Welcome

As a student in Central Michigan University’s master’s program in biology, you’ll discover a very supportive, hands-on learning environment. Whether your goal is to advance your career or explore new opportunities and areas of expertise, CMU will help you get there.

CMU’s Department of Biology has two graduate degree programs:

- Master of Science in Biology
- Master of Science in Biology, emphasis in Conservation

The Master of Science programs in Biology and Conservation Biology prepare students for careers in academia, state or federal agencies, and non-governmental organizations.

Biology at CMU

Central Michigan University offers strong programs that prepare students to meet rapidly growing and changing demands in the field of biology. In-depth study opportunities are available that range from cell and molecular biology, genetics, and microbiology to developmental biology, physiology, botany, ecology, and conservation biology.

Graduate students in biology can become immersed in challenging and integrated field and laboratory experiences that build scientific skills and prepare them for successful careers.

Because discovery is an essential component of learning, biological research at CMU pushes new frontiers in many disciplines. From molecular, cellular, and organismal levels to large-scale population and ecosystem studies, the search for insight into the living world is active and varied. Strong mentoring relationships develop between faculty and students as they collaborate on research projects.

Degree Requirements

CMU’s Master of Science in Biology programs require completion of 30 to 36 credit-hours, consisting of 7-12 in required courses and 13-23 in elective courses (chosen in consultation with your advisor).

The Department of Biology offers both the Plan A and the Plan B Master of Science options. Plan A requires completion of a thesis and a seminar, graduate course work approved by the student’s advisor and advisory committee, and an oral defense of the thesis. Plan B requires the completion of graduate-level course work approved by the student’s advisor and advisory committee and a written and/or oral comprehensive examination over the course work.

Admissions

To be eligible for Regular Admission to the graduate program in biology, applicants should have completed an undergraduate degree with a major in a biological science with a 3.0 or better grade point average in their major and a 3.0 GPA overall.

Applicants will need to submit general GRE scores, a statement of interest, transcripts, an advisor acceptance form, and three letters of recommendation as specified in the Biology Department Web page (www.cmich.edu/biograd) by February 1st. Since applicants must secure the sponsorship of an advisor, they are encouraged to communicate with potential advisors as soon as possible.

In addition, two semesters of general chemistry (including organic) is required while mathematics and physics are highly recommended. An applicant who does not meet the above requirements may be granted Conditional Admission by the department graduate committee.
Research Facilities

**Central Michigan University Herbarium.** The CMU Herbarium houses over 26,000 dried plant specimens with specialty collections including the Beaver Island Archipelago, Neithcut Woodlot, local flora and aquatic vascular plants. Facilities and equipment are available for plant identification, macro- and microscopic viewing of specimens, collecting and processing voucher specimens, and loan exchange with the global herbarium community.

**CMU Biological Station.** The CMU Biological Station on Beaver Island offers a diversity of academic courses during the spring and summer months and provides research facilities throughout the year for both faculty and students. CMU’s Biological Station is unique among North American biological stations because its insular location on Beaver Island provides access to truly exceptional freshwater ecosystems within the Great Lakes basin. It includes housing, a dining hall, computer lab, teaching and research labs, and a state-of-the-art academic building. The CMU boathouse houses a dozen Lake Michigan mesocosms (experimental water enclosures through which natural water moves) allowing researchers to study the aquatic environment under controlled conditions.

CMUBS also owns and operates the M/V Chippewa, a 38-foot research vessel equipped for sampling deep-water regions of the Great Lakes. CMU’s Miller’s Marsh contains an outdoor experimental terrestrial laboratory with six exclosures (large pens that exclude animals of certain sizes). Ecologists can study the effects of herbivore exclusion on native vegetation. The CMU Biological Station offers unparalleled opportunities for graduate students.

**The Institute for Great Lakes Research (IGLR).** IGLR is committed to promoting and facilitating collaborative research and education on the Great Lakes. For more information, see [www.cst.cmich.edu/iglr](http://www.cst.cmich.edu/iglr). Students also have the opportunity to pursue a Ph.D. with Biology faculty through the Earth and Ecosystem Science Ph.D. program. See [www.cst.cmich.edu/ees](http://www.cst.cmich.edu/ees).

**Microscopy and Microanalysis Facilities.** The College of Science and Technology facility houses a Philips CM 10 Transmission Electron Microscope, a Hitachi S-3400N variable pressure Scanning Electron Microscope with EDS complete with elemental and phase mapping and Gatan color cathodoluminescence camera, a Nikon A1r confocal microscope with spectral detector, and an Olympus Fluoview 300 Laser Scanning Confocal Microscope.
Museum of Cultural and Natural History. CMU’s Museum of Cultural and Natural History is located in Rowe Hall and contains over 100,000 specimens of mammals, birds, fish, insects, reptiles, and amphibians along with some dry specimens including shells. The museum’s geology collection consists of fossil plants, fossil animals, minerals, and rocks. The collection contains a large collection of birds and many examples of contraband species, rare and endangered species and historically important species.

Neithercut Woodlands. A conservation education and environmental interpretation facility, Neithercut Woodlands encompasses a 252-acre tract of mixed hardwood forest that features habitats suitable for both aquatic and terrestrial studies.

New Bioscience Building. CMU’s $95 million, four-story, 169,000 square foot Biosciences Building will open in 2016. Specialty research facilities include staging and sample-processing storage area for ecological fieldwork, a molecular biology core, an isotope laboratory, a herbarium, a vivarium for aquatic organisms, and an imaging center for scanning and transmission electron microscopes and other microscopes and imaging equipment.

Research Opportunities

The Department offers research opportunities in the following areas:

- biology education
- botany, zoology, and physiology
- cellular and molecular biology
- conservation and wildlife biology
- fisheries, limnology, and ecology
- genetics and developmental biology
- microbiology
- systematics and evolution

Biology Faculty at CMU

All faculty in Biology hold Ph.D.s and are active within their fields of expertise. A strong emphasis is placed on student and faculty interaction and graduate students work closely with faculty mentors on high-caliber research projects. For more information on faculty, see www.bio.cmich.edu, and click on “Faculty and Staff.”

Graduate program at CMU affords me the knowledge and skills laboratory and in the field that will benefit me with my long-term studies biology. CMU also employs new technologies such as otolith try to better understand the life histories and natal origins of fish akes region.”

Nicole Watson
Current graduate student , 2014
Financial Assistance

Graduate Assistantships (GAs) include Graduate Teaching Assistantships and Graduate Research Assistantships and are available on a competitive basis. Application forms may be obtained from the Department of Biology. The deadline for applications is February 1 for full consideration.

Graduate Teaching Assistantships (GTAs) involve six to nine hours of instruction of laboratory sections in beginning and advanced undergraduate courses and assistance in laboratory preparation. GTAs receive a 20-credit tuition scholarship and a stipend.

Graduate Research Assistantships (GRAs) are mostly supported through faculty research grants or contractual agreements. A limited number of GRAs are available for up to 12 months with stipends.

Graduate Fellowships include a monetary award plus a tuition scholarship for up to 24 credits. Fellowships are awarded university-wide on a competitive basis. Application materials are available from the College of Graduate Studies. The deadline is the first Monday of February. Applicants are asked to submit an official Graduate Record Examination score report, a personal statement describing qualifications and intended goals, and three letters of recommendation.

Raymond E. Hampton Excellence in Biology Research Award was established in 1994 in recognition and appreciation of Dr. Hampton, who served 24 years as a professor of biology at CMU. This merit-based award recognizes a second-year biology graduate student who is identified as worthy of distinction. The award may be used for tuition, books, and room-and-board expenses at the CMU Biological Station.

Daniel E. & Mildred G. Wujek Scholarship recognizes outstanding second-year botany or aquatic biology graduate students who have been identified as worthy of distinction. The award may be used for tuition, books, room-and-board expenses at the biological station, research logistics support, and/or supplies in support of research. This endowment was established by CMU alumni Daniel E. and Mildred G. Wujek. Daniel Wujek was a faculty member in the CMU Department of Biology.

Marian Whitney Summer Graduate Scholarship is awarded to an outstanding graduate student who is completing a thesis in zoology. The award may be used to support the graduate student in summer.

Apply Online

http://apply.cmich.edu

For detailed application instructions, visit:
www.cst.cmich.edu/biograd

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