

Molecular and Cellular Biology

Bachelor of Science Degree

Contact

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Admission Requirements

(In years as established by the college)

A high school diploma with the following specific courses:

- 4 English
- 2 Algebra I & II
- 1 Geometry
- 2 Lab Science (biology & chemistry or physics)
- 2 History/Social Studies
- Academic electives (to equal at least 17 credits)

To ensure current mathematical skills, students should take a mathematics course during their senior year of high school.

Did You Know?

We have virtually a 100 percent placement for our graduates in graduate, medical or professional school or in a science-related job. Our students are some of the best prepared in the country, and we often receive phone calls from employers asking for our graduates.

College of Natural Sciences, Forestry, and Agriculture

Program Description

An important aspect of the undergraduate programs offered through the Department of Molecular and Biomedical Sciences is the opportunity to gain hands-on experience in the laboratory. Laboratory courses are offered in fundamental aspects of biochemistry and microbiology, as well as specialized topics such as recombinant DNA techniques, virology, cell culture, immunology, pathogenic microbiology, and microbial genetics and diversity. Laboratory courses in these topics are not generally available at smaller institutions without graduate and research programs or at many larger research universities, where student numbers are too large to accommodate numerous laboratory courses in such specialized areas.

Specialized Information

In their senior-year research course, all of our undergraduate majors are required to engage in independent study and research with an individual faculty member. This direct link to active national- and international-level research activities is an important aspect of our undergraduate programs. Students become part of a research team of faculty, postdoctoral research associates, technicians, and graduate and undergraduate students actively engaged in ongoing research projects that are both publicly and privately funded.

Associated Honor Societies and Student Organizations

Students have opportunities to attend annual conferences of such professional organizations as the American Society of Microbiology.

Career and Graduate Opportunities

Our graduates have taken positions in university research laboratories; existing and emerging genetic engineering and biotechnology industries; medical, dental and veterinary research laboratories; public health laboratories; pharmaceutical, food and chemical industries; and environmental research and monitoring laboratories.

Majoring in biochemistry, microbiology or molecular and cellular biology also provides an excellent foundation for many careers in the health professions. Our majors are well-prepared to pursue advanced degrees in: medicine, dentistry, veterinary medicine, pharmacy, optometry, biochemistry, microbiology, molecular genetics or biomedical science. Each of the majors includes the key science requirements for medical school.

Majors are highly competitive in getting into graduate programs around the country, where they successfully further their education, leading to a master's or doctorate degree. Graduates of our programs have been accepted to combined programs (M.D.-Ph.D.) at Case Western Reserve University, Dartmouth College and University of Vermont; to M.D. programs at Dartmouth, University of Vermont, Stony Brook University, Sackler School of Medicine in Tel Aviv, Boston University, University of Rochester, Eastern Virginia School of Medicine and others; to D.O. programs at University of New England College of Osteopathic Medicine; and to dentistry programs at Tufts and Dalhousie universities.

Representative Courses

BMB 280 Introduction to Molecular and Cellular Biology
BMB 300 General Microbiology
BMB 322 Biochemistry
BMB 400 Molecular Genetics
BMB 460 Advanced Biochemistry
BMB 464 Analytical and Preparative Biochemistry Laboratory Methods

BMB 490 Microbial Genetics
BMB 491 Capstone Research
BMB 580 Seminar in Biochemistry
BMB 582 Seminar in Microbiology

UMaine Graduate Programs

Master of Science in Biochemistry
Master of Professional Studies in Biochemistry
Master of Science in Microbiology
Master of Professional Studies in Microbiology
Doctor of Philosophy in Biochemistry and Molecular Biology
Doctor of Philosophy in Microbiology

About UMaine

The University of Maine, founded in Orono in 1865, is the state's premier public university. It is among the most comprehensive higher education institutions in the Northeast and attracts students from across the U.S. and more than 60 countries. It currently enrolls 12,000 total undergraduate and graduate students who can directly participate in groundbreaking research working with world-class scholars. Students are offered 88 bachelor's degree programs, 64 master's degree programs, 25 doctoral programs and one of the oldest and most prestigious honors programs in the U.S. The university promotes environmental stewardship on its campus, with substantial efforts aimed at conserving energy, recycling and adhering to green building standards in new construction. For more information about UMaine, go online (umaine.edu). Equal opportunity information also is available online (umaine.edu/eo).

How do I apply?

Visit go.umaine.edu for an application, as well as information about academics and life at UMaine.



Academic Programs 2011–12

The latest versions of the UMaine fact sheets are online (factsheets.umaine.edu). This fact sheet is intended for informational purposes only and is subject to change.

