Students in the MIT Department of Biology thrive in an atmosphere that promotes exploration and collaboration across all areas of research and study. The department’s strong faculty rankings reflect that MIT Biology professors have a passion for instruction and strive to teach each course better than it’s ever been taught before. Rigorous standards and a supportive culture combine to foster a powerful environment for learning at MIT. 

The department is home to approximately 200 undergraduates, 200 graduate students, 100+ postdoctoral researchers, and more than 70 world-renowned faculty, including:

- 3 Nobel laureates
- 32 members of the National Academy of Sciences
- 12 Howard Hughes Medical Institute (HHMI) investigators
- 5 recipients of the National Medal of Science

Headquartered at the Koch Biology Building 68, the activities of the department span five additional state-of-the-art research locations:

- Koch Institute for Integrative Cancer Research
- Whitehead Institute for Biomedical Research
- McGovern Center for Brain Research
- Picower Institute for Learning and Memory
- Broad Institute

The department of Biology conducts research in the following fields, and undergraduates are exposed to a broad range of these activities:

- Biochemistry and biophysics
- Bioengineering
- Cancer biology
- Cell biology
- Computational and systems biology
- Developmental biology
- Genetics
- Human genetics
- Immunology
- Microbiology
- Molecular medicine and human disease
- Neurobiology
- Plant molecular biology
- Structural biology

The undergraduate Biology program at MIT offers a robust course curriculum with an extensive lab research component, leading to a sophisticated understanding of the fundamental principles and current approaches in biology. This training provides excellent preparation for careers in such fields as:

- Academia/Research Institutions
- Medicine
- Biotechnology, biomedical and pharmaceutical industries
- Government and public policy
- Intellectual property/patent law
- Consulting/venture capital
- Science writing and communication
- Science education and outreach

For Further Information, Contact:

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Students gain hands-on laboratory research experience through the following channels:

- 7.02/10.702J or 20.109 and Project Lab
- Undergraduate Research Opportunities Program (UROP)

Students who demonstrate outstanding research effort may participate in the annual Undergraduate Research Symposium.

### Designed for students who wish to obtain a background in biology without laboratory research.

- Same requirements as Course 7, but does not require a Project Lab
- One CI-M subject from approved list: 3.014, 5.36, 5.38, 7.19, 8.13, 9.02, 9.28, 10.26, 10.27, 10.28, 10.29, 20.380 or 2.791J/6.021J/20.370J

Every student majoring in Biology, including double-majors and Course 6-7 students, is assigned to a Biology faculty advisor.

- Two required meetings per semester: registration period and mid-term period
- Additional meetings upon request

Help with:
- Course selections and online approvals
- Online add/drop approval
- Academic progress
- Career advice

The Biology Undergraduate Student Association (BUSA) serves all MIT students with an interest in biology. BUSA helps to broaden the biology undergraduate experience through both social and academic activities.

Contact us at: bexec@mit.edu

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### Required lecture subjects:

- Introductory Biology (choose one):
  - 7.012, 7.013, 7.014, 7.015, 7.016

- Core Subjects:
  - 5.111, 5.112, or 3.091
  - Introductory Chemistry

### Required Laboratory Subjects:

- 7.02J: Intro to Experimental Biology and Communication

- Project Lab (choose one):
  - 7.15: Experimental Molecular Genetics

### Biology Restricted Electives

Choose three. No substitutions. Must be taken at the undergraduate level.

- 7.08J: Biological Chemistry II
- 7.09: Quantitative and Computational Biology
- 7.20J: Human Physiology
- 7.21: Microbial Physiology
- 7.22: Development & Evolution
- 7.23: Immunology
- 7.24: Immunology in Medicine
- 7.27: Principles of Human Disease
- 7.28: Molecular Biology
- 7.29J: Cellular and Molecular Neurobiology
- 7.30 A&B: Fundamentals of Ecology I & II
- 7.31: Current Topics in Mammalian Biology
- 7.32J: Systems Biology
- 7.33: Evolutionary Biology
- 7.36: Foundations ofComputations
- 7.37J: Molecular and Engineering Aspects of Biotechnology
- 7.371: Biological and Engineering Principles Underlying Novel Biotherapeutics
- 7.38: Forces in Cell Biology and Development
- 7.41: Principles of Chemical Biology
- 7.45: The Hallmarks of Cancer
- 7.49J: Developmental Neurobiology

- 7.30; A&B are half-semester courses, and both must be taken to be counted as single restricted elective

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### Required lecture subjects:

- Biology core: 7.01x, 7.02x, 7.03, 7.05 (or 5.07), 7.06
- Differential equations: 6.01, 6.042, and 18.03 or 18.06
- Software & algorithms: 6.005, 6.006, 6.046

### Restricted electives (choose one from each):

- Biology: 7.20J, 7.23, 7.27, 7.28 or 7.33J
- Computer Science: 6.047, 6.58J, 6.874, 6.877J or 7.36

### CI-M subjects:

- 7.02J and 6.UAP

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### An interdepartmental curriculum offered jointly by EECS and the Department of Biology.

Course 6-7 prepares students for careers in emerging areas at the interface of biology and engineering—including bioinformatics and computational molecular biology.

### Biology Restricted Electives

Choose three. No substitutions. Must be taken at the undergraduate level.

- 7.08J: Biological Chemistry II
- 7.09: Quantitative and Computational Biology
- 7.20J: Human Physiology
- 7.21: Microbial Physiology
- 7.22: Development & Evolution
- 7.23: Immunology
- 7.24: Immunology in Medicine
- 7.27: Principles of Human Disease
- 7.28: Molecular Biology
- 7.29J: Cellular and Molecular Neurobiology
- 7.30 A&B: Fundamentals of Ecology I & II
- 7.31: Current Topics in Mammalian Biology
- 7.32J: Systems Biology
- 7.33: Evolutionary Biology
- 7.36: Foundations ofComputations
- 7.37J: Molecular and Engineering Aspects of Biotechnology
- 7.371: Biological and Engineering Principles Underlying Novel Biotherapeutics
- 7.38: Forces in Cell Biology and Development
- 7.41: Principles of Chemical Biology
- 7.45: The Hallmarks of Cancer
- 7.49J: Developmental Neurobiology

- 7.30; A&B are half-semester courses, and both must be taken to be counted as single restricted elective

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### MINOR IN BIOLOGY

- 7.02J, 7.03, 7.05 (or 5.07), and 2 subjects from approved list: 7.02J, 7.06, 7.08J, or any of the Restricted Electives.

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### BIOLOGY UNDERGRADUATE STUDENT ASSOCIATION (BUSA)

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