ESS Graduate Student Handbook 2026

Welcome to the Department of Earth and Spatial Sciences (ESS). You are joining an academic community of scientists that have been contributing to Idaho, the nation, and the world for over 100 years. We are a department that focuses on experiential learning and interacting with academic, government, and industry professionals. We are recognized nationally and internationally for our scientific output and positioning our students for a successful career. We hope you enjoy your time exploring the world with us and best wishes with your graduate school endeavor.

Welcome to the Vandal Family!

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1. Graduate Student Responsibilities, Expectations, and Duties

As a graduate student, you are expected to demonstrate individual responsibility and perform independent work to successfully complete your research and degree requirements. It is crucial to understand that you, not your major professor, are accountable for meeting all deadlines and academic requirements. You are urged to carefully study the deadlines in the Registrar's Academic Calendar and the College of Graduate Studies' Dates and Deadlines. Successful completion of your degree will depend on your ability to develop strong working relationships with your advisor, committee members, and fellow graduate students for completion of your study plan and research project(s). During your first semester, your advisor will discuss with you a potential timeline to degree completion. As a graduate student, you are expected to meet our university standards:

- Maintain the ethical standards of your profession, including academic honesty and integrity
- Treat all members of the university community with respect and professionalism
- Dedicate appropriate time and effort to meet program requirements
- Take the initiative to promote a safe and secure workplace
- Properly recognize the research and scholarly contributions of your advisor and colleagues (attribution/authorship)
- Appropriately, use and maintain university resources, equipment, and vehicles
- Maintain a cumulative grade-point average (GPA) of 3.00 or higher

Note: Assistantships and continuation in the program are contingent upon satisfactory performance, progress toward your degree, and abiding by the program and university's policies.

1.1 Graduate Student and Major Professor Relationship

Every student-professor relationship is unique, but there are basic expectations and responsibilities for a successful relationship that will enhance your experience and facilitate your graduation. The following table includes primary topics that you will discuss with your major professor to understand our program and your major professor's expectations. Typically, each faculty member schedules regular graduate student meetings to review expectations, project timeline(s), completion of duties, and progress towards degree completion. For all activities, you are expected to communicate in a timely and professional manner.

Topic	Graduate Student	Major Professor
Course of study	Selection of your program and relevant coursework	Guidance on appropriate courses and required forms
Research funding and activities	Completion of activities to meet the research goal	Guidance on funding, hypotheses, methods, analysis, and interpretation
Research products	Completion of the prescribed products (e.g., thesis, article)	Collaboration/guidance of product development and completion
Time management	Identify and understand the time necessary for completion of duties	Develop a project timeline for research activities and the degree
Professional development	Participate in available opportunities to enhance your resume/CV	Discuss professional opportunities for networking and training

1.2 Research and Teaching Assistant Duties

As a research assistant, your duties will be managed by your major professor. They will provide the necessary information for you to understand the research goals and objectives, project timeline, methods/analysis, and expected products. Such information can change during a project as research activities are updated to overcome issues or refine the goals and objectives. Regular meetings with your advisor and/or research group will assist in the understanding and completion of your research duties.

As a teaching assistant, the Department Chair serves as your official supervisor and will notify you of assigned courses prior to the start of the semester. However, the course instructor/coordinator will manage your teaching responsibilities, which vary by course. Your course instructor/coordinator will explain your responsibilities at the beginning of the semester. You are expected to be present on campus from the start of the semester until submission of final grades. You should not institute class policies without discussing them with the course instructor/coordinator. If you are unable to teach your class/lab, you should notify the course instructor/coordinator as soon as possible. You will keep accurate records of grades.

2. Student Affiliation

All University of Idaho graduate students are members of the College of Graduate Studies (COGS) who provide you with the resources and expected timeline necessary to administratively complete your degree. However, while completing your graduate studies, you will work with an ESS faculty member who is your primary advisor (major professor) for completion of your research and fulfillment of your degree requirements. Think of COGS as the signing entity for approval of the

formal steps to complete your degree requirements, and your advisor as your guide and collaborator for completion of coursework and your research project(s). In the case of any apparent policy conflict, COGS policies and the University of Idaho Catalog take precedence.

2.1 College of Graduate Studies

COGS is the degree-granting college for University of Idaho graduate students. Their Steps to Your Degree webpage is a vital resource where you can find timelines for completion of the steps necessary to obtain your degree along with associated links to the required forms. Additionally, you will find informative webpages for the individual steps of completing your degree—from establishing your major professor to submission of your thesis/dissertation. The information provided by COGS should be your primary resource for understanding the steps necessary for completion of your degree. Additionally, COGS maintains the Graduate Assistant Institute (TA/RA Institute) and the COGS Graduate Student Support Programming. Lastly, COGS hosts the Graduate & Professional Student Association (GPSA), which supports and promotes graduate student education, campus sustainability, and graduate student life at the University of Idaho. You were introduced to the COGS information and resources during the mandatory Graduate Assistant Institute training that you were requested to complete upon your arrival at the University of Idaho.

2.2 College of Science and the Department of Earth and Spatial Sciences

During your studies, you will be interacting with college and department leaders, as well as your major professor, graduate committee, and peers. Please refer to the College of Science Our People webpage for links to individual profiles, office locations, and contact information. Your interaction with the College of Science is typically minimal, as the college is not a primary administrator for degree completion and is not a signatory on COGS forms. College resources may be available to you, but your primary administrative and academic support comes from ESS and COGS.

ESS department administration plays a significant role in your graduate experience. The Department Chair checks that all departmental rules and policies are followed for completion of your degree and is a signatory on COGS forms. The Department Manager (Business Manager) is at the center of all department functions. They are the procedural expert for the functioning of the department, including employment, payroll, motor pool, office assignments, and scheduling. It is important that you be responsive to any requests from the Department Manager. The Director of Graduate Studies is a department faculty member who is responsible for graduate student admissions. The Director of Graduate Studies also works with the Department Chair and Department Manager for graduate student orientation events, including community-building events for all students and faculty.

3. Graduate Student Milestones

3.1 Selection of Major Professor

Although your graduate experience will involve working with other faculty and your peers, your major professor serves as your primary advisor during your time in the graduate program. Each

faculty member independently manages their research activities, including graduate student projects, so your graduate experience may be substantially different than your peers' experience. Your research responsibilities are determined by your advisor and should be regularly discussed with them during completion of your research project. Unless completed at the time of admission, you should aim to complete the COGS Appointment of Major Professor and Committee form as early as possible.

3.2 Forming the Graduate Advisory Committee

Your graduate advisory committee assists with completion of your research project. The committee consists of your major professor and other faculty members that you and your advisor identify as beneficial to the project. The number of faculty members on your committee varies according to your degree, which can be found in the required COGS form for establishing your committee. Faculty members of other institutions and other professionals may serve on your committee, although COGS has rules regarding the required proportion of UI graduate faculty on your committee. Your committee members should be active contributors to your research and completion of your thesis or dissertation. It is your responsibility to discuss your research goals and findings with your committee members. Make sure to avoid conflicts of interest where committee members have a financial or political stake in your research results. Once you have discussed potential committee members with your advisor and the committee members have agreed to serve on your committee, you need to complete the appropriate COGS form.

3.3 Study Plan

The study plan is a list of courses that meet your degree requirements. Your degree requirements are listed in the course catalog for the year of your entrance into the graduate program. In selecting coursework to meet the catalog requirements, you should be aware of COGS requirements for minimum credit hours at the 4000- or 5000-level and above. In most cases, 3000-level or below courses do not count towards your degree, except for a limited number of credits of 3000-level coursework that supports your graduate work in a discipline that is different than your degree program. Master's students may transfer up to 12 credits and doctoral students may transfer up to 30 credits (39 if the credits are less than 8 years old by the time they complete their PhD). These requirements are discussed and summarized in the applicable COGS Graduate Student Essentials and Tech Talks. Your study plan is developed in consultation with your advisor and potentially your graduate committee. You should consider courses that assist in building the necessary knowledge for completion of your research and your career goal(s). Students entering the graduate program may be required to complete supplemental courses (e.g., deficiencies) as designated by your advisor and committee members. Your study plan can be completed through Degree Audit, which includes approvals by the you, your major professor, and the Department Chair.

3.4 Research Activities

You and your advisor will determine your research activities. Everyone's research project is different, and there are no set requirements for research activities except completion of the required

research units and submission of the thesis/dissertation to COGS. Your understanding of your research goals and objectives and the steps necessary to complete your project are your responsibility. You should meet regularly with your advisor to discuss your research and the resources necessary to complete your project. Research activities for non-thesis degrees consist of a substantial project in which you demonstrate the ability to complete independent work. The project and output for non-thesis degrees (e.g., professional paper) are determined by you and your advisor.

3.5 Required Trainings

The TA/RA Institute provides professional development opportunities for all graduate students and is required for all new teaching and research assistants on the Moscow campus. COGS will contact you regarding the necessary training, which will cover topics such as UI academic policies and procedures, available resources, teaching methods, and the responsibilities of conducting responsible research. If you are an international student, the International Programs Office provides an orientation and can assist with issues such as visas and taxes.

4. Degree Requirements

Requirements for thesis and non-thesis degrees are listed in the ESS course catalog (table links below), which describe only the required courses. When there are no formal requirements, the general COGS requirements apply. ESS has an expectation that all graduate students will participate in the department seminar and will enroll in GEOL 5100 (Geosystems) early in their graduate studies to learn about graduate student responsibilities and proposal writing. You are welcome to supplement your degree with certificates to enhance your resume/CV (see table links).

Link to Catalog: Degree Requirements	**Summary**
COGS General MS Requirements	Min credits, max credits of 5000, max credits of directed studies, max credits for workshop
COGS General PhD Requirements	Min credits, min credits > 5000 level, min credits not 6000, max credits of 6000, max credits > 8 yr
MS Geography	No formal course requirements
MS Geology	Max thesis credits
MS Groundwater Hydrology	Several required courses, thesis credit limit
MS Geographic Information Science	Several required courses, thesis credit limit
MS Climate Science and Solutions	Several required courses, thesis credit limit
PhD Geography	No formal course requirements
PhD Geology	No formal course requirements
Non-Thesis Degree Requirements	**Summary**
MS Geography	No formal course requirements
MS Groundwater Hydrology	Several required courses, non-thesis credit limit
MS Geographic Information Science	Several required courses, non-thesis credit limit
MS Climate Science and Solutions	Several required courses, non-thesis credit limit

5. Research Proposals, Products, and Defenses

Each faculty member has their own process for graduate student research proposals and establishing project goals and objectives.

5.1 Non-Thesis Project, Thesis, and Dissertation

Your final product (non-thesis paper/project, thesis, or dissertation) is derived from discussions with your advisor and possibly a graduate committee (not required for non-thesis students) regarding your research goals and objectives. A thesis or dissertation is submitted to COGS according to their publication requirements, but professional products for non-thesis students are not submitted to COGS. For all products, you are the author of the product, but authorship of journal publications derived from your work likely will include your advisor and may include other members of your graduate committee. The person(s) actively involved in idea generation, proposal preparation, funding acquisition, research design, project management, implementation, data analysis, and manuscript writing should be included as authors, with the order of authorship determined by the degree of involvement in producing the publication. A service provided to a student/project (funds expended for analytical tests or development of materials) does not qualify a person for authorship. Such services can be identified within the acknowledgements of a publication. Submission of your work to COGS requires a set of steps at appropriate dates (dates and deadlines).

5.2 Preparation of the Non-Thesis Product

The nature and format of the non-thesis product is determined by the major professor and any appointed committee members. Commonly, 3 to 5 credits of directed study research are allowed for professional paper(s). Research and thesis credits (5000/6000) are not allowed to be used toward non-thesis degrees. If you switch from thesis to non-thesis (or vice versa), you may petition COGS to alter the classification of research credits. If a committee is formed, you will submit your non-thesis product to your committee members for a review period of at least two weeks after the paper has been approved by your major professor. The final product must be approved by your advisor by the end of the semester in which you intend to graduate.

5.3 MS Defense

You must file an application to graduate before or during the semester you expect to graduate. COGS requires that the research defense must be completed three weeks prior to the last day of the term in which you plan to graduate. You should work with your advisor to ensure that you submit your completed thesis to committee members at least two weeks (ideally three) prior to your scheduled defense. The Request to Proceed with Final Defense form must be submitted to COGS at least ten business days prior to the defense. You should submit the thesis for COGS review a minimum of one week prior to the defense. The final draft of the thesis is prepared after the defense, which incorporates changes deemed necessary by the committee at the time of the defense.

You are required to defend your work and show a satisfactory knowledge of the work and relevant field through a project defense that will be open to all interested people including faculty, students, and community members. After the open portion of the defense, a closed-door portion will allow your committee to evaluate your knowledge of your research topic. After the closed-door session, your committee will confer to vote whether to pass or fail your defense (majority rule) and determine necessary updates to the thesis. You must submit your final thesis to COGS within six months or you will be required to repeat your defense.

5.4 PhD Preliminary Exam and Defense

After the formation of your committee and completion of most of your courses, you will work with your advisor and committee to schedule your preliminary exam for advancement to candidacy (typically year 2 or 3). Your preliminary exam represents an evaluation of your knowledge in the field and that you are prepared to successfully pursue and complete your research requirements. Your committee will determine the form of your exam. Your committee votes on the results of your preliminary exam, and if passed, you are advanced to candidacy through submission of the Preliminary Examination and Advancement to Candidacy form to COGS.

Prior to initiating your primary research, you will conduct a proposal review with your committee to establish the research methods and research goals. With completion of your research and dissertation, you will file an application to graduate prior to or during the semester that you expect to graduate. You should work with your advisor to ensure that you submit your completed dissertation to committee members at least two weeks (ideally three) prior to your scheduled defense. The Request to Proceed with Final Defense form must be submitted to COGS at least ten business days prior to the defense. COGS requires that your dissertation defense be completed three weeks prior to the last day of the semester in which you plan to graduate. You should submit the dissertation for COGS review a minimum of one week prior to the defense. The final draft of the manuscript is prepared after the defense, and incorporates changes deemed necessary by the committee.

Your project defense will be open to all interested people including faculty, students, and community members. You are required to defend your work and show a satisfactory knowledge of the research. Attendees are encouraged to pose questions to the candidate. After the open portion of defense, a closed-door portion will consist of your committee evaluating your knowledge of your research and your field. After the closed-door portion, your committee will confer to vote to pass or fail your defense (majority rule) and determine necessary updates to the dissertation. You must submit your final dissertation to COGS within six months or you will be required to repeat your defense.

6. Publication, Copyright, and Ownership of Data

You are expected to actively participate in the dissemination of your research results through publications and/or presentations at professional meetings. Unless there are restrictions on data

distribution from a funding agency/partner, UI faculty, staff, and students shall retain all rights to published work. Publication of your thesis or dissertation does not provide you with ownership of the data or the work.

7. Completion of Graduate Degree Requirements

To complete your degree, you must submit your signed and accepted thesis/dissertation to COGS along with the Repository Agreement. Within six months of passing the defense, you must satisfactorily complete your final thesis/dissertation as indicated by committee signatures. You will provide your thesis/dissertation to our Department Chair for review at least 48 hours before you expect their signature of approval. Additionally, you should schedule an exit interview with the chair. You need to submit your signed thesis/dissertation to COGS by Friday of exam week to be considered for graduation that semester.

8. Curriculum (see Catalog for details on tracks and options):

8.1 Geographic Information Science (M.S.)

Core Curriculum: 18 cr. (non-thesis-16 cr. plus 2 cr. 5990) - 22 cr. (thesis) (16 cr. plus 6 cr. 5000)

Course	Title	Credits
GEOG 4750	Intermediate GIS	3
GEOG 5830	Remote Sensing/GIS Image Analysis	3
GEOG 5070	Spatial Analysis and Modeling	3
GEOG 5250	Graduate GIS Fundamentals	3
GEOG 5930	Geovisualization	3
GEOG 5960	Geography Department Seminar	1

Thesis or Non-Thesis Track: 2-6

Thesis Track (6 credits):

GEOG 5000 Master's Research and Thesis (Thesis students will take 6 thesis credits.)
or GEOL 5000 Master's Research and Thesis

Non-Thesis Track (2 credits)

GEOG 5990 Research (Research students will take 2 research credits.)
or GEOL 5990 Research

Application Areas

Select one of the Following Application Areas: 8-12

Remote Sensing
GIS Programming
Natural Hazards and Emergency Planning

Geospatial Aspects of Sustainable Planning
Geotechnician
Geospatial Habitat Assessment
Geospatial Intelligence

Total Hours 26-34

Courses to total 30 credits for this degree

8.2 Geography (M.S.):

Thesis Option
Each student's training and research plan is developed by the student and the major professor with the advisory committee's approval. Admission is based on the compatibility of the student's research interests with the areas of concentration offered by the department and the availability of a faculty member to serve as the student's mentor. A written thesis is required, but the thesis may be comprised of a manuscript in a form acceptable for publication in a refereed journal, while otherwise fulfilling the requirements of the Graduate College.

Non-thesis Professional Option
This program is designed for individuals who wish to place less emphasis upon research in their plan of study, but want to gain experience in applying their knowledge to a substantial project of an applied nature. Projects may be aligned with internships or other work experiences. The student's advisory committee will consist of two faculty members from the Department of Geography. Projects must be documented and presented according to guidelines in the department handbook and approved by the student's committee. This option can be completed via face-to-face or by online delivery.

Courses to total 30 credits for this degree

8.3 Geography PhD

All general Ph.D. requirements apply. An M.S. degree is required. Admission is by faculty approval based on evaluation of the applicant's potential to carry out original research. Each student's training and research plan is developed by the student and the major professor with the advisory committee's approval. The advisory committee typically consists of three faculty members in the department and one faculty member from another department. Students are not allowed to register for dissertation credits (GEOG 6000) until they have advanced to candidacy via successful completion of their preliminary examination. The dissertation must be of an original research nature and be in a topic spanned by the research interests and expertise of the major professor and committee members.

Courses to total 78 credits for this degree

8.4 Geology MS

Thesis Option
General M.S. requirements apply. Prerequisites are the equivalent of an undergraduate major in the area of specialization. A written thesis is required for which ten credits (of the minimum of 30 credits for the degree) are permitted. This thesis option can be completed via face-to-face or by online delivery.

Non-thesis Option

This program is designed for individuals who wish to place less emphasis upon research in their plan of study but want to gain experience in applying their knowledge to a substantial project of an applied nature. Students must take 3 credits of GEOL 5990, and projects will be developed in consultation with major professor and may be related to experience and/or internship work. Students must complete 1 credit of GEOL 5010. This non-thesis option can be completed via face-to-face or by online delivery.

Courses to total 30 credits for this degree

8.5 Geology PhD

General Ph.D. requirements apply. Admission to the doctoral program is based on the compatibility of the student's research interests with those of the major professor, upon the availability of research support, and the student's academic record and potential. Applicants are expected to have the prerequisites as specified for the M.S. degree with a major in geology. Each research program is developed by the student and the major professor with the advisory committee's approval. Up to 45 credits are permitted in research and dissertation.

Courses to total 78 credits for this degree

8.6 Groundwater Hydrology MS

Non-thesis Professional Option
This program is designed for individuals who wish to place less emphasis upon research in their plan of study, but who want to gain experience in applying their knowledge to a substantial project of an applied nature. Projects may be aligned with internships or other work experiences. The student's advisory committee will consist of two faculty members from the Department. Projects must be documented and presented according to guidelines in the department handbook and approved by the student's committee.

Thesis Option
Each student's training and research plan is developed by the student and the major professor with the advisory committee's approval. Admission is based on the compatibility of the student's research interests with the areas of concentration offered by the department and the availability of a faculty member to serve as the student's mentor. A written thesis is required, but the thesis may be comprised of a manuscript in a form acceptable for publication in a refereed journal, while otherwise fulfilling the requirements of the Graduate College.

Course	Title	Credits
ENVS 4500	Environmental Hydrology	3
or SOIL 4500	Environmental Hydrology	
GEOL 5340	Geostatistics	3
HYDR 5090	Quantitative Hydrogeology	3
HYDR 5120	Environmental Hydrogeology	3
HYDR 5760	Fundamentals of Modeling Hydrogeologic Systems	3
TM 4820	Project Engineering	3
TM 5100	Technology Management Fundamentals	3
Choose Thesis on Non-Thesis Option from Below:		9

Thesis Option:
Advisor-approved electives (3-6 credits)

GEOL 5000 Master's Research and Thesis (3-6 credits)
or HYDR 5000 Master's Research and Thesis

Non-Thesis Option:
Advisor-approved electives (6 credits)
GEOL 5990 Research (3 credits)
or HYDR 5990 Research

Courses to total 30 credits for this degree

8.7 Climate Science and Solutions MS

This degree provides foundational knowledge in climate change science and mitigation strategies, while allowing students to pursue depth areas of their choosing such as research on specific impacts, mitigation, or adaptation strategies, the energy transition, geospatial aspects of decarbonization, climate action planning for communities, or natural hazards. Both thesis and non-thesis options are available.

Each student will design a study plan, in consultation with an advisor and graduate committee, that totals to 30 credit hours and includes the following requirements:

Course	Title	Credits
Required:		
GEOG 5130	Global Climate Change	3
GEOG 5350	Climate Change Mitigation	3
ESS 5010	Seminar	1
One course in tools or research methods relevant to their thesis or non-thesis project		3

For the thesis option, the study plan will include at least 6 credits and a maximum of 10 credits of thesis work (GEOG 5000 or GEOL 5000) and a minimum of 20 credits of coursework. For the non-thesis option, the study plan will include a 3 credits of GEOG 5990 or GEOL 5990 (Non-thesis Master's Research) and 27 credits of course work.

For both options, a minimum of 18 credits must be completed at the 5000-level in related areas, as approved by the candidate's committee or non-thesis project advisor, including thesis and non-thesis course credit hours. The thesis research or non-thesis project portion of the program for each student consists of a substantial project in which the student demonstrates the ability to do rigorous independent work.

Courses to total 30 credits for this degree

8.8 Climate Change Graduate Academic Certificate

At least half of the credits completed towards the certificate must be in graduate level coursework, and all required coursework must be completed with a grade of B or better (O-10-b).

Course	Title	Credits
GEOG 5130	Global Climate Change	3
Select three courses from the following:		9

BE 5530	Northwest Climate and Water Resources Change
GEOG 4300	Climate Change Ecology
GEOG 4550	Societal Resilience and Adaptation to Climate Change
GEOG 4880	Geography of Energy Systems
GEOG 5170	Tree Rings and Environmental Change
GEOG 5350	Climate Change Mitigation
GEOL 5350	Glaciology and the Dynamic Frozen Earth
GEOL 5620	Petroleum Systems and Energy Transitions
SOC 4660	Climate Change and Society

Courses to total 12 credits for this certificate

8.9 Geographic Information Systems Graduate Academic Certificate

All required coursework must be completed with a grade of B or better (O-10-b).

Course	Title	Credits
GEOG 5240	Hydrologic Applications of GIS and Remote Sensing	3
or GEOG 5830	Remote Sensing/GIS Image Analysis	
GEOG 5250	Graduate GIS Fundamentals	3
GEOG 5930	Geovisualization	3
Select 6 credits of electives from the following:		6
GEOG 4020 GIS Skills Development		
GEOG 4750 Intermediate GIS		
GEOG 5070 Spatial Analysis and Modeling		
GEOG 4140 Socioeconomic Applications of GIS		
GEOG 4790 GIS Programming		
GEOG 4870 Topics in Geospatial Analysis		
FIRE 4407 GIS Application in Fire Ecology and Management		

Courses to total 15 credits for this certificate

8.10 Hydrology Graduate Academic Certificate

This certificate is designed to provide students with greater knowledge of the processes and influences on water in the environment and a credential that could be beneficial when applying for positions after graduation in both the public and private sectors, such environmental or geologic consulting companies. At least half of the credits completed towards the certificate must be in graduate level coursework. Note that course credit already applied toward the Water and the Environment Undergraduate Certificate may not be used toward this certificate.

All required coursework must be completed with a grade of B or better (O-10-b).

Course	Title	Credits
HYDR 5090	Quantitative Hydrogeology	3
or GEOL 3090	Ground Water Hydrology	
GEOL 5080	Groundwater Field Methods	3
or HYDR 5120	Environmental Hydrogeology	
FOR 4600	Watershed Science and Management	3

or CE 4280	Open Channel Hydraulics	
or SOIL 4500	Environmental Hydrology	
Select one of the following:		3-4
GEOL 5080	Groundwater Field Methods	
GEOL 5310	Chemical Hydrogeology	
HYDR 5090	Quantitative Hydrogeology	
HYDR 5120	Environmental Hydrogeology	
HYDR 5760	Fundamentals of Modeling Hydrogeologic Systems	
GEOG 5240	Hydrologic Applications of GIS and Remote Sensing	
BE 5530	Northwest Climate and Water Resources Change	
FOR 5600	Physical Hydrology	
SOIL 4500	Environmental Hydrology	
SOIL 5150	Soil and Environmental Physics	
SOIL 5440	Water Quality in the Pacific Northwest	
SOIL 5480	Drinking Water and Human Health	
SOIL 5520	Environmental Water Quality	
FISH 5350	Limnology	
GEOL 5840	Stable Isotopes in the Environment	

Courses to total 12 credits for this certificate

End of Document.