

Volume 103 Number 1 September 1967 This Is MIT



Massachusetts Institute of Technology, Bulletin, Volume 103, Number 1, September, 1967

Published six times yearly by the Massachusetts Institute of Technology, 77 Massachusetts Avenue, Cambridge (Boston), Massachusetts 02139, during September, November, December, March, June, and July.

Issues of the Bulletin include the reports of the Treasurer and of the

President, Publications and Theses, the Summer Session Catalogue, This Is M.I.T., and the General Catalogue.

Second class postage paid at Boston, Massachusetts.

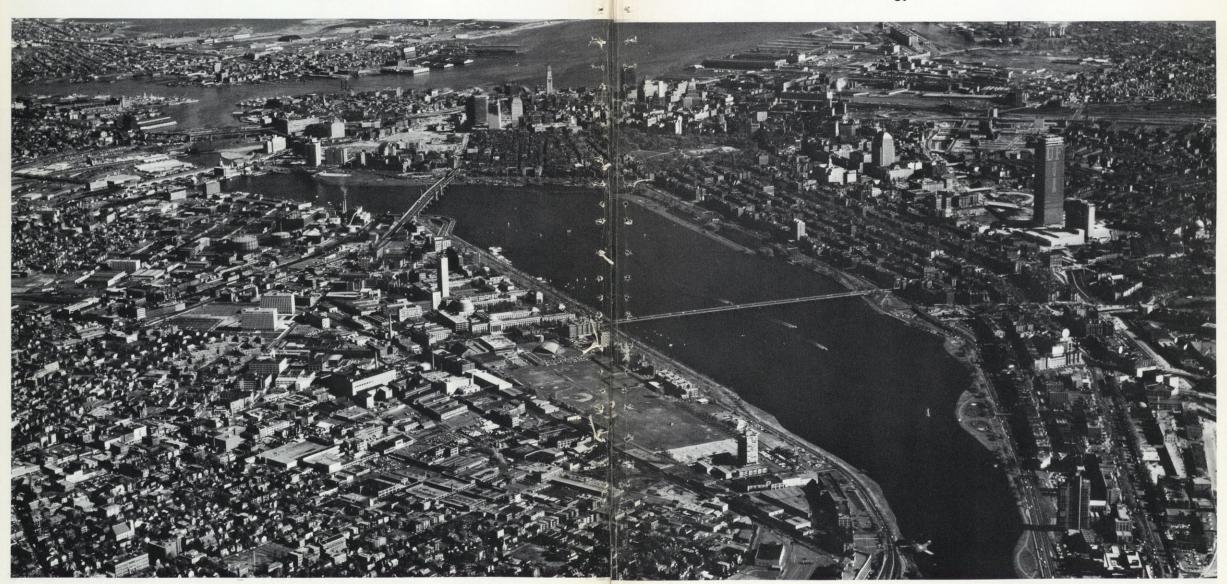
Send undeliverable copies and notices of change of address to Room 3-108, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139.

problems requires a basic comprehension of science and technology in balance with the appreciation for the valuable insight gained by the study of literature, history, and the arts. . . . We must seek a diverse society — one that utilizes the rich contributions of all fields of knowledge; and how can we do so without preparing our leadership groups broadly in both science and the arts?"

Howard W. Johnson

President

Massachusetts Institute of Technology



This Is MIT

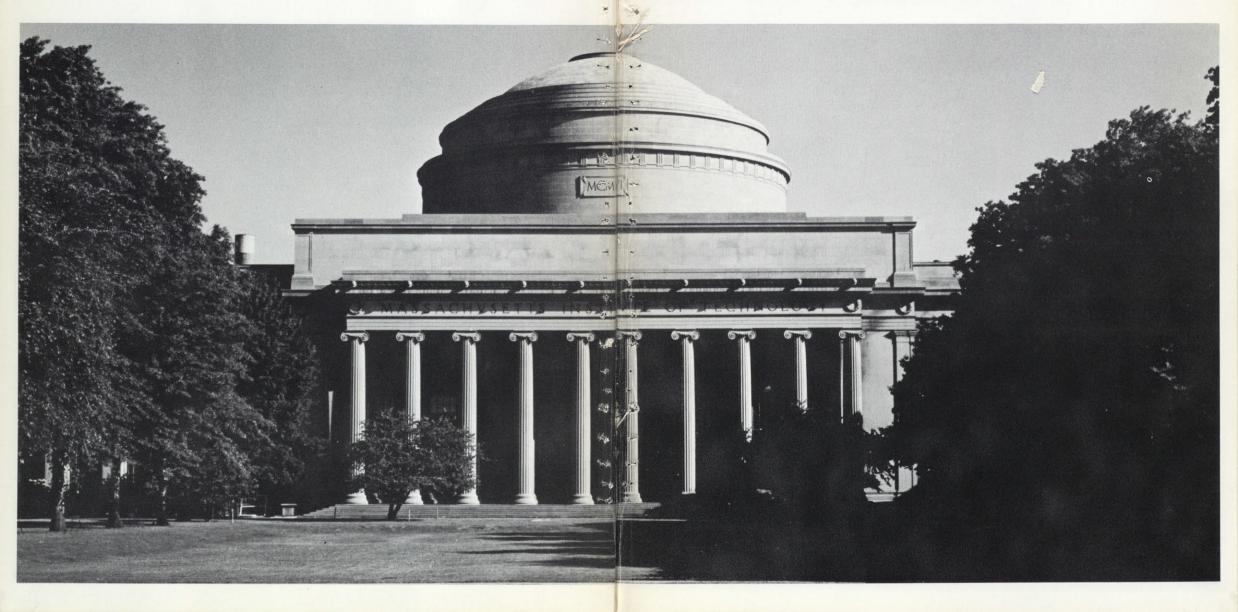
Photographs: J.Ph. Charbonnier (Realités), p. 17; Owen Franken, p. 12 (below); Conrad Grundlehner, p. 24 (above); Herbert G. Hamilton, p. 4 (above); Fred G. Hill, pp. ii and 1, also 2 and 3 (Mel Goldman Studio); Laurence Lowry, inside cover and i; Ivan Massar-Black Star, cover, pp. 4 (below), 5, 8, 9, 16 (below), 18, 21; Leonard McCombe (Time-Life Books. © Time Inc.), pp. 6 and 7, 12 (above), 13 (above); George C. Thomas II, p. 10; Curtiss D. Wiler, p. 23.

The Massachusetts Institute of Technology is a modern university devoted to science, engineering, architecture, management and those social sciences and humanities that relate most directly to our developing technology. M.I.T.'s growing breadth is a response to the deepening influence of technology on every domain of human affairs, and in a very real sense the Institute is an expression of the inter-

dependence of present-day society.

M.I.T. provides an educational experience especially relevant to an era of advance and change. Here the undergraduate is immersed in a dynamic environment in which he can share in the interplay of a host of scholastic, cultural and research interests. M.I.T. is a residential community of scholars,

but not an isolated one. Sensitive to many human needs and concerns, it holds the strong conviction that scholars are most likely to be productive if they complement professional competence with active interest and participation in a variety of social endeavors.



M.I.T. and the city at night. Across the water the M.I.T. campus extends left and right along the Cambridge bank of the Charles River; the Institute's central buildings and Great Dome are just to the right of Harvard Bridge. At upper left are the lights of Harvard University and Harvard Square. Although not visible, Tufts University lies beyond M.I.T. at upper right. In the foreground is the Back Bay section of Boston; Boston University is just to the west beyond the camera's view.

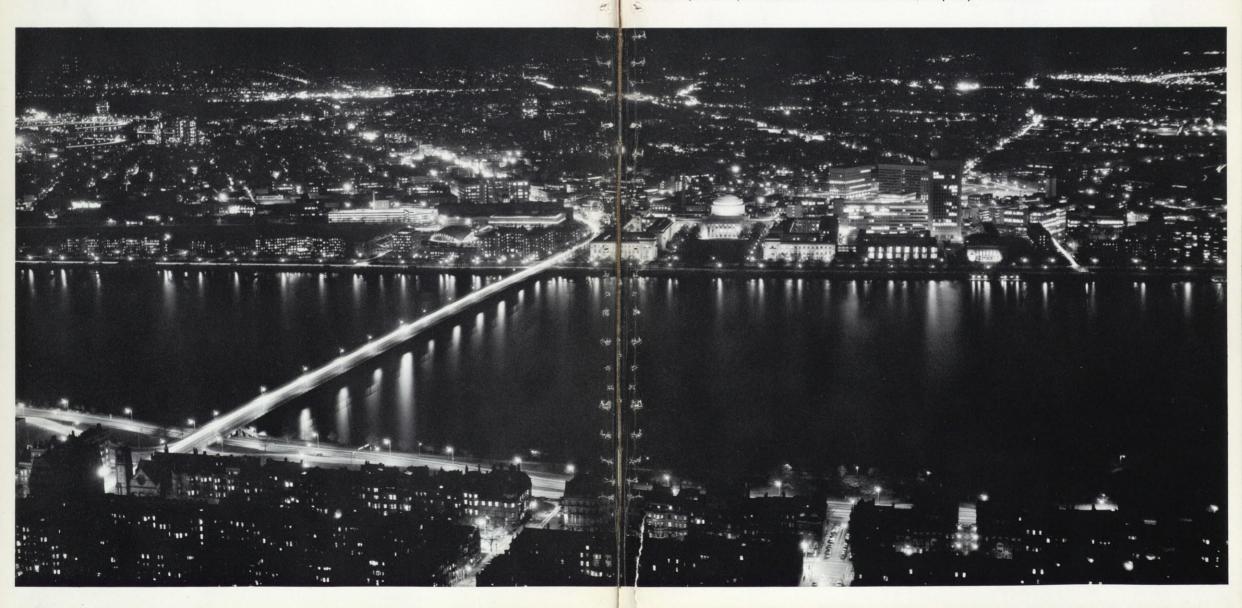
The Community

M.I.T. is a middle-sized university close to the center of a large metropolitan area. The Institute's campus, extending for more than a mile along the Cambridge side of the Charles River, looks across the water toward historic Beacon Hill and the central sections of Boston. M.I.T. thus combines the advantages of a self-contained residential campus with the wealth of educational, cultural, and social

opportunities available in a major urban center.

The M.I.T. community includes 7,400 students (3,800 of them undergraduates), 900 faculty members, a supporting teaching staff of about 600 — plus all the people who staff the research laboratories, administrative offices, and other facilities. Foreign students from 70 countries make up 13 per cent

of the student body. The faculty also has an international aspect: Each year about 150 of its members are from foreign countries. The Institute is coeducational; there are about 200 undergraduate women and a slightly larger number of coed graduate students.



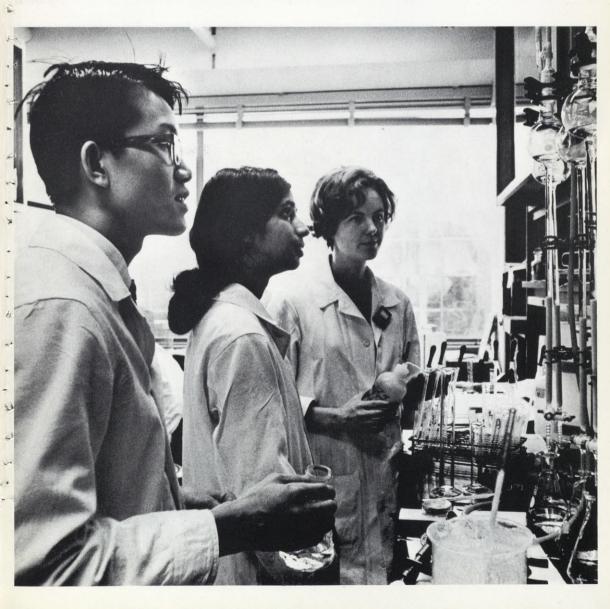




M.I.T. forms part of one of the two largest concentrations of higher education in the country:

Within a radius of three miles are a score of colleges and universities with a total enrollment of nearly 75,000 full-time students. Among them, to name a few, are Harvard University, Radcliffe College, Boston University, Northeastern University, Simmons College, and several specialized art and music schools. Here is an extraordinary variety of people from all over the world and an impres-

sive range of facilities and activities for students. From M.I.T. it is only a long walk or a short bus trip to most of these campuses — and to the museums, theaters, concert halls and the downtown shopping, hotel and entertainment sections of Boston.



The Undergraduate

Walking from the Institute's main entrance past Kresge Auditorium, at right. M.I.T. students are a diverse
, group of individuals who have
demonstrated the qualifications
, to do rigorous academic work.
M.I.T. is first of all an educational institution and its students
amust have the ability and desire
to carry out the exciting and
challenging courses of study.

They possess qualities such as leadership, creativity and enthusiasm as evidenced by their

participation in the cultural, social, and athletic activities both on campus and throughout the Boston area. It is the quality of this involvement that is important rather than the quantity; the intensity of the commitments, rather than the number, that is considered significant. Each of these young men and women contributes something of interest to the life of the M.I.T. community, and,

looking ahead, it is hoped that each will become an alumnus who is a useful and creative member of his professional and social communities. In this respect, M.I.T. is dedicated to education in the broadest sense, not merely to academic or professional training; such an education depends greatly on student relationships.

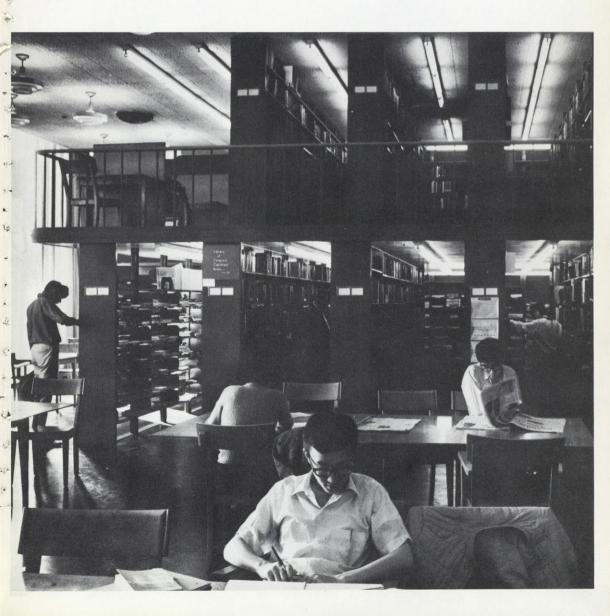


High windows in the Student Center dining room look across Massachusetts Avenue to the columns and dome of M.I.T.'s main entrance. At right: Students at work in Hayden Library have easy access to open stacks.



Most secondary schools, public and private, offer the necessary subjects for admission to M.I.T. If a student takes his work seriously, even a small school can provide very adequate preparation. M.I.T. is careful to judge a candidate on his own merits, not on those of his school. The freshman class generally represents 700 schools, of which about 80 per cent are public.

M.I.T. sets no quotas of any kind, neither by secondary school, geographical location, national origin, nor race, creed, or color. Admission to the freshman year is independent of intended field of study and there are no quotas for M.I.T. departments or schools.





The Undergraduate Academic Programs

Students who enter M.I.T. share a basic desire to study further in science and mathematics. but every student who comes should be prepared to examine all fields of knowledge with an open mind. No student is required to select an area of maor concentration until the end of his sophomore year, although most do so at the start of their sophomore year. This arrangement affords the opportunity for early concentration by a student who has settled on a particular department, and simultaneously gives other students time to explore their interests and abilities before making a decision.

The Institute's underlying themes are the purposeful application of science through engineering, the study of science for its own sake, and the awareness of the impact of engineering and science on our physical environment and on our conduct of industry, government, and society. Hence a program of education encompassing modern technology includes integrated studies in the humanities and social sciences with a two-fold objective: Developing powers of judgment and taste, and strengthening the student's ability to meet the requirements of his profession and the responsibilities of public and private life.

The curricula are largely unspecialized, flexible, and openended, giving students basic professional competence without focusing on technical detail. Undergraduate curricula are offered in visual design (architecture and planning), management, seven fields of engineering, seven fields in the humanities and social sciences, and five fields of science. There are also undergraduate subjects in seven fields in which only advanced degrees are offered (city planning, linguistics, meteorology, nuclear engineering, oceanography, philosophy, and psychology).

Each academic program leading to a Bachelor's degree has two divisions: The General Institute Requirements and a Departmental Program. The General Institute Requirements consist, in part, of certain specific subjects in mathematics, science, humanities, and the social sciences; and also of elective science-oriented subjects, project-type laboratories, and upperclass humanities offerings. Collectively, these account for just about half of the total curriculum - 30 per cent in mathematics-science and 20 per cent in humanities.

Each Departmental Program has specific subjects in the areas represented by that particular department and also additional opportunities for the student to take elective subjects of his choice both within and outside his major. Every student may use these elective opportunities to follow special interests, to deepen his preprofessional study, or to broaden his educational background in other fields. Typically, 30 to 40 per cent of the total four-year curriculum will be in the major field and the remaining 10 to 20 per cent in really free electives.

The undergraduate four-year programs in which the Institute offers instruction leading to the S.B. degree are:

School of Architecture: Architecture City Planning History, Theory and Criticism of Visual Arts Visual Design

School of Engineering:
Aeronautics and Astronautics
Chemical Engineering
Civil Engineering
Electrical Engineering
Mechanical Engineering
Metallurgy and Materials
Science
Naval Architecture and Marine
Engineering

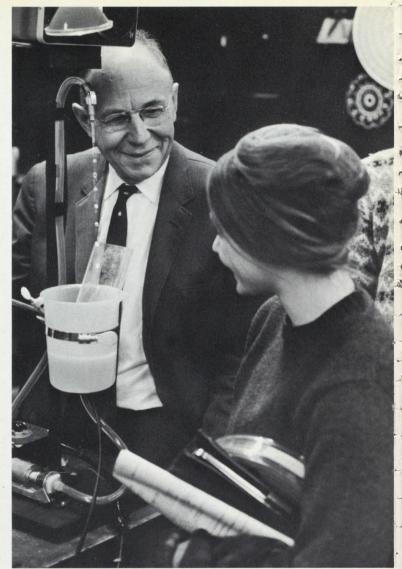
School of Humanities and Social Science: Economics Humanities and Engineering Humanities and Science Political Science

School of Management: Program combining general education and management training with science and engineering

School of Science: Chemistry Earth Sciences Life Sciences Mathematics Physics

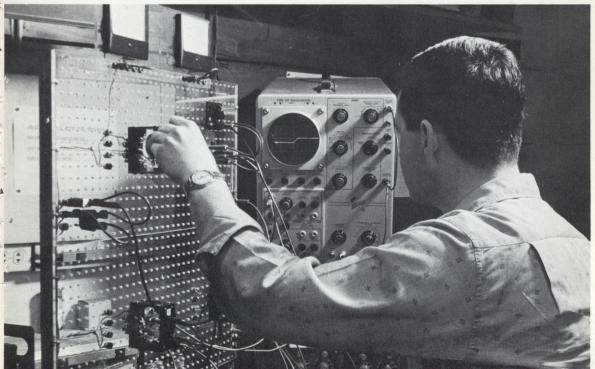
In addition, each year a number of graduates continue their professional education in the fields of medicine and law. Specific medical school requirements can be met in almost any of the Institute degree programs by proper selection of elective subjects. Although law schools do not prescribe particular undergraduate preparation as a condition of admission, a showing of thorough learning in some area of study (such as economics, government, or mathematics) is viewed favorably. Faculty advisors have been appointed to assist students interested in both of these areas.











The Undergraduate Life

Residence

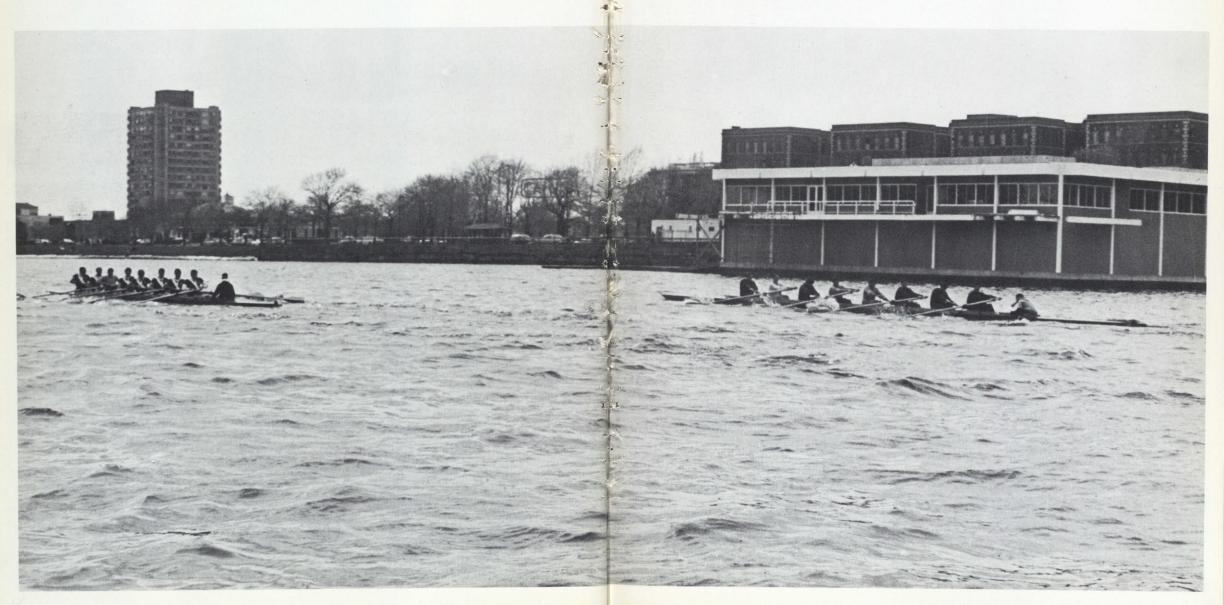
Crews practicing on the Charles pass the M.I.T. boathouse and, behind it, one of the Institute's dormitories for men. At left is Westgate, an apartment tower for married students.

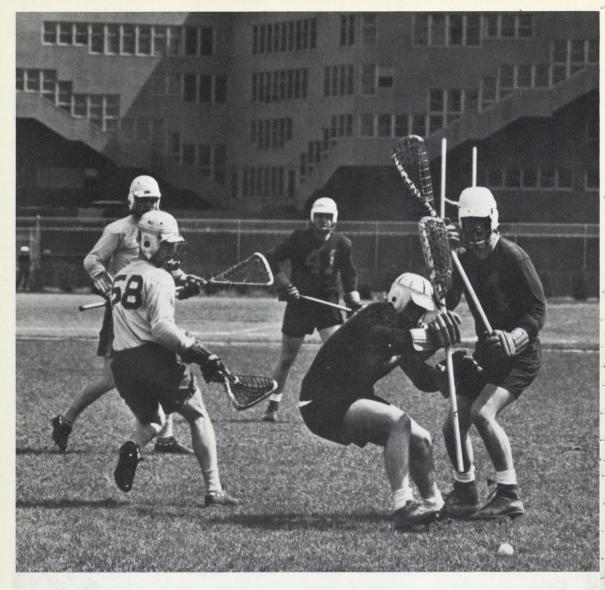
More than three-quarters of M.I.T. undergraduates live in student residences on the campus and in nearby fraternities; the remainder live at home or in apartments near the campus. All women undergraduates, except married students or those living at home, live on the campus in McCormick Hall.

About 1,600 students live in the six Institute Houses on campus,

each with its own student government and dining facilities. All Houses are open to members of all classes and welcome freshmen as full members of the community. There are no "freshman" dormitories.

The fraternities at M.I.T. are distinguished by their acceptance of responsibility in setting their own standards and in managing their own affairs. More than one-third of the male undergraduates belong to one of the 28 chapters (27 national and one local), each with its own house in Cambridge or Boston.





A lacrosse game on Briggs Field takes place in view of Baker House, a men's dormitory.





Activities

M.I.T. offers more than a challenging curriculum, for the Institute does not expect its students' learning experience to take place only in the classroom and laboratory or as they prepare homework each night. Depending on his own personal inclinations, each student may find a wealth of informal educational experience — in student government, hobby and professional clubs, music,

drama, and athletics. Student publications include a newspaper published twice a week, an engineering journal, a humor magazine, and two literary magazines. An FM-AM radio station broadcasts daily almost around the clock. There is a vigorous dramashop and a variety of musical activities — the Choral Society, the Symphony Orchestra, the Concert Band, the Glee Club, the Logarhythms (barber-

shop), the Concert Jazz Band, the annual Tech Show, a musical review, and the productions of the Gilbert and Sullivan Society. Altogether there are over 80 different clubs and organized activity groups.

The management of these activities is the principal responsibility of the student government, an elaborate organization of student committees reporting to





the Institute Committee, the Chairman of which is the President of the Student Body. Through councils and committees, the student government runs its own affairs, administers an annual student activities budget of more than \$70,000, handles disciplinary cases involving students and student activities, certifies various student groups for activity on the campus, provides its own publicity



services, represents students in discussions of educational policy with the Faculty, and programs events and supervises management of the Student Center.

M.I.T.'s Student Center is the focus for student government and for many other community activities. It provides student activity offices, meeting rooms, restaurants, stores, a bank and

post office, pool tables and bowling lanes, art and photography areas, a large reading room, music rooms, and a general-purpose room that can be converted from lounge to ball-room. The Student Center and the adjacent Kresge Auditorium and Chapel form a community center that is widely praised for its beauty and effectiveness. Nearby are quarters for religious counselors; M.I.T. has no

official religious position, but encourages any recognized religion to organize an oncampus group and to assign a religious counselor for full-time or part-time work on campus.



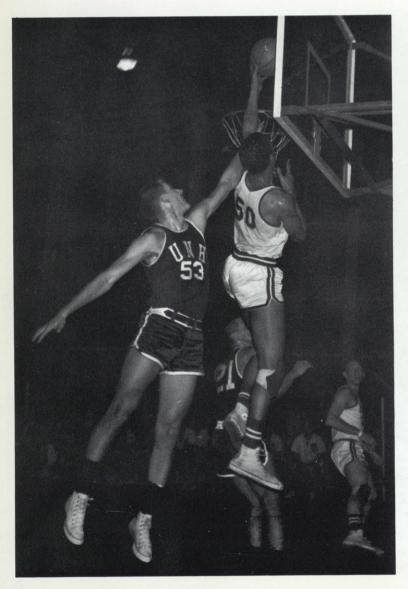
Athletics

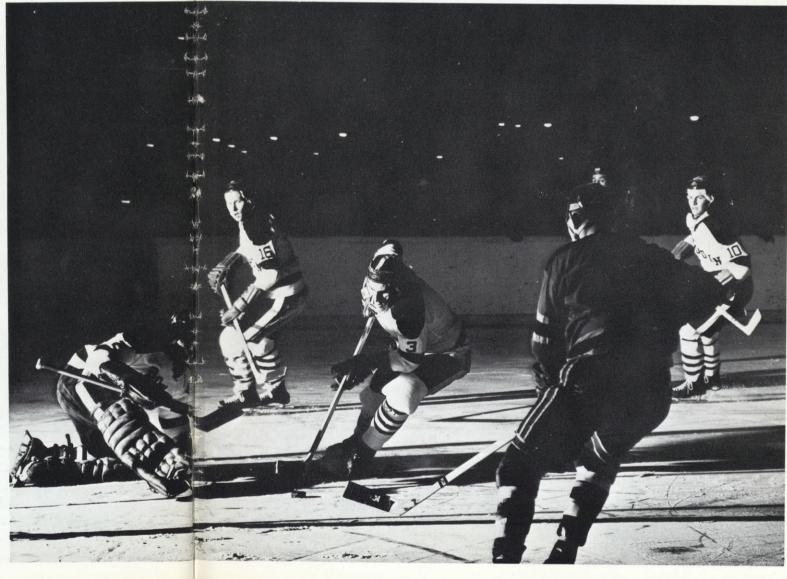
The objective of the athletic program is an introduction to sport skills and recreation through physical education. This program is a natural springboard into the intramurals, which provide competitive outlets in 17 sports. As students' interests are defined and their skills developed, they come to participate in the intercollegiate program, which includes varsity and freshman teams in 18

sports and more than 450 intercollegiate contests a year.

M.I.T. has varsity and freshman intercollegiate teams in baseball, basketball, crew, crosscountry, fencing, golf, hockey, lacrosse, pistol, rifle, sailing, skiing, soccer, squash, swimming, track and field, tennis, and wrestling. Competition includes many New England colleges and lvy League schools.

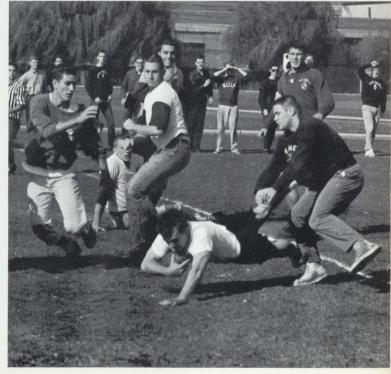
Last year M.I.T. undergraduates participated in more than 1,500 intramural contests. There were league competitions in badminton, basketball, bowling, cross country, golf, hockey, rifle, sailing, softball, squash, swimming, table tennis, tennis, touch football, track, volleyball, water polo and wrestling. Club sports provide intercollegiate competition, but less formal organization than varsity teams.













Application Procedure and Financial Aid

Members of the Admissions Office are pleased to talk with interested students. The Office is open from 9 to 5 every weekday, Monday through Friday, except on holidays, and student-conducted tours of the campus start from the Office each day at 10 a.m. and 2 p.m. Appointments are not necessary for an interview or a tour.

A prospective applicant may file a preliminary application at any time, and all are encouraged to do so before or during the junior year in high school. Filing will assure that each applicant will receive current information, including publications, conference instructions, and final application materials (for both admission and financial aid). The final application material is mailed at the beginning of the

senior year and must be completed by January 15; announcements of decisions are made in late March.

The subjects which M.I.T. specifically requires for entrance are English, mathematics through trigonometry, physics, and chemistry. M.I.T. requires candidates applying for admission to take the Scholastic Aptitude Test of the College Board

(testing verbal and mathematical aptitude) and the achievement tests in (1) Level I or Level II Mathematics, (2) Physics or Chemistry, and (3) English Composition or American History and Social Studies or European History and World Cultures. The tests may be taken at any time and any number of times but must be completed not later than January of the senior year.

An applicant's eligibility is not affected by his financial means or by the fact of his applying or not applying for financial aid. (A decision on financial aid, which may be a grant or loan, or both, is made quite independently of a decision on admission.) Every student admitted will receive an award equal to his demonstrated need, as determined through an analysis of financial need. In addition, campus jobs

are available to students regardless of financial need and are not considered part of a financial aid package.

Inquiries from interested students are always welcomed and may be addressed to the Director of Admissions, M.I.T., Cambridge, Massachusetts

