FRESHWATER MARINE SCIENCE, M.S.

The program offers curricula leading to the master of science and doctor of philosophy degrees or a doctoral minor in freshwater and marine sciences. Interdisciplinary in nature, each individualized program of study provides graduate training in aquatic sciences and integrates related sciences. Students enrolled in the program are advised by faculty in several departments in the College of Letters & Science, the College of Engineering, the College of Agricultural and Life Sciences, and the School of Veterinary Medicine.

UW–Madison is recognized worldwide as a leader in the field of limnology and aquatic ecology. The limnology and marine sciences program began in 1962 as the oceanography and limnology program. The program combines research and teaching from several fields and departments to develop a greater understanding of aquatic systems—their origins, inhabitants, phenomena, and impact on human life.

This graduate program emphasizes limnological studies and is based on the premise that limnology and marine sciences are integrated fields requiring a broad base in the fundamental disciplines. Students may specialize in limnology or in marine sciences, or they may focus on processes common to both environments.

Facilities for freshwater and marine research and instruction in the biological, chemical, and physical areas of limnology and marine sciences are available at UW–Madison through the Center for Limnology, the Water Science & Engineering Laboratory, and the departments of faculty participating in the program. The Center for Limnology also maintains a year-round laboratory at Trout Lake. This facility is a well-equipped biological field station in the Northern Highlands lake district of Wisconsin. Several research vessels are available for research on the Great Lakes. Ships belonging to other institutions are used for oceanographic field research.

Study plans are individually tailored for each student by a guidance and evaluation committee composed of at least three faculty members including the major professor, another professor from the major field of interest, and a third from another discipline. At least two must be from the limnology and marine sciences faculty, one from the biological sciences, and one from the physical sciences. The committee guides the student in developing study plans, research, and career goals.

FUNDING

Various types of financial-assistance programs are available to qualified students in the form of research assistantships, teaching assistantships, fellowships, and special grants. Decisions regarding financial support are based on letters of recommendation, grades, Graduate Record Exam (GRE) scores, and, for research assistantships, the matching of interests or experience of the applicant to the research program. For research assistantships, the applicant's interests and experience must match the needs of the funding project. Students are encouraged to seek outside funding.

REQUIREMENTS

MINIMUM DEGREE REQUIREMENTS AND SATISFACTORY PROGRESS

To make progress toward a graduate degree, students must meet the Graduate School Minimum Degree Requirements and Satisfactory Progress (http://guide.wisc.edu/graduate/#policiesandrequirementstext) in addition to the requirements of the program.

MASTER'S DEGREES

M.S., with available thesis, and report tracks

MINIMUM GRADUATE DEGREE CREDIT REQUIREMENT

30 credits

MINIMUM GRADUATE RESIDENCE CREDIT REQUIREMENT

16 credits

MINIMUM GRADUATE COURSEWORK (50%) REQUIREMENT

Half of degree coursework (15 out of 30 total credits) must be completed in graduate-level coursework; courses with the Graduate Level Coursework attribute are identified and searchable in the university’s Course Guide (http://my.wisc.edu/CourseGuideRedirect/BrowseByTitle).

PRIOR COURSEWORK REQUIREMENTS: GRADUATE WORK FROM OTHER INSTITUTIONS

With program approval, students may be allowed to count credits of graduate coursework from other institutions. Coursework earned five or more years prior to admission to a master's degree is not allowed to satisfy requirements.

PRIOR COURSEWORK REQUIREMENTS: UW–MADISON UNDERGRADUATE

With program approval, 7 credits from a UW–Madison undergraduate degree are allowed to count toward the degree. Coursework earned five or more years prior to admission to a master's degree is not allowed to satisfy requirements.

PRIOR COURSEWORK REQUIREMENTS: UW–MADISON UNIVERSITY SPECIAL

With program approval, 15 credits taken as a UW–Madison Special Student are allowed toward minimum coursework requirements. Coursework earned five or more years prior to admission to a master's degree is not allowed to satisfy requirements.

CREDITS PER TERM ALLOWED

15 credits

PROGRAM-SPECIFIC COURSES REQUIRED

Students are required to develop a plan of courses with their advisor.

OVERALL GRADUATE GPA REQUIREMENT

3.00 GPA required.
OTHER GRADE REQUIREMENTS
Students must earn a B or above in all courses counting toward degree requirements.

PROBATION POLICY
The status of a student can be one of three options:

1. Good standing (progressing according to standards; any funding guarantee remains in place).
2. Probation (not progressing according to standards but permitted to enroll; loss of funding guarantee; specific plan with dates and deadlines in place in regard to removal of probationary status).
3. Unsatisfactory progress (not progressing according to standards; not permitted to enroll, dismissal, leave of absence or change of advisor or program).

ADVISOR / COMMITTEE
All incoming students are assigned an advisor. Students are expected to meet with their advisor on a regular basis.

ASSESSMENTS AND EXAMINATIONS
The thesis track requires a formal thesis; the report track requires a comprehensive report.

TIME CONSTRAINTS
Master’s degree students who have been absent for five or more consecutive years lose all credits that they have earned before their absence. Individual programs may count the coursework students completed prior to their absence for meeting program requirements; that coursework may not count toward Graduate School credit requirements.

LANGUAGE REQUIREMENTS
No language requirements.

ADMISSIONS
Applicants to the program typically have at least one year of college-level biology, chemistry, physics, and calculus. In addition, applicants should highlight their substantive experiences and career goals in freshwater and marine sciences. Prospective students make direct contact with potential faculty advisors. Admission depends upon finding a match between the skills and interests of the applicant and the needs of a suitable faculty mentor.

LEARNING OUTCOMES

KNOWLEDGE AND SKILLS
- Articulate, critique, or elaborate the theories, research methods, and approaches to inquiry or practice in the relevant area of freshwater and/or marine sciences.
- Identify sources and assembles evidence pertaining to questions or challenges in the relevant research field(s).
- Understand the historical or global context of freshwater and/or marine sciences.
- Select and/or use appropriate methodologies and practices.
- Evaluate or synthesize information pertaining to questions or challenges in the students’ area of specialization within the freshwater and marine sciences.
- Communicate clearly in ways appropriate to the field of study.

PROFESSIONAL CONDUCT
- Recognize and applies principles of ethical conduct.

PEOPLE

Faculty: Stanley (chair) (Integrative Biology), Bahr (Geoscience), Block (Civil and Environmental Engineering), Cardiff (Geoscience), Carpenter (Integrative Biology), Desai (Atmospheric and Oceanic Sciences), Fratta (Civil and Environmental Engineering), Ginder-Vogel (Civil and Environmental Engineering), Goldberg (Pathobiological Sciences), Graham (Botany), Gratton (Entomology), Hotchkiss (Botany), Hurley (Civil and Environmental Engineering), Krysan (Horticulture), Kucharik (Agronomy), Lee (Integrative Biology), Liu (Atmospheric and Oceanic Sciences), Loheide (Civil and Environmental Engineering), McMahon (Civil and Environmental Engineering), Noguera (Civil and Environmental Engineering), Potter (Civil and Environmental Engineering), Remucal (Civil and Environmental Engineering), Vander Zanden (Integrative Biology), Wu (Civil and Environmental Engineering)