Graduate Student and Faculty Advisor

HANDBOOK

Waters of the West

Graduate Education & Research Program



University of Idaho

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I. Program Overview

The Water Resources Graduate Program (WRGP) is an interdisciplinary graduate program. The term "Water Resources" is used here in the broadest sense: the study of how water moves through and interacts with natural systems, its chemical and biological components, and the physical, social, economic, and legal aspects of human interaction with the water cycle.

The WRGP is a University-wide program that integrates over 70 faculty members in 15 departments in 7 colleges who share a common interest in research, education, and/or outreach in water resources. The program is housed in the College of Agricultural and Life Sciences which provides administrative support, but students pursuing research degrees are academically supported by faculty members across the University and are typically integrated into faculty members' research groups. The program trains students to address complex water resources issues by building disciplinary depth in concert with interdisciplinary breadth to understand focused problems and communicate across disciplines (see Appendix A: Student Learning Outcomes). The program also enables but does not require students to develop a highly interdisciplinary academic program and/or thesis/dissertation with the approval of their academic committee. The program strives to educate scientists and engineers to be more politically aware and policymakers to be more scientifically knowledgeable. To accomplish both objectives, the program has three overlapping degree options in both the Master's and Doctoral programs:

Water Resources Engineering & Science
Water Resources Science & Management
Water Resources Law, Management & Policy

Additionally, concurrent JD/M.S., JD/Ph.D., and non-thesis M.S. degree options are available within any of the three option areas. Cross recognition of courses allows a JD/M.S. to be completed in approximately 4 years and a JD/Ph.D. in 6 years.

Philosophy and Structure of Curriculum

The Water Resources curriculum is structured to include common, option area core, and elective courses accomplish the programmatic learning outcomes while enabling students to design an academic program that fits their personal learning and career objectives.

Common Courses

1. Fundamentals of Research (NRS 5060). The Fundamentals of Research course "instructs students on the philosophical, conceptual, and practical foundations of modern scientific inquiry". This course is included in the curriculum because the water resources field is inherently interdisciplinary and the course helps students to understand how knowledge is generated within diverse disciplines so that students can communicate effectively within multidisciplinary teams.
2. Water Resources Seminar (WR 5010). The Water Resources Seminar introduces students to a variety of water resources topics and sectors to gain a better understanding of complex water resource challenges in the western U.S. The secondary purpose is for students to develop more effective communication skills. The seminar includes a different mix of speakers and topics every year and may be taken more than once for graduate credit. The seminar is delivered to a statewide audience including universities, state and federal agencies, Tribes, public utilities, private companies, non-governmental organizations (NGOs), and the general public.

Core Courses

Each option area has 6 (M.S.) to 9 (Ph.D.) credits of fundamental course options that students may select from to develop a basic working knowledge of the water resources field. In most cases students complete multiple core courses to build disciplinary expertise but some students opt to complete the minimum to

focus on a complementary area of study that is needed to advance water resources science and management. Students are expected to complete at least one course outside of their core disciplinary area.

Because the Water Resources Graduate Program relies on courses taught by faculty members across the University the curriculum can occasionally "break" -- that is, if a course in the curriculum is discontinued or changed it may disappear as an option despite being listed in this handbook and in the catalog entry for the program. ***Students should always consult the time schedule or faculty members directly to ensure that any key courses will be offered during a student's tenure in the program since course offerings may change without notice and updates to the course catalog often take 12-24 months to be completed***.

Elective Courses

Students work with their academic advisor and committee to determine elective courses needed to support their academic and career goals. Elective courses should include a mix of courses needed to complete a thesis or non-thesis research project, satisfy intellectual curiosity, and strategically position graduates to transition into a career or subsequent academic program in water resources or a related area.

Research Component

Master's thesis option and doctoral students are required to complete a thesis or dissertation comprising a significant novel contribution of knowledge to their discipline. Master's non-thesis option students are required to complete a professional project developed in consultation with their academic advisor. The project can include novel data collection and analysis, analysis of existing data, literature reviews, development of a research method, documentation of an experiential education component, or other relevant activity.

Overview of Graduate Degree Requirements and Recommendations

Students in the Water Resources Program must meet the general requirements set forth by the College of Graduate Studies (see Part Four) for the M.S. or Ph.D. degrees with the following exceptions. The M.S. thesis option in Water Resources requires a minimum of 21 credits of course work and completion of a thesis for a total of 30 credits[1]. The M.S. nonthesis option requires a minimum of 27 course credits and 3 credits of WR 5990 Research for the professional project. For transfers: An M.S. student must complete at least 18 of the total 30 required credits at the University of Idaho while matriculated in the College of Graduate Studies. A total of 10 credits may be in 4000-level courses. A total of 3 credits in 3000-level courses outside of the student's primary discipline is allowable at the discretion of the student's academic committee. Students transitioning from an undergraduate program may count up to 6 credits toward their graduate degree with approval by their major professor and program director.

The degree of Ph.D. in Water Resources requires a minimum of 33 credits of course work beyond the bachelor's degree and completion of a dissertation for a total of 78 credits (note for transfers: A Ph.D. student must complete at least 39 of the 78 required credits at the University of Idaho while matriculated in the College of Graduate Studies). A total of 52 credits must be at or above the 5000 level. Students in the Water Resources concurrent J.D. track must meet the general requirements set forth by the College of Graduate Studies and Water Resources Graduate Program for the M.S. or Ph.D. degrees and the College of Law for the J.D. The following sections summarize specific requirements for the three option areas as well as for the joint M.S./ J.D. and Ph.D./ J.D.

PLEASE NOTE: This publication is updated annually. However, changes can occur in academic regulations during the year. Please check with the College of Graduate Studies for the latest changes.

[1] The Water Resources Graduate Program curriculum is currently undergoing minor revisions and requirements listed in Degree Audit can be aligned with the requirements in this handbook by sending requests for course substitutions or waivers to water@uidaho.edu.

II. Water Resources Curriculum and Requirements

Engineering & Science Option Area

! Course details can change at any time, so **please consult the University of Idaho catalog** for the current curriculum. Curriculum information included below is intended for quick or offline reference.

- M.S. Engineering & Science Option
- Ph.D. Engineering & Science Option

Entry Requirements

Coursework in the following is required for (M.S. and Ph.D.) admission to the Water Resources Engineering & Science Option Area. Provisional admission for M.S. students may be granted to those who have completed the majority of this coursework, provided the remaining coursework is completed as deficiency requirements.

Calculus (minimum of 9 credits)
Differential Equations (3 credits)
Statistics for Scientists/Engineers (3 credits)
Chemistry (minimum of 4 credits)
Physics (minimum of 4 credits)
Engineering Fluid Mechanics (minimum of 3 credits)

Water Resources Graduate Program Requirements and Recommendations

Water Resources Common Core (3 credits), required
Engineering & Science Option Core (M.S. 6 credits; Ph.D. 9 credits), required
Quantitative and Statistics Courses (M.S. 3 credits; Ph.D. 6 credits), recommended
Outside Track Core (M.S. 3 credits, recommended; Ph.D. 3 credits, required)
Elective Courses (as recommended and approved by Academic Committee)

Water Resources Required Common Core

The following courses are required of both M.S. and Ph.D. students in all of the Water Resources Option Areas. The objective of NRS 5060 is to understand the epistemological foundations of different disciplines that contribute to natural resources science and management. The objective of WR501 is to expose students to diverse questions and challenges facing water resources in the region.

WR 5010	Water Resources Seminar (1 cr.)
NRS 5060	Research Methods (3 cr.)

One elective course in an option area outside the main option area (3 cr., PhD only)

Engineering & Science Option Core Courses

M.S. students are required to take 6 credits, and Ph.D. students are required to take 9 credits from the following:

CE 4250	Engineering Hydrology (3 cr.)
CE 5310	Design of Water and Wastewater Systems I (3 cr.)
CE 5230	Fluid Transients (3 cr.)
CE 5260	Aquatic Habitat Modeling (3 cr.)
CE 5280	Fluvial Geomorphology and River Mechanics (3 cr.)
GEOL 5310	Chemical Hydrogeology (3 cr.)

HYDR 5090	Quantitative Hydrogeology (3 cr.)
HYDR 5760	Fundamentals of Modeling Hydrogeologic Systems (3 cr.)
SOIL 5520	Environmental Water Quality (3 cr.)

Electives for Engineering & Science Option Area

As noted under Common Courses for Ph.D. only, an elective course *must* be in either the Science & Management or Law, Management & Policy Option Areas. A core course may be considered an elective course once the core requirements are satisfied. A detailed list of elective courses for this option area is provided on the Water Resources Program web site.

Courses may be substituted with the permission of the academic committee if they pertain to water resources science, management, and/or outreach.

Course descriptions: https://catalog.uidaho.edu/courses/

Science & Management Option Area

Course details can change at any time, so **please consult the University of Idaho catalog** for the current curriculum. Curriculum information included below is intended for quick or offline reference.

M.S. Science & Management Option
Ph.D. Science & Management Option

Entry Requirements

Coursework in the following is required for (M.S. and Ph.D.) admission to the Water Resources Science & Management Option Area. Provisional admission for M.S. students may be granted to those who have completed the majority of this coursework, provided the remaining coursework is completed as deficiency requirements.

Calculus (6 credits)
Statistics (3 credits for M.S.)
Chemistry or Physics or Biology/Ecology (6 credits total)

Water Resources Graduate Program Requirements and Recommendations

Water Resources Common Core (3 credits), required
Science & Management Option Core (M.S. 6 credits; Ph.D. 9 credits), required
Quantitative and Statistics Courses (M.S. 3 credits; Ph.D. 6 credits), recommended
Outside Track Core (M.S. 3 credits, recommended; Ph.D. 3 credits, required)
Elective Courses (as recommended and approved by Academic Committee)

Water Resources Required Common Core

The following courses are required of both M.S. and Ph.D. students in all of the Water Resources Option Areas. The objective of NRS 5060 is to understand the epistemological foundations of different disciplines that contribute to natural resources science and management. The objective of WR501 is to expose students to diverse questions and challenges facing water resources in the region.

WR 5010	Water Resources Seminar (1 cr.)
NRS 5060	Research Methods (3 cr.)

One elective course in an option area outside the main option area (3 cr., PhD only)

Water Resources & Science Option Core Courses

M.S. students are recommended to take 6 credits, and Ph.D. students are recommended to take 9 credits from the following:

Aquatic Ecology	
FISH 4300	Riparian and River Ecology (3 cr.)
FISH 5350	Limnology (4 cr.)
Fluvial Geomorphology and Aquatic Habitat	
CE 5260	Aquatic Habitat Modeling (3 cr.)
CE 5280	Fluvial Geomorphology and River Mechanics (3 cr.)
Physical Hydrology	
ENVS 4500	Environmental Hydrology (3 cr.)
Subsurface Hydrology	
HYDR 5090	Quantitative Hydrogeology (3 cr.)
SOIL 5150	Soil and Environmental Physics (3 cr.)
Water Quality	

HYDR 5120	Environmental Hydrogeology (3 cr.)
SOIL 5520	Environmental Water Quality (3 cr.)

Quantitative and Statistics Courses

All students are strongly encouraged to take at least one course in tools and technology such as statistics, GIS, remote sensing, numerical modeling, or programming that most closely aligns with their career goals.

Electives for Science & Management Option Area

As noted under Common Courses for Ph.D. only, an elective course *must* be in either the Engineering & Science or Law, Management, and Policy Option Areas. A core course may be considered an elective course once the core requirements are satisfied.

Courses may be substituted with the permission of the academic committee if they pertain to water resources science, management, and/or outreach.

Course descriptions: https://catalog.uidaho.edu/courses/

Law, Management & Policy Option Area

Course details can change at any time, so **please consult the University of Idaho catalog** for the current curriculum. Curriculum information included below is intended for quick or offline reference.

M.S. Law, Management & Policy Option
Ph.D. Law, Management & Policy Option

Entry Requirements

A background in government, public policy, or management is required for M.S. and Ph.D. admission to the Law, Management, and Policy Option Area. Students without an undergraduate degree in Political Science, Public Policy, Government, Constitutional Law, Civil Procedure, or related field may be granted provisional admission, but will be required to complete coursework (in addition to standard program and option area requirements) that demonstrates a minimum level of competency. This should include:

American Government (6 credits at the 4000 level)
Public Policy (6 credits at the 4000 level) or
Both requirements above may be met by taking equivalent law courses including:
Constitutional Law and similar classes as approved by the Major Professor (12 credits at the 5000 or 9000 level).

Subject to approval of the Water Resources Program curriculum committee, other relevant completed courses (or professional experience) may be substituted to meet these requirements.

Water Resources Graduate Program Requirements and Recommendations

Water Resources Common Core (3 credits), required
Law, Management & Policy Option Core (M.S. 6 credits; Ph.D. 9 credits), required
Research and Analytical Methods (3 credits, determined in consultation with committee)
Outside Track Core (M.S. 3 credits, recommended; Ph.D. 3 credits, required)
Elective Courses (as recommended and approved by Academic Committee)

Water Resources Required Common Core

The following courses are required of both M.S. and Ph.D. students in all of the Water Resources Option Areas. The objective of NRS 5060 is to understand the epistemological foundations of different disciplines that contribute to natural resources science and management. The objective of WR501 is to expose students to diverse questions and challenges facing water resources in the region.

WR 5010	Water Resources Seminar (1 cr.)
NRS 5060	Research Methods (3 cr.)

Water Resources Law, Management & Policy Option Core Courses

M.S. students are required to take 6 credits, and Ph.D. students are required to take 9 credits from the following:

LAW 9380	International Environmental and Water Law (3 cr.)
LAW 9390	Law, Science, and the Environment (2 cr.)
LAW 9420	Water Law of the American West (3 cr.)
LAW 9470	Environmental Law (3 cr.)
LAW 9480	Public Lands and Resources Law (3 cr.)
NRS 5550	Human Dimensions of Natural Resources (3 cr.)
NRS 5880	NEPA in Policy and Practice (3 cr.)
WR 5520	Water Economics and Policy Analysis (3 cr.)

Similar courses may be substituted if approved by the Major Professor.

Electives for Water Resources Law, Management & Policy Option Area

As noted under Common Courses for Ph.D. only, an elective course *must* be in either Engineering & Science or Science & Management Option Areas. A core course may be considered an elective course once the core requirements are satisfied.

Courses may be substituted with the permission of the academic committee if they pertain to water resources science, management, and/or outreach.

Course descriptions: https://catalog.uidaho.edu/courses/

Concurrent J.D. Degree

Please consult the University of Idaho catalog for the most recent information:

Water Resources Concurrent J.D. Degree

Entry Requirements

Completion of requirements for admission to both the College of Law and the specific Water Resources option area is required for (M.S. and Ph.D.) admission to earn the Water Resources Concurrent J.D. Degree. Students are required to apply separately to the College of Law and to the Water Resources Program in the College of Graduate Studies, and on acceptance to each college, must apply to the concurrent degree program. Acceptance to both colleges does not have to occur simultaneously. The Director of the Water Resources Program and one member of the Water Resources Law faculty makes admission decisions to the concurrent degree program.

Common/Core Courses

All students seeking to earn the Water Resources concurrent J.D. degree are required to complete coursework as specified for the particular Water Resources Option Area for the M.S. or Ph.D., as well as coursework required by the Law School for a J.D.

Electives

The student and faculty committee will select courses appropriate to satisfy the requirements of the College of Graduate Studies and College of Law.

Concurrent Degree Details

Students in the Water Resources concurrent J.D. track must meet all graduation requirements set forth by the College of Graduate Studies for the M.S. or Ph.D. degrees and the College of Law for the J.D. Each student shall have a "graduate committee." The student's graduate committee must meet the requirements of the College of Graduate Studies and must have at least one member from the faculty of the College of Law.

- No more than 12 credits of M.S. and Ph.D. graduate school credit are allowed toward the J.D. degree. The courses must be approved by the student's advisor in the College of Law with the following guidelines: Courses approved for credit toward a J.D. must be complementary to an emphasis in water law, must enhance the candidate's ability to serve clients and the legal profession in the area of water law, and must not be the equivalent substantive coverage to a course offered in the College of Law and available to the student.
- No more than 6 credits from Law are allowed toward the M.S. and Ph.D. degrees in Engineering & Science and Science & Management option areas. No more than 12 credits from Law are allowed toward the M.S. and Ph.D. degrees in the Law, Management & Policy option area. Courses may be selected from the following list:

LAW 9070	Administrative Law (3 cr.)
LAW 9340	Land Use Law and Planning (3 cr.)
LAW 9380	International Environmental and Water Law (3 cr.)
LAW 9390	Law, Science and the Environment (2 cr.)
LAW 9420	Water Law of the American West (3 cr.)
LAW 9470	Environmental Law (3 cr.)
LAW 9480	Public Lands and Resources Law (3 cr.)
LAW 9490	Native American Law (3 cr.)

LAW 9790 Native American Natural Resource Law (3 cr.)

Satisfactory completion of both degrees is required to qualify for the exchange credit, as the degrees are granted concurrently. The first year of study for concurrent M.S. or Ph.D. students must be exclusively in the College of Law. M.S. students are required to write a thesis. Ph.D. students are required to write a dissertation. If the student fails to complete the M.S. or Ph.D. in Water Resources, only 6 credits from the Water Resources Program are allowed toward the J.D. degree. If a student fails to complete the J.D. degree, the student must satisfy all requirements for the particular option area in the Water Resources Program to receive the M.S. or Ph.D. degree.

Once in the Program

Students should develop a study plan consulting with both their Law and Graduate advisors by the end of the second semester of graduate school.

Students should be advised to take the full 4-5 years for both degrees. In addition, completion of the JD in 3 years followed by the bar exam reduces the level of integration with the graduate degree and the likelihood of timely completion of the graduate degree.

Students should be advised to take Water Law of the American West in their 2L year and Research Methods (NRS 5060) in the fall of their 3rd year.

Law Emphasis Areas

Students completing a JD/M.S. in Water Resources should have no difficulty also completing the requirements for a Natural Resources and Environmental Law Emphasis and are encouraged to do this.

Other Course Options

Moscow Based Students

Students based in Moscow have access to many excellent courses taught at Washington State University (WSU) through the U of I and WSU cooperative education agreement. Please consult the Cooperative Education website for details. For courses that are not listed as cooperative, an informal arrangement can sometimes be made with the instructor or record to allow a student to unofficially enroll in a course. To do this, a faculty member requests that a Directed Study section be opened with an appropriate title and credits and informs the WSU instructor. At the end of the semester the WSU instructor emails a grade to the UI faculty member to be recorded for the Directed Study credits.

Boise Based Students

Students based in Boise likewise have access to many excellent courses taught at Boise State University (BSU) via the reciprocal course sharing Memorandum of Understanding (MOA). The MOA allows students to enroll in one course per semester. The total number of courses shall not exceed 3 courses of no more than 4 credits each. ***Students requesting tuition waivers to enroll in BSU courses should clearly indicate their advisor's name in the request to ensure prompt processing.***

All Students

The University of Idaho is also affiliated with the Consortium of Universities for the Advancement of Hydrological Sciences, Inc. (CUAHSI) that maintains a modular 1-semester graduate course. Consult the CVU website for specific details.

III. Student and Major Professor Expectations

The student, not the major professor, **is responsible for meeting all deadlines and academic requirements** and for initiating a process of regular communication with major professor and committee. The student is responsible for his/her own program. This includes:

- Initiating regular communication and frequent meetings with Major Professor.
- Beginning work with the Major Professor on research topic immediately. To complete all requirements in a timely manner requires focus and diligence.
- Setting a timetable with short- and long-term goals and referring to it regularly.
- Discussing and agreeing on what constitutes acceptable and unacceptable use of artificial intelligence (AI) in an academic setting.
- A meeting of the committee as early as possible to ensure that the program of study and/or research includes thinking from the physical, biological, and/or social science areas.
- Working with the Major Professor to create and present the research proposal including interdisciplinary integration of the proposed research, if appropriate.
- Considering meeting with the academic committee each semester to keep them up-to-date on scholarly activities. At a minimum, the student should communicate with them regularly.
- Professional development activities such as attending conferences, presenting conference papers, presenting at departmental graduate student seminars, and writing papers for publication.
- Informing the committee of participation in professional development activities.
- Writing sections of the thesis/dissertation as soon as possible. Delaying writing is a common problem for many graduate students and substantial early progress on the introduction, background, and methods can be made by developing a detailed research proposal.
- Preparing drafts (proposal, thesis, etc.) in consultation with the Major Professor prior to sending it to committee members. Drafts should be grammatically correct and free of typographical and spelling errors and forwarded to the committee following approval by the Major Professor.

* Adapted from Graduate Orientation, “Surviving (and Enjoying!) Graduate School” by Dr. Margrit von Braun, former Dean of the College of Graduate Studies.

IV. Interdisciplinary Requirements and Opportunities

"Interdisciplinary research (IDR) is a mode of research by teams or individuals that integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline or area of research practice." From *Facilitating Interdisciplinary Research,* National Academy of Sciences (NAS), 2004.

To ensure that each thesis/dissertation is interdisciplinary, the Water Resources Program requires the following:

1. Committee Requirements

Each Committee shall be composed of members from more than one discipline. For the M.S. a minimum of three members is required; for the Ph.D. a minimum of four members is required. All committee members must approve a) the student's study plan, b) the thesis/dissertation proposal, and c) any interdisciplinary component(s) of the thesis/dissertation project.

2. Program Requirements

Each program of study and/or thesis/dissertation shall ideally reflect education and/or research beyond a single discipline. Integration can be achieved throughout the academic program and/or through a separate interdisciplinary chapter (possibly co-authored) that specifically integrates knowledge, methods, and/or information from at least two distinct disciplines. All chapters of the thesis/dissertation shall be integrated into a coherent whole.

Strategies for Interdisciplinary Research

Suggested ways to develop interdisciplinary work:

- From the beginning of your project, think about how the research includes aspects and implications of physical, biological, and/or social sciences, and/or humanities.
- Your research question and objectives should be created so that achieving the objectives requires work in at least two of the disciplinary areas.
- Consider and discuss with your Major Professor and committee how your research is different as a Water Resources student than in a single discipline.
- Think about devoting a chapter in the thesis/dissertation to explaining the interdisciplinary nature of the research or discussing the broader implications of the work.
- Engage in a process of planning and thought regarding how you would go about collecting and using data from at least one of the other disciplines. For example, why and how would social science and/or physical science data enrich a biological research project? What would you collect, given sufficient time and money, and how would you use it?
- Imagine that an agency is so impressed by your research that they decide to fund you to include the broader aspects of the problem including the other two areas. What would you do, how would you do it, and how would you use it?
- At the defense, your Major Professor and committee should ask at least one of the following questions (or another integrating question):
    - How has this research used ideas or approaches from at least two of the areas of physical, biological, social science, and humanities?
    - Could this work have been done in the same way in a single discipline?

- What are the broader implications of your work as they apply outside of your option area?
- If you went on to continue work on this project, how would you continue to gather data and integrate information from the different disciplines into your research?
- As you apply the results of your work in the field, how would you integrate information or methods from the different disciplinary areas?
- If you had to explain the implications of your research to a person with a completely different background (a manager, politician, or member of the public), what would you say?
- What is important about your research in solving environmental problems?

Further Readings in Interdisciplinarity

National Academy of Sciences. 2004. Committee on Facilitating Interdisciplinary Research, National Academy of Sciences, National Academy of Engineering, Institute of Medicine. Facilitating Interdisciplinary Research.

Gilbert, L.E. 1998. "Disciplinary breadth and interdisciplinary knowledge production," Knowledge, Technology, and Policy 11: 4-15.

Janssen, W. and P. Goldsworthy. 1996. "Multidisciplinary research for natural resource management: conceptual and practical implications," Agricultural Systems 51.3: 259- 279.

Klein, J.T. 1990. Interdisciplinarity: History, Theory, and Practice. Detroit, MI: Wayne State University.

Klein, J.T. 1996. Crossing Boundaries: Knowledge, Disciplinarities, and Interdisciplinarities. Charlottesville, VA: UP of Virginia.

Lattuca, L.R. 2001. Creating Interdisciplinarity: Interdisciplinarity Research and Teaching Among College and University Faculty. Nashville, TN: Vanderbilt UP.

Newell, W.H. 2001. "A Theory of Interdisciplinary Studies," Issues in Integrative Studies,19: 1-25.

Nissani, M. (1995). Fruits, salads, and smoothies: A working definition of interdisciplinarity. Journal of Educational Though. 29(2), 121-128.

Repko, A.F. 2008. Interdisciplinary Research: Process and theory. Sage Publications. ISBN 978-1-4129-5915-5 (Q180.55.I48R47 2008).

V. Materials, Equipment, and Services

The following is a list of policies and procedures for ordering materials, equipment and services related to the research. These are specified by the university and the department as it pertains to graduate students. University equipment or material (including such things as tablets and paper clips) is for project use only as authorized by the project leader. University property may NEVER be used for personal use.

Travel

Discuss arrangements for travel to conferences and meetings with your major professor. Graduate students can apply for travel funding through the Graduate and Professional Student Association (GPSA). For more information, visit the GPSA website: https://uidahogpsa.com.

Copying, Printing, and Library Use

Many references are available on-line. See the library web site for a Journal List (http://www.lib.uidaho.edu/). U.S. Government documents, magazines and journals in the library holding cannot be checked out. A copy of a portion of a book or an article from a journal or magazine at the library can be scanned onsite on delivered directly to your email. Students are responsible for observing copyright rules (http://www.lib.uidaho.edu/copyright/index.html). Copies made for the project reference files will remain part of the project and cannot be removed after graduation. Students are advised to keep detailed record of sources of articles and books so they can be tracked at a later time.

Graduate students may check books out of the library for an entire semester. These books should be returned in a timely manner when they are no longer actively used. This also applies to books and references borrowed from fellow students and faculty members. Books or reference material cannot be taken from an office or lab without asking permission.

Computer Usage

All students have access to computer resources. Computer accounts are requested from the University Office of Information Technology (https://www.uidaho.edu/leadership/information-technology). When using a computer, students are responsible to adhere to the computer use policy for the University of Idaho (https://www.uidaho.edu/policies/apm/30/12).

Research Records and Notebooks

During the course of the thesis/dissertation research, a voluminous amount of data will be collected along with many notes, reminders, procedures, etc. It is very important to keep these data in an organized fashion so all records are available when writing the thesis/dissertation chapters. Research records must be zealously protected from any harm. Consider purchasing a notebook that can be dedicated solely to your research. Also, be sure to back-up your files and keep copies of all important information.

VI. Steps to the Degree

M.S. Program

Activity	Suggested Completion
Identify Major Professor	Prior to Admission
File Committee Form Appointment of Major Professor CoGS Forms Repository	Beginning of 1st semester
Appoint Committee	Beginning of 2nd semester
File Committee Form Appointment of Committee CoGS Forms Repository	2nd semester
Prepare Study Plan	End of 2nd semester
File Study Plan	End of 2nd semester
Research proposal to Committee	2nd semester
Present research proposal	2nd semester
Research	
Analyze data/summarize results	End of 3rd semester
Work with Major Professor & Committee on draft document	3rd and 4th semester
File application for degree	End of 3rd semester
Thesis review by Major Professor & Committee	4th semester
Prepare final draft	4th semester
Grad school check of thesis format	End of 4th semester
File authorization for final defense Request to Proceed with Final Defense CoGS Forms Repository	End of 4th semester
Pick up defense forms from Grad school	End of 4th semester
Final defense	End of 4th semester
Prepare final copy of thesis, complete forms, & turn into CoGS CoGS Forms Repository	End of 4th semester

Ph.D. Program

Activity	Suggested Completion
Identify Major Professor	Prior to Admission
File Committee Form Appointment of Major Professor CoGS Forms Repository	Beginning of 1st semester

Activity	Suggested Completion
Appoint Committee	Beginning of 2nd semester
File Committee Form Appointment of Committee CoGS Forms Repository	2nd semester
Prepare Study Plan	3rd semester
File Study Plan	End of 3rd semester
Qualifying Exam (if needed)	
Research proposal to Committee	End of 3rd semester
Present research proposal	End of 3rd semester
Preliminary Examination	End of 3rd semester
File Candidacy form Report of Preliminary Exam & Advancement to Candidacy CoGS Forms Repository	End of 3rd semester
Research	
Analyze data/summarize results	End of 4th semester
Work with Major Professor & Committee on draft document	End of 4th semester
File application for degree	End of 5th semester
Dissertation review by committee	6th semester
Prepare final draft	6th semester
Grad school check of dissertation format	6th semester
File authorization for final defense Request to Proceed with Final Defense CoGS Forms Repository	6th semester
Pick up defense forms from Grad school Authorization to Submit Thesis or Dissertation CoGS Forms Repository	End of 6th semester
Final defense	End of 6th semester
Prepare final copy of dissertation, complete forms, & turn into the Grad school Checklist for Final Submission of Document CoGS Forms Repository UMI Doctoral Dissertation Agreement CoGS Forms Repository Survey of Earned Doctorates CoGS Forms Repository	End of 6th semester

VII. Program Milestones and Tips

Appointment of Committee

Students should file the form to appoint their major professor at the start of their program. This is important so that there College of Graduate Studies knows which faculty member to contact in regard to any questions or business pertaining to the student. Additional committee members can be added later using the same form.

Study Plans

The academic study plan (i.e. courses needed to fulfill degree requirements) should be developed in consultation with the student's major professor. It is highly recommended that the study plan be discussed *prior* to the start of the first semester to not miss any critical courses that may be offered in alternate years. It is also highly recommended to engage the full committee prior to submitting the study plan for approval to make sure that all key courses are included to ensure student success. ***Please note that the study plan should only include the approximate minimum number of credits for each program*** (~30 for MS, ~78 for PhD) and will be returned for revision if excessive credits are included. Students can and are encouraged to take addition courses and/or research credits to support their academic development but only the minimum are needed for the study plan.

Course Substitutions and Waivers

Courses not listed in the core requirements may be substituted for core courses with the approval of the major professor and program director. Substitution and waiver requests should be submitted to the program director who then requests via the student's degree audit that CoGS make the change.

Qualifying and Preliminary Exams (Doctoral Students Only)

The Water Resources Graduate Program does not require a qualifying exam, however certain disciplines with the broader water resources field may require a qualifying exam at some point the academic program. If students have a question regarding whether they will be required to complete a qualifying exam, they should discuss this with their major professor.

The Preliminary Examination for doctoral degrees is a major milestone that evaluates a student's readiness to advance to formal candidacy. The Water Resources Graduate Program does not require a specific format for the exam since different academic cultures associated with the diverse disciplines that comprise the water resources field tend to approach the exam differently. Students are advised to discuss the format, logistics, and timing of the exam with their major professor and academic committee during one of their committee meetings. It is strongly recommended that students meet with committee members individually prior to the comprehensive exam to discuss expectations to prepare strategically for the exam and increase the potential for a smooth and successful transition to candidacy.

General Preliminary Exam Procedures and Formats

Comprehensive exams are typically scheduled after students have completed their coursework or when they have reached an agreement with their major professor and committee that they have made sufficient academic progress that it is appropriate to schedule the exam. The exam typically consists of a written component followed by an oral component usually scheduled two to four weeks following the completion of the written exam.

Written Exam Formats

As noted above, the Water Resources Graduate Program does not require a specific format for the written component and encourages the committee and student to collaboratively determine the most appropriate format for their field. Preliminary exams that have been used in the past include but are not limited to the following formats:

“Traditional Exam”

The traditional exam format consists of each committee member providing questions to the major professor. The major professor verifies that each question is within the scope of the student’s expected knowledge and is not redundant with other questions and may request different or modified questions from committee members. The questions are then assigned to the student either as a batch or one per day with a defined amount of time to complete the questions and any restrictions or permissions (e.g. open book, no Internet, no AI use). Typically the student is expected to complete each committee member’s question over the course of a day such that the exam lasts 4-5 days, but in some cases students have been provided up to 3 weeks to complete the written component of the exam.

Research Proposal

An alternative format involves the preparation of a formal research proposal not directly related to their dissertation based on an actual Request for Proposal (RFP) from a research agency. For example, students have prepared NSF-CAREER, NSF Postdoctoral Fellowship, and USDA-NIFA proposals. One advantage of this format is that students receive mentorship in grantwriting and can potentially revise and submit the proposal at a later date to advance their independent research program. Students are typically provided 2-4 weeks to draft the research proposal and may or may not be asked to include supporting information such as a budget and budget narrative.

Hybrid Format

In some cases a student may be asked to complete both questions and a research proposal. This format has been used in cases where a committee member is not comfortable with alternative exam formats.

Research Paper

Another alternative exam format is where the student is asked to submit the first chapter of their dissertation as the written exam component. The format is especially advantageous for students who are having a difficult time initiating the writing process. This also serves to provide them with advance feedback from their committee to accelerate the submission of their first scholarly journal article prior to their final defense.

Dissertation Proposal

In some fields it is typical for the student to submit their dissertation proposal as the written exam component. The oral component of the exam then focuses primarily on questions and critiques of the proposal. In most cases dissertation research is underway at the time the proposal is submitted, but in some cases the student may not be given permission to start their research until the proposal is approved by the academic committee.

Oral Exam Format

All committee members should review the written exam soon after it is completed and indicate to the major professor whether or not the student should proceed to the oral exam or re-take the written exam at a later date. The oral exam typically consists of each committee member sequentially asking the student questions related to the written exam, coursework, any assigned readings, or other material within the scope of the student’s disciplinary area(s). The oral exam typically lasts 2-3 hours or until all committee members are satisfied that the student has adequate depth and breadth of knowledge to advance to candidacy. Following the oral exam the committee may:

1. Advance the student to candidacy.
2. Advance the student to candidacy with feedback and recommendations on topics to gain better mastery in prior to the final defense. This is the typical outcome of most oral exams.

3. Advance the student to candidacy following completion of specific requirements (e.g. completing an additional course with a specified minimum grade, revising a written exam answer or analysis, etc.).
4. Request that the student re-take the written and/or oral component of the exam at a later date, with specific recommendations for areas of improvement.
5. Officially fail the exam. Per University policy "If the preliminary examination is failed, it may be repeated only once; the repeat examination must be taken within a period of not less than three months or more than one year following the first attempt".

Final Defense

The final defense consists of a public seminar typically lasting one hour followed by a closed-door question and answer session with the academic committee. During the closed door session committee members sequentially ask questions to determine whether the student has produced a defensible dissertation or thesis. The student is asked to leave the room when all committee members are satisfied that they have had an opportunity to adequately assess the quality of the student's final document. The committee members then deliberate on whether the dissertation and defense is acceptable to warrant conferral of the degree sought by the student or whether additional work and subsequent defense is required.

VIII. Professional Conduct and Ethics

As graduate students and professional scholars-in-training, you are expected to exercise high standards of ethical and professional behavior toward your peers and your professors. Science as a whole can only make progress if individual scientists are truthful and trustworthy. As academic professionals and members of the larger community of scientists, graduate students should practice intellectual honesty at all times. You should exercise scholarly discipline and good critical skills, while engaging in civil, collegial discussion of scientific and professional matters. Ideally, scientific professionals should strive to be objective and fair in their criticism and discussion of colleagues' work. Graduate students must never engage in, permit or otherwise support professional misconduct, including plagiarism, falsification of information, or deception of any kind. Each of us is obligated to report professional misconduct to a supervisor or Program Director as appropriate.

Academic Honesty and Research Ethics

As stated above, graduate students are expected to uphold high standards of intellectual and academic honesty at all times, and to enforce university and departmental standards for academic honesty. The University Faculty and Staff Handbook states that "cheating on classroom or outside assignments, examinations or tests is a violation of [the academic honesty] code. Plagiarism, falsification of academic records, and the acquisition or use of test materials without faculty authorization are considered forms of academic dishonesty…" Should you encounter academic dishonesty, you should immediately bring it to the attention of your teaching supervisor. Other instances should be discussed with your major professor or the Program Director. There is an expectation that graduate students spend an appropriate amount of time researching and producing new papers for class research projects. If previous papers are to be expanded, you must have permission from the course instructor. A paper written for one course and turned in for a subsequent course will be considered a breach of academic honesty.

Harassment

Graduate students are expected to treat other students, peers, professors, and other colleagues in the university workplace respectfully at all times. By the same token, you are also entitled to respectful behavior on the part of your coworkers. "Harassment" in the workplace is often defined in sexual terms. However, harassment in a broader sense can also take the form of teasing, insults and other hostile or harsh speech, crude gestures, or otherwise acting toward another person in an extremely objectionable or humiliating manner, even when that behavior lacks a sexual context. Legally prohibited harassment includes not only sexual harassment but also harassment based on race, color, national origin, religion, age, disability, sexual orientation or status as a veteran.

The University of Idaho Faculty and Staff Handbook Policy 3220 defines sexual harassment as "unwelcome sexual advances, requests for sexual behaviors, or other verbal or physical conduct of a sexual nature." Such conduct is deemed especially deplorable when it occurs in a relationship where there is a significant power differential, such as harassment of a student by an instructor, "…creating an intimidating, hostile, or offensive learning environment," or interfering with a student's education. Under no circumstances should a graduate student engage in behavior that might be construed as harassment, sexual or otherwise. If you feel you have been harassed or are aware of a possible violation of the University's harassment policy, you are strongly encouraged to contact the University's Office of Diversity and Human Rights, the Women's Center, your major professor, supervisor, or the Program Director.

Policy on Graduate Student Complaints

If a graduate student has a serious complaint regarding how they have been treated in class or research projects, this should be brought to the Program Director or the student graduate committee advisor. Complaints may include, but are not limited to, conflicts that involve a colleague, teaching supervisor, employer, or major professor. The student should attempt to resolve the problem by informal discussion

with those involved in the grievance before a formal grievance is brought to the Program Director. The Program Director will work with the student to bring the situation to a reasonable conclusion. If necessary, the student may visit the College of Graduate Studies for additional assistance.

IX. Online Resources

The primary portal for online academic resources is the:
Inside U of I Intranet

All important resources for U of I students, faculty, and staff were transitioned to the intranet during the 2025-2026 academic year so if you can't find information that used to be publicly available, this is the best place to look.

For degree requirements, forms, and other graduate student resources the best information can be found here: College of Graduate Studies

Water Resources Graduate Program Homepage
Includes links to programmatic options and faculty advisors.

Admission Requirements
http://www.uidaho.edu/admissions

Financial Aid
https://www.uidaho.edu/financial-aid

Schedule of Classes
https://webpages.uidaho.edu/schedule/

Student Accounts/Cashier
https://www.uidaho.edu/current-students/student-accounts

Graduate and Professional Student Organization
https://uidahogpsa.com

Brand Resources Center – logos, PowerPoint templates etc.
https://www.uidaho.edu/brand-resource-center

Copy and Print Center
https://printonline.uidaho.edu/home

UI Water Resources Facebook Page
https://www.facebook.com/UIWaterResources/

Appendix A: Student Learning Outcomes[2]

Science & Management

Ph.D.

1. Students will understand the diverse philosophical bases of different disciplines and work effectively in interdisciplinary teams to solve complex interdisciplinary water resources challenges.

2. Students will gain knowledge of fundamental scientific theories and concepts within their sub-field of water resources and application to management challenges.

3. Students will independently synthesize key knowledge gaps to conceptualize, develop, and implement a novel disciplinary and/or interdisciplinary water resources research project.

4. Students will develop written and oral communication skills to engage professional peers and the public in a concise, factually accurate, mechanically correct, and engaging manner.

Science & Management

M.S.

1. Students will understand the diverse philosophical bases of different disciplines and work effectively in interdisciplinary teams to solve complex interdisciplinary water resources challenges.

2. Students will gain knowledge of fundamental scientific theories and concepts within their sub-field of water resources and application to management challenges.

3. Students develop the breadth and depth of disciplinary understanding and critical thinking to contribute to the design, data collection, and analysis of an original water resources research project.

4. Student will develop written and oral communication skills to engage professional peers in a concise, factually accurate, mechanically correct, and engaging manner.

[2] Student Learning Outcomes finalized by core WR faculty members: October 13, 2022.

Engineering & Science

Ph.D.

1. Students will understand the diverse philosophical bases of different disciplines and work effectively in interdisciplinary teams to solve complex interdisciplinary water resources challenges.

2. Students will gain knowledge of fundamental scientific theories and concepts within their sub-field of water resources and application to engineering practices.

3. Students will independently synthesize key knowledge gaps to conceptualize, develop, and implement a novel disciplinary and/or interdisciplinary water resources research project.

4. Students will develop written and oral communication skills to engage professional peers and the public in a concise, factually accurate, mechanically correct, and engaging manner.

Engineering & Science

M.S.

1. Students will understand the diverse philosophical bases of different disciplines and work effectively in interdisciplinary teams to solve complex interdisciplinary water resources challenges.

2. Students will gain knowledge of fundamental scientific theories and concepts within their sub-field of water resources and application to engineering practices.

3. Students develop the breadth and depth of disciplinary understanding and critical thinking to contribute to the design, data collection, and analysis of an original water resources research project.

4. Student will develop written and oral communication skills to engage professional peers in a concise, factually accurate, mechanically correct, and engaging manner.

Law, Management, and Policy

Ph.D.

1. Students will understand the diverse philosophical bases of different disciplines and work effectively in interdisciplinary teams to solve complex interdisciplinary water resources challenges.

2. Students will gain knowledge of fundamental tenets and the interfaces between water resources law, management, and policy.

3. Students will independently synthesize key knowledge gaps to conceptualize, develop, and implement a novel disciplinary and/or interdisciplinary water resources research project.

4. Students will develop written and oral communication skills to engage professional peers and the public in a concise, factually accurate, mechanically correct, and engaging manner.

Law, Management, and Policy

M.S.

1. Students will understand the diverse philosophical bases of different disciplines and work effectively in interdisciplinary teams to solve complex interdisciplinary water resources challenges.

2. Students will gain knowledge of fundamental tenets and the interfaces between water resources law, management, and policy.

3. Students develop the breadth and depth of disciplinary understanding and critical thinking to contribute to the design, data collection, and analysis of an original water resources research project.

4. Student will develop written and oral communication skills to engage professional peers in a concise, factually accurate, mechanically correct, and engaging manner.

Appendix B. Social Justice Statement

Prepared by Water Resources Graduate Program alumni, students, and faculty.
Finalized June 8, 2020. Modified February 19, 2025.

Following the high-profile, tragic killings of several Black Americans in 2020, leaders of the University of Idaho Water Resources Graduate Program—students, alumni, and faculty—affirm our commitment to anti-racism, peaceful protest, and the integration of diverse perspectives into our curriculum.

We make this statement of solidarity with humility, recognizing that we have much to learn about systemic racism and how to dismantle it within our households, social circles, work, and academic spaces. As water resources professionals, we take this moment to reevaluate opportunities to apply universal water security values in our work in reflection that water rights are human rights. We recognize that statements and words are limited in their power to effect change and want to make our intentions and values clear. Determining the actions we can take to match these values will be an ongoing project of discussion and critical self-evaluation and we are starting with small steps now. For example, we are dedicating a portion of our ongoing annual seminar series to water resources challenges specifically facing disadvantaged communities. Numerous studies illuminate these challenges including a 2019 Report by the NAACP on the disproportionate impact of increased water rates and failing water infrastructure on communities of color, the Michigan Civil Rights Commission report on the role of racism in the Flint water quality crisis, and the DigDeep and the US Water Alliance report showing that Native Americans are more likely to lack access to safe drinking water than others in the US. By continuously integrating water resources and environmental justice issues in our education, research, and outreach programs we will produce more informed water resources professionals and contribute to a stronger and more resilient future for all.

We invite dialogue, feedback, and collaboration to address the concerns of BIPOC (Black, Indigenous, and People of Color) communities in our region and beyond. We continue our commitment to equal access to water resources graduate education from all the communities we serve and welcome feedback on how we can improve recruitment from and support for BIPOC communities. We stand in solidarity with the millions of Americans peacefully demanding justice and working towards an end to systemic racism.