Careers with a Ph.D. in Molecular and Cellular Biology

The experience gained by performing an original research project will help to prepare you for a career in biomedical research, biotechnology, science policy, science communication, and more.

For more information contact Dr. Alysia Mortimer, Ph.D. admorti@ilstu.edu

The Ph.D. in Biological Sciences: Molecular and Cellular Biology provides training in theoretical and applied aspects of Molecular and Cellular Biology. In addition to rigorous coursework, you will complete a laboratory research project and PhD dissertation mentored by a faculty member, who have expertise in areas such as molecular biology, cell biology, genetics, microbiology, parasitology, immunology, neurobiology, physiology, developmental biology, and biochemistry.
Overview of the program: The PhD in Biological Sciences: Molecular and Cellular Biology provides an interactive and innovative course of study that includes training in the latest scientific concepts as well as interactions with a diverse faculty from across the discipline. Students may receive tuition waivers, as well as Teaching or Research Assistantships that pay a monthly stipend during the school year; check with the Graduate Coordinator for availability. In some cases, students may receive summer support (if available) from their thesis advisor.

The student performs original research in the lab of a faculty member, and writes and defends an Ph.D. dissertation based on their work. To broaden exposure to critical thinking and experimentation in biology, the student also takes coursework centered on the core concepts of molecular & cellular biology. Courses to increase competency in genomics and bioinformatics are offered as well as a number of elective courses for the student to choose from as they develop their research goals and interests.

More information about our programs can be found at: biology.illinoisstate.edu

Degree Requirements:
BSC 415 Advanced Cell Biology (3 cr hr)
BSC 419 Advanced Molecular Biology (4 cr hr)
BSC 420 Graduate Seminar (3 different seminars required)
BSC 420A37 Graduate Seminar in Molecular Biology (1 cr hr)
BSC 599 Doctoral Research (15 cr hr)
Three elective courses (9-12 cr hr)

Elective courses include:
BSC 319 Genetics of Behavior
BSC 329 Human Genetics
BSC 343 Intro. Neurobiology
BSC 345 Intro. Endocrinology
BSC 346 Developmental Biol.
BSC 353 Biotech Lab I (DNA & RNA)
BSC 354 Biotech Lab II (Cells & proteins)
BSC 355 Genomics & Bioinformatics
BSC 361 Microbial Pathogens
BSC 365 Bioenergy
BSC 370A03 Programming for Biology
BSC 411 Confocal Microscopy
BSC 430 Neuroscience
BSC 435 Mammalian Physiology
BSC 450.53 Advanced Genomics
BSC 451 Cell Signaling & Regulation

Please consult ISU Course Catalog for complete requirements

MCB Program Faculty & research interests:
Dr. Jan-Ulrik Dahl; microbiology, molec. bio.
Dr. Kevin Edwards; molecular genetics
Dr. Martin F. Engelke; cell bio., microscopy
Dr. Paul Garris; neuroscience
Dr. Craig Gatto; biophysics, physiology
Dr. Tom Hammond; genetics, molecular biol
Dr. Viktor Kirik; cell biology
Dr. Cynthia Moore; science education
Dr. Alysia Mortimer; genetics, cell biology
Dr. Nathan Mortimer; genetics, immunology
Dr. Wade Nichols; microbiology
Dr. Ryan Paitz; endocrinology
Dr. John Sedbrook; plant biology, bioenergy
Dr. Wolfgang Stein; neuroscience
Dr. Andres Vidal-Gadea; neurosci., genetics
Dr. Laura Vogel; immunology

See School of Biological Sciences website for additional faculty interests:
biology.illinoisstate.edu
"Research & Facilities" tab