COMPUTER SCIENCE AND MOLECULAR BIOLOGY

Master of Engineering in Computer Science and Molecular Biology (Course 6-7P)

The Department of Biology (*https://catalog.mit.edu/schools/science/biology*) and the Department of Electrical Engineering and Computer Science (EECS) (*https://catalog.mit.edu/schools/engineering/electrical-engineering-computer-science*) offer a joint curriculum that focuses on the emerging field of computational and molecular biology. The curriculum provides strong foundations in both biology and computer science and features innovative, integrative, capstone, and elective subjects. The goal is to produce an entirely new cadre of graduates who are uniquely qualified to address the challenges and opportunities at the interface of computational and molecular biology. Students in the program are full members of both departments and of two schools, Science and Engineering, with one academic advisor from each department.

The Master of Engineering in Computer Science and Molecular Biology (*https://catalog.mit.edu/degree-charts/master-computer-science-molecular-biology-course-6-7p*) program builds on the Bachelor of Science in Computer Science and Molecular Biology program (Course 6-7) (*https://catalog.mit.edu/degree-charts/computer-science-molecular-biology-course-6-7*), which prepares students for careers that leverage computational biology (e.g., pharmaceuticals, bioinformatics, medicine, etc.) as well as further graduate study in biology, in computer science, and in emerging programs at the interface of these fields. The master's program provides additional depth in computational and/or molecular biology through coursework and a substantial thesis. The student selects (with departmental review and approval) 42 units of advanced graduate subjects, which include two concentration subjects in biology and/or computational biology plus a third subject in electrical engineering and computer science and/or biology. A further 24 units of electives are chosen from a restricted departmental list of math electives.

The Master of Engineering degree also requires 24 units of thesis credit. While a student may register for more than this number of thesis units, only 24 units count toward the degree requirement.

Recipients of a Master of Engineering degree normally receive a Bachelor of Science degree simultaneously. No thesis is explicitly required for the Bachelor of Science degree. However, every program must include a major project experience at an advanced level, culminating in written and oral reports. Normally, the thesis for the Master of Engineering degree will provide this experience for students receiving both degrees simultaneously.

Programs leading to the five-year Master of Engineering degree or to the four-year Bachelor of Science degree can be arranged to be identical through the junior year. At the end of the junior year, students with a strong academic record will be offered the opportunity to continue through the five-year master's program. A student in the Master of Engineering program must be registered as a graduate student for at least one regular (non-summer) term. To remain in the program and to receive the Master of Engineering degree, students will be expected to maintain a strong academic record. Admission to the Master of Engineering program is open only to undergraduate students who have completed their junior year in the Course 6-7 Bachelor of Science program.

Financial Support

The fifth year of study toward the Master of Engineering degree can be supported by a combination of personal funds, an award such as a National Science Foundation Fellowship, a fellowship, or a graduate assistantship. Assistantships require participation in research or teaching in the department or in one of the associated laboratories. Full-time assistants may register for no more than two scheduled classroom or laboratory subjects during the term, but may receive academic credit for their participation in the teaching or research program. Support through an assistantship may extend the period required to complete the Master of Engineering program by an additional term or two. Support is granted competitively to graduate students and will not be available for all of those admitted to the Master of Engineering program. If provided, department support for Master of Engineering candidates is normally limited to the first three terms as a graduate student, unless the Master of Engineering thesis has been completed or the student has served as a teaching assistant or has been admitted to the doctoral program, in which cases a fourth term of support may be permitted.

Inquiries

Information about these programs is available from the EECS Undergraduate Office (*http://www.eecs.mit.edu*), Room 38-476, 617-253-4654, and the Biology Undergraduate Office (*https://biology.mit.edu*), Room 68-120, 617-253-4718.