallery in Herter Hall provides outstanding traveling shows as well as faculty and student exhibitions in all media throughout the academic year.

The University Music Theatre (formerly The Operetta Guild) is a student-operated organization charged with producing fully-staged works from the lyric theatre. At present, the University Music Theatre presents two productions per academic year in Bowker Auditorium and will be pleased to hear from students interested in participating in this program on any level.

## INTERCOLLEGIATE AND INTRAMURAL ATHLETICS

The University values the educational advantages of a well-organized intercollegiate and intramural sports program. In intercollegiate athletics, the University is represented by teams in all the leading sports, including football, soccer, cross country, basketball, swimming, wrestling, indoor and outdoor track, hockey, rifle, golf, tennis, baseball, lacrosse, gymnastics, and skiing.

The University also supports a broad program of intramural activities, in which all students are encouraged to participate. The range of sports available each year includes the team sports of touch football, basketball, bowling, volleyball, soccer, badminton, softball, horseshoes, handball, and tug-of-war. Individual activities include cross country, squash, wrestling, swimming, and tennis.

The University Intercollegiate Athletic Program is supervised by the University Athletic Council, which is composed of the following members: four faculty members, one member of the professional staff from the administration, three alumni members chosen by the Associate Alumni, the Executive Director of the Alumni Association, and, ex officio, the Director of Athletics and the President of the Student Senate.

The University is a member of the Yankee Conference, the National Collegiate Athletic Association, the Eastern College Athletic Conference and the New England College Athletic Conference.

## ALUMNI ASSOCIATION

The Associate Alumni is the general alumni organization of the University. The association maintains headquarters at Memorial Hall, erected by alumni and friends in honor of those men of the University who died in World War I. A quarterly magazine, *The Massachusetts Alumnus*, is the alumni publication of the University. According to its bylaws, the corporation is constituted for the purpose of promoting the general usefulness of the University; of cultivating mutual regard among its graduates and former students; and of strengthening their attachment to their Alma Mater. Under sponsorship of the University of Massachusetts Building Authority, composed of alumni who volunteered their services, nineteen residence halls, two faculty apartment centers, and a Student Union Building have been constructed on the campus. The governing body of the Associate Alumni consists of its officers and a board of directors. Six directors are elected each year and serve a term of four years. All graduating seniors become members of, and contributors to, the association at graduation, according to a tradition set by the Class of 1940.

## RELIGIOUS ACTIVITIES

The University gives support to the religious life of its students in various ways. It affords the use of University facilities for student groups of all faiths. It cooperates with the official agencies of the three faiths most largely represented at the University by recognizing the contributions of their privately supported chaplains and by giving them facilities and privileges for their work.

On campus, the religious life of Catholic students is enriched by activities and daily and Sunday Services at the Newman Center. Jewish students participate in services and activities sponsored by the B'nai B'rith Hillel Foundation. Protestant students are served by the United Christian Foundation, an



ecumenical ministry providing counseling services as well as opportunity for involvement in service and social action.

Other religious groups such as the Baha'i Club, the Christian Science Organization, the Inter-Varsity Christian Fellowship, the Lutheran Club, and the Orthodox Club also meet regularly on campus and students interested in their programs are welcome to attend. The Campus Religious Council provides a cooperative inter-relationship among the campus religious groups and serves the whole University community by sponsoring the Annual Blood Drive, book and clothing drives, the Religious Handbook for Freshmen, and ecumenical discussion and action.

The local Protestant and Catholic churches of Amherst provide opportunities for Sunday worship, and Sabbath services for Jewish students are held on Friday evenings. Students are encouraged to attend the services of their respective faiths. Several denominations sponsor active student programs centered in the local churches as well, and students are welcome to attend events and join groups sponsored by the denominations.

# *Career Planning and Placement Service*

The Career Planning and Placement Service provides vocational counseling and aids students in finding suitable employment. This Office also maintains a library of career and occupational literature.

The Placement Office gives special attention to providing seniors and graduate students with job placement assistance and career information. Throughout the year, this Office schedules on campus student interviews with employers from business, industry, education, government, etc.

Cumulative student records, including prepared credentials, personal resumes and recommendations are provided. With counseling in career planning, the aim is to enable seniors and graduate students to attain their career objectives.

Teacher Certification—Employment in public schools requires teachers' certification. Students enrolled in an approved program through the School of Education meet the specified requirements for the Commonwealth of Massachusetts. Others, not so enrolled, should review their programs with the Educational Placement Officer prior to their senior year to make sure that requirements will be met upon graduation. Questions concerning certification locally and in states other than Massachusetts, specialized certification, documents that must be supplied, supply and demand, existing and projected vacancies, and the like, may also be directed to the Educational Placement Officer.

## *Financial Aid*

All information relative to financial aid should be sought through the Financial Aid Office. Many kinds of financial assistance, including loans, grants, and scholarships are available. Student employment and the federal Work Study Program are handled through this Office.

### LOANS

#### *University Loans*

Through the generosity of friends of the University, funds have been donated to provide loans for a limited number of students of the three upper classes to assist in paying tuition or other college expenses. These loans are granted, after proper consideration, to needy students of good scholarship. All loans are secured by a note endorsed by a responsible party as collateral. In general, if loans are taken out by a senior, they must be paid before graduation; other-

wise they are due before the beginning of the next school year. Upon withdrawal from the University, loans automatically become due. On most of the funds, interest is charged at the rate of 3% to maturity and 5% thereafter. Application for loans should be made to the Financial Aid Office. No loan under this plan will be granted in excess of \$200 in any one year. If funds are available at the beginning of the second semester, loans may be made in exceptional cases to members of the freshman class whose scholastic record is satisfactory and whose budget calculations have been upset through circumstances beyond their control.

### *Higher Education Loan Plan*

Loans of up to \$1,000 per year may also be obtained by students from the bank of their choice through the Higher Education Loan Plan. Certification of attendance and other information relative to the student's overall record will be submitted to the bank prior to receipt of the loan. Further information can be obtained through the Financial Aid Office.

### *National Defense Student Loan Program*

Students may borrow up to \$1,000 per year under this program. Interest at 3% starts nine months after completion of the program, repayment to be within ten years. Because of the amount of money available, this is necessarily a limited, selective program. Further information and application forms may be secured from the Financial Aid Office.

## MILITARY SERVICE

This office also provides information concerning draft status and military reserve duty. It is the responsibility of every male student registered with a Selective Service Board to inform his Board of his student status at the University each year. (Students who reach draft age—18—may register through this office which notifies the appropriate local draft board on request.)

At registration, a card is provided for each male student on which he can establish his status. This card will be transmitted, on request, to the appropriate draft board. In addition, a student must annually request a II-S deferment from his draft board. This may be done by direct correspondence with the board.

The current Selective Service law requires a student to earn his bachelor's degree in eight semesters, without interruption except for normal vacation periods, or in four academic years which may be construed as 48 months from the time he begins his college work.

## VETERANS AND VETERANS' DEPENDENTS BENEFITS

Veterans or dependents of veterans, eligible for educational benefits under the Veterans' Bill, P.L. 358, the Disabled Veterans Bill 894, or the War Orphan

Bill 634, should present a Certificate of Eligibility at registration. A staff member coordinates all veteran affairs and is ready to help with appropriate clearance through the Veterans Administration. Veterans or veterans' children who are transferring to the University from another institution or who have done summer work at another institution will be required to submit a supplemental Certificate of Eligibility at registration. This may be obtained by applying through the veterans' office at the institution last attended.

## SPECIAL FINANCIAL AID FOR GRADUATES INTERESTED IN FARMING

The Lotta M. Crabtree Agricultural Funds make available to graduates of the University, funds to be used for farm financing. The purpose of loans from these funds is to assist meritorious graduates who are without means in establishing themselves in agricultural pursuits. These loans are made without interest or service charges other than the cost of title search and legal papers. They must, however, be paid back in full amount within a reasonable length of time and there are certain restrictions on their use. Applications for the "Lotta Crabtree Agricultural Fund" should be addressed to the Trustees of the Lotta M. Crabtree Estate, 619 Washington Street, Boston. Decisions regarding the granting of a loan rest entirely with the Trustees under the terms of Miss Crabtree's will.

## EMPLOYMENT

College Work Study Program: Under this program students who meet established financial aid criteria can be assigned to part-time jobs on campus or to jobs with non-profit agencies in their community during the summer months. Like all other financial aid programs the deadline for applying is March 1.

Students who fill out part-time employment applications will be referred to jobs on campus as they become available.

The Financial Aid Office also maintains a file of all part-time off-campus employment opportunities that are brought to the attention of the office.

## APPLICATION PROCEDURE—Scholarships, Loans, and Work

The University participates in the College Scholarship Service (CSS) of the College Entrance Examination Board. Participants in CSS subscribe to the principle that the amount of financial aid granted a student should be based upon financial need. **Whether or not aid has been received previously a new application must be filed each year. Aid in any one year does not guarantee the same amount of aid in subsequent years.**

Entering students seeking financial assistance are required to submit a copy of the Parents' Confidential Statement (PCS) to the College Scholarship Service, designating the University as one of the recipients. The form should

be filed no later than March 1 of the admissions year. The PCS form may be obtained from a secondary school or the College Scholarship Service, P.O. Box 176, Princeton, New Jersey 08540, or P.O. Box 1025, Berkeley, California 94704.

Upperclass students should obtain the proper application from the Financial Aid Office, Room 239, Whitmore. These applications must be filed by March 1.

## SCHOLARSHIPS

Scholarships consist of two types of awards. One is a straight monetary award. The other is a work scholarship called an Undergraduate Assistantship wherein a recipient of the award is required to perform work of an academic or educational nature (about 8 hours per week) under faculty or staff supervision. Scholarships in the form of monetary awards are given to members of all undergraduate classes whereas Undergraduate Assistantships are given only to members of the sophomore, junior, and senior classes. Scholarships and Undergraduate Assistantships are awarded only to needy and deserving students whose scholastic records are satisfactory. The scholastic requirement for both types of aid is a 2.8 cumulative quality point average or a 2.0 to 2.8 with an average of at least a 3.0 in the fall semester. These awards are paid in installments at the beginning of each semester in the form of a credit on the student's bill. If the scholarship student withdraws from the University, any refund of University fees or charges must first be applied to reimburse the scholarship fund for the full amount of the scholarship received by the student for the semester.

### *General Scholarships*

*Albert Pierpont Madeira Scholarship Fund.* Established in 1964 to honor the memory of Albert Pierpont Madeira (1911–1964), Assistant Professor of English, a distinguished teacher and devoted friend of generations of students. The fund was established from an initial grant by the General Electric Company in the amount of \$9,000, the sum won by a team of University scholars who successfully competed in the General Electric College Bowl over national television. Retiring as undefeated national champions, one of only thirteen collegiate teams to do so out of more than two hundred competing to that date, the four scholars—Susan Tracy '65, Michael Berrini '65, William Landis '65, and David Mathieson '64—were coached for many months by Professor Madeira. Because Professor Madeira had expressed great faith in the team's ability to compete with opponents from institutions throughout the country, the team decided to appear on the program despite Professor Madeira's sudden death shortly before the date set for the first contest. After five successful appearances, the team was presented with the General Electric scholarship grant and an additional \$1,500 from Gimbel's Department Store, New York.



The total grant of \$10,500, plus any other funds to be added thereto, is held as an endowed fund, the annual interest therefrom to be awarded in the form of scholarships to sophomores, juniors, and seniors at the University who have been recommended by the faculty on the basis of good scholastic performance and demonstrated services to the University and to their fellow students. Final selection of individual recipients is made by the Upperclass Sub-Committee of the University Committee on Financial Aid and Scholarships.

*Alpha Sigma Phi Scholarship* for needy students.

*Danforth Keyes Bangs Scholarship* for the aid of industrious and deserving students.

*Lucius Clapp Fund* to provide scholarships and loans to deserving students.

*Foreign Student Scholarships.* A limited number of scholarships, involving waiver of tuition fees only, awarded on basis of merit and need. Applications should be addressed to the Adviser to Foreign Students.

*Henry Gassett Scholarship* for a worthy undergraduate student.

*Charles A. Gleason Scholarships.* General Scholarship for worthy students.

*Whiting Street Scholarships.* Scholarships of \$50 each for deserving students.

*University Associate Alumni Scholarships.* A limited number of scholarships awarded on the basis of leadership, need, scholarship and participation in extracurricular activities.

*University Foundation Scholarships.* A limited number awarded to needy scholars.



## *Restricted Scholarships*

*George H. Barber Scholarship and Grant-in-Aid Awards.* A limited number of scholarships or grants-in-aid based on evidence of outstanding athletic performance and good citizenship, need or high scholarship.

*Class of 1882 Scholarship* for the aid of a worthy student of the junior or senior class.

*Frederick G. Crane Scholarships* for the aid of worthy undergraduate students, preference given to residents of Berkshire County.

*Stephen Davis Scholarship.* Established by gift of Mr. and Mrs. Benjamin Davis, New York, in memory of their son, Stephen Davis, Class of 1954, who lost his life while serving as an officer with the United States Air Force. For a male undergraduate majoring in Liberal Arts or Social Sciences who has participated in the athletic program. The selection of the recipient is made jointly by the Dean of the College of Arts and Sciences and by the Dean of the School of Physical Education. The student selected receives each year, not to exceed four years, the full income from the fund so long as he remains in good standing in the University and continues to major in Liberal Arts or the Social Sciences. Annual income is approximately \$800.

*Philip B. Hasbrouck Scholarship Fund.* Established as an endowment fund through the generosity of the Class of 1910. Income from the fund is used for scholarships for certain deserving juniors and seniors studying a science essential to the national welfare, particularly physics. Students may obtain further information about the scholarship by inquiring at the Financial Aid Office.

*Interfraternity Council Scholarship.* A \$100 scholarship awarded annually to a member of one of the social fraternities. The recipient must show evidence of need. In addition, he must have a record of participation in extracurricular activities and have at least a 2.5 quality point average.

*Betsey C. Pinkerton Scholarships.* Two general scholarships for graduates of the schools in the city of Worcester.

*Sigma Xi Scholarship Award.* The Massachusetts Chapter of the Society of the Sigma Xi makes an award of \$100 annually to an undergraduate student at the University in recognition of a developing research interest in the sciences or engineering.

*Wilbur H. H. Ward Scholarships.* Twenty-five scholarships of approximately \$100, known as the Wilbur H. H. Ward Scholarships. The Ward Fund is administered by a Board of Trustees independent of the University. Applicants for these scholarships write to Mrs. Marian R. Erush, Stockbridge Hall, University of Massachusetts, Amherst 01002. They are available to Hampshire County men.

## *College of Agriculture*

*Alvord.* For students specializing in the study of Dairy Husbandry or Dairy Manufacturing with the intention of becoming an investigator, teacher, or

special practitioner in the dairy industry. Restricted to students who do not use tobacco or fermented beverages.

*O. G. Anderson Memorial Fund.* For needy and worthy students majoring in pomology. To be used for the purchase of books and supplies. Granted only on the recommendation of the Department of Plant and Soil Sciences.

*Ascension Farm.* For men students in the College of Agriculture. Residents of Berkshire County have preference, but awards may be made to students from Hampshire, Hampden, and Franklin Counties.

*Boston Flower Exchange Scholarship.* A \$300 award to a student with a demonstrated interest in Floriculture. Scholarship given in memory of Rachel Dietz.

*Buttrick.* For junior, senior, or graduate students majoring in Dairy Industry or Food Science and Technology. Scholarships will range from \$100 to \$500 per year depending upon scholarship achievement and need.

*H. B. Cantor Foundation.* A \$500 scholarship for a student who plans to make hotel management his career, awarded on the basis of financial need and merit.

*Club Manager's Association of America.* \$300 for a major in Hotel and Restaurant Administration with a demonstrated interest in Club Management.

*George M. Coddling.* \$1,200 scholarships for majors in the College of Agriculture who graduated from a public high school in either Taunton or Martha's Vineyard.

*Charles M. Cox Trust Fund Scholarship* of \$300 is awarded to a student or students in the College of Agriculture on the basis of need, character, and scholarship ability. Preferably the scholarships will be awarded to undergraduate majors in dairy husbandry or poultry husbandry.

*Dairymen's League Co-operative Association Scholarships.* \$500 for a junior or senior in Agricultural and Food Economics with a demonstrated interest in Dairy Marketing or a senior planning on becoming a teacher of Vocational Agriculture.

*Lawrence S. Dickinson Scholarship.* \$250. Given by the Golf Course Superintendents' Association of New England. To be awarded to an undergraduate who has shown an interest in turf management and expects to continue in this field as a career. Those who are interested should contact the Chairman of the Scholarship Committee, Mr. Philip Cassidy, or Prof. Joseph Troll, Department of Plant and Soil Sciences. This scholarship will be awarded by the superintendents at one of their functions.

*Fenway Motor Hotels Scholarship Fund.* Preference to children of employees of Fenway Motor Hotels and other persons majoring in Hotel and Restaurant Administration.

*J. W. D. French Fund.* For students in dairy and forestry, and allied subjects.

*Ernest G. Giovino.* \$250 scholarship for a student majoring in Hotel and Restaurant Administration.



*Golf Course Superintendents Association of America.* \$300 for a student majoring in Plant and Soil Sciences with a demonstrated interest in Turf Management.

*Henry Folsom Hoo Hoo.* Scholarships for students majoring in Wood Technology.

*Charles H. Hood Foundation.* Awarded to two students in the College of Agriculture, with preference given to those studying the production of milk. Based on scholastic standing, character, industry, and personality.

*Howard Johnson's.* Two \$500 scholarships for Stockbridge students and one \$500 scholarship for a University student majoring in Restaurant and Hotel Management. Preference is given to children of Howard Johnson's employees and to those who have worked for the company.

*Merwin Memorial Free Clinic for Animals.* \$500 scholarships for students majoring in Pre-Veterinary or Animal Science.

*Margaret Motley.* For a woman student majoring in Floriculture or Landscape Gardening. Need, scholarship, and promise of success form the basis of the award which is provided by the Garden Club Federation of Massachusetts, Inc.

*National Food Brokers' Association.* \$400 to be awarded to either an undergraduate or graduate student in the Department of Agricultural and Food Economics who is interested in making a career in the food industry.

*New England Hotel-Motel and Restaurant Educational Foundation.* \$500 scholarships for students majoring in Hotel and Restaurant Administration.

*New England Vegetable Growers Association.* \$100 scholarship for a sophomore in agriculture. Applications should be made to the Secretary of the Boston Market Gardeners' Association, 240 Beaver Street, Waltham, Massachusetts 02154.

*Porter L. Newton.* For students majoring in Agriculture who are residents of Middlesex County.

*New York Farmers.* \$200 scholarships to the top senior, junior, and sophomore in the College of Agriculture, and \$100 to the top freshman—based on grades at mid-year.

*Frank H. Plumb.* For students majoring in the College of Agriculture.

*Charles M. Powell.* For students majoring in Forestry or Wildlife Biology.

*Ralston Purina.* \$500 scholarship for a student majoring in Veterinary and Animal Science.

*V. A. Rice Scholarship Fund.* A \$100 scholarship for a worthy student majoring in Animal Science.

*Joseph C. Rich.* \$100 scholarship for a student majoring in Fisheries Biology.

*Saga Food Service.* Five \$200 scholarships for students majoring in Hotel and Restaurant Administration, awarded on the basis of need and merit.

*Ellsworth Milton Statler Foundation.* \$500 scholarships for students majoring in Hotel and Food Management. Students must be recommended by the University Scholarship Committee and approved by a Committee of the Statler Foundation.

*Springfield Garden Club.* For students living in the vicinity of Springfield, Massachusetts, and majoring in some phase of Horticulture.

*Stouffer Foundation.* Three \$200 scholarships for students majoring in Hotel and Restaurant Administration, awarded on the basis of need and merit.

*Stouffer Foods Corporation Fund.* Two \$250 scholarships to students majoring in Hotel and Restaurant Administration.

*George Treadwell.* \$100 scholarship given by Worcester County Poultry Association to a needy and worthy student from Massachusetts who is majoring in Poultry Husbandry at the Stockbridge School of Agriculture.

*Frank M. West.* \$100 scholarships for Forestry majors.

### *School of Engineering*

*Alumni Scholarships.* Provided by annual contributions from graduates and friends of the School of Engineering to provide scholarships to deserving and well-qualified students pursuing work in a major field of engineering. They are available to freshmen and upperclassmen.

*Kollmorgen Optical Corporation Tuition Scholarship.* Awarded annually to a junior or senior student majoring in mechanical engineering. Awarded on the basis of need and superior scholastic attainment.

*Western Massachusetts Section, American Society of Mechanical Engineers.* Awarded annually to a junior or senior mechanical engineering student who is a legal resident of the area represented by the section. Awarded on the basis of need and scholastic attainment.

### *Army ROTC Scholarship Program*

One- to four-year Army ROTC Scholarships are competitively awarded, based on the applicants' abilities, accomplishments and demonstrated leadership potential. The scholarships pay for tuition, textbooks, laboratory fees and other purely educational expenses. In addition the student receives a subsistence allowance of \$50 per month for the duration of the scholarship. Further information can be obtained from the Department of Military Science.

### *Air Force ROTC*

Substantial scholarships, granting \$50 per month and, in addition, defraying all University tuition, laboratory fees and textbook expenses, are awarded to selected cadets. These scholarships are available only to juniors and seniors enrolled in the four-year Air Force ROTC program.

The Armed Forces Communications and Electronics Association will award one \$500 scholarship annually to a sophomore AFROTC cadet for undergraduate university study in Electrical, Electronics, or Communications Engineering, and/or Technical Photography.

### *College of Arts and Sciences*

*Richard W. Fessenden Memorial Scholarship.* An award made to undergraduate students majoring in chemistry upon the recommendation of the department of chemistry. This award is made possible by donations from friends and former students of Dr. Fessenden, former professor of chemistry at the University.

*Massachusetts City Managers' Association Scholarship.* Tuition scholarship awarded by committee composed of the President of the City Managers' Association, the head of the department of government and the Director of the Bureau of Government Research, to an undergraduate or graduate student majoring in government.

### *Public Health*

*Massachusetts Department of Public Health Scholarship.* A scholarship in the amount of \$300 made to an outstanding student in the field of bacteriology and public health.

*Massachusetts Association of Sanitarians Scholarship.* A scholarship in the amount of \$100 made to an outstanding student interested in the general field of public health.

*Massachusetts Milk Inspectors' Association.* One or more scholarships, each in the amount of \$100, made to outstanding students interested in the field of sanitation or milk sanitation.

*Public Health Service Traineeship* for graduates and undergraduates, one or more annually, complete expenses paid as a stipend.

*William B. Palmer Scholarship* for juniors and seniors majoring in Sanitary Science or Public Health, \$300 annually (The International Association of Milk and Food Sanitarians).

### *School of Home Economics*

*Berkshire County Women's Advisory Council Scholarship.* For a student majoring in Home Economics who is a resident of Berkshire County. Preference may be given to applicants who have indicated an interest in Extension work as a career.

*Minnie R. Dwight Scholarship.* For a student majoring in Home Economics who is a resident of Hampden County. This scholarship is awarded for four years if scholarship is maintained.

*Mrs. Clifton Johnson Scholarship.* For one or more Home Economics students who are residents of Hampshire County. Preference may be given to applicants who have indicated an interest in Extension work as a career.

*Helen Knowlton Award and Scholarship.* The award is for the highest ranking senior Home Economics student. Scholarships are for other deserving Home Economics students.

*Massachusetts Home Demonstration Council Scholarship.* For a Home Economics student at Framingham State Teachers College or the University of Massachusetts.

*Sears, Roebuck Foundation Scholarships.* For two incoming freshmen. Recipients are selected by the School of Home Economics from applications filed with the University Committee on Financial Aid and Scholarship. The basis for this award is high scholastic record, qualities of leadership and interest in Home Economics as a career.

*Stouffer Restaurant Corporation Scholarship.* For a Home Economics student majoring in Nutrition and Food.

*Mildred Thomas Scholarship.* For a student majoring in Home Economics at Regis, Simmons, State College in Framingham, or the University of Massachusetts. The applicant must be a resident of Worcester County and have completed the freshman year.

*Helen A. Whittier Award.* For a senior Home Economics student selected on basis of scholarship, need, and character.

### *4-H Scholarships*

*Cotting Memorial Scholarship.* All college expenses of freshman year—for a woman student. Recipient of this scholarship is selected by a committee of the New England Branch of the Farm and Garden Association from among candidates proposed by State Leaders of 4-H Club work in New England.



*Esso Scholarship.* This scholarship of \$800 is awarded to a freshman enrolled in the College of Agriculture. The recipient receives \$200 during each of the four years he is enrolled. Applications for this scholarship must be submitted to the State 4-H Club leader.

*George L. Farley Scholarships.* The Massachusetts Society for Promoting Agriculture has established a scholarship in memory of George L. Farley. The income of approximately \$60 per semester is awarded to deserving 4-H Club members, men or women, recommended by the State Leader of 4-H Clubs from applications submitted by County 4-H Club Agents.

### *Scholarships for Women Students Only*

*Greater Springfield Panhellenic Association Award.* This award is given each spring for use in the sophomore, junior, or senior year to a woman student from western Massachusetts. The award is based on scholarship and need, character and evidence of leadership in campus activities.

### *Scholarships Abroad*

Many U.S. Government, private foundations, and foreign government scholarships are available to qualified seniors for graduate studies abroad. Interested students should get an early start in language competence and in maintaining academic excellence. Several campus committees screen students for Fulbright Scholarships, Danforth Fellowships, Woodrow Wilson Fellowships, etc.

Applicants are usually considered in October of the senior year. Specific deadlines are posted on campus bulletin boards. The Financial Aid Office maintains a library of up-to-date information about such scholarships.



## HONORS, PRIZES AND AWARDS

### *Scholastic Prizes*

*Phi Kappa Phi Awards for Scholarship.* The University of Massachusetts chapter of Phi Kappa Phi, national all-university scholastic honor society, annually presents substantial monetary awards to the outstanding scholar or scholars of each of the four classes. These awards, based upon cumulative scholastic averages and character, are presented at the Honors Banquet in the spring.

*Hills Botanical Prize.* This is given through the generosity of Henry F. and Leonard M. Hills of Amherst for the first and second best herbaria. Competition is open to members of the senior, junior, and sophomore classes. First prize is \$20, second prize \$15.

*Massachusetts Society for Promoting Agriculture Prizes.* Three prizes of \$25, \$15, and \$10 are awarded to those senior students who are judged to have made the best record in a speaking contest held in March.

*Sigma Xi Scholarship Awards.* The Massachusetts Chapter of the Society of the Sigma Xi makes an award of \$100 annually to an undergraduate student at the University in recognition of a developing research interest in the sciences or engineering.



*Betty Steinbugler Prize in English.* This prize was endowed by John L. Steinbugler, New York City, in honor of his daughter, Elizabeth Steinbugler Robertson, a graduate of this University in 1929. It is awarded to a woman in the junior or senior class who has written the best long paper on a subject of literary investigation in a course in English during the year.

*L. R. Wilson Award in Geology.* This award, named in honor of the former head of the Geology Department, is conferred on the graduating senior with an outstanding academic record as a major in geology.

*Philip B. Hasbrouck Science Award.* This award was established by the class of 1910 to honor an outstanding teacher, once head of the Department of Physics. The award, made annually to a junior or senior majoring in Physics upon recommendation of the Department, is intended to encourage superior scholarship in the field.

### *Athletic Awards*

*Oswald Behrend Award.* This award is made annually to the scholar-athlete in the senior class whose achievements of overcoming a physical handicap best exemplify the courage, desire, sportsmanship, and rich philosophy of Oswald Behrend, class of 1917. This award is made possible by the Lawrence P. White family, long-time friends of Mr. Behrend.

*Chester F. Bowen, Jr. Memorial Award.* The class of 1949 presented the Chester F. Bowen, Jr. Memorial Award in track and cross-country to the University as its class gift. Members of the class felt that this gift would be a fitting memorial to a former classmate and a worthy award for the outstanding athlete in the varsity track and cross-country.

*Samuel S. Crossman Memorial Trophy.* This award is made to a member of the senior class who must have received two varsity awards, had an above-average academic record, possessed qualities of enthusiasm, cooperation, leadership, and be recognized as the outstanding student-athlete on the campus. The award established by the University Athletic Council, is dedicated to the memory of Samuel S. Crossman and consists of a trophy upon which the name of the student chosen is inscribed. A small replica is presented for his permanent possession.

*L. L. Derby Award.* This plaque is presented by the Alumni Varsity M Club each year at its Commencement meeting to that member of the track team considered to have been the most valuable member of the team during the past season.

*Eastern College Athletic Conference Award.* This award is designed to honor the student having a combined record of academic and athletic excellence at each Conference member college. The E.C.A.C. is composed of 114 colleges and universities located in the eastern section of the United States.

*The William T. Evans Memorial Trophy.* This trophy is given each year to that member of the varsity football team who through his sportsmanship, football ability, character, and personality, has exemplified the character and

spirit of the person in whose memory this memorial trophy is dedicated. The trophy is dedicated to the memory of William T. Evans, a former member of the class of 1942, who died December 9, 1941. This trophy is presented annually by the class of 1942.

*Golf Award.* Presented to the most valuable member of the Golf Team as chosen by the letter men of the squad.

*Gymnastics Cup.* Awarded to the most valuable member of the Gymnastics Team.

*Hockey Award.* Awarded annually at the Commencement meeting of the Varsity Club to that member of the hockey team who is considered to have been the most valuable player on the team.

*The Joseph Lojko Memorial Plaque.* Presented to a senior three-sport letter man, having a satisfactory scholastic record and showing those qualities of enthusiasm and cooperation which make for leadership. It is awarded in honor of Joseph Lojko of the class of 1934, outstanding athlete who died while a senior in the College.

*Manager of the Year Award.* The Athletic Association awards a gold plaque to that varsity sports manager who has demonstrated initiative and proficiency in managerial duties.

*Pistol Medal.* Awarded on a point basis to a member of the varsity team.

*The Allan Leon Pond Memorial Medal.* Awarded for general excellence in football in memory of Allan Leon Pond of the class of 1920, who died February 26, 1920. He was described as "A congenial companion, a devoted lover of Alma Mater, a veteran of World War I, a fine all-around athlete and a true amateur. He would rather win than lose, but would rather play fair than win." He has been characterized as a typical student of the University.

*Rifle Award.* Awarded on a point basis to the outstanding member of the varsity rifle team.

*Paul Sears Putnam Memorial Tennis Trophy.* Awarded to that member of the varsity tennis team who has displayed by his conscientious endeavor, clean play, good sportsmanship and all-around ability as an athlete and scholar, that he is a credit to his team and University. The recipient shall have his name inscribed on the trophy. He shall also be presented with a suitable medal or watch charm. The trophy is established in memory of Paul Sears Putnam, '38, by the members of his family, in the hope that it will stimulate and encourage students to emulate his characteristics of wholehearted enthusiasm and good sportsmanship, true cooperation and the constant endeavor to always give to the best of their ability in any project they may undertake.

*George Henry Richards Memorial Cup.* Awarded annually to the member of the basketball team who shows the greatest improvement in leadership, sportsmanship, and individual and team play during the year. It is in memory of George Henry Richards of the class of 1921 who died suddenly while a student at the College.

*Samuel B. Samuels Basketball Cup.* Presented annually in the name of

Samuel B. Samuels of the class of 1925 who was an outstanding basketball player during the early years of basketball as a varsity sport at the University. The trophy is awarded to that letter man who is a regular member of the varsity team and who has performed with excellence during scheduled varsity games.

*Maurice Suher Soccer Plaque.* Awarded annually to that letter man of the varsity team deemed to have been the most valuable member of the team. It is presented to the University by Maurice Suher of the class of 1930, who was one of the two students largely instrumental in having soccer recognized as a varsity sport at the University. He played on the first varsity soccer team at the University of Massachusetts, in the fall of 1929.

*Sports Dad Award.* The Sports Dad Association was formed in 1958 and consists of fathers of all varsity athletes. This association awards three trophies to outstanding athletes for scholastic achievement and athletic excellence.

*Swimming Trophy.* Awarded to the most valuable member of the varsity swimming team.

*E. Joseph Thompson Memorial Trophy.* This baseball trophy is given by Thomas Thompson in memory of his brother, E. Joseph Thompson who graduated from Massachusetts State College in 1932. He was president of the Student Senate, a varsity letter man in football and baseball, and an outstanding campus citizen. The award goes to that member of the varsity baseball team who best exemplifies the most admirable characteristics of the sport each year.

*Wrestling Trophy.* Awarded to the most valuable member of the varsity wrestling team.

## *Military Science Awards*

*Silver Star for Academic Excellence.* Awarded to those ROTC cadets who maintained a University academic average of over 3.0 for the previous semester. The award is authorized for wear only until the next semester grades are published.

*Gold Star for Academic Excellence.* Awarded to those ROTC cadets who maintained a University academic average of between 2.5 and 3.0 for the previous semester. The award is authorized for wear only until the next semester grades are published.

*Military Proficiency Ribbon.* Awarded to those ROTC cadets superior in military knowledge each semester. To be eligible for this award a basic course cadet must be in the upper third of his military class and found superior in military bearing. Advanced Course Cadets must be in the upper half of the class and found superior in military bearing. The award is authorized for wear only until the next semester grades are published.

*Department of the Army Awards.* The Department of the Army awards annually the Superior Cadet Ribbon with certificates and lapel device to one



outstanding student in each academic class. The winner of the award must be in the upper one fourth of his academic class and be selected by the PMS and Dean of Men.

*Distinguished Military Students.* Members of the second-year Advanced ROTC Course who, as designated by the Professor of Military Science, possess outstanding qualities of leadership, high moral character, and definite aptitude for military service. Students so designated must possess an academic standing in the upper half of their class or stand in the upper 10% of their class in military subjects. All distinguished military students are authorized to wear the Distinguished Military Student Badge.

*Distinguished Military Graduates.* Members of the graduating class who were previously designated as Distinguished Military Students, who have maintained the same high standards required for such designation, and who have successfully completed training at the Reserve Officers' Training Camp.

*Associate Alumni Award.* Awarded by the University of Massachusetts Associate Alumni to the Senior ROTC cadet who, having demonstrated superior qualities of leadership, had been selected as a Distinguished Military Student, is in the upper 25% of his military class and in general exemplifies the attributes of a potential military leader. A 45-caliber pistol is presented to the winner by a representative of the Associate Alumni.

*Reserve Officers Association Award.* Awarded by the Reserve Officers Association of the United States, Massachusetts Department, to the Senior Army ROTC cadet who is outstanding in military proficiency. The winner's name is engraved on a plaque, and a medal, appropriately engraved, is given by the Massachusetts Department. An award is also presented to the individual by the Amherst Chapter.

*Amherst Lions Club Award.* Awarded by the Amherst Lions Club to the Military Science Cadet who contributed the most to the Army ROTC Brigade.

*Association of the United States Army Medal and Certificate.* Awarded annually by the publishers of the Army Magazine to the Junior Cadet who has demonstrated outstanding qualities of leadership and efficiency.

*Elizabeth L. McNamara Trophy.* Awarded in honor of Mrs. Elizabeth L. McNamara, a former trustee of the University of Massachusetts, to the Army ROTC cadet ranking first in scholarship in the second-year basic course. The winner's name is engraved on a plaque and a sterling silver goblet, appropriately engraved, is presented.

*Military Science Award.* Awarded to the first-year Basic Course cadet having demonstrated outstanding leadership potential and military proficiency. A sterling silver goblet, suitably engraved, is presented.

### *Air Science Awards*

*University of Massachusetts Associate Alumni Award.* Presented to the outstanding Air Science graduate.

*Air Force Association Award.* Presented to the graduating senior who has displayed those characteristics of leadership that are indicative of future success as an Air Force officer.

*American Legion Scholarship Awards.* Presented to the Air Science senior and junior cadets who have demonstrated outstanding scholastic abilities and leadership potential.

*Air Force Times Award.* Presented to the graduating cadet who has distinguished himself by bringing constructive attention to the Air Force ROTC.

*Armed Forces Communications and Electronics Association Award.* Awarded to the Air Science 400 cadet majoring in Electrical Engineering, Electronics, or Communications Engineering who has demonstrated outstanding leadership potential.

*Society of American Military Engineers Award.* Awarded to a student enrolled in the Professional Officer Course, who is selected by the Professor of Air Science and the Dean of the School of Engineering as having demonstrated outstanding abilities in the engineering and Air Science programs.

*Reserve Officers Association Award.* Presented to the Air Science 300 and Air Science 400 cadets who have excelled in both scholarship and leadership.

*General Dynamics Award.* Presented to the sophomore cadet who has demonstrated those characteristics of leadership and scholarship which predict future success in the Professional Officer Course.

*Sons of the American Revolution Medal.* Presented to a freshman cadet who has shown a high degree of initiative, leadership potential and scholastic achievement in Air Science studies and activities.

*Daughters of the American Revolution Award.* Awarded to a graduating senior who has demonstrated those qualities of dependability, leadership, and patriotism, and whose contributions have significantly improved the Air Force ROTC program at the University.

## General Services



### UNIVERSITY LIBRARY SYSTEM

The University Library system is composed of the central building, Goodell Library, the Physical Sciences Library, and several other branch collections. Present holdings include about one million books, periodical volumes, and government documents, and nearly 200,000 microforms. A central card catalog lists under author, title, and subject all books to be found in Goodell and the departmental libraries.

The Library has collections in all fields in which degrees are offered. Since 1965 the Library has had a policy of purchasing "All Books Current" in the major Western languages, which assures acquisition of all University-level books currently being published or reprinted. More than 9,000 literary, scientific, scholarly, and popular periodical titles are received.

Goodell Library contains the major portion of the collections, including the reference collection, special collections of rare books and manuscripts, University archives, and microforms (microfilms, microfiche, microprint, and microcards). The Library is a depository for U.S. Government publications and also receives regularly many categories of publications of the United Nations and other international agencies and of the Commonwealth, cities, and towns of Massachusetts. Periodicals are housed in Goodell or the branch libraries, according to their subject matter. Holdings and locations are listed in both the card catalog and the *Pioneer Valley Union List of Journal and Serial Holdings*, a computer-produced book that is brought up to date annually and includes also the serials of the neighboring colleges.

Construction of a new 28-story library building, designed by Edward Durell Stone, is expected to be completed during 1972. The building will house 2¼ million volumes, departmental seminar rooms adjacent to the appropriate parts of the collection, and seating for 3,000, including 600 individual studies for faculty members and graduate students.

## HAMPSHIRE INTER-LIBRARY CENTER

The University Library is a participating member of the Hampshire Inter-Library Center, a cooperative facility for the acquisition, storage, and servicing of research materials, especially journals, documents, and scholarly sets. Incorporated in 1951 to augment library resources in the area, HILC is jointly operated by the libraries of the four Connecticut Valley colleges—Amherst, Mount Holyoke, Smith, and the University of Massachusetts—and the Forbes Library of Northampton, Massachusetts. The collection numbers more than 36,000 bound volumes; nearly 1,000 journals are received currently. The Center is located on the second level of Goodell Library.

## THE UNIVERSITY OF MASSACHUSETTS PRESS

A member of the Association of American University Presses, The University of Massachusetts Press is dedicated to publishing outstanding scholarly and artistic works. Manuscripts are approved for publication by a committee appointed by the Faculty Senate. The Press was founded in 1964.

## SCHOLARLY JOURNALS

*The Massachusetts Review* is a national and international quarterly of the arts, literature, and public affairs, published independently with the support and cooperation of Amherst, Hampshire, Mount Holyoke, and Smith Colleges and the University of Massachusetts, its Alumni Association and others. It is now in its eleventh year of publication.

The English faculty also edits and publishes three scholarly journals: *English Literary Renaissance* on English literature in the age of Shakespeare and Milton (1485–1665); *Early American Literature* on the colonial and Puritan periods (1760–1880); and *RSVP*, a journal on Victorian English periodical publications. Graduate students in that department publish *MSE*, Massachusetts Studies in English. The quarterly *Polity* is published by the Department of Political Science. Students in the School of Engineering publish the *Engineering Journal*.

## LANGUAGE LABORATORIES

The James W. Butler Language Laboratories provide special study facilities to students enrolled in foreign language courses. With Labs A, B, C in Bartlett Hall and Lab E in Herter Hall, up to 110 students in four elementary

groups can be accommodated at the regular classroom times. Each of these lab rooms has student controlled tape recorders for each study booth and is equipped with monitoring facilities to enable professors or T.A.s, coming with their course sections, to supervise the lab practices as well as help individual students to overcome difficulties with grammar or pronunciation.

Lab D, in Herter Hall, was designed and equipped for intermediate and advanced language students. The 28 booths there, furnished with dialing pads, enable students to select, for listening only, any program tape available in the banks of RAL tapes (Random Access Library). It is anticipated that in the future these tape machine banks can be reached over telephone lines from on-campus and off-campus locations.

The Administration and Operations offices of the lab are located in the North Unit of Herter Hall (Room 19). Here, in the Recording Studio and the Transcription Center, lesson tapes and RAL program masters are produced, transcribed and programmed. A highly trained technical staff is available in both lab premises to assist teachers and students at all times.

## OFFICE OF PUBLIC AFFAIRS

The Office of Public Affairs serves 1) as liaison between the campus community and the general public, and 2) as an internal information center for the benefit of faculty, students, and administration. Its primary function is to provide accurate information about the University's current and projected programs and thus to foster understanding of the institution's mission as a nationally recognized facility of higher education, research, and public service. To fulfill its program, the Office of Public Affairs assigns specific responsibilities to three departments: *Publications*, *News*, and *Photographic and Broadcasting Services*. Through these departments the office supplies information to all communications media as well as to agencies of government, schools and other educational institutions and foundations, professional societies, research organizations, extension agencies, and to individuals who request data of various kinds.

## OFFICE OF INSTITUTIONAL STUDIES

The Office of Institutional Studies performs university-wide budgeting functions in the areas of data collection, preparation of budget request documents, and the making of continuing analyses of budget expenditures. In addition to budgeting functions, the office conducts research within the field of higher education and concerns itself with both the University and comparable institutions of higher learning. These research findings are used to assist the administration and faculty in the continuous analysis and improvement of University practices. The office also makes its resource library on higher education available to all members of the University community.



## COOPERATIVE EXTENSION SERVICE

The Cooperative Extension Service, affiliated with the College of Agriculture and the School of Home Economics, was established by federal and state legislation to help people identify and solve their farm, home, rural and urban community problems. It is a cooperative educational program planned, conducted, and financed jointly by the county governments, the University and the United States Department of Agriculture.

## MASSACHUSETTS AGRICULTURAL EXPERIMENT STATION

The Massachusetts Agricultural Experiment Station, established by state and federal legislation, is associated with the College of Agriculture. The object and duty of the Station is to conduct original and other researches bearing directly on the problems of the agricultural industry and the welfare of consumer groups. It is financed by federal appropriations and state offset funds. Research is conducted at the Cranberry Experiment Station in East Wareham, the Suburban Experiment Station at Waltham, the Horticultural Research Center in Belchertown, the College Farm in South Deerfield, and on the Amherst campus. The Environmental Forestry Research Center of the United States Forest Service has been established on the campus in cooperation with the Experiment Station.

## NORTHEAST REGIONAL MEDIA CENTER FOR THE DEAF

The Northeast Regional Media Center for the Deaf is one of four such centers established in 1966 by Media Service and Captioned Films of the Bureau of Education for the Handicapped, U.S. Office of Education. NRMCD is located on the University's Amherst campus, and is integrated with the School of Education and the Audiovisual Center. The NRMCD staff includes specialists in the education of the deaf, research methodology, and the broad field of media.

## LABOR RELATIONS AND RESEARCH CENTER

The Labor Relations and Research Center facilitates instruction and research, and provides consultative services to labor and public groups. Assisted by an Advisory Council composed of faculty and labor representatives, the Center seeks to identify major problems affecting labor in Massachusetts and supports research on these problems.

Under an interdisciplinary faculty committee, programs of study are available which allow an undergraduate to concentrate, within his regular major department, in the field of labor relations. Its publications, both reprints and reports of original research, are circulated in this country and around the world.

## THE MASSACHUSETTS POPULATION RESEARCH INSTITUTE

The Massachusetts Population Research Institute has a twofold purpose: (1) to serve as a center for the analysis of the structure of and changes in contemporary Massachusetts population; and (2) to provide training for undergraduate and graduate students in the techniques of demographic analysis. The Institute publishes a series of working papers on the major aspects of Massachusetts demographic structure.

## PROGRAM IN URBAN AND REGIONAL PROBLEMS

The problems associated with large numbers of people living together in small geographical areas involve many traditional academic disciplines. The departments listed below have developed cooperatively a curriculum for students who have an interest in applying the knowledge of their major to the problems of cities and their effects on adjacent suburban and rural areas. Interested students can obtain information from the following cooperating departments: Agricultural Economics, Civil Engineering, General Business and Finance, Government, Landscape Architecture, Sociology.

## POLYMER RESEARCH INSTITUTE

The Polymer Research Institute carries on a program of advanced studies directed toward gaining greater understanding of the chemistry of plastics. Research is conducted to find better methods for studying the properties of plastic films, fibers and rubbers, and for establishing a relationship between the structure and properties of these materials.

## INSTITUTE OF AGRICULTURAL AND INDUSTRIAL MICROBIOLOGY

The Institute of Agricultural and Industrial Microbiology is presently engaged in research regarding the use of microorganisms in the production and processing of agricultural and industrial products such as food and fibers and the control of microorganisms harmful to man and his environment.

## UNIVERSITY COMPUTING CENTER

Important to the many research projects undertaken on a continuing basis at the University and to the educational program in most of the departments of instruction is the University Computing Center. This Center houses the computing machines and peripheral equipment necessary for the broad range of services required by the faculty and students of the University. The Center also has an applications programming service to consult with users, to provide programming assistance and advice on use of the program libraries, and to offer short courses on programming and the use of the computing facilities.

## COOPERATIVE SERVICE BUREAU

The Cooperative Service Bureau is an experimental project designed to field test a central data processing system to assist colleges in preparing admissions and financial aid information for use in selection, counseling and research. Twelve universities and colleges have agreed to participate in this program.

## WATER RESOURCES RESEARCH CENTER

The establishment of this center at the University has resulted in an expansion of training and research in many diverse aspects of water resources. In addition to the degrees which may be obtained in geology and biology, degree programs are offered in several related fields which train water specialists.

## COOPERATIVE SCHOOL SERVICE CENTER

Operated by school systems in New England and the School of Education at the University, the center has as its purpose the improvement of the quality of education, the initiation of in-service training and research facilities and the improvement of administration-school board effectiveness.

## TECHNICAL RESOURCE SERVICE

Affiliated with the School of Engineering, this is the technological extension service which links the University with industry. It works to extend the application of modern technology in existing industry and commerce, and to generate activities leading to new technologically-based industries and employment. It draws on the full scientific, technological, and business resources, and the complete range of disciplines, available in the University system, and cooperates with all other qualified sources in providing technical expertise to industry.

## COOPERATIVE WILDLIFE RESEARCH UNIT

The Cooperative Wildlife Research Unit is supported by the U.S. Fish and Wildlife Service, the Wildlife Management Institute, the Massachusetts Division of Fish and Game, and the University of Massachusetts. The function is to conduct research and extension programs, and to facilitate undergraduate and graduate instruction in wildlife biology.

## COOPERATIVE FISHERY UNIT

The Cooperative Fishery Unit is supported by the U.S. Bureau of Sport Fisheries and Wildlife, the Massachusetts Division of Fisheries and Game, the Massachusetts Division of Marine Fisheries, and the University of Massachusetts. Its function is to conduct research and extension programs, and to facilitate undergraduate and graduate instruction in fisheries biology.

## ACADEMIC HONOR SOCIETIES

*Phi Beta Kappa.* Phi Beta Kappa, the oldest honor society in the United States, was founded at the College of William and Mary on December 5, 1776. The Society recognizes superior scholastic attainment and capacity for high achievement in the arts, humanities, and sciences. At the University of Massachusetts an informal association of Phi Beta Kappa was founded in 1931 by members of the faculty having official standing in the Society. In 1932 the University association, while not authorized to elect students to official membership, was permitted to designate an outstanding student as a Phi Beta Kappa Scholar who would be listed as such in the Commencement program. Selection of such a student has been made each year since 1932. In 1964, at the Triennial Meeting of the Society, the University of Massachusetts was authorized to open an official chapter, Nu of Massachusetts, and to elect students to membership in the Society. The chapter was installed in 1965. Students are elected to membership according to the general criteria of academic excellence in a liberal course of study and good moral character as prescribed by the national society.

*Phi Kappa Phi.* The Honor Society of Phi Kappa Phi is a national organization, and has been represented on this campus since 1904. Its primary objective is the recognition and encouragement of superior scholarship in all fields of study. Good character is an essential supporting attribute. The Massachusetts chapter elects undergraduates in either their junior or senior years. Members of the faculty and graduate students are also eligible for election.

*Sigma Xi.* The Society of the Sigma Xi is the national honor society whose objective is the encouragement of original investigation in science, pure and applied. Since 1938, a chapter of the Society has been active on the campus of the University. The Chapter may elect to associate membership undergraduate students who have shown marked excellence in the study of recognized fields of the sciences and engineering. Election to full membership is accorded those who have clearly demonstrated ability to pursue independent scientific research. The Chapter sponsors a program of public lectures and a number of awards designed to foster the objectives of the Society.

*Sigma Gamma Epsilon.* The Beta Theta chapter of the Sigma Gamma Epsilon Fraternity was installed at the University of Massachusetts in 1951. The purpose of the fraternity is to stimulate scholastic, scientific, and social advancement of students of the earth sciences in universities and scientific schools with recognized standings in the United States and Canada. Membership is open to men majoring in geology, mining, metallurgy, ceramics, petroleum engineering, or other branches of earth sciences, who meet the requirements of the fraternity.

*Omicron Nu.* The Alpha Pi chapter of the Society of Omicron Nu was installed on the campus in 1952. The purpose of the society is to recognize superior scholarship and to promote leadership and research in home econom-



ics. Membership is open to juniors and seniors majoring in home economics who meet the requirements of the society.

*Phi Tau Sigma.* Phi Tau Sigma honor society is the international honor society for food science. The society was founded at the University of Massachusetts in 1953. Its purpose is to encourage and recognize achievement in the general area of food science. Senior students from all departments related to food science are eligible for election to membership if they meet the society's scholastic and leadership requirements. Graduate students and faculty are also eligible for membership.

*Phi Eta Sigma.* The Society of Phi Eta Sigma was installed on the campus in 1955. The purpose of the society is to recognize outstanding scholastic achievement by freshman men and to encourage a higher standard of learning among all freshmen. Honorary membership is granted those faculty members who are most effective in encouraging students in the attainment of these goals.

*Tau Beta Pi.* The Massachusetts Zeta Chapter of Tau Beta Pi was installed

on campus in 1955. The society exists for the purpose of honoring engineering students of high scholarship, character, and interest in campus activities. Senior and junior students in the School of Engineering are eligible for election to membership if they meet the requirements.

*Beta Gamma Sigma.* The Gamma Chapter of the University of Massachusetts was installed in 1959. The purposes of the Society are to encourage and reward scholarship and accomplishment among students in commerce and business administration; to promote the advancement of education in the art and science of business; and to foster integrity in the conduct of business operations.

*Alpha Lambda Delta.* The Honor Society for Freshman Women was installed at the University of Massachusetts as a chapter of Alpha Lambda Delta, national honor society, in 1960. The purpose is to promote intelligent living and to encourage superior scholastic attainment among freshman women. Members are students who achieve averages of 3.5 or above in the first semester or in cumulative average at the end of the first year of college.

*Eta Kappa Nu.* Delta Eta Chapter of the Eta Kappa Nu Association was installed on this campus in 1960. The purpose of the association is to recognize outstanding scholarship and leadership in the field of Electrical Engineering. Superior junior and senior students are selected for membership in the fall and spring of each year.

*Alpha Zeta* is an honor society with membership limited to men majoring in the College of Agriculture. Election to membership is based upon academic excellence and qualities of leadership.

*Xi Sigma Pi.* The Psi Chapter of Xi Sigma Pi, national forestry honor society, was inaugurated at the University in 1962. The purpose of the society is to secure and maintain a high standard of scholarship in forestry education. Membership is open to juniors and seniors in the Department of Forestry and Wildlife Management who demonstrate leadership ability and who meet other requirements of the fraternity.

*Alpha Pi Mu.* The Massachusetts Chapter of Alpha Pi Mu, the national Industrial Engineering Honor Society, was installed in 1966. The purpose is to confer recognition upon those students of industrial engineering who have shown exceptional academic interests and abilities. Junior and senior students, faculty, and alumni are eligible for membership.

*Kappa Delta Pi.* The Kappa Lambda chapter of Kappa Delta Pi was established at the University in 1965. This society encourages high professional, intellectual, and personal standards in the field of education. The local chapter elects undergraduates in either their junior or senior years. Graduate students and members of the faculty are also eligible for membership.

*Phi Sigma Alpha.* The national political science honor society. Its purpose is to stimulate interest and promote excellence in government and politics. Superior junior and senior students majoring or minoring in government are selected for membership.



## OVERSEAS STUDY

*Freiburg Program.* In cooperation with the University of Freiburg, Germany, the University of Massachusetts operates its year-long Freiburg Program. The University of Massachusetts has a permanent facility in Freiburg, the University of Massachusetts Freiburg Center, which serves as the headquarters of the Freiburg Program. Students enrolled in the Program are regularly enrolled students of the University of Freiburg, and take courses in a wide range of social science and humanities courses. The Freiburg Program is not restricted to students concentrating in German only, but admits students in philosophy, music, English, history, comparative literature and other fields.

Enrollment is limited to graduate students and superior upper division undergraduates with fluency in German. Students enrolled in other American colleges and universities may also apply. Candidates who are at the University of Massachusetts in Amherst are expected to enroll in a special six-credit preparatory course which is offered in the spring semester, unless excused on the basis of language proficiency.

Cost for the two semesters in Freiburg, including transportation, is approximately equal to that of an academic year on the University campus.

*Study In Bologna.* The University sponsors a program of summer study in Bologna, Italy. The program begins in mid-June and ends in the last week of August. The program is staffed primarily by members of the faculty of the University. The curriculum consists of regularly scheduled University courses on subjects in which the Italian location contributes significantly to the student's understanding and experience. Field trips to major cultural centers in Italy are an integral part of the program. Any student in good academic standing at his college or university is eligible to enroll. He will be expected to take two of any of the three courses in the fields of Art, History, Italian, Government and Music. Cost to the student in 1971 was approximately \$875. Enrollment is limited.

*Madrid Summer Seminar.* The University's program of advanced studies in Spanish literature is designed primarily for graduate students, but is open to well-qualified undergraduates who have completed a minimum of three years of college Spanish. The Seminar offers two graduate seminars and two advanced courses in literature and history of ideas, as well as one undergraduate course in art (taught at the Prado). Each course is given for three credits. Graduate students elect one seminar and one course, or two seminars; undergraduates take two courses. Classes are taught by prominent Hispanists from Spain or Latin America, and will be supplemented by a number of lectures on contemporary Spanish literature, music, and art. Integrated into the program, which runs from mid-June to late August, are three weekend cultural excursions and an optional, post-seminar tour of southern Spain. Students will be housed in selected Spanish homes. Cost to the student in 1971 was \$905 (\$875 to Massachusetts residents).

*Oxford Summer Seminar.* A special group of courses in English literature will be regularly offered at Trinity College, Oxford during the months of July and part of August. The six-week session corresponds with the regular session on the campus of the University of Massachusetts and awards University of Massachusetts credit. But the courses are all taught by Oxford dons (current or past) and the Bodleian Library is available for extensive research. Graduate and undergraduate courses are offered and vary each year according to the availability of specialists at Oxford and the interests of students. Special evening lectures by noted authorities supplement these course offerings. Overall cost to the student in 1971 was \$850.

**FREIBURG SUMMER PROGRAM.** The Department of Germanic Languages and Literatures sponsors a six-week summer program in Germany, the initial week in Berlin and the other five weeks in Freiburg, with three weeks for independent travel between. The program is primarily for undergraduates. The courses include elementary, intermediate and advanced German. Students earn up to six credits. Inclusive cost is \$800, \$830 to out-of-state students.

**SEMESTER PROGRAM, NEW UNIVERSITY OF ULSTER,** Coleraine, Northern Ireland. Primarily for undergraduate students majoring in education.



A small number of students go each semester for study in Northern Ireland. The New University of Ulster is Britain's newest university and has about 2,000 students. Estimated cost for the semester is \$1,000.

### ACADEMIC YEAR STUDY PROGRAM, KEELE UNIVERSITY, ENGLAND

Through an exchange program with this University, several undergraduates may spend their junior year at Keele University. Open to majors in social sciences, humanities, and sciences with a superior academic record. Cost is approximately the same as at the Amherst campus plus international travel. Reference: Mrs. Barbara B. Burn, Director of International Programs, Whitmore Administration Building.

### ACADEMIC YEAR STUDY PROGRAM, CHELSEA COLLEGE OF PHYSICAL EDUCATION, ENGLAND

A junior year program for undergraduate women majoring in women's physical education. Good academic record required. Cost is approximately \$2,000 plus international travel. Reference: Mrs. Barbara B. Burn, Director of International Programs, Whitmore Administration Building.

### THE GRADUATE SCHOOL

Graduate work leading to the Doctor of Philosophy degree may be taken in the following fields: Agricultural and Food Economics, Animal Science, Anthropology, Astronomy, Biochemistry, Botany, Business Administration, Chemical Engineering, Chemistry, Civil Engineering, Comparative Literature, Economics, Electrical Engineering, English, Entomology, Environmental Engineering, Food and Agricultural Engineering, Food Science and Technology, Forestry and Wood Technology, Geology, History, Human Movement, Industrial Engineering and Operations Research, Linguistics, Mathematics, Mechanical and Aero-Space Engineering, Physics, Plant Pathology, Plant Science, Political Science, Polymer Science and Engineering, Psychology, Sociology, Soil Science, Speech, Wildlife and Fisheries Biology, and Zoology.

A cooperative Ph.D. program involving Amherst, Hampshire, Mount Holyoke, and Smith Colleges and the University is also available in all the departments of the biological sciences and the Departments of chemistry, French, geology, Germanic Languages and Literatures, Hispanic Languages and Literatures, philosophy, and physics.

The School of Education offers several specialized programs leading to the Doctor of Education degree for those employed in the educational field. The requirements for this degree follow closely those outlined for the Doctor of Philosophy. Residency must be met by attendance on campus for two consecutive semesters.

The following departments offer major work leading to a master's degree: Agricultural and Food Economics, Animal Science, Anthropology, Art History, Astronomy, Biochemistry, Botany, Business Administration, Chemical Engineering, Chemistry, Civil Engineering, Comparative Literature, Computer and Information Science, Dramatic Arts, Economics, Education, Electrical Engineering, English, Entomology, Environmental Engineering, Fine Arts, Fisheries Biology, Food and Agricultural Engineering, Food Science and Technology, Forestry and Wood Technology, French, Geology, Germanic Languages and Literatures, Hispanic Languages and Literatures, History, Home Economics, Human Development, Industrial Engineering and Operations Research, Labor Studies, Landscape Architecture, Linguistics, Management Science, Marine Sciences, Mathematics, Mechanical Engineering, Microbiology, Music, Nursing, Nutrition and Food, Ocean Engineering, Philosophy, Physical Education, Physics, Plant and Soil Sciences, Plant Pathology, Political Science, Polymer Science and Engineering, Psychology, Public Administration, Public Health, Regional Planning, Slavic Languages and Literatures, Sociology, Speech, Statistics, Wildlife and Fisheries Biology, and Zoology.

Holders of undergraduate degrees desiring further information should write for a Graduate School Bulletin to: Graduate Admissions Office, University of Massachusetts, Amherst, Massachusetts 01002.

## SUMMER SESSION

The Summer Session at the University enables a student to earn almost the equivalent of a full semester's work in six to eight weeks. (The 1971 Summer Session was eight weeks in duration.) The Summer Session is open to freshmen who wish to begin their college education immediately upon graduation from high school, thus making it possible to obtain a degree in three calendar years instead of the usual four. For students who plan to continue their education in graduate school or professional school, the Summer Session offers an opportunity to reach these goals earlier. This accelerated program provides some financial saving. Students who are in financial need are encouraged to make use of low-cost loans to complete their education.

Students who begin their college careers in the summer are advised to plan their programs carefully with the aid of their advisers. Normally, it is wise to plan to take the required courses during the summer, and to take electives and major courses during the fall and spring semesters. Sequential required courses are generally offered during both of the main semesters, so that work begun in the summer can be completed during the fall semester. Similarly, work begun in the spring semester can in most cases be completed in the summer following.

The Summer Session also serves the needs of other groups. Students who are currently enrolled in other colleges can come to the University to do college work in the summer. Graduate students are offered courses which enable them to continue their education through the calendar year. Professional



workers are offered courses in their specialized fields. A bulletin describing the entire summer program is available from the Registrar's office early in the spring of each year.

## FIVE COLLEGE COURSES

Amherst, Mount Holyoke and Smith Colleges and the University of Massachusetts have for some time combined their academic activities in selected areas for the purpose of extending and enriching their collective educational resources. They have been joined by newly-established Hampshire College. Certain specialized courses not ordinarily available at the undergraduate level are operated jointly and open to all. In addition, a student in good standing at any of the institutions may take a course, without cost to the student, at any of the others if the course is significantly different from any available to him on his own campus, and he has the necessary qualifications. The course must have a bearing on the educational plan arranged by the student and his adviser. Approvals of the student's adviser and the Academic Dean of the College (Provost at the University) at the home institution are required. Permission of the instructor is required for students from other campuses if permission is required for students of the institution at which the course is offered.



Students should apply for interchange courses at least six weeks prior to the beginning of the semester since they may find some courses already filled after that time. Free bus transportation among the institutions is available for interchange students.

Students interested in such courses will find current catalogs of the other institutions in departmental offices, the Library, and the Office of the Registrar. Application forms may be obtained from the Office of the Provost.

## REGIONAL STUDENT PROGRAM

The University participates in a regional cooperative program administered by the New England Board of Higher Education. This program, known as the Regional Student Program, permits qualified residents of the New England states to study with in-state tuition and admission privileges at any of the state universities, the Lowell Technological Institute, and the public two-year colleges and technical institutes in a wide variety of study areas.

Detailed information about this exceptional program can be obtained from any guidance counselor, or from the New England Board of Higher Education, 20 Walnut Street, Wellesley, Massachusetts 02181.

The purpose of the program is to expand opportunities for higher education for New England residents by making available on an equal basis to all those courses not commonly offered at every institution. This practice tends to reduce duplication of courses and thus to utilize most efficiently the higher educational facilities in each state.

## DIVISION OF CONTINUING EDUCATION

Organized in the summer of 1970, the Division of Continuing Education provides credit and non-credit educational programs to the citizens of the Commonwealth and New England who are not regularly matriculated undergraduate or graduate students. The Division uses educational formats appropriate to the audience—short courses, conferences, institutes, seminars, colloquia, clinics and workshops—and is exploring the use of new media such as radio and television and new formats of independent study. Programs are offered both on and off the Amherst campus at times when people can most readily attend and at costs which are kept as low as possible.

The Division follows the lead established by the Cooperative Extension Service in the field of agriculture, providing programs which bring the benefits of University research and teaching to all of the people wherever they are and at whatever level they need it. As a part of the great national system of land grant colleges and universities, the University of Massachusetts is committed to teaching, research *and public service*. The Division of Continuing Education provides public service education to meet the needs of all of the people.

The Division, pioneering in a new form of organization for extension programs, is organized along functional lines rather than following the more traditional program format organization, wherein credit extension courses are handled by one office, conferences and institutes by another, correspondence courses by still another, and so on. The Division provides program design and planning services to help identify prospective student groups, to determine appropriate objectives for programming, and then to suggest alternative formats for achieving the objectives. The Division then offers program administration services to manage whatever program is decided upon on the basis of the needs of the group, whether on or off campus, for credit or not for credit, or for an individual or a large group. Finally, the Division provides a program audit service to evaluate programs and services, provide financial accounting and bill paying, and finally, to provide, if necessary, a permanent record of students' participation.

The Division is housed in the new Murray D. Lincoln Campus Center, Room 920. For academic information, call 5-0905. For program arrangements, call 5-2591.



## *Schools, Colleges and Departments*

*Special programs include:*

Honors Program

Bachelor's Degree with Individual Concentration

Pre-Law Advising Program

Undergraduate major programs are available in the following areas:

### *College of Agriculture*

Agricultural Business Management

Agricultural Engineering

Animal Sciences (Also Pre-Veterinary)

Entomology

Environmental Design (Park and  
Open Space Administration, Pre-  
Landscape Architecture, and Pre-  
Planning)

Fisheries Biology

Food Marketing Economics

Food Science and Technology

Forestry

Hotel, Restaurant, and Travel  
Administration

International Agricultural Studies

Natural Resource Economics

Plant Industry (Agronomy, Horticul-  
ture, or Turf Management)

Plant Pathology

Plant Science

Wildlife Biology

Wood Science and Technology

Areas of concentration within those listed may be chosen with the approval of the department head or the Dean.

## *College of Arts and Sciences*

Afro-American Studies	Italian
Anthropology	Journalistic Studies
Art	Latin (Five-College Cooperation Program)
Astronomy (Five-College Cooperation Program)	Mathematics
Biochemistry	Microbiology
Botany	Music
Chemistry	Philosophy
Classics (Five-College Cooperation Program)	Physics
Comparative Literature	Pre-Dental Studies
Economics	Pre-Medical Studies
English	Pre-Veterinary Studies
French	Psychology
Geography	Russian
Geology	Sociology
German	Soviet & East European Studies
Government	Spanish
History	Speech
	Zoology

## *School of Business Administration*

Accounting	Marketing
Business Administration and Economics	Personnel Management and Industrial Relations
Business Administration and Quantitative Methods	Production Management
General Business	Public Relations Management
General Management	Retailing
Financial Management	Systems Management
	Urban and Regional Studies

## *School of Education*

Education	Elementary Education
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## *School of Engineering*

Aero-Space Engineering	Electrical Engineering
Chemical Engineering	Industrial Engineering
Civil Engineering	Mechanical Engineering

## *School of Home Economics*

Child Development	Fashion Merchandising
Dietetics and Institutional Administration	Foods in Business
	Secondary Education and Extension

## *School of Nursing*

Basic Nursing

## *School of Physical Education*

Physical Education for Men

Recreation

Physical Education for Women

## *Department of Public Health*

Community Health and Health  
Education

Environmental Health  
Medical Technology

## *Honors Program*

The University Honors Program offers unusual opportunities for the superior student who is willing and able to engage himself seriously in the learning process. The features of the program are, briefly, as follows:

1. an individualized schedule of studies;
2. thoughtful guidance by a preceptor, a specially selected professor;
3. special honors courses.

The student who is admitted to the program is referred to as a Commonwealth Scholar. Each Scholar prepares with the aid of his preceptor a plan of studies designed to meet the student's abilities, interests, and needs. Although this plan should provide both general education and, in time, an area of concentration, a Commonwealth Scholar need not meet the usual College and University requirements as set forth in this *Bulletin*, except for physical education, the 120 credits required for graduation, and a major.

An important feature of the Honors Program is the guidance provided by the Commonwealth Scholar's preceptor. Each preceptor is a member of the faculty especially interested in working closely with serious and able students. His responsibilities include not only helping select courses but also guiding the student's intellectual development. Among the preceptors are some of the most distinguished members of the faculty as well as younger professors of great ability.

The special requirements of the Honors Program are few. A Commonwealth Scholar is expected to take one special honors course each semester during his freshman and sophomore years, and a total of 12 hours credits during his junior and senior years. The freshman-sophomore honors courses have three characteristics: they deal with selected topics treated in depth (they are not survey courses); they emphasize discussion and the writing of papers instead of lectures and objective testing; and they are usually available only to Commonwealth Scholars, with classes typically including 16 students.

The junior-senior honors credits may be obtained from honors interdisciplinary seminars, special honors projects, honors courses in one's major



(where available), graduate courses, independent study, and senior honors thesis. An extensive range of students is available from the University's several undergraduate colleges and schools with their hundreds of courses, from the graduate school, and from the offerings of Amherst, Smith, Mount Holyoke, and Hampshire Colleges, through the Five-College Cooperation program.

The Honors Program is open by invitation only. Acting Chairman of the Program is Dr. W. Brian O'Connor, Assistant Chairman is Dr. Robert Keefe. Offices are in Machmer Hall. The College Honors Committee includes Drs. Doris Abramson, Earl McWhorter, Howard Quint, T. O. Wilkinson, Ellen Reed.

### *Bachelor's Degree With Individual Concentration*

The Bachelor's Degree with Individual Concentration program invites any undergraduate to determine his own major course of study during his sophomore and junior (or junior and senior) years by combining courses offered at the University in two or more departments or colleges or at other schools in the valley. Such a major program replaces the traditional program and may, in unusual cases, combine work taken on other University campuses, in exchange programs, or in field work. Each student in the BDIC program is individually supervised by a faculty sponsor and his work while in the program is directed by an interdisciplinary faculty board. This special arrangement allows a student to major in such interdepartmental or interdisciplinary areas as: Urban Studies; Ecology; Pre-Law; Man and Society; Human Behavior. In addition, some students pursue even more unique combinations, such as zoology and fine arts for medical illustration careers; physical education and speech for therapy for the profoundly handicapped; and literature, music, art, and film for a program in aesthetics. Students should write: BDIC, Provost's Office, Whitmore Administration Building, University of Massachusetts, Amherst, for further information.

### *Pre-Law Advising Program*

The Pre-Law Advising Program was instituted to provide students with information on the nature of legal education, admission to law school, and career opportunities in the legal profession. Law Schools do not prescribe any particular method of preparation or program of courses for admission; consequently there is no Pre-Law major at the University. Interested students are urged to register with the Pre-Law Adviser, Richard E. Conklin, Room 362, Whitmore Administration Building. Current catalogs from every accredited law school in the United States in addition to other materials pertaining to the legal profession are available in his office.

# College of Agriculture

The College of Agriculture, the oldest college of the University, offers a broad general education with specific training in a specialized area. Upon the completion of the requirements for the Bachelor of Science degree, the student will have devoted his time to pure science, social and humanistic studies, and applied sciences and technology.

Undergraduate students in the College of Agriculture are exposed to an interdisciplinary, systems-oriented, problem-solving atmosphere that has been developed to a high degree.

A broad choice of electives within most of the major programs gives the student an opportunity to prepare for a career in business, industry, education, research, government, services or production agriculture.

A unique feature of the College of Agriculture is that the faculty for all the major programs is drawn from the three divisions of the College—research, resident teaching and extension, thereby bringing a depth of teaching to every student.

All departments—Agricultural & Food Economics, Food and Agricultural Engineering, Entomology, Food Science & Technology, Forestry and Wildlife Management, Landscape Architecture and Regional Planning, Plant Pathology, Plant & Soil Sciences and Veterinary and Animal Sciences offer graduate degrees in a discipline or professional field.

**INTERNATIONAL AGRICULTURAL STUDIES** (Interdepartmental Program). The unprecedented increase in the human population of the world makes mandatory rapid increases in world food production. Estimates indicate that total food production must double by the year 2000 to maintain our current inadequate nutritional levels and must triple if reasonable improvement is to be accomplished.

Students in this program will pre-

pare themselves for careers in foreign agricultural development and trade. Students will be trained for international careers in the several technical fields within agriculture, in administration of agricultural programs, and in agribusiness. The program will require five years to complete, including a required year abroad in a developing country during the fourth year, and leads to a Bachelor of Science degree with a major in International Agriculture. A total of 132 credit hours, including six awarded for the overseas training and six for language certification, will be required for graduation.

In addition to University core curriculum requirements and professional courses in their individual majors, students will use electives to take the following recommended courses. (For Freshman year curricula, see major program for required Freshman courses.)

Agricultural and Food Economics 110 and 381

Sociology 101 and 252

Anthropology 104 and 379

Geography 255

Economics 266

Government 130

Certification of ability in the non-English language spoken in the region of the student's overseas training experience.

The year abroad will include language study and supervised work experience in a developing country. Certification of language ability is required.

The program also involves farm work experience and participation in pre-departure orientation for year-abroad students.

**STOCKBRIDGE SCHOOL.** For those students interested in a two-year Associate Degree program in the food and agricultural industries, the University provides offerings in the Stockbridge School. A separate bulletin describes these offerings in detail.

MAJOR PROGRAMS IN THE COLLEGE OF AGRICULTURE, B.S. DEGREE, ARE AS FOLLOWS:

AGRICULTURAL BUSINESS MANAGEMENT

Growing demand for food and fiber products, both for domestic and foreign consumption, increases the importance of planning and management in the production and marketing of these products.

Agricultural Business Management focuses upon the application of principles of economics and business management to the problems of supplying agricultural businesses and the production and marketing of agricultural products.

The rapidly changing agricultural industry offers increasing opportunities for students with specialized training in business and economics, as executives of marketing firms, farm supply organizations and food processing concerns. There are many other opportunities available to graduates in teaching and research and in administrative positions and public service.

FRESHMAN YEAR

*First Semester Credits*

*Math. 111, 121 or 123	
Introductory	3
†Natural Sci.	3
‡Social Sci.	3
Agric. & Food Economics 110	3
Rhetoric 100	3
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	15

*Second Semester Credits*

Math. 113, 123 or 124	
Introductory	3
†Natural Sci.	3
‡Social Sci.	3
Rhetoric Elective	3
§Elective	3
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	15

\*On basis of placement tests at time of summer counseling Alg. & Trig. 121—(Not open to students having entrance credits in Trig.)

†Choose from Chem. 111 & 112, Physics 103 & 104, Bot. 100, Zool. 101, Microbiol. 150, and Astron.

‡Choose from Gov. 100 & 150, Hist. 100, 101, 150, & 151, Psych. 105 & 106, and Sociol. 101 & 102.

§Recommendations for some elective courses are made from the fields of Economics, Business and Technical Subjects in Agriculture, depending upon the interests of the individual student.

ANIMAL SCIENCES AND PRE-VETERINARY

The curriculum in the Animal Sciences, including poultry, is designed to provide fundamental training and knowledge in the comparative nutrition, physiology, genetics, and management of various classes of livestock and to understand the role of animal production in the national and world economy. Options emphasizing commercial animal production are supported by electives in agricultural economics, agricultural engineering, and business administration. Students interested in graduate work in such specialized areas of the animal sciences as nutrition, physiology or genetics should elect programs with stress on the sciences.

Freshmen pre-veterinary students in the College of Agriculture usually major in Animal Science, but may choose other departments if appropriate to the students' interests. Those who by their work in the first year demonstrate a potential for success should apply to the Pre-Professional Advisory Committee for admission into the pre-veterinary program (see page 96 under heading Pre-Dental, Pre-Medical, etc. for additional information). All pre-veterinary students, regardless of major, are counselled by the pre-veterinary adviser in the Animal Science Department.

FRESHMAN YEAR

*First Semester Credits*

Animal Sci. 121 Introduct.	3
Botany 100 General	3
Chem. 111 General	3
*Math.	3
Rhetoric 100	3
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*Second Semester Credits*

Zool. 101 General	3
Chem. 112 General	3
Math. 112 Finite	3
Social Sci.	3
Rhetoric Elective	3
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\*On basis of placement tests at time of summer counseling.

ENTOMOLOGY

Courses in Entomology acquaint students with all phases of insects and insect control, including apiculture and medical entomology. Trained entomologists find positions in

public service and industry, such as teaching at all levels; research, quarantine and regulatory work in state or Federal service, various roles in public health and pest control activities; research, sales and public relations work in the agricultural chemicals industry; and agriculture.

#### FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>
Chem. 111 General	3
Zool. 101 Introductory	3
*Math.	3
Foreign Language or Agric. & Food Econ. 110	3
Rhetoric 100	3
	<hr/>
	15
<i>Second Semester</i>	<i>Credits</i>
Chem. 112 General	3
Entomol. 126 General	3
Math. 112 Finite	3
Foreign Language or Botany 100 Introductory	3
Rhetoric Elective	3
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\*On basis of placement tests at time of summer counseling.

#### ENVIRONMENTAL DESIGN

The Department of Landscape Architecture and Regional Planning offers an Environmental Design program which prepares students for professional study at the graduate level and also provides an introduction to problems of the design of the physical environment for those not intending to pursue graduate study. Options are offered in Pre-planning, Pre-landscape architecture and Park and Open Space Administration.

The type of work in each of these professions is unique:

The landscape architect brings a concern for people, a concern for the natural environment and a concern for visual quality to bear on the design of developments and on the planning of communities and regions.

The park administrator is involved in park and open space planning and development and in the management of such areas to insure long range quality.

The planner is responsible for developing alternative methods of achieving goals. There are many kinds of planners, and planning can be approached from many

disciplines. This department is concerned with city and regional planning. It emphasizes the constraints and opportunities provided by land as the primary resource base. In combination with courses in the appropriate departments, it stresses, also, social, economic, and political factors which influence planning at various governmental levels.

A 2.0 cumulative quality point average is required for admission as a major to the junior year of this program. Prospective majors are advised to take Environmental Design 221 and/or 244 as sophomores. Freshmen should concentrate on fulfilling University core requirements. Recommended courses are as follows:

Humanities: Art 100, 115; History 100, 101.

Social/Behavioral Sciences: Government 100, Sociology 101, Economics 125, Psychology 101.

Mathematics/Natural Sciences: Botany 100 or 101, Geology 101 or 280 for all areas of concentration.

Park & Open Space Administration: Entomology 126.

Pre-Landscape Architecture: Philosophy 125.

Pre-Planning: Statistics 121.

Freshman majors should contact the department early during the first semester to be assigned an adviser.

#### ENVIRONMENTAL SCIENCES

The major in Environmental Sciences is designed to provide training in the assessment, qualitatively and quantitatively of environmental stress on the biota induced by air, water, and soil pollutants. It is designed both as a basis for informed social action as well as to provide an introduction to specialized studies in environmental health and engineering and environmental quality management.

#### FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>
Botany 100 Introductory	3
Chem. 111 General	3
Rhetoric 100 Language	3
*Math.	3
Elective	3
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	15

<i>Second Semester</i>	<i>Credits</i>
Zool. 101 Introductory	3
Chem. 112 General	3
Rhetoric Elective	3
Math.	3
Env. Sci. 301	3
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\*On basis of placement tests at time of summer counseling.

### FISHERIES BIOLOGY

Fisheries Biology is concerned in its broadest terms with the management of the aquatic environment in both freshwater and marine situations leading to maximum sustained yields of both sport and commercial catch. It deals with the management of resources and with fundamental factors affecting the biology of species from a research point of view.

Government, state and federal, provides the largest number of career opportunities.

### FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>
Rhetoric 100 Language and Writing	3
Math. 116 or 123, Calculus	3
Botany 100 Introductory	3
Chem. 111 Inorganic	3
Forestry 222 Cons. of Natural Resources	3
	<hr/>
	15

<i>Second Semester</i>	<i>Credits</i>
Rhetoric 110 Language and Speaking	3
Math. 117 or 124, Calculus	3
Zool. 101 Introductory	3
Chem. 112 Inorganic	3
Social Sci. Elective	3
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### FOOD AND AGRICULTURAL ENGINEERING

This professional field includes engineering activities which relate macrophysical and microphysical environments to the production, preservation, and processing of food and other biological materials. The academic program is quantitative in nature and emphasizes the integration of mathematics and the physical sciences into the interpre-

tation and solution of biological production and processing problems. Agricultural engineers find professional employment in a variety of industries as well as in public and private agencies engaged in research and development.

### FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>
Rhetoric 100	3
Mathematics 123 Anal. Geom. & Calculus	3
Chemistry 111	3
Engr. 103 Graphics	3
Social Science Elective	3
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	15

<i>Second Semester</i>	<i>Credits</i>
Rhetoric Elective	3
Mathematics 124 Anal. Geom. & Calculus	3
Chemistry 112	3
Engr. 104 Problems	2
Physics 161 General	4
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### FOOD MARKETING ECONOMICS

The food distribution industry is the largest single industry in the nation in terms of number of people employed and in dollar sales. The number of managerial and executive positions in the food industry is growing at a rapid rate because of the expansionary nature of the industry and the advancing state of scientific management being employed.

Abundant opportunities for career employment, having excellent prospects for advancement, are available in private industry, government, and education. Students receive basic courses in Economics, Business, and Labor management.

### FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>
*Math. 111, 121 or 123	3
†Natural Sci.	3
‡Social Sci.	3
Rhetoric 100	3
Agric. & Food Econ. 110	3
Food & Nat. Res.	3
	<hr/>
	15

<i>Second Semester</i>	<i>Credits</i>
Math. 113, 123 or 134	3
†Natural Sci.	3
‡Social Sci.	3
Rhetoric Elective	3
§Elective	3
	<hr/>
	15

\*On basis of placement tests at time of summer counseling. Math. 121—(not open to students having entrance credit in Trig.)

†Choose from Chem. 111 & 112, Physics 103 & 104, Botany 100, Zool. 101, Microbiology 150, and Astron.

‡Choose from Gov. 100 & 150, Hist. 100, 101, 150, and 151, Psych. 105 & 106, and Sociol. 101 & 102.

§Recommendations for some elective courses are made mostly from the fields of Economics and Business, depending upon interests.

### FOOD SCIENCE AND TECHNOLOGY

A major in Food Science and Technology provides scientific and technological training in the principles concerned with the processing, preservation, and packaging of foods and food products. The student's training is directed to the application of modern science and technology to research and to the manufacturing and distribution of foods. Major fields open to graduates include: (1) product research and development; (2) food processing and packaging; (3) technological work and research in government, industry, and education; (4) advanced graduate study.

The curriculum in Food Science and Technology, of which approximately 30% of the credits are electives, is designed to provide flexibility to meet the interest and objectives of the student as well as the opportunity to obtain professional training as recommended by the Institute of Food Technologists.

Supporting courses are selected with the guidance of the major adviser and may include, among others: Agric. Eng. 386, Chem. 281, 282, Biochem. 224, Food Sci. 258, 365, 384, Microbiology, Nutrition, Statistics, and Computer Science.

### FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>
Rhetoric 100 Language & Writing	3
Chemistry 111 General	3
*Math. 123 Anal. Geom. & Calculus	3
Zoology 101 Introductory	3
Social Science or Elective	3
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	15

<i>Second Semester</i>	<i>Credits</i>
Rhetoric 110 Language & Speaking	3
Chemistry 112 General	3
Math. 124 Anal. Geom. & Calculus	3
Food Sci. 101 Struggle for Food	3
Social Science or Elective	3
	<hr/>
	15

\*On basis of placement tests at time of summer counseling.

### FORESTRY

This major is concerned with the conservation and management, for the public benefit, of forests, park lands, and other open space through the production of wood, water, wildlife, and amenity values such as recreation and aesthetics.

The curriculum in Forestry is based on the biological and natural sciences, a knowledge of the environment, economics, and social inter-relationships. Six curricular options are offered: General Forestry, Forest Resource Conservation, Forest-Business Management, Forest Hydrology, Forest Recreation, and Forest Science.

This accredited program prepares graduates for continued education at the graduate school level, and for employment with private industry, federal and state resource agencies, secondary school education, conservation and planning organizations.

### FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>
Rhetoric 100 Language and Writing	3
Math. 116 Calculus	3
Chem. 111 Inorganic	3
Botany 100 Introductory	3
Forestry 222 Cons. of Natural Resources	3
	<hr/>
	15

<i>Second Semester</i>	<i>Credits</i>
Rhetoric 110 Language and Speaking	3
Math. 117 Calculus	3
Chem. 112 Inorganic	3
Forestry 112 Dendrology	3
Elective	3
	<hr/>
	15

## HOTEL, RESTAURANT, AND TRAVEL ADMINISTRATION

The curriculum in Hotel, Restaurant and Travel Administration provides technical and professional courses for persons who plan a career in ownership, management or sales in the hotel/motel, food service, and travel fields. In addition to the required core curriculum courses, students take courses in accounting and control; personnel and management; food planning, purchasing, preparation, and service; promotion, merchandising and sales; kitchen planning and maintenance, travel and tourism. Emphasis is on principles, analysis, computer application and decision-making.

### FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>
Hotel & Rest. Adm. 100	
Introductory	3
Rhetoric 100	3
*Science Requirement	3
Math. (Basis of Test Results)	3
Elective	3
	<hr/>
	15

<i>Second Semester</i>	<i>Credits</i>
**Humanities Requirement	3
Nutrition & Food	
Food Prep. & Meal Planning	3
Rhetoric 110	3
*Science Requirement	3
Statistics 121 or Equivalent	3
	<hr/>
	15

\* Elect three courses identified by letter "E" in catalog.

\*\* Elect three courses identified by letter "C" in catalog.

### NATURAL RESOURCE ECONOMICS

The resource economics program is designed to train students to assist in making public and private decisions on resource development and management which will contribute to the twin goals of greater resource productivity and improved environment. Students will study the many problems of resource use, the forces which have combined to create these problems, and the possible solutions to these problems. Training in economic decision-making and the technical characteristics of specific natural resources provide a unique competence for performing these nationally important careers.

### FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>
*Math. 111, 121 or 123	3
†Natural Sci.	3
‡Social Sci.	3
Agric. & Food Econ. 110	3
Food & Nat. Res.	
Rhetoric 100	3
	<hr/>
	15

<i>Second Semester</i>	<i>Credits</i>
Math. 113, 123 or 124	3
†Natural Sci.	3
‡Social Sci.	3
Elective	3
Rhetoric Elective	3
	<hr/>
	15

\*On basis of placement tests at time of summer counseling. Alg. & Trig. 121—(not open to students having entrance credits in Trigonometry).

†Choose from Chem. 101 & 112, Physics 103 & 104, Botany 100, Zool. 101, Microbiol. 150, and Astron.

‡Choose from Gov. 100 & 150, Hist. 100, 101, 150, & 151, Psych. 105 & 106, and Sociol. 101 & 102.

### PLANT INDUSTRY

The curriculum in Plant Industry provides students with a scientific basis of soil and plant relationships; a general knowledge of economic plants and an area of special study. By selection of option and elective courses and special problems, students major in: Agronomic Crops (i.e., Field and Forage Crops); Horticultural Crops (i.e., Flowers, Ornamentals (Nursery), Fruits and Vegetables); or Turf Management. Students are prepared for a variety of career opportunities in industry, business, marketing, production, sales, control, and regulatory services in state and Federal agencies.

### FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>
Rhetoric 100	3
Botany 100 General	3
*Math.	3
Plant & Soil Sci. 110	3
Social Sci. Elective	3
	<hr/>
	15

<i>Second Semester</i>	<i>Credits</i>
Rhetoric Elective	3
Math.	3
Plant & Soil Sci. 100	
Basic Plant Sci.	3
Social Sci. Elective	3
Zool. 101 Introductory	3
	—
	15

\*On basis of placement tests at time of summer counseling.

### PLANT PATHOLOGY

Plant Pathology is concerned with the nature and control of plant diseases caused by fungi, viruses, bacteria, nematodes, certain higher plants and unfavorable environmental conditions. Plant pathologists fill positions in public service and in industry, such as teaching at all levels; research in state, Federal, university, and industrial laboratories and experiment stations; and Extension Service through Federal, state and county organizations. They are also employed in quarantine and regulatory work, in various roles in plant disease control, and in sales and public relations work.

### FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>
*Math.	3
Chem. 111 General	3
Botany 100 General	3
Foreign Lang. or	
Agri. & Food Econ. 110	
Food & Nat. Res.	3
Rhetoric 100	3
	—
	15

<i>Second Semester</i>	<i>Credits</i>
Math. 112 Finite	3
Chem. 112 General	3
Zool. 101 General	3
Elective	3
Rhetoric Elective	3
	—
	15

\*On basis of placement tests at time of summer counseling.

### PLANT SCIENCE

In today's world there is a great need for highly trained men in the plant sciences who are available to teach and study the fundamental physiology and genetic processes taking place within plants. A more complete understanding of these processes and the influence of environmental factors upon them will lead to a significant improvement in the supply and quality of plant food and fiber. Students who are interested in such careers as: Plant Breeder and Geneticist, Secondary and College teaching, research and resource development and like professions should major in Plant Science. This option is designed to provide the breadth and depth in basic biological and physical sciences and mathematics necessary for graduate study.

### FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>
Botany 100 General	3
Chem. 111 General	3
*Math.	3
Plant & Soil Sci. 110	
Plant Propagation	3
Rhetoric 100	3
	—
	15

<i>Second Semester</i>	<i>Credits</i>
Chem. 112 General	3
Math.	3
Social Sci. Elective	3
Plant & Soil Sci. 110	
Basic Plant Science	3
Rhetoric Elective	3
	—
	15

\*On basis of placement tests at time of summer counseling.

### SOIL SCIENCE

Soil science deals with the physical, chemical and biological properties of soils as well as their relationship with higher plants. Men trained in this area become soil chemists, soil physicists, soil microbiologists, hydrologists and soil conservationists. Graduate study is mandatory for professional careers in soils and the soils curriculum is designed to provide the necessary breadth and depth in biological and physical sciences and mathematics for graduate study.



**FRESHMAN YEAR**

<i>First Semester</i>	<i>Credits</i>
Botany 100 General	3
Chem. 111 General	3
*Math.	3
Plant & Soil Sci. 110	
Plant Propagation	3
Rhetoric 100	3
	<hr/>
	15

<i>Second Semester</i>	<i>Credits</i>
Chem. 112 General	3
Math.	3
Social Sci. Elective	3
Plant & Soil Sci. 100	
Basic Plant Science	3
Rhetoric Elective	3
	<hr/>
	15

\*On basis of placement tests at time of summer counseling.

**WILDLIFE BIOLOGY**

The first professional degree in Wildlife Biology is the Master of Science; for this reason study toward the Bachelor of Science in Wildlife Biology should be regarded as pre-professional. Students planning to enter graduate school are urged to meet with their advisers to select electives and plan their courses of study accordingly.

**FRESHMAN YEAR**

<i>First Semester</i>	<i>Credits</i>
Rhetoric 100 or 110	3
*Math. 121 or 116	3
Chem. 111 General	3
Botany 100 Introductory	3
Forestry 222 Conservation	3
	<hr/>
	15

<i>Second Semester</i>	<i>Credits</i>
Rhetoric 110 or 100	3
Math. 113 or 117	3
Chem. 112 General	3
Zoology 101 Introductory	3
Economics 125 Elements	3
	<hr/>
	15

\*On basis of placement tests at time of summer counseling.

**WOOD SCIENCE AND TECHNOLOGY**

The program in Wood Science and Technology emphasizes studies in the nature and properties of wood, the engineering and chemical technology of its manufacture into a variety of useful products, and the business aspects of industrial management and marketing. Strong demands exist for graduates in wood-processing firms and service-related industries, and in marketing and merchandising.

**FRESHMAN YEAR**

<i>First Semester</i>	<i>Credits</i>
Rhetoric 100 Language and Writing	3
Math. 123 Calculus	3
Botany 100 Introductory	3
Chem. 111 Inorganic	3
Engineering 103 Introductory	3
	<hr/>
	15

<i>Second Semester</i>	<i>Credits</i>
Rhetoric 110 Language and Speaking	3
Math. 124 Calculus	3
Forestry 112 Dendrology	3
Chem. 112 Inorganic	3
Engineering 104 Introductory	2
	<hr/>
	14

# College of Arts and Sciences

The College has programs of study leading to four bachelor's degrees: Bachelor of Arts, Bachelor of Science, Bachelor of Fine Arts, and Bachelor of Music. All departments offer a program leading to the B.A. degree. The B.S. degree may be earned only if the major is mathematics, science, or psychology. The B.F.A. programs have a strong emphasis in art and the Bachelor of Music programs reflect an emphasis in music. All of the degree programs combine a study in depth in one area with supporting study in the other two of the three main divisions: (a) Fine arts and humanities, (b) Social and behavioral sciences, and (c) Natural science and mathematics. Courses appropriate to the distribution requirements in these three areas are noted in University Catalogs by the respective codes (C), (D), and (E).

A program of study which conforms with the following five provisions qualifies the student who completes it for the appropriate degree. Advanced placement and transfer credits may be applied toward any or all of these qualifications; but at least half of the major program must be completed in residence.

1. A basic proficiency or experience in communicative skills must be achieved by completing six credits in rhetoric; the two rhetoric courses must include at least one of Rhetoric 100 or 110.

2. For the B.A. and B.S. degrees only, a basic proficiency or experience with foreign language must be demonstrated by (a) completion of a foreign language course at the college fourth-semester level, (b) a satisfactory performance on an achievement or placement test, (c) four entrance units in one foreign language or three units in one and two units in another foreign language, (d) a year in a school in which English is not the basic language, or (e) an approved substitution of language-related study if there is clearly demonstrated difficulty in language study which

has been approved by the foreign language board.

3. Distribution is achieved by completion of courses in each of the two divisions of the College other than the one in which the major falls. With the understanding that work in the major is applicable to one or more of these divisions, this qualification is stated for all three divisions and all degrees as:

Division	Core Code	Number of Courses for			
		B.A.	B.S.*	B.F.A.	B. MUS.
Fine Arts and Humanities	(C)	4	3	4	4
Social and Behavioral Sciences	(D)	4	3*	3	3
Natural Science and Mathematics	(E)	4	4*	4	4

\*To qualify for a B.S. degree, at least 60 credits must be earned in science, mathematics, and/or psychology courses; distributional courses may be part of this minimum of 60.

4. An approved major program of the College must be completed. The traditional departmental major programs are the most common, and they are described in the following pages. A few others are specified and administered by standing committees of the faculty and are described below. Several other interdisciplinary programs are being worked on at this time. All major programs have these features in common: (a) faculty guidance, (b) a coherent program of study made up of at least 24 credits, at least 15 of which must be in upper division courses in this College, and (c) the student has at least 12 completely free electives.

### *Advisory System:*

When a student elects a special major, or is admitted to a specialized degree program, he is assigned a faculty adviser from that major. The faculty adviser helps the student choose his program of study and also serves as a communication link between the student and the Registrar's Office. The student may choose a specific major on entrance or he may postpone this choice until his fourth semester. Until he chooses a specific major, he is listed as a Collège of Arts and Sciences major, and the College of Arts and Sciences Information and Advising Center (CASIAC) serves as the student's adviser. Faculty members from a broad selection of disciplines form the staff of CASIAC, and the student may continually meet with the same staff member or he may talk with whomever is on duty at the time. A primary goal of the Center is to help the student choose a major which is consistent with his interests and potentialities.

A student has considerable freedom in choosing his program of study and his major. However, a few of the major programs which extend over seven or eight semesters. A student who does not take the right courses in his freshman year may have to use a summer session or extra semesters to accommodate these sequences if his ultimate major is Astronomy, Biochemistry, Chemistry, Mathematics or Physics, or if he is in the Bachelor of Music or Bachelor of Fine Arts program. Some standard freshman year programs are:

#### *Bachelor of Fine Arts:*

Rhetoric  
Introduction to Art  
Studio Art  
Physical Education  
and two of the following:  
Math or Science  
Humanity  
Social Science

#### *Social Science (B.A. or B.S.):*

Rhetoric

Social Science  
Physical Education  
and three of the following:  
Foreign Language  
Humanity or Fine Art  
Math or Science  
Second Social Science

#### *Mathematics (B.A. or B.S.):*

Rhetoric  
Math (Calculus)  
Science  
Physical Education  
and two of the following:  
Foreign Language  
Social Science  
Humanity

#### *Bachelor of Music:*

Rhetoric  
Music Theory  
Music Literature  
Physical Education  
and two of the following:  
Math or Science  
Social Science  
Humanity, other than Music

#### *Humanity (B.A.):*

Rhetoric  
Humanity or Fine Art  
Physical Education  
and three of the following:  
Foreign Language  
Social Science  
Math or Science  
Second Humanity

#### *Science (B.A. or B.S.):*

Rhetoric  
Chemistry or Physics\*  
Math (Calculus, if prepared)  
Physical Education  
and two of the following:  
Foreign Language  
Humanity  
Social Science  
Second Science

\*Chemistry majors elect Chemistry 113; Biology and Geology majors elect Chemistry 111; and Physics and Astronomy majors elect Physics 181.

## ASIAN STUDIES

There is no major program in Asian Studies, but the chairman can help students arrange a comprehensive and correlated series of courses dealing with the Far East. This provides an interdisciplinary approach and, at the same time, permits flexibility in student programs. Beginning, intermediate, and advanced Chinese and Japanese language courses are offered. There is a wide range of courses relating to Asia currently available on the University campus and elsewhere within the Five Colleges. Included in the offerings of many departments are courses relating to contemporary Asia.

## LATIN AMERICAN STUDIES PROGRAM

Undergraduates interested in Latin America may enroll in the Latin American Studies Program. The Program does not constitute a major and is designed to supplement the work done in a regular discipline. However, those students who fulfill the requirements of the Program will be awarded the Certificate in Latin American Studies attesting to their attainment in area and language studies. To earn a certificate a student must 1) satisfactorily demonstrate a practical working knowledge of Spanish or Portuguese and elementary proficiency in the other, 2) satisfactorily complete four courses focused on Latin America, and 3) participate in the Interdisciplinary Seminar on Latin America. The requirements of the Program are to be met partly through courses that fulfill existing requirements of the College and partly through the careful use of electives.

The Committee on Latin American Studies administers the Program and advises interested students. Members of the Committee are: P. Barreda-Tomas (Hispanic Languages and Literatures); R. A. Potash, Chairman, (History); D. Proulx, (Anthropology); F. B. Sherwood, (Economics); and H. A. Wiarda, (Government).

## PRE-DENTAL, PRE-MEDICAL, AND PRE-VETERINARY PROGRAMS

A student planning to enter a dental, medical, or veterinary school should select a major department in the field of most interest to him. This will usually be in the College of Arts and Sciences but may be in other colleges or schools. Pre-veterinary students frequently select a major in the College of Agriculture. Preparation for the professional

schools requires relatively few specific courses beyond those necessary to obtain the bachelor's degree and can be completed within the four-year curriculum of most departments in the University.

A liberal education is felt to be one of the best backgrounds for entering the medical or dental field. Although many students may be inclined to concentrate in the sciences, this will not necessarily improve the opportunity for entrance into a professional school. Rather, the field of concentration should be determined by the student's strong secondary interests; i.e., he should choose that area most likely to lead to a satisfying alternative career.

*Minimum* preparation for the pre-professional student should include one year of inorganic, one year of organic, and one semester of analytical chemistry, three semesters of biology, one year of college mathematics, and one year of physics. Certain additional courses in biology, chemistry, or mathematics, as well as a foreign language may be required by some dental, medical, and veterinary schools. Students should consult their advisers as well as professional school catalogs in regard to specific requirements of particular schools. Freshmen who intend to include the pre-professional courses in the curriculum should discuss their plans with the summer counseling adviser as some change in the normal course sequence may be desirable.

Students, who by their work in the first year, demonstrate a potential for success may, in their third semester, apply to the Pre-Professional Advisory Committee for entrance into the pre-medical, pre-dental, or pre-veterinary major. This program is designed to give qualified students the opportunity to broaden their background by providing for increased flexibility in the curriculum of the last two years. These students will have advisers specifically for this program, will be interviewed in the sophomore and junior years, and, upon application to medical school, will be given a written evaluation by the pre-medical committee. However, admission into a pre-medical, pre-dental, or pre-veterinary program is not a prerequisite for application to the professional schools. Many students prefer to complete a full major in an academic department; these students should also apply for entrance into the pre-professional program, and they will be interviewed and evaluated in the same manner as those who are accepted as majors.

A file of dental, medical, and veterinary school catalogs and other pertinent material is maintained in the committee office, Room 409, Hasbrouck Laboratory. Students are encouraged to visit this office for further information concerning preparation for careers in dentistry, medicine, and veterinary medicine.

Individual members of the advisory committee are available for counsel to all interested students at any stage of their program and whether or not they have been accepted into the curriculum as majors. The committee membership for 1971-72 consists of the following: B. C. Crooker, Chairman (Physics), E. L. Davis (Botany), R. S. Feldman (Psychology), L. D. Lavalley (Mathematics), E. J. McWhorter (Chemistry), G. J. Oberlander (Chemistry), W. B. O'Connor (Zoology), R. E. Smith (Veterinary and Animal Sciences), M. S. Wilder (Microbiology).

### ANTHROPOLOGY

In its study of mankind in terms of origins, ways of life, physical and cultural differentiation, and contemporary problems, anthropology bridges the social and biological sciences. Its courses are offered with the aim of providing both a foundation for specialized graduate study in all four subfields of anthropology (archeology, physical anthropology, social and cultural anthropology, and linguistic anthropology) and also the understanding of mankind that can be of value to anyone regardless of particular interests.

Anthropology majors must take Anthropology 104 plus *at least one* more of the following: Anthropology 102, 103, or 105. All majors are also required to elect a minimum of 21 credits above the 100 level in anthropology which, in combination with the introductory courses, must total at least 30 credits for graduation. Under special circumstances and with his adviser's approval, an anthropology major may be allowed to substitute as part of this requirement up to nine credits in related sociology courses or non-duplicating courses in anthropology given at one of the cooperating Valley institutions. The maximum allowable credits in anthropology for graduation is 36. Also required is at least one course in the social sciences outside of anthropology and foreign language proficiency through the intermediate (140) level. Professor Donald Proulx is Chief Adviser for Anthropology.

### ART

The Department of Art offers three programs serving a range of objectives. The first of these leads to a Bachelor of Arts degree with a major in Art and is designed to provide a good general historical and aesthetic knowledge of the arts while affording an opportunity to develop creative ability in the several media. By arrangement with the School of Education, courses can be so arranged that an art major will secure the necessary credits in education to allow him to teach art in the public schools. All studio majors are expected to take 115 Introduction to Art, 100, 102 Basic Drawing and 120, 122 Basic Design during their first two years. Majors wishing to specialize in art history are advised to take 115 and at least 24 hours of courses numbered 200 or above; these may be entirely art history courses.

The other two programs are of a professional nature and lead to a Bachelor of Fine Arts degree. A student must petition the department for admission to either of these programs. Admission is based on the criteria of demonstrated ability and high academic standing so that these programs have the flavor of honors work. The program, which builds the best foundation for graduate study in art, involves a minimum of 63 credits in Studio Art, at least 12 credits in Art History and at least 48 credits in other disciplines. The alternative program, for prospective art teachers, involves minima of 33 credits in Studio Art, 9 in Art History (48 combined), 6 in Art Education, 15 for teacher certification, and 51 credits in other disciplines.

### ASTRONOMY

(*Also see Physics*)

The Five College Department of Astronomy is administered jointly with Amherst, Hampshire, Mount Holyoke, and Smith Colleges. The elementary courses for non-majors are taught separately at each campus but all advanced courses are given on a joint basis for students from the five participating institutions. Five College courses are identified in the Undergraduate Catalog by ASTFC. The Astronomy Program at the University is also a part of the Department of Physics and Astronomy. The graduate program in astronomy is developed in close cooperation with the program of physics.

The Five College Astronomy Department offers undergraduate courses which

furnish 1) specialization for those students planning graduate study in astronomy, 2) a more general major for students interested in careers in teaching, scientific journalism, technical editing, or similar areas for which astronomy may form the basis for a suitably broad science background, and 3) a background for all students who are interested in astronomy for its cultural and scientific value. Professor T. T. Army is the Chief Adviser for Astronomy.

Students who plan to go to graduate school should obtain a firm foundation in physics and mathematics and should plan to finish satisfactorily Physics 184 or 163, Mathematics 174 or 186, and Astronomy 122 by the end of the sophomore year. During the junior and senior years a student must complete Physics 255-256 and Physics 251-252, Mathematics 343, and three courses selected from Astronomy 237, 238, 343, 344, and independent study. It is also strongly recommended that the student take Mathematics 341, Physics 271-272 and/or 285-286, and obtain a good reading knowledge of German, French or Russian.

More flexibility in planning courses is available to those majors for whom the B.A. or B.S. will be a terminal degree in astronomy. In some circumstances Physics 142 and Astronomy 101-102 will be acceptable lower division courses. A minimum of three upper division astronomy courses and nine additional credits of upper division astronomy or physics must be satisfactorily completed. These may include Astronomy 231 and 234 but should be chosen in consultation with the Chief Adviser. In some cases advanced courses in the history or the philosophy of science may be desirable.

Those students wishing a B.S. rather than a B.A. degree need a total of 60 credits of science courses. The credits required beyond those explicitly needed for the astronomy major may be chosen from any science or behavioral science courses.

Independent and honors work are encouraged for all majors. Opportunities for theoretical and observational work are available in cosmology, cosmogony, radio astronomy, planetary atmospheres, relativistic astrophysics, laboratory astrophysics, gravitational theory, infrared balloon astronomy, stellar astrophysics, spectroscopy, and exobiology. Facilities include the Laboratory for Infrared Astrophysics, balloon astronomy equipment (16-inch telescope, cryogenic detectors), the Five College Radio Observatory, access (under supervision) to

the 120-foot NEROC radio antenna, and a modern 16-inch Cassegrain reflector. Opportunities for summer research are also frequently available including an exchange program with the Observatory of Bonn University. Original publications often result from undergraduate research.

#### SAMPLE PROGRAM I

Rhetoric	Rhetoric
Math 123 (135)	Math 124 (136)
Elective	Physics 161
Elective	Elective
Elective	Elective
Physics 162	Physics 163
Math 173 (185)	Math 174 (186)
Elective	Elective
Elective	Astro 122
Elective	Elective
Astro 237	Astro 234
Phil 230	Astro 386
Physics 200	Elective
Elective	Elective
Elective	Elective
Astro 385	
Physics 254	
Math 200	Ed. Block
Ed. Psych	
Elective	

#### SAMPLE PROGRAM II

Rhetoric	Rhetoric
Math 123 (135)	Math 124 (136)
Physics 181 (161)	Physics 182 (162)
Elective	Elective
Elective	Elective
Elective	Elective
Math 173 (185)	Math 174 (186)
Physics 183 (163)	Physics 184
Astro 122	Elective
Elective	Elective
Physics 251	Physics 252
Physics 255	Physics 256
Math 341	Math 343
Elective	Astro 238
Elective	Elective
Physics 271	Physics 272
Physics 285	Physics 286
Astro 343	Astro 344
Elective	Elective
Elective	Elective

Note: Electives include courses needed to satisfy college and University distribution requirements.

## BIOCHEMISTRY

The biochemistry major provides a curriculum for those students who have an interest in both biology and chemistry and who wish to achieve a balanced and mutually supporting education in these two areas. Formal education in biochemistry is started with the general biochemistry course in the junior year and continued by requiring advanced tutorial and/or honors programs in the senior year. Professor T. Robinson is Chief Adviser.

For students who, early in their college years, already plan on graduate school and a professional career in biochemistry, this major would be an obvious choice. At present, most students arrive in graduate school to study biochemistry with no background in the subject and must spend a full year before they even have the background for deciding on an area of interest. This major would be valuable for students going into many areas of molecular biology.

For pre-medical, pre-dental, and pre-veterinary students a major in biochemistry would have many attractions. It is well-known that undergraduate experience in biochemistry and related fields can soften the difficult first year of medical school. Furthermore, a movement toward flexibility in the medical curriculum has been developing. A student who majors in biochemistry can look forward to exemption from biochemistry at growing numbers of medical schools with consequent free time for elective research, other courses, etc.

An undergraduate major in biochemistry could be valuable for future junior college and secondary school science teachers who may be expected to have competence in several areas of science. Finally, students who are merely undecided between chemistry and biology may find that a major in biochemistry will provide them with the background for a decision. The curriculum outlined below is flexible enough to allow a student to change his major to biology or chemistry as late as the end of the sophomore year without finding that he has deficiencies to be made up. In addition, the informal discussions during the freshman and sophomore years will provide him with guidance in his final choice of major.

The sample curriculum outlined below conforms to college requirements and closely follows recommendations made at the 1965 Symposium on Pregraduate Education in Biochemistry of the American Society of Biological Chemists.

*First Year:* Chemistry 113-114, Mathematics 123-124, Elementary Biology I-II, German 110-120, Rhetoric 100 or 110.

*Second Year:* Chemistry 165-166 or 261-262, Chemistry 167 or 263-264, Mathematics 174, Physics 141-142, German 130, 140 and English, Humanities I or II.

*Third Year:* Biochemistry 223-224, Biochemistry 225-226, Chemistry 210 (I)—Elem. Biol. Sci. (II), Chemistry 281-282 or 285-286, Social Sciences (I, II), Humanities (I, II), Computer Science (II).

*Fourth Year:* Two advanced courses in chemistry or biology, Advanced Biochemistry (including lab.) 5 cr. (e.g., Bio. 388 or 399), Social Science (I or II).

## BOTANY

The Botany Department has a strong commitment to undergraduate education at several levels:

First, Botany majors are assured a thorough grounding in basic concepts in such fields as plant morphology, plant physiology, ecology, and genetics and cytology, as well as being offered a variety of other courses in more specialized areas. Students are encouraged to take at least one semester of Special Problems, which involves laboratory research in close cooperation with a member of Faculty. This overall program equips the student especially well for teaching and research in biological sciences in high schools, universities, industry and experimental stations.

Second, the options available to those Botany majors also seeking certification for secondary school teaching provide not only an adequate training in basic botany, but for exposure to material considered to be especially useful for teaching.

Many of the courses offered in the above two curricula are, of course, open and valuable to majors in other areas of science, such as Geology, Forestry, Agriculture, etc.

Third, the Botany Department offers courses without prerequisites designed for non-science majors. These courses, which include Natural History of Man, Genetics and Evolution, Plants and Environment, etc., provide a broad, although in no way superficial, approach to biological principles, and can be used to fulfill science core requirements.

Students majoring in Botany are required to complete the following courses: Chemistry 111-112.

Chemistry 261-262, 263-264 or Chemistry 160 + either Chemistry 281 or Biochemistry 220 or Botany 212. Physics 141-142.

Mathematics—2 semesters of calculus, or one semester of calculus + one semester of either statistics or computer science or probability.

Zoology 240.

Botany—100, 211, 221, 228, 281, 291, 303, 311 (under some circumstances, and at the discretion of the Botany Department, equivalent courses may be substituted for any of these required Botany courses).

Students planning to teach in secondary school must fulfill the above Chemistry, Physics, Mathematics and Zoology requirements, and must also take the following courses:

Either Microbiology 140 or 250 or any Zoology course with a Zoology 101 prerequisite.

Botany 100 or 101 or 103, 125 or 303, 126, 211, 228, and at least 9 additional credits in 200- or 300-level Botany courses.

Additional requirements for certification are Psychology 303 and Education 251 in the junior year, and Education 285, 310 and 311 which are required in one semester in the senior year.

## CHEMISTRY

The prime purpose of the Department of Chemistry is to offer sound preparation for graduate study in chemistry. Accordingly, emphasis is placed upon intellectual accomplishment and broad understanding rather than on terminal training for specific chemical tasks. The program also affords sound preparation for work in chemical industry, chemical institutes, or governmental laboratories. A slightly modified program permits preparation for secondary school teaching. Professor G. Richason is the departmental Chief Adviser.

Students planning to major in chemistry should take Chemistry 113, 114; German 110, 120 (recommended, but Russian may be substituted); Mathematics 123, 124; and Physics 161 in the freshman year. It is recommended that the student elect one or more courses in biological science such as Botany 100, Zoology 101, Microbiology 140, 150, 250 or Entomology 126.

The sophomore year should include Chemistry 165, 166, 167, 168; Mathematics 174; Physics 162, 163 (Physics 141, 142

may be taken but provide less background than the 161, 162, 163 sequence); German 130, 148. The junior chemistry major takes Chemistry 210 and 285 during the first semester; and 269, 286, and 287, second semester. Chemistry 288 is to be taken during the first semester of the senior year.

To complete requirements for the B.S. degree with a major in chemistry and to qualify for certification to the American Chemical Society the student must take Chemistry 213 and 246, and two additional courses selected from the listing below. One of these two additional courses must be selected from either the "Physical Group" or the "Organic and Biochemistry Group," and with one of the courses being a laboratory course.

Physical Group: 290, 295, 388, Honors (and certain advanced physics and mathematics courses by approval of the Head of Department).

Inorganic, Analytical, and Radiochemistry Group: 213, 215, 244, 246, 388, Honors. Organic and Biochemistry Group: 271, 272, 388, Honors; Biochemistry 223, 224.

Students in secondary education may use the Education Block to substitute for the two additional courses.

A student may qualify for the B.S. degree in chemistry (but not for certification to the American Chemical Society) without completing Chemistry 269, 213, or 246. However, the curriculum must then include four courses selected from the above listing. One of these must be a laboratory course, and two different groups must be represented by the selection. Students in secondary education may use the Education Block to substitute for two of the courses in the above groups.

A less vigorous program qualifies the student for a B.A. in chemistry. Students may satisfy requirements for the B.A. degree by completing the following: Chemistry 113, 114; 165, 166, 167, 168; 210; 281, 282; and 2 courses from the above listing, one of which must be a laboratory course. The same supporting courses are required as listed for the B.S. curriculum, except that German or Russian is not required, nor is the second year of calculus.

## COMPUTER AND INFORMATION SCIENCE

The Program in Computer and Information Science offers a wide range of undergraduate courses in the areas of Computers, Theory of Computation, and Cybernetics.



An increasing number of undergraduates, irrespective of their major, are finding it useful to have the ability to program and use modern computing equipment. They will find three courses (121: BASIC; 122: FORTRAN IV; and 131: Introduction to Computers and Programming) very useful in getting hands-on experience with the time-sharing system at the University, and mastering batch processing using the FORTRAN IV language.

A number of courses open to undergraduates introduce students to the design of computers, the design of compilers for communicating with computers in high level languages, and with new techniques for reducing complex problems to computer form.

Courses in automata theory, linguistics and automata, combinatorial theory, and related topics introduce the student with a mathematical background to the many exciting problems posed by the theoretical study of computation.

Students from all schools of the University have expressed interest in the new program in cybernetics. Of particular note are the courses "Cybernetics and the Brain," which introduces the student to the computational study of brain function; and "Ecological Cybernetics" which shows how mathematical techniques may combine with computer simulation to allow man to tackle large-scale problems of ecological interactions. In addition, the course "Computers and Society" helps students who want to understand the use of computers to solve social problems, and of the studies required to avoid "side effects"—including such problems as data banks, computerized voting, automated health care, and computer-aided instruction.

While no formal undergraduate major exists in Computer and Information Science, it is possible for students to seek a bachelor's degree with individual concentration, the program being worked out individually.

## ECONOMICS

Economics is the study of an imposing, hard fact of life that what we as a society would like to have exceeds the capacity of our resources to provide it. We are forced, therefore, to choose—and simultaneously exclude—those goods and services we will have from the larger menu of possibilities. Economics develops the basic principles stemming from this scarcity and applies them to analyze the various aspects of human activity where such choices must be made.

The Economics Department at the University offers courses spanning this naturally broad range of interests within economics. The courses are subject to continuous review as the findings and techniques of economic science improve. In recent years substantial numbers of new courses have been added and many existing courses.

Courses are offered in such topics as economic theory, international trade, industrial structure and regulation, labor economics and human capital, mathematical economics, economic history, lesser developed economies, comparative systems, regional and urban economics, public finance and history of economic thought.

Thus the individual student is faced with a choice. The department has far more course offerings than he, even as a major, could reasonably take. But his decisions have been made much easier by the flexibility deliberately built in the course structure. A student who wishes a basic understanding of economics or to satisfy distribution requirements may take either 125—macroeconomics, the big picture—or 126—microeconomics, the building blocks of the system. Then, if the economics of a particular subject interests him, he may enroll in the appropriate one from among most other courses offered by the department. A student interested in developing economic tools of analysis further for a career in business or systems analysis, for example, can take Economics 201 and 214 after the two introductory courses.

The same freedom of choice extends to majors in economics. Graduates of the undergraduate program in economics continue in a wide variety of categories such as graduate school, law school, government, or business so that they should be able to structure their own appropriate program.

Above university and college requirements the department requires majors to complete 24 credits in economics which must include 125, 126, 201 and 214. The only other requirement is one course of calculus such as 113, 116, 123 or 153 so that students have some familiarity with the language in which so much of modern economics is conducted. Majors are assigned to permanent advisers when they enter the department but are not required to obtain his signature on semester programs. In practice many economics majors follow an informal advising system of consulting faculty members from whom they have had courses or who are well versed in specific areas.

## CLASSICS

(See *French, Italian, Classics*)

## COMPARATIVE LITERATURE

Present Course Offerings: Courses at the 100 and 200 level are offered for purposes of general education; readings are done in English translation. Courses at 300 level and above require an easy reading knowledge of either French or German, unless other languages are specified in the course description.

The major in Comparative Literature involves the study of literature in two languages, a major and a minor, one of which may be English. Students majoring in Comparative Literature must also fulfill a requirement in a third language, modern or ancient, either by taking six hours of elementary course work in that language or by passing the relevant departmental reading examination.

The normal program will consist of 39 hours of course work, not including the work done in the third language. Of those 39 hours, 18 should be elected in the literature of the major language, 12 in the literature of the minor language, and nine from offerings in Comparative Literature. Any student capable of upper-level work in a third language may elect the following distribution: 15 in the major literature, nine in one minor literature, six in another, and nine in Comparative Literature. Courses in language departments taught in translation, and courses in the Comparative Literature sophomore tracks (201, 202, 203, 204) do not count toward the major unless special arrangements for work in the original languages are made in advance with the instructor. It is, however, recommended that prospective majors in Comparative Literature elect courses in the Comparative Literature sophomore track. It is also recommended that Comparative Literature majors take at least three hours in a non-Western humanities course. No courses in the major block may be counted on a pass-fail basis.

### W. E. B. Du BOIS DEPARTMENT OF AFRO-AMERICAN STUDIES

The first responsibility of the department will be to prepare and offer a major in Afro-American studies which will be interdisciplinary in scope. The department will have the parallel responsibility of leavening and affecting the quality and focus of the

educational experience of all Black students regardless of their major field of study, thus it will be responsible for the designing of courses and sequences of courses which will be of general interest and of specific relevance to students in disciplines other than Afro-American studies.

The major in Afro-American studies will be recommended only to students intent on a career in teaching or advanced scholarship in Afro-American studies or in one of the relevant professional disciplines. The maximum of 60 required major credits will be spread over many disciplines with a heavy emphasis on History, Sociology, Political Science and Literature. This means that within the scope of the major there will be included courses which correspond to and will fulfill requirements presently offered in existing departments. The student will be required to take at least 24 credits within one discipline, and the rest a minimum of 24 within the other disciplines of the department. The major will be designed to give the student a specialist's training in one area of the Black experience reinforced by a general and theoretical knowledge of other relevant areas of scholarship.

## ENGLISH

The student who majors in English will gain a considerable knowledge of Western literature; he will develop skill in expository and creative writing; and he will increase his capacity to read literary works with perception and to judge them by critical standards. Such a program has maximum value as liberal education, and is especially useful to students whose interests are in writing, editing, criticism, and teaching. Jonathan R. Quick is departmental Chief Adviser; Charles Moran is Director of Undergraduate Studies.

The Department of English offers courses in composition, literature, and language. The Program in Journalistic Studies is also administered by the Department. Students majoring in English must take 1) one period course in English literature before 1800, 2) one semester of study in a non-English literature, read either in the original language or in English translation, and 3) three of the following four options: a) one course that has as its primary concern the study of the English language, b) one course in the works of Shakespeare, c) one course that studies intensively a single major British or American author, d) one course in the development of a literary

genre such as tragedy, comedy, satire, lyric poetry, the novel. The student should elect his remaining six English courses and appropriate courses in other departments, including University core requirements and electives, to provide himself a coherent unit of study that accords with his own needs and interests. He is invited to consult with appropriate members of the Department about such areas of coherence as medieval studies, Renaissance studies, literature and psychology and American studies.

An English major must take at least 30 and no more than 45 hours of upperclass English courses except to the extent that he earns credits beyond the 120 hours required for graduation. Honors theses may be included in or excluded from the 30-hour total at the writer's discretion. A quality-point average of 2.0 or better must be maintained in the upperclass courses listed in the preceding paragraph. The student may count in the 30 hours required for the major up to six credits for any upperclass course in Comparative Literature, or in any foreign literature read in the language or in translation; any upper-level course in Journalistic Studies or in Linguistics; and any upper-level course in Speech primarily concerned with language or literature. Furthermore, upon presentation to the Chief English Adviser of sufficient justification, the student may obtain permission to count other courses not here included.

A student who intends to apply for admission to the Education Block in preparation for secondary school teaching should consult with James Leheny, Chairman of the English Department's Committee on Teaching. Especially recommended are English 201, a course in the English language, a course in Shakespeare, courses in American and modern literature, and an advanced course in writing.

#### FRENCH, ITALIAN, CLASSICS

All language programs are intended to give 1) a thorough training in language skill, 2) an appreciation of the aesthetic and intellectual qualities of the literature and 3) a serious insight into the cultures of the nations concerned. Majors are required to complete 36 approved junior-senior credits, six of which may be in related disciplines approved by the department. Majors must be guided by the departmental documents describing requirements for undergraduate major in consultation with departmental advisers.

#### CLASSICS

The study of ancient Greek and Roman civilization and culture, the oldest of humanistic disciplines, occupies a position central to all the humanities and still forms a broad base for the disciplines of history, English, philosophy, art history, comparative literature, and religious studies. It can provide a meaningful core in every student's education.

Courses labeled "Classics" on the 100 and 200 levels are offered for purposes of general education. They require no knowledge of Latin or Greek; all readings are done in English translation. Courses of this sort are offered in Greek and Roman civilization, ancient mythology, and Greek and Latin literature in translation. There is also a special language skills course in Greek and Latin elements in English designed to increase the student's knowledge and understanding of English vocabulary by study of the roots, prefixes, and suffixes incorporated into English from Greek and Latin. Certain sections of this course will be set up especially for students with verbal deficiencies. A full range of courses is offered in the Latin language and its literature. The offerings in Greek may be supplemented with courses at the neighboring colleges. Hebrew and Arabic are presently being offered in the Classics program.

Students majoring in Classics arrange their own individual programs of study in close consultation with a faculty adviser. Emphasis may be placed on Greek and/or Latin language and literature, ancient history, ancient art and archaeology, ancient philosophy, ancient religion, mythology, the Classical tradition, or a comparative study of ancient and modern literatures. Courses may be chosen from those available in the Classics Department, from related courses in other departments at the University, and from appropriate departments at the neighboring colleges, Amherst, Smith, and Mount Holyoke.

A major in Classics can be designed to serve any of the following purposes:

- 1) to provide a meaningful humanistic core in a liberal arts education,
- 2) to provide training for professional careers in teaching Latin and Classics on the elementary or secondary school levels, or
- 3) to provide preparation for graduate work in the field leading to a Ph.D.

in Classics and teaching on the college level.

Requirements for the Classics major:

I. Prerequisites to the major:

Latin 110, 140 (or four years of secondary school Latin), 161, 162 or

Greek 110, 140, 161, 162.

(Recommended collateral courses: Classics 100 and 102.)

II. The major:

At least 10 upper-level courses (= 30 credits) in Greek, Latin, Classics, ancient history, ancient art, ancient philosophy, ancient religion, mythology, the Classical tradition, or appropriate courses in comparative literature. The courses chosen should constitute a coherent program of studies. No work in the ancient languages is required beyond the 162 level.

For more information, consult Professor Gilbert Lawall, Herter 403 (545-0512) or any member of the Classics staff.

## GEOLOGY

For students considering geology as a career, the opportunities are many. Those interested primarily in basic science may look to positions in teaching, in museum work, on state and Federal surveys, and in various research organizations. Those concerned with applied science may work in mining geology, petroleum geology, engineering geology, environmental geology, ground water geology, coastal geology, surficial geology, and economic mineralogy. The fields of space science and oceanography also provide opportunities for students with geological training.

The Bachelor of Arts degree program in geology is intended for those wishing a broader education in liberal arts than is possible with the Bachelor of Science degree. The Bachelor of Science degree provides adequate preparation for graduate work in geology. The Bachelor of Arts degree may also be adequate preparation for graduate work in geology when planned in consultation with an adviser.

The Bachelor of Science degree program is divided into two options, a Geology Option and an Earth Science Option. The Geology Option is designed for those planning a professional career in geology, and provides preparation for graduate work.

The Earth Science Option prepares students specifically for careers and certification in the teaching of earth science at the secondary level. The departmental Chief Adviser is Mr. T. Rice.

Bachelor of Arts in geology requirements are: fulfillment of the general University and College of Arts and Sciences requirements for the B.A. degree; 3-5 credits in Introductory Geology Courses (Geology 100, 101, or 130; or alternatively, Geology 105, 106, 107, or 108 and Geology 160); a minimum of 24 credits in Upper Division Geology Courses (Geology 192 is considered an Upper Division Geology Course); a minimum of 15 credits in supporting natural sciences and mathematics (Natural Science and Mathematics courses may be elected from the offerings of the following departments: Astronomy, Biochemistry, Botany, Chemistry, Microbiology, Mathematics, Physics, Statistics, and Zoology; supporting science courses may also be elected from the offerings of Computer Science, Marine Science, and certain other departments with the approval of the student's adviser). Any student following this degree program who may plan to go on to professional work in Geology or related science is expected to consult with his adviser before selecting his supporting natural science and mathematics courses. (These courses should include Chemistry 111-112, Physics 141-142, and the necessary supporting mathematics courses; Math 110 or 123 according to the student's background.)

Bachelor of Science, Geology Option, degree requirements are: fulfillment of the general University and College of Arts and Sciences requirements; Chemistry 111 and 112, General Chemistry; Mathematics 123 and 124, Analytic Geometry and Calculus I and II, plus one additional 3-credit course in mathematics, statistics, or computer science; Physics 141 and 142, Introductory Physics I and II (recommended for Junior year); Geology sequence—either Geology 100, 101, or 130 (Honors) and 160 (optional), or, alternatively, Geology 105, 106, 107, or 108 and Geology 160 followed in sequence by 192 (formerly 219), 220, 250, 251, 230, 231, and 240. Approved summer work or supervised field work (389), or field camp. Twelve additional credits in science and mathematics, of which not less than 3 nor more than 9 may be in elective upper division geology courses.

Bachelor of Science, Earth Science Option, degree requirements are: fulfillment of

the general University and College of Arts and Sciences requirements; Chemistry 111 and 112, General Chemistry; Mathematics 123, 124, Analytic Geometry and Calculus I and II; Physics 141 and 142, Introductory Physics I and II or Astronomy 101 and 102, Elementary Astronomy (recommended for Junior year); Geology sequence—either Geology 100, 101, or 130 (Honors) and 160 (optional), or, alternatively, Geology 105, 106, 107, or 108, and Geology 160 followed in sequence by 192 (formerly 219), 220, 250, and 251, 230, 240. Twelve additional credits in science and mathematics, preferably other than geology and selected, with an adviser, to establish a minor. Courses in secondary education, including the 15-credit secondary education block, which occupies one semester of the senior year.

## GEOGRAPHY

The program in geography provides a sound preparation for majors intending to proceed to graduate study and a broad array of elective or required courses in systematic and regional geography for students majoring in other fields.

For students specializing in geography there is a wide variety of possible careers in teaching at all levels, in planning, industry and government agencies.

The faculty is prepared to discuss a program of courses in geography and related fields which best fits the career intentions and interests of the individual student. The minimal major requires that the student take one Introductory course (135 or 155), two courses in Regional Geography (200–239), Cartography (250), two courses in Systematic Geography (260–399) and any other three upper division geography courses.

Prof. Terence Burke is the Chief Adviser for Geography.

## GERMANIC LANGUAGES AND LITERATURES

To fulfill an undergraduate major in German, a student must complete 33 credits in the department's junior-senior courses. Two programs are available: one is designed principally for those who wish to teach in elementary or secondary school (Program A), the other for those who are primarily interested in continuing their studies in graduate school (Program B).

Students selecting Program A should

take 161, 201, 202, 211, 221, 241, 283 and 284, and a minimum of three courses in German literature, one of which must be in the twentieth century (331, 332, 333, or 334).

Students selecting Program B should take 161, 201, 202, 211, 221, 284, 321, and 391, and one course in each of the following categories: (a) 331, 332; 333, 334 (b) 311, 312, 313 (c) 301, 302, 303.

One course in history or philosophy is required of all German majors.

Freshmen who fulfill the language proficiency requirement upon entrance should take 161 or 201.

Students are urged to supplement their course work with at least one summer session at an approved summer school of German or by participating in a summer program abroad, such as the University offers in Freiburg, Germany.

## HISPANIC LANGUAGES AND LITERATURES

The department offers a major in Spanish and a number of courses in Portuguese. A major in Portuguese is planned.

All the department's programs stress training in and the use of language skills. The courses in Hispanic literature are taught for their basic literary values and for the insights these afford into the cultures of Spanish- and Portuguese-speaking peoples. The department also offers courses which directly stress the use of the Spanish language and which are of particular advantage to those Spanish majors who plan to teach the language.

Beginning with the academic year 1971-72, majors will be required to complete 36 junior-senior credits, 12 of which may be in related areas and disciplines approved by the department. Entering Spanish majors who achieve an intermediate year level in the placement tests are urged to take Spanish 146, an intensive course which will permit them to start their Spanish concentration one semester sooner than if they were to take Spanish 130-140, the usual intermediate course.

Prerequisite to a major in Spanish are the following courses: Spanish 131-141, 161-162, 181-182, 190.

The successful completion of courses from the following areas will constitute partial fulfillment (24 credits) of a major in Spanish:

(a) Three courses in Conversational

- Spanish: Spanish 251, 252, 253 (one credit each).
- (b) One course from the Medieval Literature group: Spanish 315, 317, 318.
  - (c) Two courses from the Renaissance and Golden Age Literature group: Spanish 325, 330, 335, 340.
  - (d) One course from the Eighteenth- and Nineteenth-Century Literature group: Spanish 355, 365.
  - (e) One course from the Twentieth-Century Peninsular Literature group: Spanish 381, 382, 383, 384.
  - (f) Two courses from the Spanish-American Literature group: Spanish 370, 371, 372, 373, 374, 375.

## HISTORY

Courses in history are designed to provide an understanding of man through a study of patterns of development in the past. The study should also give the student an introduction to major problems in world affairs. A major in history has value to the general student as a humanistic discipline. It has application as preparation for careers in such fields as teaching, law, government, journalism, ministry, library science and business.

History majors must take as required courses in their freshman and sophomore years two year-long sequences chosen from History 100-101 or 110-111, 115-116, 120-121, 140-141, 150-151. The history major will select one of four areas of specialization (European, British, American or Latin American history) and take within it a minimum of 15 to 18 credits of upper-level course work. Students specializing in European history will be required to include in their program at least 3 credits in ancient or medieval history and an additional 3 credits in the early modern period (from the Renaissance through the 18th century). In addition a student will take 6 or 9 credits outside the specialization for a total of 24 upper division credits.

## ITALIAN

(See *French, Italian, Classics*)

## JOURNALISM AND JOURNALISTIC STUDIES

Two basic programs are provided. One, a major in Journalistic Studies, consists of liberal arts courses that introduce students to scholarly research about journalism. The

other, designated as Journalism, is a co-curricular program of work on newspapers under tutorial guidance from persons who have had experience in hiring and training reporters and who can, hence, provide counseling and placement services to students (and editors) based on how students have performed in a realistic test of journalism aptitude.

## JOURNALISM

This co-curricular (non-credit) tutorial program is open to all students, regardless of their majors, who think they are interested in journalism careers.

Newspapers in Northampton, Greenfield, Holyoke, and Springfield cooperate in this co-curricular or journalism program. The college daily also cooperates, and any student who writes for it may obtain tutoring in journalistic writing techniques. Undergraduates interested in journalism careers should spend a few hours weekly writing for the college daily, starting in their sophomore year, and should seek work on a commercial newspaper during the summer of their junior year. Summer placement aid is provided as part of the tutorial and counseling program.

As a rule, the director of the journalism program arranges for students to participate in the tutorial program with commercial newspapers after they have participated in the tutorial program with the college daily.

## JOURNALISTIC STUDIES

This liberal arts curriculum program introduces students to journalism as an academic discipline (communications research). Majors in Journalistic Studies must choose either an *interdepartmental major* in which the student earns at least 15 junior-senior credits in Journalistic Studies along with 15 junior-senior credits in one other liberal arts department, or a *double major* in which the student earns 15 credits in Journalistic Studies while also completing all the requirements for a major in one other liberal arts department, such as English, Government, or History. A student's choice of an interdepartmental or a double major is made by agreement with his or her adviser. The interdepartmental major is generally limited to honor students who must apply to the Chairman of Journalistic Studies.

All writing courses are taught by the Department of English, and any two of its eight advanced writing courses are acceptable in meeting the major requirement of at

least 15 credit hours in Journalistic Studies. Because the writing process is the same regardless of the product, no particular writing courses are recommended. No more than one writing course should be elected in any one semester. All majors must elect at least three of the following eight content courses in Journalistic Studies:

Introduction to Mass Communication  
Language and Communication  
Independent Study and Research  
(I and II)  
The Communication Process  
(Summer Course)  
Mass Communication Theory  
International Communication  
Freedom of the Press Seminar

The Journalistic Studies courses provide background for students interested in such diverse career objectives as communications research, law, advertising, editorial work for newspapers or magazines or publishing houses or radio and TV stations, public relations, teaching, and creative writing. Graduate study is required for careers in communications research.

Students interested in the Journalistic Studies program should see Dr. Barney Emmart. Students interested in the Journalism program should see Dr. Arthur Musgrave.

## LINGUISTICS

Though it is a humanistic discipline, linguistics is best described as the science of human language. Through the scientific study of the structure of language, linguists seek to understand the nature of that human mental faculty by which we produce speech from an intended meaning, understand meaning from spoken or written language, and acquire our native language. Linguists study the nature of the knowledge a human being possesses when he "knows" his native tongue. Although Linguistics has no undergraduate major, courses in linguistics are counted for major credit in several departments, and are relevant to majors in English, the foreign languages, Anthropology, Speech, Psychology, Philosophy, and Computer and Information Sciences.

## MATHEMATICS

(See also *Statistics*)

The student electing mathematics as a major will find programs providing a variety of stimulating options. These include preparation for a career in teaching at the secondary school level, graduate and re-

search work in mathematics, computer programming and data processing, actuarial work, statistics, or an industrial position. Mathematics is also a good general major for students who are uncertain of their career plans. In addition, there are many opportunities for interdisciplinary study based on mathematics. Both Bachelor of Arts and Bachelor of Science degrees are offered, and the choice between them is usually based upon the interests of the student and the direction he wishes to take.

All mathematics majors are required to take a two-year sequence in calculus and linear algebra, and eight upper division courses elected from the department's offerings in algebra, analysis, applied mathematics, geometry and other fields, and certain mathematics-related courses in other departments. Students who have taken calculus in high school may receive advanced placement based upon their previous work; also there are honors sections of the first two calculus courses for exceptionally able students. Detailed information about major requirements is given in the Mathematics Majors Information Leaflet, which is obtainable from the department office.

The student majoring in mathematics will have ample opportunity to shape his major program to fit his interests. If he is interested in computer and data processing he would probably take courses in computer and information science, logic, linear programming and possibly probability and statistics. The student aiming for a teaching career at the secondary level might elect courses in geometry and number theory, and then spend one semester of his senior year practice teaching in a public secondary school. A student interested in actuarial work would take courses in analysis and probability and statistics, and also computer science. Those interested in industrial work would do well to take advantage of the department's offerings in analysis and applied mathematics.

Students interested in statistics will find a good basic preparation in the mathematics department's course offerings, and will have an opportunity to take statistics courses for credit toward a major in mathematics.

Those planning on college level teaching or research in mathematics should be thinking of graduate school and are urged to take a number of the "pure" mathematics courses such as group theory, topology, differential geometry, and set theory.

Students who demonstrate unusual mathematical aptitude by the completion of their junior year are encouraged to enroll in a graduate course or to participate in the Senior Honors Program in which the student undertakes a substantial independent study project and writes an honors thesis.

Every student majoring in mathematics is assigned a faculty adviser. Further opportunities to meet with faculty members on an informal basis are provided by various department-sponsored activities. In the past these have included a mathematics club for undergraduates, and a junior colloquium at which special lectures for undergraduates were given by faculty members. For those who enjoy mathematical competitions, the department has, for the past several years, entered a team in the national Putnam Prize competition.

Professor S. Allen is the departmental Chief Adviser.

### MICROBIOLOGY

The major program in microbiology is designed to offer students sound preparation for more intensive graduate study and research in microbiology, as well as basic preparation for a wide variety of positions as microbiologists in research and non-research laboratories. In either event, microbiology majors should immediately begin preparation in chemistry. Microbiology majors are required to have broad training in collateral sciences, and minimum requirements include chemistry through quantitative analysis and organic, and one year each of introductory biological science, physics, and mathematics. Those students contemplating graduate study will be advised to emphasize stronger training in these collateral sciences. Courses in microbiology are designed to offer fundamental training in the basic core areas and disciplines of this field. Microbiology 250, 280, 340, and senior seminar contributing to a total of 20 credits in microbiology are required of majors. Prof. R. P. Mortlock is departmental Chief Adviser.

### MUSIC

The Music Department offers the Bachelor of Music degree and the Bachelor of Arts degree. A student must apply to the department for admission. An audition is required of all applicants.

The Bachelor of Music degree may be earned with one of three areas of concentration: performance, theory-composition, or

music education. The three programs have a considerable part (91 credits) in common: The University core requirements (33 credits—36 when Music 111 is counted as the "C" course), a series of background courses in Music (58 credits) consisting of theory courses 111, 112, 113, 114, 211, 212, 215, and 216 (23 credits), music history and literature courses 102, 201 and 202 (9 credits), performance courses each semester (24 credits), and course 363, Conducting, (2 credits).

The additional requirements for a concentration in performance are: music courses 217, 385, 386, eighteen credits in performance, and 12 elective credits, six of which may not be music credits (totalling 129 credits). A senior solo recital is required.

The additional requirements for a concentration in music education depend upon whether the student's primary skill is vocal or instrumental. In either case, 5 additional credits in performance work and 15 credits for the teacher certification courses are required. For voice students, 16 credits in music education, 6 credits in Italian, and 6 elective credits (totalling 139 credits) are required. For instrumental students 7 credits in music education, 18 credits in instrumental techniques, and 3 elective credits (totalling 139 credits) are required.

The Bachelor of Arts program for a music major is pre-professional, serving the needs of the student who wishes to broaden his cultural background. All majors will take 111, 112, 113, 114, 201, 202, 211, 212, and must register for applied music and either band, orchestra, or chorus every semester. The student will choose as his area of concentration music history, theory, or applied music. The junior-senior years will include a sequence of advanced courses suggested by the department. Students whose major area is applied music are required to present a senior solo recital. Prof. J. Contino is the departmental Chief Adviser.

Majors in other departments may elect a minor in music. This program should include 111, 112, 201, 202, and 4 credits in ensemble or individual applied music. Education majors, upon completion of 111-112, should elect 242 in lieu of 201.

The band, orchestra, chorus, and various small ensemble groups are open to all University students who wish to participate in a performing organization.

The Music Department is an associate member of the National Association of Schools of Music.



## PHILOSOPHY

Philosophers have no special knowledge to impart. Their aim is rather understanding; and they find things to puzzle them, things not understood, throughout the whole range of human thought and feeling, among the commonplaces of everyday life as well as in the other arts and sciences. Thus there are branches of philosophy in which reasoning or right and wrong or the world in general are considered, as well as more specific philosophies of science, history, art, religion, and so forth.

The Philosophy Department offers courses in all the areas of philosophy at all levels, from the most elementary to the most advanced. The aim in all of them is to help the student to think critically, sensitively, effectively, and responsibly. Thus work in philosophy is likely to prove valuable as background for a variety of fields and endeavors, and thus it is that philosophy traditionally has stood at the center of the liberal arts curriculum.

Majors in philosophy take 30 credits in philosophy courses. No particular course is mandatory, but each major has to have one semester course (3 credits) in logic, one in ethics, and four in the history of philosophy. The 100-level courses may be counted in meeting these requirements. Students with specialized interests can arrange independent study courses; and those with a B average or better can do honors work in their senior year, in which an honors thesis, written under the supervision of a faculty tutor, is presented in lieu of six of the required 30 course credits.

Professor Gareth Matthews will be Director of Undergraduate Studies and Chief Adviser for the major during 1971-72.

## PHYSICS

(See also *Astronomy*)

The Department of Physics and Astronomy offers programs of study and individual courses in physics for students in science and science related areas and for liberal arts students.

For the liberal arts student a variety of one and two semester courses are available. Physics 115, 116, 117 and 118 consider topics in music, special relativity, nuclear energy, and quantum physics respectively. Physics 121-122 provides a broader view of the ideas and concepts of physics for the non-science student.

Physics 141-142 are designed for stu-

dents in the life sciences as well as pre-med, pre-dent, and pre-vet majors. Physics 161-162-163 provide the necessary physics background for engineering, chemistry, and other physical science majors. Honors sections are available in Physics 161-162. These sections are identified by the numbers 171-172. An introductory course in physics for Elementary Education majors is available as Physics 130.

Physics 100 is appropriate for students who want to be exposed to some of the highlights of Physics in one semester. This course offers an excellent opportunity for a student to test his interest in Physics as a possible major area.

Students planning to major in Physics may consider one of two kinds of programs. The R program is aimed at those who wish to pursue research and university careers and plan to go on to graduate study in Physics. The T program is designed for those who plan to go into inter-disciplinary work, physics teaching at the high school level or science-oriented, administrative, technical, and business careers. Considerable flexibility is available in this latter program to suit the needs and goals of the individual. Although it is possible to switch between the two programs until fairly late stages, students are strongly urged to plan their courses early in consultation with faculty advisers in the Department. Dr. Arthur R. Quinton, Director of Undergraduate Studies in this Department, will provide information concerning counseling. Either the series Physics 181-182-183-184 or Physics 161-162-163 is appropriate for Physics Majors in the Freshman and Sophomore years, although Physics 181-184 is the preferred start for students interested in the R program. This series is also available for non-physics majors who may wish to learn Physics with a more substantial degree of mathematical sophistication. Minimum mathematics courses are Mathematics 123-124-173-174 (or equivalent background). These should be started at the beginning of the Freshman year if possible. The Freshman and Sophomore years should include two science elective courses (such as Chemistry 111, 112).

In addition to the above, the following are minimum requirements for a B.A. or B.S. degree in Physics: 18 credits in upper division courses in the Department of Physics and Astronomy, which must include at least 4 credits in electricity and magnetism with a laboratory, 3 credits in modern

physics and 3 credits in advanced experimental work or an experimental honors project. Normal preparation for graduate study in Physics (R program) consists of several Physics and Mathematics courses in addition to the minimum requirements (see the following typical program). The distinction between the B.S. and B.A. degrees is made on the basis of distribution requirements set by the College of Arts and Sciences.

Typical programs for both types of majors are:

#### R Program

##### Freshman year

Phys 181	Phys 182
Math 123	Math 124
Science elective	Science elective

##### Sophomore year

Phys 183	Phys 184
Math 173	Math 174

##### Junior year

Phys 251, 255	Phys 252, 256
Phys 387	Phys 319

##### Senior year

Phys 271, 285	Phys 272, 286
Phys 385	Phys 386 or Honors project

#### T Program

##### Freshman year

Phys 100	Phys 161
Math 123	Math 124
Science elective	Science elective

##### Sophomore year

Phys 162	Phys 163
Math 173	Math 174

##### Junior year

Phys 200	Phys 301, 385, 390
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##### Senior year

Phys 302, 386, 390	Education block or other electives
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#### POLITICAL SCIENCE

Courses in Political Science are designed to aid the student in gaining a knowledge of the nature, functions, and problems of political systems, and of the place of politics in the modern world. These courses can be broadly grouped into the fields of political theory, American Politics and Public Law, State and Local Politics and Public

Administration, Comparative Politics and Area Studies, and International Relations.

The degree program in Political Science is designed to provide students with a thorough foundation for enlightened citizenship and to prepare them for a wide range of careers, such as graduate study leading to academic or research positions, public service at the federal, state or local level, political office, the study and practice of law, foreign service, business and education. Professor Herbert F. Steeper is the Chief Undergraduate Adviser.

The Political Science Department offers two introductory sequences, Political Science 100-150 and Political Science 160-161. Political Science 100 or Political Science 160 meet the University requirement of an introductory course in social science. Either Political Science 150 or Political Science 161 fulfills the social science distribution requirement. Credit will not be awarded for more than 6 hours of introductory work; students should therefore take *either* the Political Science 100-150 sequence *or* the Political Science 160-161 sequence.

Majors in Political Science begin with Political Science 100-150 or Political Science 160-161, preferably in their freshman or sophomore year. A minimum of nine additional political science courses is required. At least one course must be selected from each of the five fields: political theory, American politics and public law, state and local politics and public administration, comparative politics and area studies, and international relations. Any four additional Political Science courses will complete the Departmental distribution. In addition, the Department requires a minimum of twelve credits from among the non-introductory offerings in history, philosophy, anthropology, economics, psychology, and sociology. Any combination of four courses above the 200 level will satisfy this requirement.

The curriculum is flexible enough to accommodate a wide range of career and vocational interests. Students are encouraged to develop their individual programs in consultation with Departmental advisers. Opportunities also exist for independent research (through the Senior Honors Program), for exchange programs (within the Five-College area, among a number of participating universities and colleges in the United States, and with a number of Universities abroad), and for various internships and training programs at the local, state, and national levels.

## PSYCHOLOGY

The courses in the Psychology Department are planned to impart an understanding of the basic principles, methods and data of psychology as a science and the application of this knowledge to current issues. The Department recognizes that interest in psychology is not limited to those who intend to pursue careers in the discipline. Course offerings are therefore designed so as to permit students to pursue study of various aspects of the subject to differing levels of depth. The wide range of the discipline further permits students to pursue programs of study which lead to either the B.A. or the B.S. degree, depending on the pattern of courses the student elects in the Department and the College.

Psychology 101 is the prerequisite entrance course for all students. Both psychology majors and non-majors may then elect any of the following additional courses without further prerequisite: 141, 145, 201, 210, 220, 230, 260, 262, 263, 270, 280, 290, 301, 305, 311, 325.

Students interested in majoring in psychology should elect Psychology 141 following completion of Psychology 101 and may then pursue a general psychology major or one designed for those preparing for graduate study and professional careers in the field. The general psychology major provides opportunities either for those seeking a general education or for those entering career fields for which psychological information is relevant to pursue a major in psychology without the emphasis on laboratory methodology that would normally be part of the program of those seeking admission to graduate study in the field.

The *general psychology major* must elect, in addition to Psychology 101 and 141, the following: Psychology 305 and a minimum of 21 (and no more than 27) credits of advanced level courses in the Department. Included in the electives must be at least two courses from each of the following two groupings: A: 210, 220, 230, and 250; and B: 260, 270, and 280. Students entering the major will be assigned a Departmental Faculty Adviser with whom discussions should be held from time to time regarding course selection and choice of electives. This program allows the student considerable flexibility to elect a variety of courses both within and outside the Department suited to his interests and needs. Students completing this major will fulfill the

*Departmental requirements* for the Bachelor of Arts degree.

(NOTE: Students who have entered the B.A. program may elect the additional courses indicated below to complete a "career" major *without* shifting to a B.S. program, or they may elect to become B.S. degree candidates if in the balance of their program they choose and are able to meet the *additional science requirements of the College*. Depending on their backgrounds, certain transfer students may have difficulty fulfilling these requirements in the time they have available. Students who are in doubt as to which major or degree programs to follow should discuss the available options with their Faculty Advisers.)

The *career psychology major* must elect the same program as the general psychology major as a minimum. In addition, such students should plan to elect Psychology 145 and at least one laboratory course from each of the following two groupings: A: 211, 221, 222, 231, and 251; and B: 261, 271, 281, and 282. These laboratory electives must be taken in proper sequence with their associated non-laboratory prerequisites or corequisites. Students completing this major will fulfill the *Departmental requirements* for either the Bachelor of Arts or the Bachelor of Science degree.

Students in the "career" program (either B.A. or B.S.) who are otherwise eligible will be encouraged to participate in the Honors Program in their junior and senior years.

Selected majors in either program may from time to time be invited to participate in Special Problem programs, the Department's cooperative teaching program or both.

*General vs. career major.* Both majors permit a considerable degree of flexibility to students in electing courses to meet their individual needs. Graduates from either program (and with either B.A. or B.S. degrees) may pursue advanced study in psychology or related fields. The designation of one program as a "career" major is for the purpose of informing students of the *typical preference* of graduate psychology departments at the present time for applicants who have some background in quantitative and laboratory methods.

Students in the career major program would be assumed to have already made

commitments to pursue graduate study, though of course they need not follow this implied intention. Those who for any reason choose to pursue the general program rather than the more intensive career program need not feel that they have excluded themselves from further study or careers in the field.

Only in respect of admission to courses with limited enrollments and to restricted honors and other special offerings will preference be given to those students electing the career major. Otherwise, students in both majors (and in both B.A. and B.S. degree programs) will have full access to the facilities of the Department.

Prof. H. Schurer is Chief Adviser for the Department and director of its undergraduate programs. Students are assigned to individual Faculty Advisers when they elect to major in the Department.

#### SLAVIC LANGUAGES AND LITERATURES

Students choosing Russian as their field of major concentration will receive training designed to provide them with proficiency in reading, writing, speaking and understanding the language, as well as with a knowledge of Russian literature. Russian majors will also be encouraged to acquire a background in the history, government, economy and sociology of Russia—a background necessary for an understanding of the culture and literature of the Russian people. Russian majors will be prepared to continue their education at the graduate level in the fields of Russian, Slavic languages and literatures, or Russian area studies. Those who choose to become teachers or translators will have the necessary preparation and background in the structure of the language and in teaching methodology, or experience in translating scientific, technical and scholarly prose.

Prerequisite for a major in Russian is the successful completion of four semester courses in the language (12 credits): Russian 110, 120, 130, 140 or the equivalent.

Departmental requirements for a major are the successful completion of

- a) Six semester courses of language study at the junior-senior level (18 credits): Russian 261, 262, 271, 272, 281, 282.
- b) Two semester courses of literature study at the junior-senior level (6 credits): Russian 291, 292.
- c) At least two additional courses with-

in the department, to be chosen in consultation with an adviser on the basis of the student's post-graduate plans.

- d) Two semester courses in Russian History: History 214, 215.

Majors and prospective majors are urged to consult early and often with their academic advisers in selecting related courses that will serve to broaden and enrich their intellectual development.

Professor Maurice I. Levin is Chief Adviser.

#### SOCIOLOGY

The courses in sociology are planned to give the student an understanding of the factors which influence man in his activities and interests as a member of society and to introduce the fundamental methods of research in sociology. The course offerings are designed so that students who desire to prepare for graduate work, as well as those who do not, will find suitable programs for study available within the department.

Career opportunities are open in a wide range of fields which include public and private welfare agencies, governmental and private research organizations, and education. Those interested in research careers should incorporate within their programs courses in statistics and methodology beyond the introductory levels and should plan on graduate training if they aspire to full professional status in the discipline. The American Association of Schools of Social Work indicates that the pre-professional subjects most closely related to professional work in that field are economics, political science, psychology and sociology.

All majors are required to take Sociology 101 (Introductory Sociology), and a minimum of eight to a maximum of ten 200-level courses selected from among courses offered by the Sociology Department. Sociology majors, especially those who are considering graduate studies, are strongly advised to take a statistics course, Sociology 282 (Sociological Theory), and Sociology 295 (Research Methods). Sociology majors must take four courses from the "E" group in the catalog from at least two of the groups, (a) Biological Science, (b) Physical Science, (c) Mathematics, and are required to select two courses of three credits each from Economics, Government, Geography, Psychology, and Anthropology. Mr. William D. Bathurst is Information Officer for Sociology majors.

## SOVIET AND EAST EUROPEAN STUDIES PROGRAM

This program provides the student with the opportunity of studying the Soviet and East European area from the perspective of several disciplines. Requirements for a major are as follows:

- 1) Proficiency in a relevant language at a level adequate to enable the student to conduct research in that language;
- 2) successful completion of ten courses dealing with the area in a minimum of three disciplines to be chosen from courses in the departments of Anthropology, Economics, Government, History, Slavic Languages and Sociology;
- 3) a year course in modern European history.

The Committee on Soviet and East European Studies administers the program. Members are: Joel Halpern (Anthropology); Paul Hollander (Sociology); Robert Jones (History); Maurice Levin (Slavic); Stanley Radosh (Slavic Bibliographer); and Karl Ryavec (Government), Chairman. Questions regarding the details of this program may be obtained from the Department of Slavic Languages and Literatures, Herter 438.

## SPEECH

Courses in speech are designed to enrich the student's understanding of man through theoretical study of the speech communication process and the application of this theory to various speech forms. A major in speech is valuable, not only to students preparing for a career in one of the speech disciplines, but also as preparation for careers in law, government, the arts, and business.

Majors are required to select one of the following areas of concentration: 1) Communication Disorders (Speech Pathology and Audiology), which is recommended for students who plan to prepare themselves for graduate study in order to meet American Speech and Hearing Association (ASHA) certification standards for careers as speech therapists and audiologists; 2) Mass Communications, which is recommended for students who plan to pursue careers in educational or commercial media or to prepare themselves for graduate study in mass communications; 3) Rhetoric and Public Address, which is recommended for

students who plan to pursue careers in law, the ministry, public relations, and similar professions or to prepare themselves for graduate study in rhetoric; 4) Theatre and Oral Interpretation, which is recommended for students who plan to pursue careers in community or commercial theatre or to prepare themselves for graduate study in theatre; 5) Speech Education (a combination of courses from all areas, especially rhetoric and theatre), which is required of all students who plan to earn a secondary school teacher's certificate in speech.

Majors must earn 30 credits of upper-level course work within the department together with prerequisites and related courses in other departments required for an area of concentration. Prof. Savereid is the departmental Chief Adviser.

## STATISTICS

(*See also Mathematics*)

The curriculum in statistics is designed to teach students to observe carefully, treat data honestly and dispassionately, reason objectively from sets of conditions to logical conclusions, and to distinguish between deductive and inductive methods of reasoning.

The statistics curriculum introduces students to the analytical techniques commonly used in the social, biological, and physical sciences, business, engineering, and other disciplines which share the problem of how to study large quantities of data. Students with training in calculus should elect Statistics 315 and 316. Students without calculus who desire a thorough grounding in the concepts underlying statistics should elect Statistics 231 and 232. Students who wish to obtain some familiarity with elementary statistical ideas and techniques should elect Statistics 121 and subsequently Statistics 251.

Any of the three courses Statistics 121, 231, or 315 serve as prerequisites for sampling theory (S271), design of experiments (S261, S262), and multivariate analysis (S281, S282).

There is at present no undergraduate major in statistics. Those who intend to study statistics at a graduate level should concentrate on mathematics and elect courses in computer science. According to individual interest, useful background can be obtained in fields such as animal and plant breeding, econometrics, engineering, market research, sociology and psychology. Advanced courses in statistics require a

background of at least two years of calculus and preferably Mathematics 325 (Intermediate Analysis) and Mathematics 511, 512 (Abstract Algebra).

The Statistical Laboratory is open to students and staff wishing to use its facilities. Students wishing to use the calculating machines will be instructed in their proper use. Professor R. Kleyle is Chief Adviser.

## ZOOLOGY

Beginning with the class of 1972, the curriculum for Zoology majors has been revised extensively. The new curriculum reflects the following opinions of the faculty.

1. Students who major in Zoology should acquire a broad knowledge of biological concepts and principles, reinforced by factual knowledge without which these concepts and principles are professionally meaningless.

2. Within this framework, or core curriculum, a considerable degree of flexibility in selection of courses is both possible and desirable.

3. The core curriculum should be supplemented by a coordinated group of elective courses. These will most often be in Zoology, other biological or physical sciences, mathematics, psychology or anthropology but may be in any other department of the University which best prepares each student for his own professional goals, which takes advantage of his interests, and which also takes into account limitations in his aptitudes.

Each student majoring in Zoology must complete the following Zoology courses: 240 (Principles of Genetics); 360 (Cell Physiology); 221 or 223 or 227 (Comparative Anatomy or Histology or Embryology); 281 or 282 or 283 (Biology of the Lower Invertebrates or Biology of the Higher Invertebrates or General Parasitology); 246 or 335 or 337 or 350 (Population Genetics or Limnology or Ecology or Animal Behavior); and 366 or 370 or 380 (Vertebrate Physiology or Comparative Physiology or Developmental Biology). He must attain intermediate proficiency in one of French, German or Russian and complete satisfactorily the following collateral courses: Botany 100 (Introductory Botany); Chemistry 111, 112 (General Chemistry); Chemistry 261, 262, 263, 264 (Organic Chemistry); Biochemistry 223 (General Biochemistry); Mathematics 123, 124 (Analytic Geometry and Calculus), or Statistics 231, 232 (Fundamentals of Statistical Inference), or Computer Science 131, 132 (Introduction to Computers

and Programming, Survey of Computer Applications); and Physics 141, 142 (Introductory Physics). Students with a special interest in chemistry or chemical biology may, with the approval of the Chemistry Department, substitute Chemistry 113, 114 for 111, 112; and those with a special interest in physics may wish to substitute Physics 161, 162, 163 (General Physics) for 141, 142. Special sections of Mathematics 123, 124 for Life Science majors are being developed.

All students should enroll in a chemistry sequence in their freshman year, because subsequent courses in Organic Chemistry and Biochemistry are prerequisite to Zoology 360 which in turn is prerequisite to all of the courses in the 366-370-380 group.

Botany 100 should be elected in the fall of the freshman year, as it will serve to review major biological concepts prior to the Zoology major's first Zoology course (genetics) in the spring of his freshman year.

Zoology 101 (Introductory Zoology) is not required of Zoology majors. Those who have not studied biology in high school or those who feel that their knowledge of introductory Zoology is inadequate may enroll in the course or audit the lectures prior to or concurrently with their enrollment in Zoology 240.

Students who, by advance placement, receive partial or full credit for English, Foreign Language, or Mathematics may take advantage of the increased flexibility in the freshman year to complete other general College or University graduation requirements, to enroll in courses of interest in other departments, or to begin or complete their Physics requirement in the freshman year.

The curriculum for those who plan to become certified secondary school biology teachers requires, in addition to the departmental requirements outlined above, Botany 125 (The Plant Kingdom) and 126 (New England Flora); Psychology 101 (General Psychology) and either 263 (Adolescent Psychology) or 301 (Educational Psychology); Education 251 (History of Education) and 282 (Pre-practicum) and, in the senior year, the concentrated "Secondary Education Block" of 12 credits of Education courses. Students in the Secondary Education curriculum may, with the permission of their adviser, substitute Zoology 135 (Introductory Physiology) for the requirement of one of the 366-370-380 group pro-

viding that the substitution is not made before the student's junior or senior year, when his plans for secondary teaching have become firm.

A word of caution is necessary. Growth of the department's facilities has not kept pace with the increasing number of students who wish to major in Zoology. It has there-

fore been necessary for the department to limit the number of majors it can accept. The only fair basis on which such limitation can be made is the student's over-all academic performance during his first three semesters. The required level of achievement varies but tends to be around a 2.0 quality point average or better.

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## *School of Business Administration*

The faculty of the School of Business Administration is keenly aware of the dynamic changes taking place in our economy, the extensive shifts in occupations and professions and the consequent need for intelligent and well-educated businessmen. The continuing advancement of technology, science, and the behavioral sciences has placed upon Schools of Business Administration the necessity to probe, not only into the developments of its own areas of education, but also into the relationships that exist among other areas such as mathematics, economics, psychology, sociology, and government.

The School of Business Administration prepares students to take advantage of important economic opportunities and eventually to assume positions of responsibility in business. The school's educational program is directed toward the broad aspects of business, encouraging high standards of ethical conduct, broad social responsibilities, and the development of competence in particular courses of study of the student's own interest, aptitude, and choice.

The first two years emphasize general education by providing fundamental courses in the humanities, mathematics, science, and social science. In addition, basic courses in accounting and economics prepare the student for further work in the School of Business Administration. The junior and senior years

emphasize a greater degree of specialization and provide for this in the programs indicated below. But even in these last two years all students need to view business as a whole in so far as a "core" of courses can do this. This "core" consists of introductory courses in Finance, Marketing, Management, Business Law and Computer Programming. A total of at least 120 credits is required for graduation. Each course of study leads to a degree of Bachelor of Business Administration.

Students transferring to the School of Business Administration from any school or college within the University shall receive junior and senior elective credit only for those courses passed with a grade of C or better.

Students who intend to transfer from junior or community colleges should complete the program in liberal arts and not register for courses in Business Administration, except Principles of Economics and Elementary Accounting.

Transfer students who complete courses in their first two years that are offered in the junior or senior years will receive transfer credit only if such courses are accepted by the department concerned. An examination for such credit may be required.

The School of Business Administration is a member of the American Association of Collegiate Schools of Business.

## FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>
Rhetoric 100 or 110	3
Mathematics 116	3
†History and/or Political Science	3
‡Natural Science	3
*Sociology	3

<i>Second Semester</i>	<i>Credits</i>
Rhetoric 110 elective	3
Mathematics 117	3
†History and/or Political Science	3
*Math 115	3
*Psychology	3

\*May be taken either semester.

†Any sequence or combination of History 100, 101, 150, 151 or Government 100, 150, 160, 161.

‡Any course identified by the letter "E" in the catalog.

## ACCOUNTING

The accounting program is designed to prepare students for public accounting and for positions in business, industry, and government which require a knowledge of accounting.

## GENERAL BUSINESS AND FINANCE

The department offers five programs of study and specially designed programs for those students who wish to combine business administration with a related field of study outside the School of Business Administration. The program in Financial Management is designed for those students who wish to prepare for careers in the area of planning and controlling the financial operations of non-financial firms, financial firms, and governmental units. The program in General Business, emphasizing breadth of knowledge and viewpoint, is designed for those students who are uncertain as to their specific career objectives. The program in Business Administration and Economics recognizes the close relationships between areas of study and permits students to complete 27 credits in economics. The program in Business Administration and Quantitative Methods exposes students to operations research and systems analysis through a detailed treatment of the application of mathematics, statistics, and computer science to problems in all of the functional fields of

business administration. Since the mathematics and statistics requirements for this program depart from the normal requirements, it is important that interested students elect this program early in their studies. Sophomore and transfer students who have not completed the specified quantitative courses may elect this program only with the permission of the program adviser. The program in Urban and Regional Studies combines courses from many disciplines, including economics, sociology, government, civil engineering, landscape architecture, and agricultural economics. The specific content of a special program is mutually determined by the department chairman and the student.

## MANAGEMENT

Management majors are prepared to assume leadership positions in various types of organizations: business, government, and non-profit institutions such as hospitals, universities, and research organizations. Basically, all management majors become thoroughly acquainted with the essential functions of organizations, particularly operations, financing, and marketing, and with the elements of managing such as planning, developing an organization structure, motivating employees, and controlling performance. Most importantly, thorough training is provided in the skills of human relations, and in understanding the behavior of people at work. Courses normally include such topics as management practices, personnel policies, manpower planning, social responsibilities of business, labor and industrial relations, the uses of computers in organizations, and theories of organizational behavior.

Majors are available in *general management*, *personnel management*, *operations management*, (emphasizes the efficient managing of the production of goods and services, and explores in greater depth the uses of computers and quantitative aids to planning and decision making) and *systems management* (prepares the student for work in systems analysis, management information systems, and for a management role in the large scale, multi-organizational systems found in education, health, and urban affairs).

## MARKETING

The role of marketing management in our economy is becoming increasingly important.



The department of marketing offers a broad range of courses for those students interested in careers in marketing administration, advertising, marketing research, and wholesale

and retail enterprise. The department's objective is to provide a specialized and comprehensive understanding of today's managerial marketing problems.

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## *School of Education*

The School of Education has revised its entire curriculum with the intent of providing students with a variety of alternatives, relying more heavily on self-directed learning and focusing on problems and areas which have a high degree of social relevance. This revision and reevaluation of curriculum and structure is an ongoing process which will result in many new programs not included in the following information.

There are presently fourteen learning centers within the School, each dealing with a specific area of education: Aesthetics; Foundations; Higher Education; Human Potential; Human Relations; Humanistics; Innovations; International Education; Leadership and Administration; Media and Technology; Occupational Education; Research; Teacher Educators; and Urban Education. All Centers offer courses which are open to undergraduates, regardless of major, for their own professional and personal development.

In addition to these areas of specialization, there are numerous, continually changing academic programs in a non-center classification. Examples of current programs in this area include Ecology, Futuristics, and Instructional Applications of Computers.

An integral part of the undergraduate program is the Modular Credit Program. This exciting spin-off from traditional education enables students and faculty alike to share in varied learning experiences. Each learning experience carries an agreed-upon number of modules of credit, which are cumulative.

Fifteen modules is equivalent to one University credit. Independent study programs are also offered to undergraduates. The student negotiates a learning contract with a sponsoring faculty member and is enabled to pursue in-depth study in an area of education, fusing personal and social relevance into his program of study.

All teacher education programs leading to certification are coordinated and approved through the Teacher Preparation Planning Council (T.P.P.C.). There are fourteen alternative programs currently available for candidates in elementary or secondary Teacher Education. Internships, pre-practicums, tutorials and field experiences have been greatly expanded in most alternative programs. Placements for this field work are available in Western Massachusetts and as far off campus as California.

These teacher education programs will be able to more effectively deal with the needs of individual students and they all lead to Massachusetts certification. Programs currently in effect are in the areas of Early Childhood, Integrated Day, International Education, Explorations, Alternative Schools, Distributive Education, Media for the Deaf, Urban Education, Foundations, and Off-Campus Internships.

Complete details on all programs beginning in September will be available in May. Students are encouraged to inquire at the Undergraduate Affairs Office (Room 123A) or the Graduate Affairs Office (Room 107) concerning specific courses and credential programs.

# School of Engineering

The School of Engineering offers curricula in chemical engineering, civil engineering, industrial engineering, mechanical and aero-space engineering, and electrical engineering. Each of the curricula leads to the Bachelor of Science degree in that particular branch of engineering. All curricula are accredited by the Engineers Council for Professional Development.

Engineering is the profession in which a knowledge of the mathematical and natural sciences gained by study, experience, and practice is applied with judgment to develop ways to utilize, economically, the material and forces of nature for the benefit of mankind. An engineer requires intensive technical training but at the same time he should acquire the broad education that distinguishes the professional man from the technician. His education does not end with formal schooling but continues throughout his life as he accumulates experience.

The curricula in engineering have been carefully prepared to offer each student the opportunity to acquire the sound training in mathematics and the basic sciences of chemistry and physics upon which is built the work in the engineering sciences. In the senior year, courses are offered which enable the student to use his previous training for engineering analysis, design and engineering systems in his particular field of interest. About twenty percent of his time is devoted to studies in the social science and humanistic area. Some opportunity is provided to elect courses from both the technical and humanistic-social fields. The curriculum of the freshman year is the same for all. Specialization to a limited extent begins in the sophomore year.

A cooperative work-study program involving alternate academic-industrial experience is presently in effect for a

limited number of students. This program in addition to providing economic support for participants as they proceed through their educational careers is designed to:

- (1) Advance the professional preparation of undergraduate students by blending real world experience with their academic endeavors; and
- (2) provide industry with opportunity for more direct engagement in the responsibility of educating and training its engineering resources.

Although the curricula within the School of Engineering are shown as eight semesters (normally four years), they require up to 130 semester hours credit for satisfactory completion. This is well above the University minimum of 120 semester hours for a degree and it requires intensive work in Mathematics, Science and Engineering. As a result even students in good academic standing may be required to extend their programs into a 9th and sometimes a 10th semester.

## FRESHMAN ENGINEERING

All new students in engineering are enrolled in the Freshman Engineering Program until qualified to enter into a degree program. This is normal upon satisfactory conclusion of the uniform freshman year.

## COURSE REQUIREMENTS— FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>
Rhetoric 100	3
Math 122 or 123	3
Chem 111	3
Engin 103 or 104	3
Soc. Sci. Elective	3
	<hr/>
	15

<i>Second Semester</i>	<i>Credits</i>
Rhetoric Elective	3
Math 124 or 125	3
Chem 112	3
Engin 103 or 104	2
Physics 161	4
—	15

## AGRICULTURAL ENGINEERING

The program is administered by the College of Agriculture and is described on Page 86.

## CHEMICAL ENGINEERING

Chemical Engineering centers around the creation, development, design and operation of processes for bringing about chemical and certain physical changes in materials. Chemical Engineers may be engaged in any of a wide range of activities concerned with converting an idea to a profit. These include research and development, economic and market analysis, design, construction, operation, production supervision, sales, technical service, and management. Basic research for new knowledge, teaching, and consulting also offer challenging and rewarding careers for many chemical engineers. Chemistry, physics and mathematics are the underlying sciences of chemical engineering and economics is its guide in practice.

Chemical engineers are in demand not only by industries manufacturing chemicals in the narrow sense of the word but also by all of the many related "chemical process industries," including petroleum refining and petrochemicals, plastics, synthetic fibers and textiles, pulp and paper, drugs and pharmaceuticals, natural and synthetic rubber, foods, soaps and detergents, paints and synthetic coatings, gas and coal chemicals, steel and all the metal manufacturing industries and many others. Much of the work of the atomic energy program is chemical engineering, and new fields to which chemical engineers are contributing include bio-medical, environmental, and ocean engineering.

## CIVIL ENGINEERING

Civil Engineering is concerned with all kinds of construction—buildings, bridges, highways and railways, airports, rivers and canals, harbors, dams, pipelines, etc. Trans-

portation, the efficient and economical transfer of people and goods from place to place, is another concern to civil engineers. They are also deeply involved in providing adequate and safe supplies of water for homes and industries, in controlling and limiting the pollution of lakes, streams and oceans, and of the atmosphere. Civil engineers have assumed major responsibilities in ocean engineering, for construction and other operations, for underwater exploitation of mineral and other resources in the seas, and for planning and organizing the transportation that will be required eventually in regions of underwater activity. There are various specialized areas of civil engineering which make essential contributions to the programs that have been mentioned, for example, hydraulic engineering and fluid mechanics, soil mechanics and foundations engineering, surveying and mapping, structural engineering and materials engineering.

In every area of Civil Engineering there is the choice of a wide range of activities: research to obtain new knowledge, development of practical methods, design of utilizing existing knowledge and the results of research, designing projects which satisfy known requirements, planning for maximum economy and efficiency, construction according to plans and specifications, and operation and maintenance. In addition, civil engineers are always deeply involved and are frequently in charge of large-scale projects which involve many fields of activity and require the coordination of backgrounds, such as urban planning, water resource management, and transportation systems. In general, Civil Engineering is a field of activity which is concerned with the public well-being through protection and control of our environment.

## ELECTRICAL ENGINEERING

Electrical Engineering is the application of electrical and mathematical principles to the solution of engineering problems, and to the design of the electrical and electronic equipment of the future. A wide variety of electrical systems will serve mankind by performing important and complex tasks. Modern communication systems, high speed computers, and bio-medical instrumentation are just a few of the creations of electrical engineers. Because of the diversity of the electrical engineering education, graduates will be employable in sales, production, design, development, research and management positions.

The undergraduate curriculum is designed to prepare each student for work in any of these fields and to serve as a basis for further specialization. As continued study after graduation is essential in this rapidly growing field, basic physical and systems principles are emphasized in the undergraduate program. Courses taken outside of the department in liberal arts and other engineering disciplines provide the student with a broader understanding of engineering and its relationship to other fields.

A new program leading to a degree of Bachelor of Science in Computer Systems Engineering has been approved and is available to all interested students. Further information on this new program may be obtained from the Department of Electrical Engineering.

#### INDUSTRIAL ENGINEERING AND OPERATIONS RESEARCH

Industrial engineers are concerned with the design, installation and improvement of integrated systems of men, materials and equipment. These systems are found in nearly all organizations (manufacturing and production, government, financial, health service, and sales to name a few) and at all levels within these organizations. Consequently, the placement of industrial engineers is varied. Also, since the responsibility of an industrial engineer normally spans several functional areas, he acquires an excellent background for management positions.

The curriculum is very flexible. The eleven required courses (33 credit hours) in the Industrial Engineering Department stress the quantitative approach to decision

problems. Since the areas of application are so varied, a block of nine courses (27 credit hours) are set aside so that each student may design a curriculum which matches his particular interest. This segment is developed in conjunction with his adviser and may emphasize a particular area of application and/or the development of more sophisticated methodology. Because continued education is a necessity, students completing the program are prepared for both professional and graduate work.

#### MECHANICAL AND AERO-SPACE ENGINEERING

Mechanical and aero-space engineers use the principles of dynamics, solid mechanics, fluid and gas dynamics, heat transfer, thermodynamics, and materials science together with mathematical and computer methods for application to research, development, design, and management in industry, government and engineering education.

Students may choose to major in either Mechanical or Aero-space Engineering. Mechanical engineers design and analyze a wide variety of systems in fields such as manufacturing, energy conversion, and transportation. An option within the Mechanical Engineering program is provided for students interested in studying materials. The program emphasizes the atomic structure of materials, polymer studies, materials processing, and materials analysis. Aero-space engineers design and analyze systems for aircraft and space such as propulsion, astrodynamical, and vehicular. Both curricula are fundamental and flexible so that students may prepare for either professional employment or graduate study.

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## *School of Home Economics*

Home Economics encompasses areas of study which apply the principles and concepts of fundamental arts and sciences to the physiological, psychological, social and economic environmental needs of man.

The School of Home Economics has five departments: Home Economics Education (HEEd.); Human Development (HD); Management and Family Eco-

nomics (MFE); Nutrition and Food (NF); and Textiles, Clothing and Environmental Arts (TCEA). The letters in parentheses are area codes. Within these five departments the following undergraduate majors are offered:

Home Economics Education and  
Cooperative Extension  
Child Development

- Human Development
- Dietetics and Institutional Administration
- Foods in Business
- Textiles, Clothing and Environmental Arts
  - a. Fashion Merchandising—Retail Executive Internship
  - b. Textile product promotion, textile and apparel journalism, consumer services, and market research
  - c. Interior Design and the Environmental Arts

The undergraduate program of the school, leading to a Bachelor of Science degree, emphasizes a liberal education in the sciences, arts and humanities with specialized instruction as preparation for professional careers. The transitional continuing relationships between liberal and professional education seek to develop in the student a disciplined mind, mental curiosity and professional competence.

Professional home economists are college and university graduates with bachelor's degrees in Home Economics. They serve individuals, families, and communities through schools and colleges, extension programs, business organizations of many kinds all over the world, community and government organizations and agencies, newspapers, magazines, radio and television. Representative types of activities include teaching, research, writing, dietetics, extension work, interior design, fashion merchandising, food consulting, food service management and product development.

### HOME ECONOMICS EDUCATION

Home Economics Education is a field of study which is particularly sensitive to changes and conditions affecting homes and families. Like many other disciplines, Home Economics Education deals with several specialized areas: 1) Family Life Education; 2) Child Development; 3) Nutrition and Food; 4) Clothing and Textiles; 5) Management and Family Economics; 6) Housing, Home Furnishings and Equipment. Never before has the need for knowledge in the related root disciplines of Psy-

chology, Sociology, Economics and Chemistry been so apparent and so great. Thus, the undergraduate program in Home Economics Education combines a broad liberal education with professional preparation. This curriculum provides a good background for further work at the graduate level.

The graduate of Home Economics Education who possesses a keen knowledge and understanding of her field in addition to skills in human relations and the ability to motivate and implement creativity is greatly in demand by: 1) the secondary and post-secondary schools; 2) Cooperative Extension Service; 3) the Agencies for International Development; 4) Peace Corps, VISTA and Urban Extension; 5) Business.

A semester affiliation with the University of New Mexico, University of Hawaii, or Merrill-Palmer Institute in Detroit may be arranged for students who meet necessary qualifications.

### HUMAN DEVELOPMENT

The area of Human Development is interdisciplinary in nature. The program brings together knowledge from Psychology, Sociology, Anthropology, Anatomy, Physiology, Genetics, Nutrition, Education, and the Arts and relates it to Human Development and early childhood education. It is concerned with all maturational and environmental effects upon developing individuals, and with all theoretical and empirical descriptions of how this development occurs.

There are many careers open to majors in Human Development since specialization is permitted in a variety of fields. Specialization in Child Development prepares the student for work in programs serving young children, such as public, private, and laboratory kindergartens and nursery schools (students in this specialty qualify for Elementary School Teaching Certificates), day care centers, Head Start programs, clinics and schools for exceptional children—the mentally retarded, the deaf, the physically handicapped, hospital recreation programs, and community and welfare agencies.

Directed experience with the children of the laboratory school and their families and with children in specialized schools and clinics provides the opportunity for students to develop a sound personal philosophy of early childhood education and child development.

Human Development majors may specialize in Youth Development, Family Relations, Community Relations, work with the

aged, and prepare for careers involving interdisciplinary cooperation in such fields as ecology, human potential, and improvement of the quality of human life.

The Human Development curriculum also provides a good background for graduate work in Human Development, Child Development, Education, Psychology, Sociology, and Social Work.

More intensive specialization for qualified students may be obtained by the election of a one-semester or one-year affiliation with Merrill-Palmer Institute in Detroit, Michigan, which specializes in the study of human development and family life.

Students may also avail themselves of the numerous exchange programs of the University for study in other universities in this country and abroad.

#### DIETETICS AND INSTITUTIONAL ADMINISTRATION

This curriculum prepares the student for positions as therapeutic and administrative dietitians; teaching and research dietitians and nutritionists with public and private agencies.

The sequence offers opportunities for further work at the graduate level. This program is planned to meet the basic requirements of the American Dietetic Association for admission to approved dietetic internships.

#### NUTRITION AND FOOD

The curricula in the Department of Nutrition and Food provide courses in nutrition and food combined with a strong foundation in the Arts and Sciences with two majors, Dietetics and Institutional Administration, and Foods in Business.

#### FOODS IN BUSINESS

This curriculum is based on professional training in Nutrition and Food combined with other selected courses in Home Economics, the humanities, Western cultures, social sciences and business. The program is designed for the student who is oriented to the business world, and leads directly into development and promotion with food, equipment and utility industries. Positions are open in the field of communications for the student who combines her knowledge of Nutrition, Food and Equipment with Journalism, English, Speech, Television and Radio. Graduates with a major in this sequence are also placed in advertising and

public relations agencies or with a consulting firm. This curriculum allows students to pursue graduate study.

#### TEXTILES, CLOTHING AND ENVIRONMENTAL ARTS

This field of study encompasses the near environment, namely, Clothing and Shelter. The physical components of emphasis here are clothing which is the transitional factor between the individual and his surroundings, and housing which provides shelter for the family.

The professional specialization in the area of Clothing can be obtained in Fashion Merchandising and related options. The retailing and professional opportunities associated with clothing, textiles, home furnishings, and related merchandise are numerous. Among these are positions with manufacturers, producers, retailers, buying organizations, newspapers and magazines, radios, TV and consumer groups, as well as educational institutions and social and government agencies. The student who is interested in the business field pursues, by specializing in this area, a curriculum with a strong program of liberal arts emphasizing the social sciences. Courses which build upon this foundation providing professional business competency include apparel design, textiles, fashion, environmental arts, and interior design as well as studies in business, retailing and related subjects.

Environmental Arts includes a professional program in Interior Design. It is concerned with the education of the interior designer in four major areas: 1) creative work; 2) technical work and communication skills; 3) professional procedures; and 4) liberal arts. The interior designer is encouraged to develop breadth and depth of design solutions both for today and tomorrow. Areas of specialization within the field of Interior Design will be offered as they are developed. These will include merchandising, historic work and technical skills, environmental research and housing. Such areas of emphasis may be selected after a student has successfully completed the basic Interior Design sequence. This program is constructed to provide basic education for the future professional interior designer and to prepare the students for work as assistants or associates in design firms, as designers employed by retail stores, architectural firms, industry and institutions as well as owners of their own design shops or studios.

# *School of Nursing*

The baccalaureate nursing program is designed to prepare the qualified high school graduate for a career in professional nursing, admission to a graduate program in Nursing, as well as for the responsibilities of family and community life.

A limited number of qualified Registered Nurses interested in completing the requirements for a bachelor's degree are admitted for full time study each fall.

In nursing, a profession of personal service, people are the focus and promoting health is the fundamental aim. The professional nurse provides a direct unique service to individuals and families, and, in addition, participates in the provision of the unique services with other health disciplines. The baccalaureate program in nursing provides opportunities for the student to gain a body of knowledge, skill and understandings appropriate to the practice of professional nursing. The scope of these learnings and the degree of skill in their application are such that individuals are enabled upon completion of the program to function effectively in beginning positions in a variety of nursing situations. These include the ability to provide competent nursing care to patients and families in the hospital, home and community; to participate with allied professional and citizen groups for the improvement of total health services to individuals and communities; to participate in organizing, planning and directing the work of nursing technicians and assistants. The baccalaureate program provides a foundation for graduate study in nursing and other disciplines, through which the nurse may become prepared for positions in a clinical specialty, teaching, supervision, administration, consultation and research.

Competence in professional nursing requires a comprehension of and the ability to apply scientific principles and techniques from the physical, biological, and

behavioral sciences and a capacity to become therapeutically involved in a variety of human situations. Toward this end, the nursing program provides a solid foundation in the liberal arts. Baccalaureate nursing students share the intellectual and social stimulation of college with their fellow students from all other departments of the University. Nursing courses are major subjects within this general context. The program provides the opportunity for the student to develop individual interests and potentialities through elected and independent study.

With the use of a systematic problem-solving approach, the student learns to identify nursing problems, select and develop appropriate nursing intervention and evaluate nursing care in a variety of clinical and community settings. The clinical aspects of the program are concentrated in the junior and senior years, when instruction and a correlated practicum are offered each semester under the guidance and supervision of the nursing faculty of the University. Clinical programming is accomplished through the utilization of the resources of the following cooperating agencies: The Springfield Hospital Medical Center, Wesson Memorial and Wesson Maternity, The Shriners Hospital for Crippled Children and The Municipal Hospitals in Springfield; The Cooley Dickinson Hospital in Northampton; the Northampton State Hospital; the Visiting Nurse Association of Springfield; the Springfield Health Department and other community health, educational and welfare services.

The Bachelor of Science degree, awarded upon completion of this program, qualifies the graduate for admission to the State Board Examination in Nursing. If achievement in these examinations is satisfactory, the candidate receives legal status as a registered nurse within the state and the legal right to practice as a professional nurse.

The program is accredited by the Massachusetts Board of Registration in Nursing and the Accrediting Service of the National League for Nursing.

## SCHOOL OF NURSING

### FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>
Rhetoric 100 or 110	3
Chemistry 110 General	3
Microbiology 140	
Introduction	3
Microbiology 141 Lab.	1
Core Elective—Behavioral or Social Science	3

General Physical Education	1
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### *Second Semester* *Credits*

†Rhetoric 100, 110, 140, 145, 160, 165 or 170	3
Biochemistry 120	
Introduction	4
†Nursing 100 Introduction	3
Core Elective—Behavioral or Social Science	3
Core Elective—Humanities	3
General Physical Education	1
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	17

†May be taken either semester.

## *School of Physical Education*

The School of Physical Education includes the Departments of Physical Education for Men, Physical Education for Women, Recreation, and Athletics. It offers majors in physical education and in recreation. Other programs in the School include the general physical education program, the intramural sport program, and the intercollegiate athletic program.

### GENERAL PHYSICAL EDUCATION PROGRAM

This program offers instruction in sport, dance, and other forms of physical activity to all undergraduate students in the University. Each student must fulfill a requirement through one of the following media: (1) by taking a one-semester, 2-credit course on a graded basis (2) by taking two semesters of 1-credit courses on a graded basis or (3) by taking either of the above options on a pass-fail basis.

One of the few certainties facing college graduates is that they will be continually faced with choices regarding physical activity. Burgeoning leisure time, increasing spectator interest in sport, increasing opportunity to participate in carry-over sports such as golf, tennis, bowling, and sailing, as well as jogging and fitness programs, and increasing exposure to concern of medical people, particularly cardiologists, about inactivity, insure continued contact with the idea of physical activity and sport.

Some students enter the University with a background that enables them to fully appreciate and achieve satisfaction from participation in a sport and/or physical activity program. However, others are limited by insufficient preparation at earlier age levels. The General Physical Education Program at the University offers (1) the opportunity for self-assessment in terms of skill competencies and fitness components and (2) the opportunity to gain the ability to assess and interpret a wide variety of programs involving sport and physical activity as they relate to the individual's well-being.

The student has almost unlimited choice in selecting his or her specific courses. This includes numerous sport skill courses, dance courses, conditioning courses, as well as theoretical courses (classroom instruction and laboratory work) in which the student receives instruction in regard to the "why" of sport and physical activity. During the summer orientation period, each student takes a screening test in swimming which is used for diagnostic purposes. Swimming instruction may be recommended if the student cannot swim. The test is also used to determine a student's eligibility for various aquatic courses.

### MAJORS' PROGRAM

The Department of Physical Education for Women and the Department of Physical Education for Men cooperatively offer a co-educational program for those students



who wish to pursue physical education as a major field of study. Two major options are available in the program. Students may elect to follow either the teacher education program or the related disciplines program which includes study in exercise science or the theory of sport. The teacher education option offers further opportunity for specialization. A student may select any one of the following concentrations: secondary education, elementary education or special education. Similarly, a number of concentrations are available through the related disciplines program. They are: dance, exercise physiology, kinesiology, sport history, sport psychology, and sport sociology.

The dance concentration affords a student the opportunity of starting course work in the freshman year. The program is designed to allow a student to gain depth in not only the art of dance, but other related areas. In addition, in the senior year a student may choose the student teaching semester to meet certification requirements or select more advanced courses preparing for future academic or professional study.

Each student is expected to select his or her area of concentration during the second semester of the sophomore year. The first two years of study are essentially the same for all students majoring in physical education. During these two years the student will fulfill the University core requirements and the physical education core requirements. The only variances from one student's program to another will occur as a result of electives available within these requirements. The physical education core consists of the following courses:

<i>Courses</i>	<i>Credits</i>
PE 204—Human Anatomy	3
Prerequisite: Zoology 101	
PE 205—Kinesiology	3
Prerequisite: PE 204	
PE 278—Physiology of Exercise	3
Prerequisite: Zoology 135	

A student will select *three* of the following four courses:

PE 200—Sociology of Sport and Physical Activity	3
Prerequisite: Sociol. 101	
PE 201—Psychology of Sport and Physical Activity	3
Prerequisite: Psych. 101	
PE 202—History of Sport and Physical Activity	3
Prerequisite: History 100 or 101	

PE 203—Philosophy of Sport and Physical Activity	3
Skills and Coaching Courses	*14
<b>Total</b>	<b>*32</b>

\*Only 8 of the 14 credits in skills and coaching courses will generally be taken during the first two years. Thus the student actually completes 26 credits in the physical education core during the freshman and sophomore years.

The recommended program for these first two years of study is as follows:

#### FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>
Electives (C, D, E)(Select 2)	6
Zoology 101 Intro. Zoology	3
PE Skills	2
Rhetoric 100 or 110	3
	<hr/>
	14

<i>Second Semester</i>	<i>Credits</i>
Elective	3
Electives (C, D, E,)(Select 2)	6
Zoology 135 Intro. to Physiology	3
PE Skills	2
Rhetoric Elective	3
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Electives: Soc. 101 (D), Psy. 101 (D), Hist. 100 or 101 (C), Phil. 105 (C). These are prerequisites to Physical Education Core Courses.

#### SOPHOMORE YEAR

<i>First Semester</i>	<i>Credits</i>
PE 204 Human Anatomy	3
*PE 200, 201, 202, 203 (Select any 2)	6
PE Skills	2
Elective	3
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	14

<i>Second Semester</i>	<i>Credits</i>
Elective	3
PE 205 Kinesiology	3
*PE 200, 201, 202, 203 (Select any 1)	3
PE Skills	2
PE 278 Phys. of Ex.	3
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	14

\*The student must take 3 of these 4 courses during the sophomore year. They may be taken in any order provided the prerequisites have been met.

## RECREATION

The professional in recreation is a diagnostician of the leisure needs of people and a developer and provider of opportunities to meet these needs. He or she works primarily at the executive, administrative, and supervisory levels, although a few settings involve more direct program leadership.

Options are available leading to a variety of careers in: voluntary and youth-serving organizations, college unions, military establishments, municipal and other governmental agencies, and commercial and private enterprises; as well as in hospitals and other institutions and agencies dealing with the mentally retarded, emotionally disturbed, physically handicapped, and other types of dependents. An option in environmental interpretation includes suboptions emphasizing natural history and environment, American history, archaeology, or natural resources planning and management, and outdoor education.

The curriculum presented below represents a core program. After becoming familiar with the various career opportunities, the student will consult with his adviser to select an appropriate option from among those currently identified by the department or to develop an innovative plan to fit his unique goals. Recent examples of the latter include recreation in the inner city, community resources for recreation, correctional recreation, outdoor recreation, and outward bound leadership. In each case a coordinated group of courses totalling fifteen credits is to be selected by the student and adviser to constitute the option.

In addition to completing the curriculum as described below, the student is required to possess a current Red Cross Advanced First Aid Certificate. The recreation major is also encouraged to gain as much

practical noncredit experience as possible through volunteer service, as well as part time and seasonal employment in several settings and with varied types of participants.

## FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>
Rec. 101, Intro. to Recreation	3
Rhetoric 100, Language and Writing, or Rh. 110, Language and Speaking	3
Humanities & Fine Arts Elective (C)	3
Math. or Nat. Science Elective (E)	3
Sociol. 101, Intro. to Sociology (D)	3
P.E. 100	1
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	16

<i>Second Semester</i>	<i>Credits</i>
Rec. 111, Program Activities I	3
Rhetoric Elective	3
Humanities & Fine Arts Elective (C)	3
Math. or Nat. Science Elective (E)	3
Psych. 101, Elem. Psychology (D)	3
P.E. 101	1
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## DEPARTMENT OF ATHLETICS

Members of the athletic department are responsible for the conduct and administration of the various phases of the intercollegiate and intramural athletic programs at the University.

# Department of Public Health

The curriculum in Public Health is designed to prepare qualified University applicants for health career opportunities or further study in environmental health sciences, and community health and health education.

The department also provides a course of study in Medical Technology. Students are expected to generally follow the course sequence outlined below. A minimum of 32 major credits is required of all students for the Bachelor of Science degree. Credits from other University departments are included in these major credits. The Master of Science degree is also offered in the Department of Public Health. (See Graduate Catalog.)

## ENVIRONMENTAL HEALTH

(Public Health Option I)

Designed to prepare for career opportunities in radiological health, industrial hygiene, environmental sanitation, occupational health, public health laboratory, etc., or further study at the graduate level requiring specific technical knowledge and competence.

### FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>
Rhetoric 100 or 110	3
Math. 123 or 153	3
Chem. 111	3
Zool. 101	3
*Psych. 101 or Sociol. 101	3
General Phys. Ed.	1
	<hr/> 16
<i>Second Semester</i>	<i>Credits</i>
Rhetoric Elective	3
Math. 124 or 154	3
Chem. 112	3
Zool. 230	3
*Sociol. 101 or Psych. 101	3
General Phys. Ed.	1
	<hr/> 16

\*May be taken either semester.

If a language is elected, intermediate proficiency is required.

## COMMUNITY HEALTH AND HEALTH EDUCATION

(Public Health Option II)

Designed to prepare for first level career opportunities in community health education, health services administration, non-medical administration, health program development, epidemiology, health statistics, etc., or for further study at the graduate level requiring specific professional and technical competence.

### FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>
Rhetoric 100 or 110	3
Math. 123 or 153	3
Chem. 111	3
Zool. 101	3
*Psych. 101 or Sociol. 101	3
General Phys. Ed.	1
	<hr/> 16
<i>Second Semester</i>	<i>Credits</i>
Rhetoric Elective	3
Math. 124 or 154	3
Chem. 112	3
*Sociol. 101 or Psych. 101	3
†Elective	3
General Phys. Ed.	1
	<hr/> 16

\*May be taken either semester.

†Elective chosen from **Humanities**.

If language is elected, intermediate proficiency is required.

## MEDICAL TECHNOLOGY

The program sequences outlined below are recommended for young men and women who are interested in the wide variety of career opportunities available in Medical Technology. Medical Technology graduates are eligible for laboratory positions in hospitals, clinics, health departments, pharmaceutical firms, and medical research foundations. The course of study is intended also to prepare students for continuation at the graduate level.

There are presently two courses of study which a Medical Technology major may opt in pursuit of a Bachelor of Science degree. Students electing Option I are required by the affiliated hospital schools of Medical Technology to have maintained averages of "C" or better in their science and mathematics courses. These students must have earned a total of 90 academic credits and satisfied the departmental and university curriculum requirements before beginning their hospital internship. Transfer students must, in most cases, elect Option II.

*Option I.* This curriculum consists of a three-year academic program followed by a 12-month internship in an accredited school of Medical Technology affiliated with the University. After successful completion of the 12-month internship and after satisfying the requirements of the department, a student will receive a Bachelor of Science degree in Medical Technology. A total of 130 academic credits is necessary for graduation with this option. Forty academic credits are earned during the fourth year, upon successful completion of the internship.

#### FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>
Rhetoric 100	3
Math. 111 (if necessary)	3
Zool. 101	3
Chem. 111 (General)	3
†Social Science or Foreign Language	3

Phys. Ed.	1
	<hr/>
	16
<i>Second Semester</i>	
	<i>Credits</i>
*Rhetoric	3
Math. 123	3
Zool. 145 (Human Genetics)	3
Chem. 112 (General)	3
†Social Science or Foreign Language	3
Phys. Ed.	1
Medical Technology 101	3
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	19

\*Rhetoric 110, 140, 145, 160, 165 or 170.

†Intermediate proficiency is required if a foreign language is elected to fulfill the University's requirement.

*Option II.* This is a four-year academic program leading to a Bachelor of Science degree. Following graduation, the student will be assisted in arranging for a 12-month internship in an accredited school of Medical Technology. The student must complete all of the requirements established by the American Society of Clinical Pathologists to qualify for the Registry of Medical Technology. A total of 120 academic credits is necessary for graduation with this Option.

Students electing Option II should follow Option I program for Freshman, Sophomore and Junior years.

## *Division of Military and Air Science*

The Division of Military and Air Science includes the Department of Military and the Department of Air Science. Both departments offer Reserve Officer Training Corps (ROTC) commissioning programs that enable the University graduate to fulfill his military obligation as a commissioned officer. Students who have completed a four-year or a two-year program may be commissioned in the respective services upon graduation from the University.

Students may register for the first course of the four-year program at the

same time they register for other University courses. No formal application is required. Upon successful completion of the first two years, the student then may apply for admission into the final two years of the ROTC program.

The two-year program requires that the student have two academic years remaining at either undergraduate or graduate level. Successful completion of a six-week program on a military installation during the summer prior to enrollment is a prerequisite for these students. Those interested should apply two academic

semesters before enrollment, since processing must be completed six months before the start of the fall semester. The two-year program is available to transfer students and students unable to participate in the four-year program.

Both departments offer scholarship assistance to qualified students. University tuition, fees, textbook allowances, and lab expenses, plus a stipend of \$50 per month are received with a scholarship. Non-scholarship students receive a monthly stipend of \$50 for the final two years of the four-year program or for both years of the two-year program.

Participation in the ROTC programs is voluntary. Uniforms and textbooks are provided and course credits apply toward graduation requirements in varying amounts depending on school of enrollment within the University.

Qualified students interested in becoming military pilots may participate in the Flight Instruction programs of the departments. Completion of a program leads to pilot qualification in Army Aviation or the Air Force. In addition to actual flight instruction, students take ground instruction in weather, navigation, and FAA regulations.

Students with previous military training may have this experience credited toward all or part of the first two years of the four-year program. Individuals with prior active service, previous ROTC training, military school attendance, Civil Air Patrol training, or service academy attendance should consult the departments.

In their senior year, students may request a delay in reporting to active duty in order to complete graduate work or to attend professional school.

#### DEPARTMENT OF MILITARY SCIENCE

A program of general military subjects is presented by the Department of Military Science which qualifies the University graduate for a commission in any of the seven combat and seven non-combat branches of the United States Army. Thus, regardless of which academic major study program a student chooses, he will find appropriate leadership opportunities open to him in the

modern Army upon graduation and attainment of a commission.

The program consists of a basic course, Freshman and Sophomore year, and the advanced course, Junior and Senior year. During the basic course students are introduced to all phases of military science: the Defense Establishment, Branches of the Army, Military History, and Map Reading and Tactics. The advanced course provides instruction on Command and Staff, Tactics and Methods of Instruction and prepares a student for his tour of active duty as an officer.

Students participate in leadership laboratory during the basic and advanced courses. The purpose of leadership laboratory is to learn customs and courtesies of the Army and to provide experience in leadership, management, and discipline. The advanced course plans additional field exercises and students participate in field trips to military installations on the eastern seaboard. No academic credit is granted for leadership laboratory and field trips.

Cadets designated as Distinguished Military Students, by reason of their achievement in academic and military studies, may apply for a commission in the Regular Army. Students receiving a Reserve Commission may be required to serve from three months to two years active duty. In addition to the normal four-year scholarship, one, two, and three year scholarships are offered to qualified students enrolled in the four-year program. The Professor of Military Science is responsible for the selection of students to receive these scholarships. High school seniors compete on a national basis for the four-year scholarships. The same financial benefits apply to this scholarship program as to the four-year scholarship program.

In addition to the regular military subjects, various extra-curricular activities exist for interested students. These include counter guerrilla and survival training, rifle team, and Scabbard and Blade, a national military society.

#### FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>
MS 111 American Military History I	1
Fundamentals of Leadership	
<i>Second Semester</i>	<i>Credits</i>
MS 125 American Military History II	1
Fundamentals of Leadership	

## DEPARTMENT OF AIR SCIENCE

The Department of Air Science offers courses of general interest to the University student and of specific interest to both male and female students who would like to prepare for and serve as officers on active duty in the U.S. Air Force. The curriculum is designed for the study of the need for military forces, the nature of military forces, their organization and mission with emphasis on the Air Force, and the nature of service as a professional Air Force officer. Courses encourage critical thinking, imagination, and a high degree of student involvement.

In the four-year program, the student enrolls in an Air Science course each semester and attends field training for four weeks between the Sophomore and Junior or Junior and Senior years. There are two major phases in the four-year program curriculum. The first phase is the General Military Course (GMC) which forms a single unit offered during the freshman and sophomore years. The studies cover the nature and causes of international conflict, the functions and employment of U.S. military forces, and defense policies in the contemporary world. This first phase carries no service commitment and is an excellent way for students to study the military and decide if they want to continue on for an Air Force commission. Enrollment in the General Military Course confers no military status on the student.

The second phase of the four-year program is the Professional Officer Course (POC) taken during the Junior and Senior years. Enrollment depends on academic and medical qualification and selection by the department. In the POC, academic concentration is on the preparation for service as an Air Force officer. Academically it deals with the historical development of airpower, aero-space power today, astronautics and space operations, Air Force leadership at the junior officer level, and a study of military management. The development of communicative techniques is an integral part of the POC curriculum.

A two-year program student enrolls in the POC, after the special six-week field

training and receives the same instruction as a four-year POC member.

Corps Training is a non-academic, cadet-planned and directed activity centering on military customs and courtesies and the career environment of the Air Force officer. Corps Training provides practical experience in leadership and management.

Field Training involves a practical, firsthand experience with military life on an Air Force installation. Cadets receive instruction on junior officer activities, career field orientation, Air Force base functions and environment, aircraft and aircrew orientation, survival training, and physical conditioning. Applicants for the two-year program also receive academic instruction during their attendance at field training.

Scholarships may be awarded to qualified students in the four-year program. Students compete for college scholarships that start at the Freshman, Sophomore, Junior or Senior year. High School Seniors compete on a national basis for the scholarships that start at the Freshman year.

Extra-curricular activities include the Arnold Air Society, an honorary service organization that conducts activities which contribute to the overall objectives of the Air Force, and the Angel Flight which is an Arnold Air Society auxiliary composed of young ladies who participate in service projects and serve as hostesses at University, civic, and AFROTC functions.

Successful completion of the Air Force ROTC program results in the awarding of a commission as a Second Lieutenant in the United States Air Force.

The first year courses meet for one classroom hour and one corps training hour per week:

### FRESHMAN YEAR

<i>First Semester</i>	<i>Credits</i>
Air Science 111	1
U.S. Military Forces in the Contemporary World, I	
<i>Second Semester</i>	<i>Credits</i>
Air Science 112	1
U.S. Military Forces in the Contemporary World, II	

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GEORGE A. NORTON, B.S. (University of Maine), *Director of Physical Plant*  
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#### LIBRARY

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EVAN V. JOHNSTON, B.S. (University of Massachusetts), *Executive Vice President of the Associate Alumni*



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LAMAR SOUTTER, M.D. (Harvard Medical School), *Dean, Medical School*

## *Where to Write for Further Information*

### ADMISSIONS

WILLIAM D. TUNIS, *Dean of Admissions, Records and Financial Aid*

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SUMMER SESSION  
Office of the Provost

VETERANS—SELECTIVE SERVICE LIAISON  
GEORGE E. EMERY

ADMISSIONS AT BOSTON  
Director of Admissions Center

ADMISSIONS AT WORCESTER  
Office of Admissions

PLEASE NOTE

All correspondence concerning the *University of Massachusetts at Amherst* should be addressed to the appropriate office, University of Massachusetts, Amherst, Massachusetts 01002.

All correspondence concerning the *University of Massachusetts at Boston* should be addressed to: 100 Arlington Street, Boston, Massachusetts 02116.

All correspondence concerning the *University of Massachusetts Medical School* should be addressed to: 419 Belmont Street, Worcester, Massachusetts 01604.

## *The New England Association of Colleges and Secondary Schools*

The New England Association of Colleges and Secondary Schools accredits schools and colleges in the six New England states. Membership in one of the six regional accrediting associations in the United States indicates that the school or college has been carefully evaluated and found to meet standards agreed upon by qualified educators. Colleges support the efforts of public school and community officials to have their secondary school meet the standards of membership.

## *Gifts and Bequests*

For the information of those who may wish to make a gift or a bequest to this University, the following suggestion is made as to a suitable form which may be used.

There are a number of worthwhile activities of the University which are handicapped by lack of funds and for which small endowments would make possible a greater measure of service to our students and to the Commonwealth. The religious work on the campus is an example. This is now carried on in a limited way by private contributions. Further information concerning this and other activities in similar need will be gladly furnished by the Development Office.

### *Suggested Form*

"I give and bequeath to the Trustees of the University of Massachusetts, the sum of ..... dollars,"

(1) (Unrestricted)

"to be used for the benefit of the University of Massachusetts in such manner as the Trustees thereof may direct."

or (2) (Permanent Fund: income unrestricted)

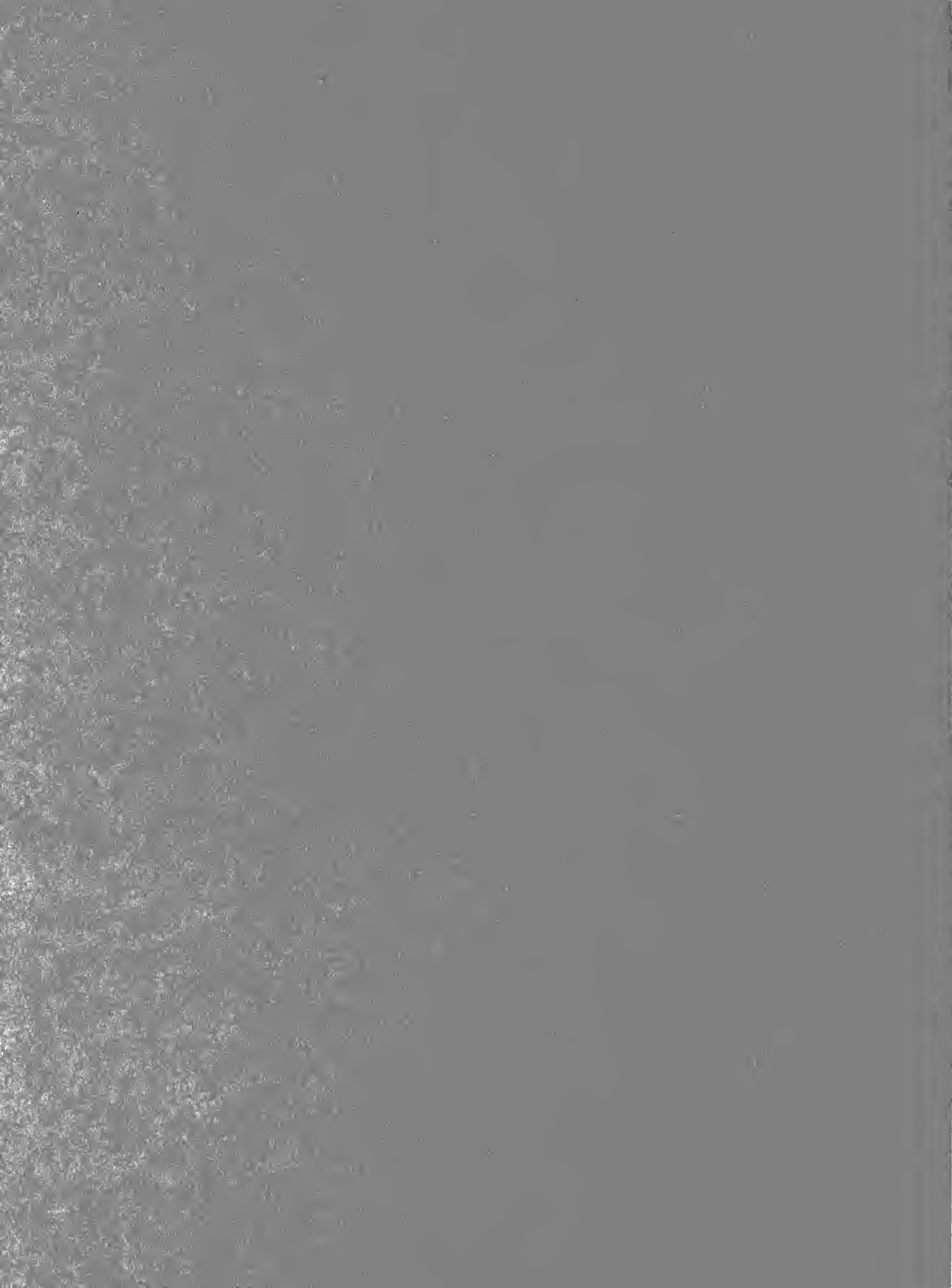
"to constitute an endowment fund to be known as the.....Fund, such fund to be kept invested by the Trustees of the University of Massachusetts and the income used for the benefit of the University in such manner as the Trustees thereof may direct."

or (3) (Specific Purposes)

"to be used for the following purposes,"

(Here specify in detail the purposes.)







*1971-1972 General Information  
University of Massachusetts at Amherst*

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