Graduate Student

Handbook
2016-17

Doctorate of Philosophy in
Freshwater Sciences

freshwater.uwm.edu
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Welcome!

The UWM School of Freshwater Sciences (SFS) is located in Milwaukee, Wisconsin at the edge of the largest freshwater system on the surface of the Earth -- the Great Lakes. Established in 2009, SFS expands a tradition of freshwater studies at UWM that began in 1966 with the Center for Great Lakes Studies and continued with the Great Lakes WATER Institute in 1973.

Prepare to be part of the next generation of scientists, researchers, and policymakers committed to exploring, protecting, and preserving one of our most vital natural resources. The PhD in Freshwater Sciences is a dissertation-based program that prepares you for a rewarding career in academia, research, or industry.

Degree Options
The School of Freshwater Sciences offers both MS and PhD programs that prepare students for careers in the water sciences utilizing novel approaches to the sustainable and equitable use and management of freshwater systems worldwide. Detailed program descriptions begin on p. 8 of this handbook.

The PhD in Freshwater Sciences is a dissertation-based program that prepares students for research careers in academia and industry. With a strong emphasis on research, doctoral students concentrate on complex, interdisciplinary issues through a well-defined focus of study. You’ll have the opportunity to work alongside some of the world’s leading freshwater scientists, while advancing critical research.
SFS Faculty and Scientists

Graduate Faculty

**Professors**
- Garman, David, PhD, University of Sydney
- Grundl, Timothy, PhD, Colorado School of Mines
- Guo, Laodong, PhD, Texas A&M University
- Janssen, John, PhD, Michigan State University
- Klaper, Rebecca, PhD, University of Georgia
- Klump, J. Val, PhD, University of North Carolina
- McLellan, Sandra, PhD, University of Cincinnati

**Associate Professors**
- Bootsma, Harvey, PhD, University of Manitoba
- Carvan, Michael, PhD, Texas A&M University
- Kaster, Jerry, PhD, University of Colorado
- Kehl, Jenny, PhD, University of Colorado-Boulder

**Assistant Professors**
- Newton, Ryan, PhD, University of Wisconsin-Madison
- Sepulveda Villet, Osvaldo Jhonatan, PhD, University of Toledo
- Smith, Matthew, PhD, University of Tasmania
- Waples, James, PhD, University of Wisconsin-Milwaukee

**Scientists**
- Aguilar-Diaz, Carmen, PhD, University of Wisconsin-Milwaukee
- Binkowski, Fred, MS, University of Wisconsin-Milwaukee
- Cuhel, Russell, PhD, Massachusetts Institute of Technology & Woods Hole Oceanographic Institution
- Deng, Dong-Fang, PhD, University of California-Davis

UWM Affiliate Faculty

**Distinguished Professor**
- Roebber, Paul, PhD, McGill University

**Professor**
- Berges, John, PhD, University of British Columbia (Biological Sciences)
- Hutz, Reinhold, PhD, Michigan State University (Biological Sciences)

**Associate Professors**
- Frank, Nancy, PhD, State University of New York-Albany (Criminal Justice)
- Udvadia, Ava J., PhD, Duke University (Biological Sciences)
- Young, Erica, PhD, Monash University (Biological Sciences)

**Assistant Professors**
- Chang, Woo-Jin, PhD, Inha University (Mechanical Engineering)
- Han, Weon Shik, PhD, New Mexico Institute of Mining and Technology (Geosciences)
- Xu, Shangping, PhD, Princeton University (Geosciences)
SFS Academic Administration

Dr. Val Klump, Senior Director & Associate Dean of Research  
vklump@uwm.edu, (414)382-1715

Dr. Tim Grundl, Associate Dean of Academics  
grundl@uwm.edu, (414) 382-1744

Dr. Harvey Bootsma, Graduate Program Representative  
hbootsma@uwm.edu, (414) 382-1717

Margret Petrie, Assistant Dean of Academics & Student Services  
petriem@uwm.edu, (414) 382-1704

Mallory Kaul, Academic Affairs Manager  
malkaul@uwm.edu, (414) 382-1778

Lindsay Frost, Recruitment & Student Services Manager  
lgfrost@uwm.edu, (414) 382-1783

Graduate School Student Services

Molly Wierzbicki, Assistant Director & SFS Program Service Representative  
mkwierz@uwm.edu, (414) 229-4374

Jenna Jazna, Master's Graduation Specialist  
jazna@uwm.edu, (414) 229-4234

Financial Support

Graduate School Fellowships  
A limited number of competitively awarded fellowships are available to full time graduate students through the Graduate School. The Distinguished Graduate Student Fellowship, Graduate School Dissertation Fellowship, and Advanced Opportunity Fellowship include full remission of tuition, a monthly stipend and benefits such as health insurance.

Research Assistantships  
Limited Research Assistantships are available for MS thesis track and PhD students, and provide support for specific research projects through external grants and projects awarded to individual faculty.

Scholarships  
Explore current scholarship opportunities offered directly through the School of Freshwater Sciences.
Doctor of Philosophy (PhD) in Freshwater Sciences

Major Professor as Advisor

You must select a permanent advisor no later than the proposal hearing or the preliminary examination, whichever comes first. Your advisor is responsible for overseeing your transformation from apprentice to professional. Selecting your advisor is one of the most important decisions you will make in graduate school. This person will be your mentor—helping you shape your dissertation proposal, guiding you through the writing and defense of your dissertation, and often employing you as a research or teaching assistant. Your relationship with your advisor will directly affect the quality of your graduate school experience.

Residence

Residence requirements cannot be met at the master’s level, and must be fulfilled before you can achieve dissertator status.

Continuous-year requirement: You must complete 8 to 12 graduate credits in each of two consecutive semesters, or 6 or more graduate credits in each of three consecutive semesters, exclusive of summer sessions. This requirement is intended to provide immersion in the chosen discipline and foster participation in the community of scholars.

50% of credits requirement: At least half of the graduate credits required for the Ph.D. must be completed at UWM in doctoral status.

Time Limit

All requirements for the doctoral degree must be completed within 10 years from the date you first enroll in a doctoral program at UWM. This includes all coursework, the dissertation, and examinations required for the degree. Students entering doctoral programs in the fall of 2000 or later must pass doctoral preliminary examinations within five years of initial doctoral program enrollment.

Doctoral Committee

The membership of the PhD Advisory Committee will be established by the end of the student’s first year. The Committee must consist of five members including the doctoral student’s advisor as chair (or co-advisors as co-chairs) and at least two graduate faculty members from the School of Freshwater Sciences. The other two members should represent at least one other department within UWM outside the School of Freshwater Sciences, with consideration given to the inclusion of an external, non-UWM member. The Committee must meet at least once a year to monitor and formally report to the faculty on the student’s academic and research progress. This committee must approve the student’s annual Plan of Study, the student’s dissertation proposal, and serves as the doctoral examining committee for the dissertation defense.
Course of Study

Students must earn 54 credits beyond the bachelor's degree, of which 24 credits may be taken from formal coursework completed as part of a master’s degree. Students are required to take two integrative Seminar courses (FRSHWTR 901) and two Freshwater Sciences Practicum courses (FRSHWTR 512), as well as Quantitative Freshwater Analysis (FRSHWTR 504). In addition, students must complete at least 9 credits of dissertation research. Elective courses are selected in consultation with the student's PhD committee. A minimum of 27 credits must be earned in residence at UWM. Students may take up to a maximum of 9 credits of independent study counting toward the degree.

Students must be proficient in at least three of the four areas of study: 1. freshwater systems, 2. human and ecosystem health, 3. freshwater technology, and 4. freshwater policy and economics. To meet this requirement, core courses are offered in each of these respective areas:

- **FRSHWTR 502** Aquatic Ecosystem Dynamics
- **FRSHWTR 506** Environmental Health of Freshwater Ecosystems
- **FRSHWTR 508** Freshwater Engineering
- **FRSHWTR 510** Economics, Policy and Management of Water

The student's doctoral committee can recommend an exemption from taking the core course in any area that the student is deemed proficient. For more information on exemptions please contact the SFS graduate representative. Requests for exemption from Quantitative Freshwater Analysis-FRSHWTR 504 follow the same guidelines as the core course proficiency policy. Students can submit their milestones using the Online Milestones System: [https://www4.uwm.edu/grad_school/doctoral_milestones](https://www4.uwm.edu/grad_school/doctoral_milestones).

Program of Study

A Program of Study, including coursework and proposed research, is planned by the student in consultation with the major professor, and must be approved by the Committee. A student must present an annual progress report and an updated plan of study to his or her Doctoral Advisory Committee. For students entering with advanced degrees, some of the coursework may already be completed. Requests for counting previously taken courses toward the degree requirements will be evaluated on a case-by-case basis. A minimal grade point average of 3.00 must be earned in coursework, not including research or seminars.
Doctoral Preliminary Examination

Doctoral preliminary examinations, or "prelims," are designed to assess a doctoral candidate's mastery of subject knowledge and application skills, and ensure adequate preparation for individual dissertation research. The student must pass the prelims by the end of the second year in order to continue in the program. Extensions of this deadline must be approved by the PhD Advisory Committee.

The examination has two parts: written and oral. The content of the exam is determined in advance by the student’s Advisory Committee, and will include subject matter that is broadly related to the area of research that the student will specialize in, as well as content related to the core courses. The PhD Committee decides by simple majority whether the student passes, fails, or must retake part or all of the exam. At the discretion of the Committee, a student who fails the examination may be allowed one additional attempt of all or part of the examination. After successful completion of the preliminary examination, the student concentrates on the development and execution of original research.

One-credit exemption
During the semester that you are preparing for doctoral prelims, you may enroll for a minimum of 1 graduate credit and still be considered full time for financial aid or grant purposes. International students should check with the Center for International Education for more information. This status is available for one semester only, and does not fulfill residence requirements. To request this option, you must have already submitted your online Application for the Doctoral Preliminary Examination.

Dissertator Status

You are eligible to become a dissertator when you have:
• Completed all major and minor course requirements.
• Passed the doctoral preliminary examination.
• Submitted an online dissertation topic summary or online proposal hearing form in the online Doctoral Milestones System.
• Met residence requirements.
• Cleared incomplete and “progress” grades/reports in non-research courses.
• Achieved a 3.0 or higher cumulative GPA.

You must submit an online Application for Doctoral Dissertator Status, located in the online Doctoral Milestones System, for this information to be verified and approved by the Graduate School and your graduate program unit. You must submit the online form before the semester begins.

Continuous Registration
Doctoral students with dissertator status must maintain continuous registration.
• A dissertator must register for 3 graduate-level dissertation or research credits (at the current per-credit dissertator rate) each semester until the dissertation is accepted by the Graduate School. During any summers in which you use University facilities or faculty time, are a fellow or research assistant, or plan to graduate, you must register for
3 graduate-level credits (dissertator rate) in the regular eight-week summer session. Three is the minimum (and the maximum) number of graduate credits required per semester.

- The Graduate School will monitor your registration every semester to be sure that you are registered properly. The Graduate School has the authority to remove you from dissertator status if you are not in compliance with dissertator regulations. The Graduate School will notify you and your program unit of dissertator status requirements and of any registration problems. If you do not maintain continuous registration, you will be placed in a default status.

Default status: If you break the continuous registration requirement after attaining dissertator status, you will be assessed a completion (dissertator default) fee of 12 credits. After re-entry, the 12-credit completion fee is reduced by 3 credits per semester for each consecutive semester of enrollment. If you return for at least 4 consecutive semesters following a break in registration, the completion fee is not assessed.

Dissertation Proposal Hearing
Following the successful completion of the doctoral preliminary examination, the student must submit a written dissertation proposal to the PhD Advisory Committee. The proposal must be submitted within one semester of the successful completion of prelim exams, and defended by the end of the following semester. Extensions of this deadline must be approved by the PhD Advisory Committee. The PhD Advisory Committee must approve your proposal, which establishes agreement on your chosen research and indicates that you have adequate preparation to complete the research. The hearing can be held before or after achieving dissertator status.

Dissertation
During the final year of study, the candidate must present a public seminar on the dissertation research and subsequently prepare and successfully defend a dissertation reporting the results of the candidate’s research to the Committee. The original research findings embodied in this dissertation are expected to be accepted for publication in one or more refereed journals.

Dissertation Defense
As the final step toward the degree the candidate must defend the dissertation before the PhD Advisory Committee. The subject of the doctoral defense is the dissertation itself. The dissertation defense provides an opportunity for you to demonstrate your expertise after several years of preparatory coursework, research, and writing. You also will demonstrate your ability to explain ideas and methods embodied in the dissertation and to defend the implications and conclusions of your research.

The defense allows your committee members to verify your independent scholarly contributions. They may offer guidance regarding publication possibilities for the dissertation, and encourage further research efforts in your area of academic specialization. All committee members are responsible for reading and voting on the dissertation. At the conclusion of the defense, the committee may vote pass, fail, or defer the decision.
Applying for Graduation

Candidate for PhD
Follow the Graduate School steps to graduate. Graduation dates and deadlines must be followed in order to graduate. If any of these deadlines are not met, you must apply and graduate in the next semester. You will not be required to register for the next semester if the dissertation has been defended, passed, and accepted by the Graduate School before the first day of classes for the next semester. The date of graduation, however, will be the next semester.

Commencement
Ceremonies are optional and are held in May and December; August graduates are invited to the December ceremony.