



COLLEGE OF NATURAL
SCIENCE AND
MATHEMATICS

BS IN BIOLOGY
DEPARTMENT OF BIOLOGICAL SCIENCES

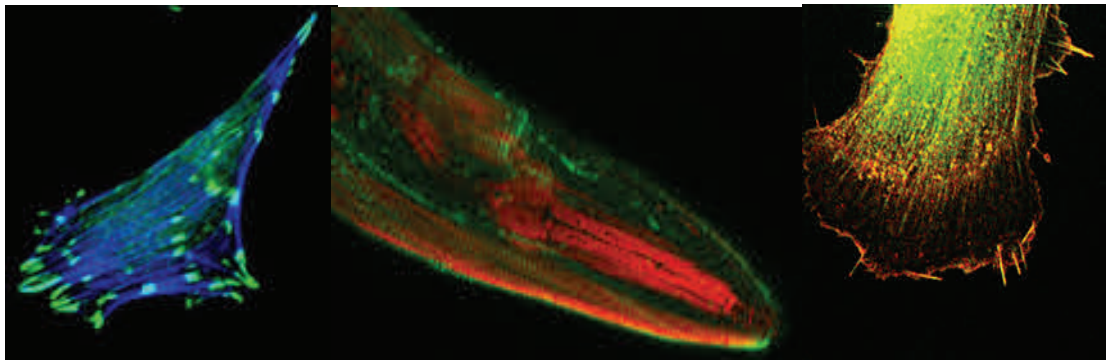
SOUND LIKE YOU?

Planning to attend professional or graduate school in the life sciences

Interested in learning cutting edge science focused on physiological processes

Looking to gain research experience in an active, funded research laboratory

CELLULAR AND MOLECULAR BIOLOGY EMPHASIS



DEPARTMENTAL OVERVIEW

Our department is a cell and molecular focused biology program in the College of Natural Sciences and Mathematics that prepares students for careers in the health care industry, basic science and other biotechnology related fields. Our students address important biological principles using the latest cell and molecular-based approaches in both plant and animal model systems. Research conducted here focuses on human, plant and animal diseases, function or development of nervous and other organ systems, regulation of signaling pathways and other topics that expose students to advanced biological research methods and concepts. Outstanding students may become involved as peer mentors, undergraduate researchers or teaching assistants, or study in England at the University of Salford.

AREAS OF RESEARCH

Cancer Biology

Cell Biology

Cell Cycle Control

Developmental Biology

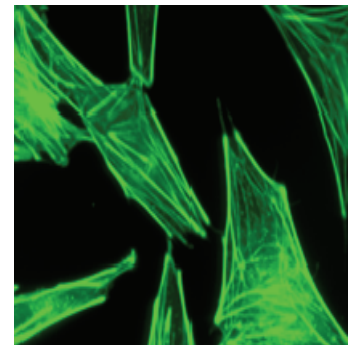
Immunology

Neurobiology

Plant Biology

What to expect when you graduate

The majority of students that complete a BS in Biology in our program go on to graduate school, medical school, PA school, or other profession degree programs such as veterinary school. Those that enter the job market find positions in research labs, as quality control technicians, or in a variety of other related fields. Others pursue advanced degrees in law, business, regulatory affairs, medical technology or science education.

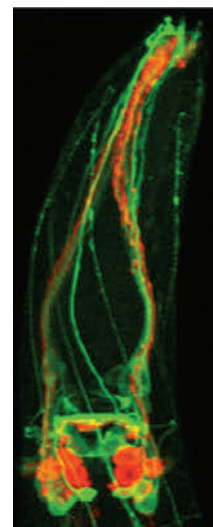


Cancer cells stained for actin fibers

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CURRICULUM: Our coursework emphasizes basic biological principles, but also focuses on courses that prepare students for advanced degrees in the life sciences. Our emphasis on cell and molecular biology reflects the need to understand these areas to succeed in professional degree programs. A sample curriculum is summarized below:



SAMPLE CURRICULUM

First Year

Fall Semester

NSM 1000 Orientation	1
BIOL 2170 Fund of Life Science: Cells	4
BIOL 2180 Fund of Life Science Lab	1
CHEM 1230 General Chemistry I	4
CHEM 1280 General Chemistry I Lab	1
ENGL 1110 College Composition I	3
University Core Elective (optional)	3
Total	14-17 hrs.

Spring Semester

BIOL 2150 Fund of Life Science; Diversity	4
BIOL 2160 Fund of Life Science Lab	1
CHEM 1240 General Chemistry II	4
CHEM 1290 General Chemistry II Lab	1
ENGL 1130-1230 Composition II	3
University Core Elective	3
Total	14-16 hrs.

Second Year

Fall Semester

BIOL 3010 Molecular Genetics	3
BIOL 3020 Molecular Genetics Lab*	2
CHEM 2410 Organic Chemistry I	3
CHEM 2460 Organic Chemistry I Lab	1
MATH 1750, 1830 or MATH 1850 (Calculus I)	4
University Core Elective	3
Total	14-16 hrs.

Spring Semester

BIOL 3030 Cell Biology	3
BIOL 3040 Cell Biology Lab*	2
CHEM 2420 Organic Chemistry II	3
MATH 1760 or MATH 1860 (Calculus II)	3
University Core Elective(s)	3-6
Total	14-17 hrs.

Third Year

Fall Semester

PHYS 2070 or 2130 General Physics I	5
BIOL 3090 Developmental Biology	3
Career-related Elective	3
CHEM 3510 Biochemistry I	3
University Core Elective	3
Total	17 hrs.

Spring Semester

PHYS 2080 or 2140 General Physics II	5
BIOL 3070 Human Physiology	3
University Core Elective	3
CHEM 3520 Biochemistry II	3
WAC Elective	3
Total	17 hrs.

Fourth Year

Fall Semester

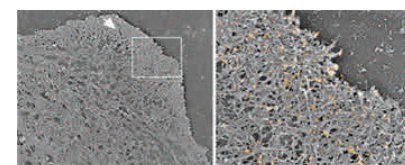
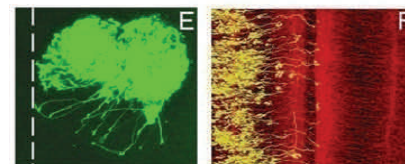
BIOL 4700 Biological Literature & Comm (fall or spring)	3
BIOL Elective	3
Core electives (as needed)	0-3
Career-related Elective	6-9
Total	15-18 hrs.

Spring Semester

BIOL Elective	3
Core Electives (as needed)	0-3
Statistics (MATH 2600 or 2640)	3
Career Related Elective(s)	6-9
Total	15-18 hrs.

For more information about the University of Toledo visit:
<http://www.utoledo.edu/>

For more detailed information about our research visit:
<http://www.utoledo.edu/nsm/bio/research.html>



FOR MORE INFORMATION CONTACT:

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*Example of Upper Division Lab Elective – Two are required