

MOLECULAR BIOLOGY, BIOCHEMISTRY AND BIOINFORMATICS PROGRAM

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The Program

The goal of the Molecular Biology, Biochemistry and Bioinformatics (MB3) Program is to train students in the specific disciplines of molecular biology, biochemistry and bioinformatics, and to engage them in the process of scientific inquiry so that they will have the ability to grow with their chosen discipline throughout their scientific careers. The Molecular Biology, Biochemistry and Bioinformatics major provides undergraduate preparation for students interested in biochemistry, bioinformatics, pharmacy, biophysics, biotechnology, cell biology, genetics, immunology, microbiology or molecular biology. The curriculum is also excellent for students interested in medical, dental, pharmacy school or related Allied health fields. One of the main advantages of this program is the breadth of training given to students in preparation for either post-graduate training or careers in the workforce. This versatility in training allows MB3 students to be very competitive in both job markets and post-graduate educational programs. The MB3 program is accredited by the American Society for Biochemistry and Molecular Biology (ASBMB (<https://www.asbmb.org>)).

Students complete a flexible curriculum that includes lecture and state-of-the-art laboratory courses, as well as an independent undergraduate research project that emphasizes the practical application of discipline-based knowledge. Because of the emphasis placed on providing a practical understanding of the fundamental nature of the scientific discipline, the program challenges students to get involved in an undergraduate research project with a mentor who engages them in the process of scientific research on a one-on-one basis. These research projects may be completed in a variety of different formats including laboratory experiences in academic, business, government or hospital environments. To facilitate information exchange, networking and to facilitate a community spirit in the MB3 program, students engaged in research give seminars describing their experiences at the Bimonthly MB3 seminar series.

The major consists of three concentrations:

- Molecular Biology
- Biochemistry
- Bioinformatics

The Molecular Biology Track examines the basis of life, using molecular approaches to understand the processes of living systems, with applications in all areas of biology. The Biochemistry Track also examines the molecules of living systems with emphasis on the chemical structure and reactivity that shape biological function. The Bioinformatics Track combines the study of the molecular basis of life with the study of computer science. This track focuses students on interacting with the genomic databases that are changing the face of science as we know it.

All three tracks are interdisciplinary in their approach. Students choose a track in addition to completing courses common to all three tracks.

- Major in Molecular Biology, Biochemistry and Bioinformatics (<http://catalog.towson.edu/undergraduate/fisher-science-mathematics/molecular-biology-biochemistry-bioinformatics/molecular-biology-biochemistry-bioinformatics>)
- Minor in Molecular Biology, Biochemistry and Bioinformatics (<http://catalog.towson.edu/undergraduate/fisher-science-mathematics/molecular-biology-biochemistry-bioinformatics/molecular-biology-biochemistry-bioinformatics-minor>)