Water Resources Science
Graduate Information Handbook\textsuperscript{1} For
Master of Science (MS) and Doctoral (PHD) Students

Water Resources Graduate Program
Oregon State University
124 SW 26\textsuperscript{th} Street | 116 Gilmore Hall
Corvallis, Oregon 97331

\textsuperscript{1} Last Updated May 23, 2024
WATER RESOURCES SCIENCE, MS and PHD Degrees

1. General Contact Information
   a. Program-Specific Contacts

   **WRGP Director:** Dr. Stephen Good (Stephen.Good@oregonstate.edu)
   The Director of the Water Resources Graduate Program is involved in admission of graduate students, provides general orientation to the WRGP, ensures that the graduate program is implemented, and standards are maintained, and assists in the solution of any major problems that may arise during a student’s programs.

   **Associate Director, WRS:** Alyssa Shiel (Alyssa.Shiel@oregonstate.edu)
   The Associate Director of the Water Resources Science degree program is involved in admission of graduate students, the development and review of required courses, provides oversight of this program, and will advise and guide students as necessary.

   **Administrative Assistant:** Denise Conner (Denise.conner@oregonstate.edu)
   The Administrative Assistant is the administrative point person for the WRGP and is the person to go to for items such as scheduling of classes, GTA assignments, travel pre-approval and re-imbursement, and course overrides.

   **Office Specialist:** Sam Christopher (Sam.christopher@oregonstate.edu)
   The Office Specialist is the administrative back-up for the Administrative Assistant. This person assists in coordinating program communication and correspondence, visitor travel arrangements, event planning, marketing, website maintenance, and answering general inquiries.

   b. Program Website Address
   [http://oregonstate.edu/gradwater/](http://oregonstate.edu/gradwater/)

   c. Graduate School
   What is the Graduate School?
   - The Graduate School at OSU assures quality and consistent interpretation of Graduate Council policies related to graduate education across all programs. The OSU Catalog is the official source for information regarding OSU graduate education policy and procedures. It is the student's responsibility to refer to the catalog for this information.
   - The Graduate School supports students throughout the academic lifecycle, from admissions to degree completion.
   - The Graduate School, and its campus partners, offer an array of professional development opportunities specific to the success of graduate students. Topics include research and ethics, teaching and facilitation, writing and communication, leadership and management, career skills, grad life and wellness. Please visit the Graduate School links to browse our student success offerings.

   d. University Emergency Contacts
   OSU is dedicated to providing a safe and secure learning and living environment for its community members. [The Department of Public Safety](http://oregonstate.edu/publicsafety/) provides resources, information,
emergency phone numbers, and protocols for maintaining personal safety. Sign up for OSU Alerts to get timely messages delivered right to your phone or inbox regarding university closures and other emergency situations.

2. Academic and Support Resources

OSU offers a wide array of academic and support resources designed to meet graduate student needs. Some of the more commonly used resources are included below. For a more complete list, please visit the Graduate School’s Student Resources web page. Note that some services are campus-specific. See also OSU Cascades Campus Life and Ecampus Student Services for services specifically provided to graduate students pursuing degrees or certificates via those specific venues.

- **Campus Safety** – Emergency phone numbers, university alerts
- **Career Development Center** – Resume/CV, networking, job search strategies
- **Childcare and Family Resources** – University child care centers, child care assistance
- **Counseling and Psychological Services (CAPS)** – Individual and group counseling
- **Cultural Resource Centers** – Cultural based community centers, social support
- **Disability Access Services (DAS)** – Academic accommodations
- **Equal Opportunity and Access (EOA)** – Employment accommodations, discrimination or bias response
- **Financing your education** – Funding options and information, graduate awards
- **Graduate Student Commons** – Lounge, study space, reservable meeting rooms
- **Graduate Writing Center** – Writing workshops, groups, and 1:1 writing coaching
- **Health Insurance** – Plans for graduate students and graduate employees
- **Human Services Resource Center (HSRC)** – Food pantry, housing and food stamp assistance
- **Institutional Review Board (IRB)** – Review for human subjects research
- **Office of International Services (OIS)** – Visa and immigration advising
- **Ombuds Conflict Management Services** – Informal, impartial conflict resolution advising
- **Recreational Sports** – Dixon Recreation Center, intramural sports
- **Statistics Consulting Service** – Graduate student research statistical advising
- **Student Health Services (SHS)** – Clinic and pharmacy
- **Student Multimedia Services (SMS)** – Poster printing, equipment and laptop loans
- **Transportation Services** – Parking permits, bike, bus, SafeRide
- **Valley Library** – Reference and research assistance, study spaces, research tools

3. Program Information and Policies

a. **Overview/Background of Program**

This handbook was developed to provide information to graduate students in the Water Resources Science program at Oregon State University. It consolidates information for students entering the degree program based on the date listed on the title page. Please refer to the OSU Graduate School web site https://gradschool.oregonstate.edu/ for the Graduate School Guide to Success and for first-hand information on important Graduate School regulations.

The Water Resources Science degree program is designed to broadly train students to undertake life-long careers in water resources science. Students in the program have the option to focus on groundwater, surface water, or watershed science.
Students completing the WRS degree program will meet the coursework requirements to attain Professional Hydrologist certification through the American Institute of Hydrology (AIH). All students in WRS will be required to show competence in mathematics to the level of college level calculus as well as have a year of calculus-based physics and chemistry prior to graduation.

Students graduating from the WRS degree program will have met three sets of requirements:

- **Entrance Requirements** All students entering the WRS degree program will be required to show basic competence in chemistry, physics, mathematics to integral calculus.

- **Program Requirements** Students will complete a standard M.S. (45 cr.) or Ph.D (108 cr.) program based in water resources science but allowing for significant coursework in another field.

- **Exit Requirements** Students graduating from the program must show that they have a total of 37 cr. of water-related coursework based on the American Institute of Hydrology (AIH) standards [https://www.aihydrology.org/](https://www.aihydrology.org/). Up to 22 credits of this may be met by coursework taken elsewhere, including courses taken as an undergraduate, though it is expected that many of the requirements will be met by OSU coursework.

b. **Learning Outcomes/Competencies**

Through participation in and successful completion of the Water Resources Science degree program, students will gain an advanced understanding of water resources science and be able to perform research at the leading edge of the hydrologic science field. Students will be sufficiently trained through disciplinary coursework and research experience to bring hydrologic science expertise to a team and will have the breadth in water resources and environmental issues to be able to communicate with professionals from the wide range of specialties involved in water resources management and research.

**MS Learning Outcomes:**

- Conduct research or produce some other form of creative work.
- Demonstrate mastery of subject material.
- Conduct scholarly or professional activities in an ethical manner.

**PHD Learning Outcomes:**

- Produce and defend an original significant contribution to knowledge.
- Demonstrate mastery of subject material.
- Conduct scholarly activities in an ethical manner.

The committee assesses achievement of these learning outcomes at the final defense.

c. **Degree Options**

The WRS degree program offers the Master of Science (MS) degree and Doctor of Philosophy (PHD) degree, with options for minor in Water Resources Engineering, Policy and Management, or another field.

d. **Concentrations**
There are no specific areas of concentration in the WRS degree program. Students can focus on surface water, groundwater, or water quality for meeting the required AIH Category I courses.

e. Requirements For Degree
Requirements for the MS and PHD degrees are tailored to reflect the diversity of backgrounds of incoming students and to assure that everyone finishes the program with a common core of water resources knowledge beyond their particular specialization.

This is accomplished through program coursework requirements that include:

**MS Requirements**

**CORE COURSEWORK REQUIREMENTS (9 credits):**
- WRP 524 Sociotechnical Aspects of Water Resources (3 cr.)
- BEE 512 Physical Hydrology (3 cr.)
- WRP/WRE/WRS 507 Seminar with WRP/WRE/WRS 505 Journal Club (2 cr.)
- One additional credit of seminar - this seminar does not have to be taken with journal club (1 cr.)

**THESIS OR PROJECT CREDITS (3-12 credits)**
MS students in the WRS degree program are required to take between 6-12 thesis credits (WRS 503) or 3-6 project credits (WRS 506).

**WATER ENGINEERING COURSEWORK REQUIREMENTS**
In addition to the core coursework and thesis/project requirements, WRS MS students are required to compete additional courses to meet the 45-credit minimum. To meet the AIH requirement of 28 credits of water focused coursework across AIH Categories I and II (see below for details), at least 19 additional credits, beyond the 9 core required coursework credits listed above, will need to be completed.

**FINAL DEFENSE**
A final defense of the MS is required.

**PHD Requirements**

**CORE COURSEWORK REQUIREMENTS (10 credits):**
- WRP 524 Sociotechnical Aspects of Water Resources (3 cr.)
- BEE 512 Physical Hydrology (3 cr.)
- WRP/WRE/WRS 507 Seminar with WRP/WRE/WRS 505 Journal Club (2 cr.)
- Two additional credits of seminar - this seminar does not have to be taken with journal club (2 cr.)

**DISSERTATION CREDITS (36-45 credits)**
In addition, PHD students in the WRS degree program are required to take between 36-45 dissertation credits (WRS 603).

**WATER ENGINEERING COURSEWORK REQUIREMENTS**
In addition to the core coursework and thesis/project requirements, WRS MS students are required to complete additional courses to meet the 108-credit minimum. To meet the AIH requirement of 28 credits of water focused coursework across AIH Categories I and II (see below for details), at least 18 additional credits, beyond the 10 core required coursework credits listed above, will need to be completed.

**FINAL DEFENSE**
A final defense of the MS is required.

**AIH Requirements:**
Both MS and PHD students must meet the American Institute of Hydrology (AIH) coursework requirements for licensure as a Professional Hydrologist at the time of graduation. This includes basic requirements in college or university level chemistry, physics, and calculus. Coursework competed as an undergraduate and graduate student can be used to meet these requirements. Note that the 28 credits of required specialty courses in Category I and Category II are met by completing the core required courses (12 credits for MS and 13 credits for PHD) with an additional 16 credits of coursework for MS students and 15 credits of coursework for PHD students.

**BASIC REQUIREMENTS**
- 8 credits on the quarter system (or 5 semester credits) of Chemistry
- 8 credits on the quarter system (or 5 semester credits) of Physics
- 8 credits on the quarter system (or 5 semester credits) of Calculus
- 1 course in surface or groundwater hydrology (BEE512 or equivalent)

**SPECIALTY REQUIREMENTS** (37 credits)
- Category I Courses: 15 credits on the quarter system (or 10 semester credits) of water focused coursework in areas such as hydrology, hydrogeology, or water quality.
- Category II Courses: 13 credits on the quarter system (or 9 semester credits) of coursework where at least 10% of the subject is focused on water.
- Category III Courses: 9 credits on the quarter system (or 6 semester credits) of supplemental coursework in science, engineering, policy/management, or related areas.

Students will work with their advisor and committee to select elective courses and tailor an appropriate program of study that meets their research needs, AIH requirements, and can be accomplished in two years. The student’s Major advisor, in consultation with the committee will determine the student’s achievement of the Graduate Learning Outcomes for the program will be assessed at the final examination.

A grade point average of 3.0 (a B average) is required for all courses taken as a graduate student (even if they are undergraduate courses), and for courses included in a graduate program. Neither grades below C nor S/U grades are accepted on a graduate program.

f. **Description of the Requirements for the Final Defense**
Graduate students are required to demonstrate the ability to define researchable problems, design research approaches, analyze relevant data, synthesize results, and report research findings in a succinct and logical manner.

The WRS degree program allows MS students two alternatives to demonstrate their research competence. Students must complete either a research paper or a thesis. PHD students must complete a dissertation. The student and the major professor will make the decision on which option is most appropriate to a student’s program jointly. The nature of the research topic, student’s circumstances, time frames, career aspirations, advisor’s availability, and research funding will all play a factor in making this decision. The learning outcomes and assessment methods are different for research carried out on the thesis track compared to the project-based research paper. One is not better than another. They are different.

For MS Degrees (Thesis Based)
The Thesis: While the thesis and research options share many similarities, the thesis is a more substantial commitment to research. Its length is not limited, and the process of research, writing, and defending the research usually takes place over several (3-4) terms. The thesis option is different from the non-thesis option in several ways including:

- The work is a substantial original contribution to the body of knowledge in the student’s field;
- supervision of the thesis research is by a four-member committee, including a person chosen from a list of Graduate Council representatives;
- The thesis style is determined by the Graduate School document, Preparation of the Thesis, available from the Graduate School website. The Graduate School examines every thesis to ensure compliance with style requirements.
- Students can also choose to write their thesis as “publishable papers.” This option is usually one or two publishable papers, which must be related in their overall research theme. A publishable paper is one that is targeted to a specific journal and is deemed publishable to the student’s graduate committee. Student’s using this style option must also include an introduction, literature review, and conclusion that tie the paper together into a common theme, all of which are bound together and submitted to the program as a thesis. The student’s graduate committee and major professor must agree to this option before the student proceeds.
- A copy of the pretext pages of the Master’s Thesis must be presented to the Graduate School for editing when scheduling the final oral examination at least two weeks prior to the examination. Additional copies of the thesis are distributed to the student’s committee.

After consultation with the major professor, the student prepares a proposal, which includes a statement of the problem and the research design. The proposal lays out the problem, tells the reader what is already known (and not known) about the problem, and describes in careful detail what you are going to do to answer the questions. It should include (at minimum) an introduction, a review of literature, and a description of the proposed methodology. The student meets with the program committee to review the proposal and revise as necessary. After obtaining approval, the student carries out the research and prepares a finished draft of the thesis.
Since the thesis must meet the approval of a four-member committee, the major professor will insist on a high-quality product. If the work does not meet this standard, it will be redone or revised as often as necessary to meet the professor’s expectation for a defensible thesis. When the major professor is satisfied with the thesis, the defense is scheduled and copies of the thesis are distributed to the committee for review at least one week prior to the scheduled defense.

When the major professor is satisfied with the thesis, the defense is scheduled and copies of the thesis are distributed to the committee for review at least two weeks prior to the scheduled defense. The student schedules a meeting for the committee to come together to hear a defense of the paper and an examination to test the student’s ability to integrate and interpret material learned in the program with emphasis on the work presented in the paper. Forms for scheduling the defense are available at the Graduate School website.

A successful defense is determined by a vote of the committee. Even at the defense, committee members may insist on further revisions of the thesis before it is accepted. The Graduate School rules provide for a maximum of six weeks for revisions after the thesis defense. If more than six weeks elapse, a re-examination of the student may be required.

The oral defense focuses on the thesis, although questions pertaining to coursework are allowed. See Figure 1 for a typical defense agenda. Thesis presentations are open to the public, although the examination is closed. Defenses typically take about 2 hours to complete.

After a successful defense, a revised electronic (i.e., a pdf file) copy of the thesis is submitted to OSU Library ScholarsArchive (in the Water Resources community). An Electronic Thesis and Dissertation Submission Approval form (ETD) must be signed by the major advisor and the Director of the Water Resources Graduate Program and
submitted to the Graduate School. See the Graduate School website for more information about electronic submittal of the thesis. The ETD form is submitted to the Graduate School along with a copy of the title page once the final thesis/dissertation is approved and uploaded to ScholarsArchive.

The Major Professor shall chair the program meeting and the examination portion of the defense. The Graduate Council Representative chairs the portion of the meetings that involve the evaluation of the student’s performance on a thesis-option oral defense.

*For MS Degrees (Project Based)*
The Research Paper option is designed to expose students to research through a process that is more structured and less open-ended than the thesis option. As such, it can be done within one term if the student is well-organized, although early identification of the problem is recommended. Students often take longer to complete the process. Students should enroll for Research credits in their major professor’s department to maintain full-time status while reducing course load to devote energy to the research paper.

Ideas for the research paper may come from other classes, work experience, or internships and will usually proceed through three steps:

1) After consultation with the major professor, the student prepares a proposal, which includes a statement of the problem and the research design. The proposal lays out the problem, tells the reader what is already known (and not known) about the problem, and describes in careful detail what you are going to do to answer the questions. It should include (at minimum) an introduction, a review of literature, and a description of the proposed methodology.

2) After obtaining approval, the student carries out the research and prepares a finished draft of the paper. See below for more specific details about the research paper. The major professor will provide at least one critical review of the paper in draft form.

3) When the major professor decides the paper is ready to defend, the student will prepare a final copy of the research paper and distribute to committee members for review at least two weeks prior to the defense.

The student schedules a meeting for the committee to come together to hear a defense of the paper and an examination to test the student’s ability to integrate and interpret material learned in the program with emphasis on the work presented in the paper. Forms for scheduling the defense are available at the Graduate School website.

The research paper can be on any subject in water resources science, as agreed upon by your committee. There are no limitations for preferences for a particular theoretical or methodological approach. The research paper should be at least 25 pages in length. The paper will be judged on how well the student addresses four goals:

- Illustrates an in-depth, detailed and nuanced understanding of a specific issue, topic, or question in water resources science
- Illustrates an awareness of the theoretical issues raised in the appropriate literature.
- Expresses ideas, concepts, and arguments with precision and rigor.
• Enlarges the reader’s understanding of the issue and topic.

The research paper needs to have the following elements:
• Title and Signature Page. The paper needs a title page and a committee signature page similar to that specified in the requirements for Theses and Dissertations at OSU.
• Introduction and Statement of the Problem: The paper needs to have a clearly and concisely stated question, essay, and argument. The first pages should clarify the topic and how the subject will be approached and analyzed.
• Literature Review: The paper needs an extensive review of the literature on the subject. This review shows that you have immersed yourself in the subject, have read extensively about it, and have drawn your ideas and arguments from a variety of sources. The length of your literature review will vary by subject. The main purposes of the literature review are to show the reader that you know the subject and that you can place your thinking into ongoing research in the subject area. Your committee can help identify the relevant literature.
• Discussion: This section describes your results, analysis, and arguments in a readable and rigorous manner.
• Conclusion: This section summarizes your argument and shows how your work enhances our understanding of the subject.

When the major professor is satisfied with the project paper, the defense is scheduled and copies of the paper are distributed to the committee for review at least two weeks prior to the scheduled defense. The student schedules a meeting for the committee to come together to hear a defense of the paper and an examination to test the student’s ability to integrate and interpret material learned in the program with emphasis on the work presented in the paper. Forms for scheduling the defense are available at the Graduate School website.

The student should be fully prepared to answer any question from committee members as it relates to all course work and to go beyond description of the concepts to engage in a critical discourse that demonstrates the student’s critical analysis and synthesis of all course work. The final oral defense takes approximately 90 minutes to 2 hours. See Figure 1 for a typical defense agenda.

The first portion of a final defense is open to the public and includes a presentation by the student about the research. Faculty members and fellow students are encouraged to attend. After the presentation, audience members leave and the student is examined by committee members. At the conclusion of the examination, committee members meet in private to discuss the presentation and examination, vote whether to pass the student, and sign off on the examination form to the Graduate School.

If a student fails in the first attempt at the oral defense, a second re-examination may be held at the request of the student’s major advisor and committee. A waiting period of three months between the failed defense and a re-examination is required to allow time for preparation of a successful defense.
Students are encouraged to post the final, revised version of their project paper on ScholarsArchive in the OSU Library (Water Resources community).

For PHD Degrees
A PHD dissertation is a substantial commitment to research. Its length is not limited, and the process of research, writing, and defending the research usually takes place over several (3-4) terms. Key aspects include:

- The work is a substantial original contribution to the body of knowledge in the student’s field;
- supervision of the dissertation research is by a four-member committee, including a person chosen from a list of Graduate Council representatives;
- The dissertation style is determined by the Graduate School document, Preparation of the Thesis, available from the Graduate School website. The Graduate School examines every dissertation to ensure compliance with style requirements.
- Students can also choose to write their dissertation as “publishable papers.” This option is usually three to four publishable papers, which must be related in their overall research theme. A publishable paper is one that is targeted to a specific journal and is deemed publishable to the student’s graduate committee. Student’s using this style option must also include an introduction, literature review, and conclusion that tie the paper together into a common theme, all of which are bound together and submitted to the program as a dissertation. The student’s graduate committee and major professor must agree to this option before the student proceeds.
- A copy of the pretext pages of the Dissertation must be presented to the Graduate School for editing when scheduling the final oral examination at least two weeks prior to the examination. Additional copies are distributed to the student’s committee.
- After consultation with the major professor, the student prepares a proposal, which includes a statement of the problem and the research design. The proposal lays out the problem, tells the reader what is already known (and not known) about the problem, and describes in careful detail what you are going to do to answer the questions. It should include (at minimum) an introduction, a review of literature, and a description of the proposed methodology. The student meets with the program committee to review the proposal and revise as necessary. After obtaining approval, the student carries out the research and prepares a finished draft of the dissertation.

Since the dissertation must meet the approval of a five-member committee, the major professor will insist on a high-quality product. If the work does not meet this standard, it will be redone or revised as often as necessary to meet the professor’s expectation for a defensible dissertation. When the major professor is satisfied with the dissertation, the defense is scheduled and copies of the dissertation are distributed to the committee for review at least two weeks prior to the scheduled defense. See the Graduate School website for up to date information on deadlines.

When the major professor is satisfied with the dissertation, the defense is scheduled and copies of the dissertation are distributed to the committee for review at least two
weeks prior to the scheduled defense. The student schedules a meeting for the committee to come together to hear a defense of the paper and an examination to test the student’s ability to integrate and interpret material learned in the program with emphasis on the work presented in the paper. In addition to scheduling this meeting with the committee members and the WRGP office, the defense must be formally scheduled with the Graduate School by submitting a form and the pre-text pages of the dissertation at least two weeks before the defense date. See the Graduate School website for instructions and to access the forms for scheduling the defense are available at the Graduate School website.

A successful defense is determined by a vote of the committee. Even at the defense, committee members may insist on further revisions of the dissertation before it is accepted. The Graduate School rules provide for a maximum of six weeks for revisions after the dissertation defense. If more than six weeks elapse, a re-examination of the student may be required.

The oral defense focuses on the dissertation, although questions pertaining to coursework are allowed. See Figure 1 for a typical defense agenda. Dissertation presentations are open to the public, although the examination is closed. Defenses typically take about 2-3 hours to complete. Leave plenty of time for discussion among your committee!

After a successful defense, a revised electronic (i.e., a pdf file) copy of the dissertation is submitted to OSU Library ScholarsArchive (in the Water Resources community). An Electronic Thesis and Dissertation Submission Approval form (ETD) must be signed by the major advisor and the Director of the Water Resources Graduate Program and submitted to the Graduate School. See the Graduate School website for more information about electronic submittal of the dissertation. The ETD form is submitted to the Graduate School along with a copy of the title page once the final thesis/dissertation is approved and uploaded to ScholarsArchive.

The Major Professor shall chair the program meeting and the examination portion of the defense. The Graduate Council Representative chairs the portion of the meetings that involve the evaluation of the student’s performance on a dissertation-option oral defense.

g. Proposed Timeline to Degree Completion
See the below tables for the proposed activities and when they should occur.

For MS Degrees (Thesis Option)

<table>
<thead>
<tr>
<th>Activity</th>
<th>When It Occurs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify at least two faculty members you are interested in working with. Contact them prior to or during the application process to explore opportunities to work with them.</td>
<td>Prior to application.</td>
</tr>
<tr>
<td>Confirm major advisor.</td>
<td>After application, prior to acceptance.</td>
</tr>
<tr>
<td>Initial advising and selection of first term classes</td>
<td>Before first term classes begin</td>
</tr>
</tbody>
</table>
Select two additional committee members and arrange for a Graduate Representative through the Graduate School; convene committee to discuss program of courses and research direction; file graduate program with Graduate School

Convene committee meeting in 1st-2nd term; program of study must be filed before completing more than 18 credits of graduate coursework, usually in 2nd term.

Prepare research proposal in consultation with major professor; after approval, circulate proposal to all committee members and revise proposal based on comments

1st-3rd term

Conduct thesis research. Seek financial support for proposed project as needed.

Ongoing and as needed

Complete courses in Graduate Program

Recommended by 4th term

Submit draft of thesis to major professor; revise as necessary

At least one term before oral examination

Submit copies of complete thesis to committee members

At least two weeks before oral examination.

Schedule final defense with Graduate School and submit pretext pages to Graduate School for editing

At least two weeks prior to oral examination. Check with Graduate School for deadlines 2

Oral examination (thesis defense)

4th term or later, but only with approval of major professor

Submit one electronic PDF copy of the final thesis to the advisor, and one PDF copy to OSU ScholarsArchive with the signed ETD form.

Within six weeks of oral examination

For MS Degrees (Project Option)

<table>
<thead>
<tr>
<th>Activity</th>
<th>When It Occurs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify at least two faculty members with whom you are interested in working. You may wish to contact them prior to or during your application process.</td>
<td>Prior to application</td>
</tr>
<tr>
<td>Confirm major advisor.</td>
<td>After application, prior to acceptance.</td>
</tr>
<tr>
<td>Initial advising and selection of first term classes</td>
<td>Before first term classes begin</td>
</tr>
<tr>
<td>Select two additional committee members and convene a meeting to discuss program of courses and project direction; file graduate program with Graduate School</td>
<td>Convene committee meeting in 1st-2nd term; program of study must be filed before completing more than 18 credits of graduate coursework</td>
</tr>
<tr>
<td>Prepare project proposal in consultation with major professor</td>
<td>1st-3rd term</td>
</tr>
<tr>
<td>Conduct project research</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Complete courses in Graduate Program</td>
<td>Recommended by 4th term</td>
</tr>
<tr>
<td>Submit draft of project paper to major professor</td>
<td>At least one month before oral examination</td>
</tr>
<tr>
<td>Revise and resubmit project paper based on major professor’s comments to committee members</td>
<td>At least two weeks before oral examination. Check Graduate School deadlines 2</td>
</tr>
</tbody>
</table>
For PHD Degrees

<table>
<thead>
<tr>
<th>Task</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify at least two faculty members you are interested in working with, and contact them prior to or during the application process.</td>
<td>Prior to application</td>
</tr>
<tr>
<td>Confirm major advisor.</td>
<td>After application, prior to acceptance.</td>
</tr>
<tr>
<td>Initial advising, selection of first term classes</td>
<td>Before first term classes begin</td>
</tr>
<tr>
<td>Select three additional committee members plus a graduate representative. Convene a program meeting to discuss coursework plan and research.</td>
<td>Before end of 3rd term</td>
</tr>
<tr>
<td>File Program of Study form with Graduate School.</td>
<td>By end of second winter term</td>
</tr>
<tr>
<td>Prepare research proposal in consultation with major professor. Hold a proposal review meeting with your committee for their input.</td>
<td>1st - 9th term. Program of study must be on file with the Water Resources Graduate Program</td>
</tr>
<tr>
<td>Seek financial support for research.</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Complete courses on Graduate Program.</td>
<td>5th - 9th ter</td>
</tr>
<tr>
<td>Prepare for qualifying exams.</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Complete preliminary qualifying exam - at minimum an oral examination</td>
<td>After completing 3, 4, 5 &amp; 8 above.</td>
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<tr>
<td>Advanced to Candidacy</td>
<td>Upon passing #9 above</td>
</tr>
<tr>
<td>Dissertation research and writing completed.</td>
<td>At least 2 wks. prior to scheduling defense.</td>
</tr>
<tr>
<td>Submit pretext pages of dissertation to Graduate School for editing.</td>
<td>At least 2 weeks prior to defense, when scheduling final defense. See Graduate School deadlines</td>
</tr>
<tr>
<td>Dissertation defense.</td>
<td>Within 5 years of #10 above.</td>
</tr>
<tr>
<td>Submit one electronic copy (pdf file) of dissertation to OSU Library ScholarsArchive, submit signed ETS form to the Graduate School; provide advisor an electronic copy, too.</td>
<td>Within six (6) weeks of final oral examination, shorter deadlines may apply at end of term to avoid having to register for the following term; check with the Graduate School website for deadlines!</td>
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<tr>
<td>Schedule an exit interview</td>
<td>Within 6 weeks of defense</td>
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</table>

h. Committee Membership

The makeup of the graduate committees is governed by the policies of the Graduate School and the Water Resources Graduate Program. The minimum committee sizes are as follows:

<table>
<thead>
<tr>
<th>Degree</th>
<th>Major Prof</th>
<th>Minor/Other</th>
<th>Graduate Council Rep</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS (Project)</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>MS (Thesis)</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Ph.D</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

No committee is official until approved by program and Graduate School administrators. Administrative review will use the following guidelines:
All committee members must be Graduate Faculty. Adjunct members from other universities or organizations may also serve if approved by the WRGP and the Graduate School.

The committee must be appropriate to represent the proposed course of study and the relevant degree authority. All members of the committee EXCEPT the Graduate Council Representative (GCR) or the representative of the Minor (if applicable) must be members of the Water Resources Science graduate faculty.

The Major Professor assumes principal responsibility for directing research activities. When the Major Professor is on a courtesy faculty appointment, a member of the Water Resources regular faculty must serve as co-chair of the committee and must sign the approved dissertation.

If the student chooses an optional minor, the Minor Professor must be from outside the WRGP unless the minor area is entirely within Water Resources (WRPM or WRE). Graduate School rules require students to take at least fifteen credits for the minor and at least one course from the Minor Professor’s department.

**MS Degrees**
The student’s committee for the M.S. degree consists of a minimum of three graduate faculty members: the major professor and two faculty members with some experience in the general area of the student’s research area. In the thesis option, a Graduate Council Representative is chosen from a list provided by the Graduate School, and is a full voting member of the committee who attends all meetings, exams, and the final thesis defense. In the non-thesis option, there is no Graduate School representative on the committee.

**PhD Degrees**
The student’s committee for the Doctoral degree consists of a minimum of five graduate faculty members: the major professor, three graduate faculty members with some experience in the general area of the student’s research area, and a Graduate Council Representative (GCR). The GCR is chosen from a list provided by the Graduate School, and is a full voting member of the committee who attends all meetings, exams, and the final defense.

i. **Graduate Council Representative**
A Graduate Council Representative (known as a GCR or Grad Rep) is required for all doctoral committees, all M.A.I.S. committees, and all master's degrees involving a thesis. Your GCR represents the OSU Graduate Council and ensures that all rules governing committee procedures are followed. Your GCR must be present at your formal exam(s), and will be responsible for some of the paperwork that the Graduate School requires. Per Graduate School guidelines, the GCR will also lead your committee’s roundtable discussion following your final oral exam. Your GCR must be a graduate faculty member outside your major and minor area.

The GCR is a full voting member of your graduate committee. Many students select a GCRs who can also add disciplinary expertise. Select your GCR using the [online GCR list](#).
generation tool and be sure to allow ample time for this selection process. If you run into difficulty finding a GCR to serve on your committee, you can re-generate the list until you find someone who is willing to serve.

j. Policy On Non-OSU Committee Membership
Your graduate committee guides your course work and research and serves as your final examining committee. It is generally expected that all committee members or approved substitutes must be present for all formal meetings with the student (e.g. final oral exams). If you have a special case in which a committee member may need to participate remotely, you and your committee must assure that all the conditions for remote participation are met.

If the faculty member is not a member of the Graduate Faculty or is not approved for the role proposed, your major department/program will need to nominate the proposed member to act in those roles using the Nomination to Graduate Faculty form. Committee structure is evaluated when your program of study is received by the Graduate School and when you schedule your formal examination(s).

k. Program/Department Specific Funding Opportunities
One or two program-specific GTA opportunities at the 0.4 FTE level are sometimes available from the WRGP. Usually, these are provided to second-year students who entered with fellowships in their first year, as support for the years following the fellowship year. Check with the Program Director to see if any program-specific GTA opportunities are available.

University regulations require all students with an assistantship to register for a minimum of 12 hours each term while employed as a Teaching Assistant (TA) or Research Assistant (RA). Graduate assistants may register for a maximum of 16 hours, but are advised to confer with their major professors or program director when registering for more than 12 credits to avoid potential overload. Students on an assistantship can maintain their full-time status, and avoid overloading their schedules by signing up for Thesis hours with their major professor to “top up” their load to the 12-credit minimum. Doctoral students can include a maximum of 45 credits of thesis hours on their graduate program, but may enroll for up to 16 thesis credits per term.

Important note regarding summer GTA/GRA positions: during the summer, GA’s are normally only required to sign up for three credits. However, this will not cover taxes, as three units is not considered full time. Taking three additional credits is one option to cover this cost. An hourly appointment might be a preferred option, instead. Talk to your major advisor, Assistant Director, and financial advisor about the best pathway forward for your personal situation.

In addition to scholarships and fellowships offered through the University’s ScholarDollar program, the WRGP awards four named fellowships each academic year, although dollar amounts may vary depending on donations. These are the Bill and Jane Jackson Scholarship (funded by OSU alumni Bill and Jane Jackson), the Williamson Water Prize, the Faculty Excellence Scholarship (funded by donations from the faculty to students exhibiting excellence in scholarship) and the Alumni scholarship (funded by
donations from alumni to reward excellence in service (especially to the Hydrophiles officers) along with excellence in scholarship.

The WRGP also nominates eligible students for fellowship and scholarship opportunities available through the Graduate School. The major professor initially nominates one of the students for fellowship and scholarship awards. The Scholarship Committee, based on how well the student fits the criteria established for the scholarship, selects nominees.

l. Required program/degree milestones
See the schedule in the proposed timelines for degree program milestones and benchmarks.

m. Roles of the Student, Major Professor, and Committee

The student
will assume the major responsibility for their own graduate program, follow program and university requirements, meet all deadlines, and initiate all steps involved in obtaining the degree. The student should meet regularly with the major advisor to discuss progress or difficulties in research, course work, or other matters. If experiencing major difficulties with the major professor, the student should discuss the matter with the Associate Director of their sub-field or the Director of the Water Resources Graduate Program.

The Major Professor
The major professor will advise and guide students in their graduate programs, be informed of student progress and difficulties, edit research proposals, and theses before they are given to committee members, encourage active participation in seminars, regional and national engineering and/or scientific meetings, and include students in other professional activities as appropriate.

The Committee
Members of the student’s graduate committee will serve as experts in certain specialized fields, as interested editorial critics of the student’s writing (especially the dissertation), and as participants in the various meetings and examinations held during the student’s program.

n. Process For Identifying or Changing Major Professor
Students admitted to the Water Resources Science program as regular graduate students will have an advisor, also called the major professor, who has agreed to supervise the student’s work at the time of admission. It is the responsibility of the student to seek acceptance by a member of the Water Resources faculty as the major professor. The decision is made upon mutual agreement between the student and the professor concerned and should be reported to the Water Resources Graduate Program Director to initiate the final stage of the admission process. If it becomes necessary for a student to change major professor, the student will work with the Associate Director of the WRS degree program and the Director of the Water Resources Graduate Program to identify a new major professor.
o. **Process For Filing Program Specific Grievances and Petitions**

All students desiring to appeal matters relating to their graduate degree should follow the Grievance Procedures for Graduate Students. These procedures are available at [https://gradschool.oregonstate.edu/current-students/grievance-procedures](https://gradschool.oregonstate.edu/current-students/grievance-procedures). Graduate assistants, whose terms and conditions of employment are prescribed by the collective bargaining agreement between OSU and the Coalition of Graduate Employees, American Federation of Teachers Local 6069, should also refer to that document and seek guidance from OSU’s Office of Human Resources.

The Water Resources Graduate Program requires that professional relationships be maintained between faculty and students. When situations arise with an instructor or professor that cause concern, the student is encouraged to discuss the problem with that instructor or professor first. If the student is not satisfied with the response from the instructor or professor, the student is encouraged to make written appeal through the following chain of academic administrators until a conclusion is reached:

1. Instructor
2. Associate Director
3. WRGP Director
4. Associate Dean of the Graduate School
5. Dean of the Graduate School; and lastly
6. The Provost

A student may request an exception to policy by petitioning the WRS Curriculum Committee in writing, through his or her major professor or the WRGP Program Director. A copy of the request must be filed with the program office.

p. **Deadlines Related to Program of Study, Exam Paperwork, etc.**

Please read the minimum deadlines as defined by the Graduate School. Programs can require a more rigorous set of deadlines. Students are expected to check with their program and the Graduate School regarding specific deadlines unique to the term and academic year they plan to complete their degree requirements.

q. **Process For Measuring and Communicating a Review Of Satisfactory Progress**

Definition of satisfactory progress: Satisfactory progress toward completing a graduate degree in the WRGP requires participating in the following:

- An annual assessment survey showing adequate progress in coursework;
- Timely compliance with all development of dissertation or writing project as evaluated by major professor and the rest of the student’s graduate committee;
- Graduate School and degree program requirements for committee formation, committee meetings, project proposal, submission of forms and information, participation in seminars; and
- Other activities expected of a student, scholar and member of the WRGP.

Students must also:

- Maintain a GPA of 3.00 or better for all courses taken as a graduate student;
- Successfully pass relevant exams (as outlined by the Graduate School); and
• Maintain communication with the advisor and committee on the progress of the student’s thesis or dissertation research.

*Students who are restricted from full course loads may negotiate a longer time frame in consultation with the program director and their major professor.

Mechanisms of accountability begin with the annual progress assessment survey, completion, and submission of annual progress form. Students are accountable for completing the annual assessment of progress survey and a self-assessment narrative. The advisor is responsible for meeting with the student to go over the survey and narrative, and for completion of the form submitted to the WRGP office. The Program Director is responsible for reading through the surveys, noting where there is concern that the student is not making satisfactory progress, and arranging to meet with those students.

If the student and advisor have completed an assessment of student process in the current year as part of the policies and procedures for the department of the major advisor, that assessment can be submitted to the program in lieu of the WRGP Assessment. It is the responsibility of the student and major professor in this case to ensure that the alternative assessment is submitted to the Director and Administrative Assistant.

r. Registration
The OSU Schedule of Classes is available online and contains academic regulations and registration procedures that apply to all students in the university, as well as the final examination week schedule. The online catalog is the source for up-to-date changes for the current and immediately upcoming term. It is your responsibility to register for the appropriate number of credits that may be required for any funding eligibility and/or to meet the requirements of the continuous enrollment policy. Problems arising from registration procedures, such as late registration, adding or withdrawing from courses after deadlines, or late changes from letter or S/U grading are resolved through the petition for late change in registration filed with the Graduate School. A late registration fee may be applied.

Students are responsible for staying current on registration requirements that may supersede the Graduate School requirements (i.e., international, financial aid, veteran’s).

s. Minimum Course Loads
Course load requirements for graduate students are established by the Registrar and the Graduate School. You are considered a “full-time” graduate student if you are registered for 9–16 credits in a given academic term. You are considered a “part-time” graduate student if you have less than nine credits. If you are a degree-seeking student, you must be registered for a minimum of three graduate credits in any term you wish to be enrolled and access university resources, including the term of the final defense.

Students are responsible for staying current on course load requirements that may supersede the Graduate School requirements (i.e., international, financial aid, veteran’s).
t. **Continuous Graduate Enrollment**

All graduate students enrolled in a degree program must register continuously for a minimum of 3 graduate credits each term (fall, winter, and spring terms) until all degree requirements are met, regardless of student’s location. Students on approved leave are exempt from the continuous enrollment policy for the term(s) they are on leave.

Graduate students who use facilities or faculty/staff time during summer session are required to register for a minimum of 3 credits during the summer session. Students defending in the summer term are required to register for a minimum of 3 graduate credits.

Students may appeal the provisions of the continuous graduate enrollment policy if extraordinary circumstances arise by submitting a detailed request in writing to the Dean of the Graduate School. Scheduling difficulties related to the preliminary oral exam or the final oral exam are not considered an extraordinary circumstance.

Graduate assistantship eligibility requires enrollment levels that supersede those contained in this continuous enrollment policy. Various agencies and offices maintain their own registration requirements that also may exceed those specified by this continuous enrollment policy (e.g., those of the Veterans Administration, Immigration and Naturalization Service for international students, and those required for federal financial aid programs.) Therefore, it is the student’s responsibility to register for the appropriate number of credits that may be required for funding eligibility and/or compliance as outlined by specific agency regulations under which they are governed.

**NOTE:** Students who are pursuing a certificate only are not subject to the continuous enrollment policy.

u. **Leave of Absence**

Leave of Absence status is available to eligible students who need to suspend their program of study for good cause. The time the student spends on approved leave will be included in any time limits prescribed by the university relevant to degree completion. Students on approved leave may not a) use any university facilities, b) make demands upon faculty time, c) receive a fellowship or financial aid, or d) take course work of any kind at Oregon State University. **Leave of Absence/Intent to Resume Graduate Study Forms** must be received by the Graduate School at least 15 working days prior to the first day of the term involved. Family Medical Leave (FML) may be granted at any point during a term. FML inquiries should be directed to medical.leave@oregonstate.edu.

**NOTE:** Students who are pursuing a certificate only are not subject to the Leave of Absence Policy.

v. **Unauthorized Break in Registration**

Degree seeking graduate students who take an unauthorized break in registration relinquish graduate standing at the University.
To have graduate standing reinstated after an unauthorized break, students are required to reapply to their program (complete the online graduate admission application, pay the application fee, and may be required to register for three graduate credits for each term of unauthorized break in registration). It is advisable that students in this situation state that they are applying for readmission in the application packet. A reapplication does not ensure admittance to the program.

w. Grievance Procedures
All students desiring to appeal matters relating to their graduate degree should follow the Grievance Procedures for Graduate Students. These procedures are available at https://gradschool.oregonstate.edu/progress/grievance-procedures. Graduate assistants, whose terms and conditions of employment are prescribed by the collective bargaining agreement between OSU and the Coalition of Graduate Employees, American Federation of Teachers Local 6069, should also refer to that document and seek guidance from OSU’s Office of Human Resources.

x. Grade Requirements and Program of Study
A grade-point average of 3.00 is required: 1) for all courses taken as a degree-seeking graduate student, and 2) for courses included in the graduate degree or graduate certificate program of study. Grades below C (2.00) cannot be used on a graduate program of study. A grade-point average of 3.00 is required before the final oral or written exam may be undertaken. Enforced graduate-level prerequisite courses must be completed with a minimum grade of C. Programs may have more stringent grade requirements than those prescribed by the Graduate School.

y. Incomplete Grades
An “I” (incomplete) grade is granted only at the discretion of the instructor. The incomplete that is filed by the instructor at the end of the term must include an alternate/default grade to which the incomplete grade defaults at the end of the specified time period. The time allocated to complete the required tasks for the course may be extended by petition to the University Academic Requirements Committee. You can obtain the form from the Registrar’s Office. It is the student’s responsibility to see that “I” grades are removed within the allotted time.

z. Student Conduct and Community Standards
Graduate students enrolled at Oregon State University are expected to conform to basic regulations and policies developed to govern the behavior of students as members of the university community. The Office of Student Conduct and Community Standards (SCCS) is the central coordinating office for student conduct-related matters at Oregon State University.

Choosing to join the Oregon State University community obligates each member to a code of responsible behavior which is outlined in the Student Conduct Code. The assumption upon which this Code is based is that all persons must treat one another with dignity and respect in order for scholarship to thrive.

Violations of the regulations subject a student to appropriate disciplinary action.
aa. Academic Dishonesty

Academic Dishonesty is defined as an act of deception in which a student seeks to claim credit for the work or effort of another person, or uses unauthorized materials or fabricated information in any academic work or research, either through the Student’s own efforts or the efforts of another. It includes:

- CHEATING — use or attempted use of unauthorized materials, information or study aids, or an act of deceit by which a Student attempts to misrepresent mastery of academic effort or information. This includes but is not limited to unauthorized copying or collaboration on a test or assignment, using prohibited materials and texts, any misuse of an electronic device, or using any deceptive means to gain academic credit.

- FABRICATION — falsification or invention of any information including but not limited to falsifying research, inventing or exaggerating data, or listing incorrect or fictitious references.

- ASSISTING — helping another commit an act of academic dishonesty. This includes but is not limited to paying or bribing someone to acquire a test or assignment, changing someone's grades or academic records, taking a test/doing an assignment for someone else by any means, including misuse of an electronic device. It is a violation of Oregon state law to create and offer to sell part or all of an educational assignment to another person (ORS 165.114).

- TAMPERING — altering or interfering with evaluation instruments or documents

- PLAGIARISM — representing the words or ideas of another person or presenting someone else's words, ideas, artistry or data as one's own, or using one’s own previously submitted work. Plagiarism includes but is not limited to copying another person's work (including unpublished material) without appropriate referencing, presenting someone else's opinions and theories as one's own, or working jointly on a project and then submitting it as one's own.

Academic Dishonesty cases are handled initially by the academic units, following the process outlined in the University's Academic Dishonesty Report Form, and will also be referred to SCCS for action under these rules.

bb. Office of Equal Opportunity and Access

The OSU Office of Equal Opportunity and Access defines sexual harassment as the following:

- Unwelcome* sexual advances, requests for sexual favors and other verbal or physical conduct of a sexual nature when:
  - Submission to such conduct is made either explicitly or implicitly a term or condition of an individual’s employment or education;
  - Submission to or reject of such conduct by an individual is used as the basis for employment of education–related decisions affecting such an individual; or
  - Such conduct is sufficiently severe or pervasive that is has the effect, intended or unintended, of unreasonably interfering with an individual’s work or academic performance because it has created an intimidating, hostile, or offensive environment and would have such an effect on a reasonable person of that individual’s status.

*Employee conduct directed towards a student – whether unwelcome or welcome – can constitute sexual harassment under OAR.
There are two confidential resources to discuss reporting options: Center Against Rape and Domestic Violence (CARDV) provides 24/7 confidential crisis response at 541-754-0110 or 800-927-0197, and OSU Sexual Assault Support Services is available weekdays at 541-737-7604.

cc. **Student Records**
Both federal and state laws permit Oregon State University staff to release directory information (e.g. name, address, degree program, birth date) to the general public without your consent. You can prohibit the release of directory information to the public by signing the Confidentiality Restriction form available from the Registrar’s Office. It will not prohibit the release of directory information to entities of Oregon State University that have a “need to know” to accomplish their required tasks. It further will not prohibit Oregon State University departments from including your name on mailing lists for distribution of materials that are essential to your enrollment at Oregon State University.

4. **Departmental Forms**
Included here are key departmental forms for student and faculty use
   a. Checklist for WRS Students
   b. WRGP Graduate Learning Outcomes Assessment
   c. WRGP Assessment of Student Progress Form
   d. WRGP Graduate Education Performance Plan
# Checklist For Water Resources Science Students

To be signed by WRS representatives of student's committee and submitted with the student's program of study. Students must complete these steps to receive a WRS degree.

| Student Name: | ______________________________ |
| Student Advisor: | ______________________________ |
| Degree (circle one) | M.S. | Ph.D |

## Baccalaureate Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>University level calculus coursework</td>
<td>8 credits on the quarter system or 5 semester credits</td>
</tr>
<tr>
<td>University level physics coursework</td>
<td>8 credits on the quarter system or 5 semester credits</td>
</tr>
<tr>
<td>University Level Chemistry coursework</td>
<td>8 credits on the quarter system or 5 semester credits</td>
</tr>
</tbody>
</table>

## Program Requirements

### Water Resources Core Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRX 507/607: Water Resources Seminar</td>
<td>2 Credits total (M.S.)</td>
</tr>
<tr>
<td>WRX 505 Water Resources Journal Club</td>
<td>Same term as one of the seminars</td>
</tr>
<tr>
<td>WRP 524: Socio-technical Aspects of Water Resources</td>
<td></td>
</tr>
<tr>
<td>BEE 512: Physical Hydrology</td>
<td></td>
</tr>
</tbody>
</table>

### Category I Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coursework in hydrology, hydrogeology, or water quality</td>
<td>15 total credits</td>
</tr>
</tbody>
</table>

### Category II Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coursework where hydrology, hydrogeology, or water quality is at least 10% of the focus</td>
<td>13 total credits</td>
</tr>
</tbody>
</table>

### Category III Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coursework in science, engineering, policy/management, or related areas.</td>
<td>9 total credits</td>
</tr>
</tbody>
</table>

### Thesis, Project or Research

<table>
<thead>
<tr>
<th>Type</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.S. Thesis (6-12) or Project (3-6)</td>
<td></td>
</tr>
<tr>
<td>Ph.D. Dissertation (36-45)</td>
<td></td>
</tr>
</tbody>
</table>

### Total credits

<table>
<thead>
<tr>
<th>Degree</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.S.</td>
<td>≥45 credits</td>
</tr>
<tr>
<td>Ph.D.</td>
<td>≥108 credits</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Signed: Student</th>
<th>Date:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Signed: Major Advisor</th>
<th>Date:</th>
</tr>
</thead>
</table>
WRGP Graduate Learning Outcomes Assessment

This form is to be completed by the graduate committee after a M.S. or Ph.D defense.

<table>
<thead>
<tr>
<th>Performance Metrics</th>
<th>Degree (circle one)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M.S.</td>
</tr>
<tr>
<td>Problem Definition:</td>
<td>Does Not Meet Expectations</td>
</tr>
<tr>
<td>Has stated the research/project problem clearly, providing motivation for undertaking the research</td>
<td></td>
</tr>
<tr>
<td>Impact of Research/Project:</td>
<td>Demonstrated the potential value of solution to the research/project problem in advancing knowledge within the area of study, producing new or original work.</td>
</tr>
<tr>
<td>Literature and Previous Work:</td>
<td>Demonstrated sound knowledge of literature in the area, and of prior work on the specific research/project problem</td>
</tr>
<tr>
<td>Solution Approach:</td>
<td>Has applied sound state-of-the-art research/project methods/tools to solve the defined problem and has described the methods/tools effectively</td>
</tr>
<tr>
<td>Results:</td>
<td>Analyzed and interpreted research/project results/data effectively</td>
</tr>
<tr>
<td>Quality of Written Communication:</td>
<td>Communicates research/project results clearly and professionally in written form</td>
</tr>
<tr>
<td>Quality of Oral Communication:</td>
<td>Communicates research/project results clearly and professionally in oral form</td>
</tr>
<tr>
<td>Critical Thinking:</td>
<td>Has demonstrated capability for independent research/project in the area of study and expertise in the area</td>
</tr>
<tr>
<td>Broader Impact:</td>
<td>Demonstrated awareness of broader implications of the concluded research/project. Broader implications may include social, economic, technical, ethical, business, etc. aspects.</td>
</tr>
<tr>
<td>Publications:</td>
<td>Journal, conference, or some other scholarly publications have resulted (or are anticipated) from this research/project</td>
</tr>
<tr>
<td>Applications of Science and Science Fundamentals:</td>
<td>student was able to demonstrate underlying principles of research hypothesis and objectives identified and discussed. Major assumptions clearly stated, as appropriate.</td>
</tr>
<tr>
<td>During the examination process, student displayed basic understanding of professional and/or personal ethics. Please note below if you perceived any lapses in ethical performance and/or reporting of research.</td>
<td></td>
</tr>
</tbody>
</table>

**Signatures:**

Major Advisor: ______________________________
Committee Member: ______________________________
Committee Member: ______________________________
Committee Member: ______________________________
Committee Member: ______________________________
# WRGP Assessment of Student Progress

This form is intended to assess a student's performance towards degree completion on an annual basis. This completed form must be attached to the self-assessment narrative and submitted to the WRGP Office before June 30th each year.

<table>
<thead>
<tr>
<th>Student Name:</th>
<th>______________________________</th>
<th>Degree (circle one)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Advisor:</td>
<td>______________________________</td>
<td>M.S.</td>
</tr>
</tbody>
</table>

### Student Progress Assessment

(Responses to be completed by advisor and discussed with student)

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>

- Student is making satisfactory progress in completing their coursework
- Student is making satisfactory progress in their research/project, including planning and conducting data collection
- Student is making satisfactory progress in completing the thesis, project report, or dissertation
- Student has participated in professional development opportunities, presenting research at professional meetings, participating in Hydrophiles student club and/or other service activities
- Student is communicating effectively and courteously with advisor, committee members, and other faculty members.

**Overall, student is on track to graduate and is building a strong scholarly resume**

### General Comments on Student Progress

**Signatures:**

<table>
<thead>
<tr>
<th>Signed: Student</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signed: Major Advisor</td>
<td>Date:</td>
</tr>
</tbody>
</table>
## WRGP Graduate Education Performance Plan

This form is intended to monitor a student's performance towards degree completion resulting from an unsatisfactory review at an annual assessment. This form should outline mutually agreed-upon (between student and major professor) benchmarks of performance.

<table>
<thead>
<tr>
<th>Student Name:</th>
<th>Degree (circle one)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M.S.</td>
</tr>
<tr>
<td></td>
<td>Ph.D</td>
</tr>
</tbody>
</table>

**Performance Plan (Identify deficiencies and outline plan to remedy them):**

**Plan Benchmarks ((Criteria used to evaluate progress):**

**Signatures:**

<table>
<thead>
<tr>
<th>Signed: Student</th>
<th>Date:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Signed: Major Advisor</th>
<th>Date:</th>
</tr>
</thead>
</table>