

Graduate Student Handbook, 2009-10



PhD in Geography

Department of Geosciences
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INTRODUCTION

This handbook was developed to provide guidance on graduate study for students working toward a doctorate in geography at Oregon State University. Students are encouraged to provide suggestions for the improvement of the handbook by contacting Stacey Schulte in the Department of Geosciences office (541-737-1221 or stacey.schulte@oregonstate.edu).

Please refer to the OSU Graduate School web pages (http://oregonstate.edu/dept/grad_school/) for additional information. Take special note of the section titled **Guide to Success** at http://oregonstate.edu/dept/grad_school/current/success.html.

THE Ph.D. PROGRAM

The Ph.D. program in geography has been designed to guide students through the exploration and contemplation of ideas and the development of research questions toward the highest levels of interpretation and understanding in the discipline of geography. Areas of strength in our program include resource geography, physical geography, geographic information science, and ecosystem informatics. Each represents a specialization for graduate study, but there is also an overlap between the specialties and every student is exposed to aspects of all areas of concentration. There is opportunity to include course work from other disciplines in programs of study (which may also be incorporated into an *integrated minor*). Students in our program regularly take complementary classes in the colleges of forestry, agriculture, oceanic & atmospheric sciences, science, and liberal arts.

The Ph.D. program provides an opportunity for a student to develop into a scholar of the highest order, one who is able to discover, integrate and apply knowledge within the research strengths of our program (resource geography, physical geography, geographic information science, ecosystem informatics) as well as to communicate and disseminate it.

GENERAL PROGRAM REQUIREMENTS

1. **Background and Exit Requirements:** Admission to the graduate program in geography is open to applicants with a bachelor's degree, the equivalent of a geography master's degree or equivalent and strong academic credentials. Requirements for the Ph.D. degree are tailored to reflect the diversity of backgrounds of incoming students (who are welcome from many different disciplines) and to assure that everyone exits the program with a common core of geographic knowledge beyond their particular specialization. This is accomplished through the use of the Degree Requirement Checklist for Geography Ph.D. Background and exit requirements are determined by an audit of the student records prior to first term enrollment. Program requirements include a set of core courses and additional classes selected in consultation with the student's supervisory committee. Students and advisors should refer to the audit report and the Ph.D. degree checklist when developing a plan of study.
2. **Public Seminars:** Each graduate student in the Ph.D. program is expected to present a seminar related to the dissertation subject. The presentation could be made at a regularly scheduled departmental seminar, at the time of the examination or at a special meeting.
3. **Grade Requirement:** A grade point average of 3.00 (a B average) is required for all courses taken as a graduate student (even if they are undergraduate courses). Grades below C or S/U grades are not accepted on a graduate program. Since Ph.D. candidates are expected to be superior students, geography program policy requires a review of students if their GPA falls below 3.50. After consultation with the student's major professor, the graduate committee may recommend termination if it is felt that the low GPA is indicative of less than superior performance as a Ph.D. student.
4. **Continuous Enrollment Policy:** "Continuous graduate enrollment refers to the policy of requiring continuous registration of graduate students from the original matriculation until all degree requirements are met." All graduate students in a graduate degree program must register continuously for a minimum of 3 graduate credits and pay fees, regardless of student location, if they will be using any university or department resources (e.g. facilities, equipment, computing or library services, or faculty or staff time, including holding exams) until their degree is granted or status as a graduate student is terminated, unless on authorized leave, effective fall term 2002.

See Continuous Graduate Enrollment Policy on the Graduate School web site (<http://catalog.oregonstate.edu/ChapterDetail.aspx?key=38#Section1804>).
5. **Professional Experiences:** As a part of the program requirements, every student is expected to include in his/her activities some experience of a professional nature. For the purposes of geography graduate degrees, each student should include at least two of the following in their work plan before completion of a degree:
 1. Preparation of a research proposal.
 2. Presentation of research results in a professional context like:

- i. Professional meeting
 - ii. Internship report to clients
 - iii. A seminar open to the public
3. Preparation of a competitive grant proposal.
6. **Assistantships: University regulations require all students with an assistantship to register for a minimum of 12 hours each term while on a TA or RA assignment.** Graduate assistants may register for a maximum of 16 credits, but are advised to confer with their major professor or program director to avoid a potential overload. Students on an assistantship can maintain their full time status and avoid overloading themselves with coursework by signing up for GEO 603 Thesis (1-16 hours) to “top up” their credits to the 12-16 credit level.

Since GEO 603 credits get an R grade (research continuing), they are not calculated in the grade point average. Since Ph.D. students must list 36 GEO 603 credits, there is an advantage to student making full use of the free tuition assistantship benefit by “banking” credits to avoid a big bill when presenting their completed dissertation.

“As a condition of their academic appointments, graduate teaching and research assistants are required to register for three credits above the minimum full-time load (i.e., a minimum of 12 credits) each term of the appointment during the academic year (fall, winter and spring). During summer session, a minimum registration of 9 credits is required for graduate assistants. Audit registrations and enrollment in OSU Extended Campus courses may not be used to satisfy enrollment requirements for graduate assistant salary/stipend, tuition remission or health insurance benefits.” [excerpt from the Graduate School website]

7. **Thesis vs. Research Enrollment for International Students:** It is especially important that international students register for GEO 603 Thesis instead of GEO 601 Research beyond those required on their degree. Incomplete grades will be assigned to research credits taken beyond those required. Incomplete grades will be assigned to research credits taken beyond those required. 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, if the student does not make an effort to resolve the incomplete course work within one year of recording the incomplete. Grades of I and F can potentially lead to complications with the USCIS. Thesis credits are assigned an R grade and will not result in complications with the USCIS.

Students on F-1 or J-1 visas must be enrolled for and complete a minimum of 9 credits each term during the academic year to satisfy immigration requirements. All graduate students on an assistantship (GTA or GRA) need to maintain at least 12 state supported credits. Audit or OSU Extended Campus courses do not count toward full time enrollment for OSU graduate students.

Students must receive written approval from International Student and Faculty Services prior to registering for less than a full course of study or dropping below a full course of study. One vacation period is allowed during the academic year, usually taken summer term. See Registration Requirements for Graduate International Students on their web site at <http://oregonstate.edu/international/>.

During the final phase of the degree, students may petition to register for fewer than nine credit hours if they have completed all required course work listed on their specific Program of Study

and they are not on a GTA or GRA assignment. If approved, they will need to register for a minimum of three credits. Check with International Student and Faculty Services (A110 Kerr Administration Building, 541-737-6310) for more information.

THE GRADUATE COMMITTEE

The composition of graduate committees is governed by the policies of the Graduate School, the Department of Geosciences and the Geography Program. The *minimum* committee size is as follows:

- 1 major professor
- 1 or 2 department representative(s)
- 1 or 2 external or minor representative(s)
- 1 Graduate Council representative (aka GCR)
- 5 MINIMUM TOTAL COMMITTEE MEMBERS

The **major professor** assumes principal responsibility for directing research activities. When the major professor is on a courtesy appointment, a member of the Department of Geosciences regular faculty must serve as co-chairperson of the dissertation committee and both must sign the approved dissertation. Before graduate program forms are submitted to the Graduate School, the geography program director may review dissertation committee membership and, in consultation with the graduate committee, call for changes in composition of the committee.

Students admitted as “regular” graduate students will normally have a major professor who previously agreed to supervise the student’s work. The geography program director will act as a temporary advisor to graduate students admitted without a major professor and suggest appropriate supervisory faculty in accordance with the student’s interests.

It is the responsibility of the student to seek acceptance by a member of the graduate faculty to serve as the major professor. The decision is made upon mutual agreement between the student and the professor and should be reported to the geography program director.

If the student chooses an optional minor, the **minor professor** must be from outside the geography program unless the minor is an integrated minor entirely within the geography program (e.g., physical geography or resource geography). Graduate School rules require students to take at least one course from the minor professor’s department.

The **external or minor representative** ordinarily serves only at the final examination, but may be asked by the major professor to participate in the thesis review procedure if he/she is closely involved in the research.

The **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 dissertation defense.

No committee is official until approved by the Department of Geosciences and the Graduate School. A Graduate School review will apply the following guidelines:

1. All committee members must be on the graduate faculty. Adjunct members from other universities or appropriate organizations may also serve if approved by the graduate committee and the Graduate School.
2. **At least two members must be regular faculty in the Department of Geosciences**, as distinguished from courtesy faculty. A list of Department of Geosciences faculty can be found on the department website at <http://geo.oregonstate.edu/people/faculty.htm>. **Note:** The

Graduate School does NOT allow a Department of Geosciences faculty member to serve as both the department representative and the minor professor.

ROLES AND RESPONSIBILITIES

The **student** should assume the major responsibility for his/her graduate program, follow department and university requirements, meet all deadlines and initiate all steps involved in obtaining the degree. The student should meet regularly with the major professor to discuss progress or difficulties in research, course work or other matters, and if experiencing serious difficulties with the major professor, discuss the matter with the director of the geography program.

The **major professor** should advise and guide students in their graduate programs, be informed of student progress and difficulties, edit research proposals and dissertations before they are given to other committee members, encourage active participation in departmental seminars, regional and national scientific meetings and ensure that research, teaching and other professional activities include student advisees when possible.

The **minor professor** should advise and guide students in their minor course of study, if they are pursuing one. Normally the minor professor is one from whom a student has taken one or two courses within the minor course of study. The minor professor also serves as an interested editorial critic of the student's writing (especially the dissertation), and as a participant in the various meetings and examinations held during the student's program, including the final dissertation defense.

Members of the student's graduate committee 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, including the final dissertation defense.

Members of the Departmental Graduate Committee are involved in admission of all graduate students, in the review of graduate student progress, and in graduate student matters determined by the department chair or faculty.

The **department chair** ensures that the graduate policy is implemented and department standards are maintained, assists in the solution of major problems that might arise during a student's program, and as resources and opportunities permit, allocates office and research facilities for dissertation research. For geography students, the director of the geography program usually acts for the chair in matters relating to the geography program.

The **department staff** is available to assist in all matters while you are a student at OSU.

PROGRAM OF STUDY

The Proposed Doctoral Program (Program of Study) form (list of proposed courses) must be filed by all graduate students before the completion of 18 hours of graduate course work. You will find the Proposed Doctoral Program form as well as other Graduate School forms at http://oregonstate.edu/dept/grad_school/current/forms.html.

The following items should be addressed when preparing the Proposed Doctoral Program:

1. Does the program show at least three years of full-time graduate work beyond the baccalaureate degree (a minimum of 108 credits is required for a Ph.D. in geography).
2. Does the program consist of a minimum of 50% graduate level stand alone courses (not 400/500 slash courses)?
3. Does the program show at least 36 credits devoted to the dissertation?
4. Does the program contain at least one full-time academic year of regular non-blanket course work (i.e., a minimum of 36 credits)?
5. Does the program guarantee that the following residence requirement be met:
 - a. A minimum of 36 graduate OSU credits, and
 - b. At least three terms of full-time graduate academic work (at least 9 credits per term) on site at the Corvallis campus or at an off-campus site approved by the Graduate School.
6. If a minor is declared, does it contain at least 15 credits?
7. Does the program contain no more than 15 credits of blanket numbered courses other than dissertation? Blanket-numbered courses include courses only for research, seminar or reading and conference. These courses usually do not include a syllabus with structured assignments. (Excess blanket numbered courses are allowed to the extent that the program exceeds 108 credits.)
8. Does the program guarantee that all departmental requirements will be fulfilled?
9. Do all transfer courses appear to fit the above mentioned guidelines for transfer courses?
10. Are all transfer courses clearly identified as such?
11. Is the program meeting being held early enough in the student's academic career to permit the committee to contribute meaningful input to the program?

Geography Ph.D. requirements provide substantial flexibility for tailoring programs of coursework to fit individual student backgrounds, interests and career goals. Specific requirements as follows:

1. The major field must be resource geography, physical geography or geographic information science.
2. There must be a minimum of 108 graduate credits including a minimum of 32 post-master course credits taken at OSU and 36 hours of dissertation credits. M.S. credit hours can often be included in the calculation of the 108 credits when approved by the program director and Graduate Committee. When a student has not completed a previous geography degree, the Ph.D. program must include geography course work at least equivalent to that required for a geography M.S. program.
3. In all cases, the Graduate Committee and program director, not the student, are responsible for deciding the type and amount of course work required to complete the Ph.D. degree in geography. They often conclude that course work beyond the 108 credits is appropriate to achieve programmatic objectives.
4. A foreign language is required for all doctoral programs.
5. A maximum of 15 hours of blanket number courses (501/601, 505/605, 507/607, 508/608) is allowed on a Ph.D. program.

A student who does not file a program within the specified deadline will not be allowed to register for the next term. The program of study is worked out under the guidance of the major and minor professors and is signed by the entire committee and department chair (or geography program director) before filing with the Graduate School. The program of study for each student should include a substantial amount of work with at least four faculty members offering graduate instruction.

Changes in the program may be made by submitting a Petition for Change in Graduate Program form. It is wise to file one change form near the end of your program so that repeated filings are not necessary.

REQUIRED MEETINGS

Geography Ph.D. committees must convene for the following sequence of meetings:

1. A **program meeting** to discuss the general direction of the student's research and the specific plan of coursework to be included in the graduate program to be filed with the Graduate School. This meeting is attended by only the student and committee members.
2. A **proposal meeting** (aka a proposal defense) to hear the student present the dissertation research proposal. This meeting is open to the public, although the committee will also convene privately to advise the student after the public has been given an opportunity to ask questions about the proposal.
3. A **preliminary exam meeting** for the oral examination of the student. This meeting includes only the student and committee and follows the completion of the written examination and field problem.
4. A **dissertation defense meeting** (aka final examination) for the student to present the dissertation to the public. After responding to the audience questions, the committee continues the exam in closed session.

The Graduate Council Representative (GCR) is required to attend all of the above meetings except for the proposal meeting.

It is the responsibility of each student to reserve rooms for meetings and exam times through the Geosciences department office, notify the Graduate School of scheduled exams by using the Exam Scheduling form (available on the Graduate School web site) and remind each committee member of the scheduled meeting or exam. At the time you schedule your oral examination with the Graduate School, you should also apply for graduation if you have not already done so.

Program meetings, preliminary exams and final exams may be held during any period when school is in session. This excludes the periods between the regularly scheduled quarters and during official vacation periods. Student should be aware that most faculty are on appointment for only nine months a year and are unlikely to be available during the three month summer period.

The major professor will chair the program meeting, the proposal meeting and the examination portion of the preliminary and final defense meetings. The Graduate Council Representative will chair the portion of the meetings that involve the evaluation of the student's performance.

GAINING APPROVAL OF DISSERTATION PROPOSAL TOPICS

The following procedures have been established to assure that candidates make maximum use of the members of their committee as advisors in the formulation of dissertation topics and research designs.

1. Identify the problem area. Discuss with major professor and committee members independently.
2. Read the literature to determine existing research on a topic.
3. Refine topic. Test problem thrust with major professor, committee members and other relevant persons.
4. Prepare formal research proposal (example formats follow). Consult library proposal preparation references for extended discussion.
5. Test proposal ideas during independent discussions with major professor and committee members.
6. Call committee into session for formal presentation of research proposal. The formal proposal presentation is open to all geosciences students and faculty. The committee's evaluation of the proposal is open only to the presenting student, the major professor and the committee members.
7. File copies of the approved proposal with members of the committee and the department office.
8. As work progresses, keep in contact with major professor and committee. Submit material for review as prepared.

SUGGESTED STRUCTURE FOR A DOCTORAL RESEARCH PROPOSAL

In order to facilitate discussion of the student's research plans, the candidate is asked to prepare a research proposal. For Ph.D. students, the proposal must be presented and discussed in a formal proposal meeting attended by the student's graduate committee. Outlines commonly include the following sections. The lengths listed pertain to double spaced text and are guidelines, not rigid requirements. Two formats are given below, but major professors may suggest other styles.

Research Proposal Format #1

1. Literature review and statement of problem, including main research question(s) (2-6 pages).
2. Significance of the proposed research (1-2 pages).
3. Objectives of the proposed study in order to answer the research question(s) (1/4-1/2 page).
4. Methods of procedure (2-5 pages presented systematically for each objective with emphasis on design, sampling methods and statistical analysis).
5. Literature cited.
6. Time table of significant events in the research project (1/2-1 page). This should include:
 - a) when the study or data gathering was or will be initiated;
 - b) duration of the data gathering including all field seasons for field projects;
 - c) when the data will be analyzed;
 - d) when the dissertation will be written; and
 - e) the expected date for completion of the degree requirements.
7. A proposed budget should be attached if funds are needed to undertake the research.

Research Proposal Format #2

TITLE: This should clearly indicate the type of study proposed.

INTRODUCTION: This should be a statement of several paragraphs introducing the general subject.

(e.g. The controversy over "old growth" is a recent development in the Pacific Northwest. Prior to the early 1980's, environmental activists focused their energies on the creation and expansion of the Wilderness Preservation System. When resistance to additional wilderness areas stiffened, it became clear to many that the wilderness system was likely to leave a large portion of the virgin timber resources unprotected from the threat of harvest. The debate shifted from wilderness preservation to "old growth" preservation. In support of the claims of

environmentalists, scientific research produced evidence which seemed to justify the setting aside of "old growth" as a species protection measure.

In particular, it was demonstrated that the Northern Spotted Owl showed a particular affinity to old growth stands. As a result of this, the owl has been designated as an indicator species pointing to the viability of old growth communities. Etc., etc.)

JUSTIFICATION: This is the place where the focal problem area is identified. It should answer the general question: "Where do we need increased understanding?"

(e.g. Since the fate of old growth has been tied so closely to the fate of the spotted owl, it is important that the linkage between the two is based on the best science available. The questions recently raised by owl sightings in second growth timber are disturbing to outside observers since they indicate that old growth may not be essential to the survival of the owls. This research is designed to reexamine the linkage between old growth and owls.)

OBJECTIVES: The objectives bring the proposal down to the specific things you intend to accomplish with the proposed research. They should be short statements that are clear and to the point.

(e.g. 1) To construct a history of the emergence of old growth as a resource controversy in the Pacific Northwest.

2) To identify...

3) To determine...

4) To estimate...

5) To construct...

6) To develop...

7) To test...)

PROCEDURES: Each objective identified above should be linked to the strategy you intend to use in pursuing the objective.

[Objective 1:

e.g. The published literature will be searched using a system described by Bigfoot (1901) to identify key actors in the scientific, environmental and governmental communities. As the search proceeds, a cumulative contacts graph will be constructed as described by Susie (1975). When the frequency of new names per article searched approaches the asymptotic limit, the name search will be stopped.

Using the names generated from the published literature, a sample population of names will be drawn using the stratified Wilson method as described by Wilson (1987).

The individuals in the sampled population will be interviewed...]

Objective 2: Etc.

Objective 3: Etc.

SUMMARY STATEMENT: A few paragraphs that bring together the expected significance of the findings is a desirable way to bring to the reader a sense of the importance of the proposed work. If you don't know why it is important, will anyone else?

TIMELINE FOR WORK: This should give the schedule of work you propose to undertake. Many students have little concept of the time involved in doing research. The timeline helps me judge if the research work can be completed on schedule.

If you systematically organize your proposal in this fashion, then it is easy to approve parts of it and to identify parts that are in need of further work.

BUDGET: By providing an estimate of costs, students certify their understanding of the financial demands of the proposed undertaking.



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Also available online at
<http://www.geo.oregonstate.edu/gradprgm/Dissertation%20Proposal%20Approval%20Form%20GG.pdf>

(date)

TO: Geography Program Director
Department of Geosciences

RE: APPROVAL FORM – GEOGRAPHY Ph.D. DISSERTATION PROPOSAL DEFENSE

_____ has successfully defended his/her proposal
(student name)

entitled _____

He/She may now take the Ph.D. comprehensive examinations as long as the foreign language requirement has been met and coursework has been completed. A copy of the proposal is attached.

_____ Major Professor

_____ Committee Member

_____ Committee Member

_____ Committee Member

_____ Committee Member

FOREIGN LANGUAGE REQUIREMENT AND EXAMINATION

It is important for a doctoral student to be exposed to the breadth of human endeavor, and therefore, be able to examine valid scholarly work being done by people other than intrinsic English-speakers. Because the Ph.D. is a degree of advanced, original research, the department requires that all Ph.D. programs in geography must include one foreign language other than the student's native language. For some students, knowledge of a computer programming language may be highly recommended as well, but it is not required. Passing the language examination is a prerequisite to beginning the comprehensive preliminary examination.

Level of Comprehension: For all doctoral students in geography, the minimal foreign language requirement is the capability to use geographical periodicals and references in the second language. The student is expected to demonstrate comprehension of basic grammar and adequate vocabulary such that references can be used with reasonable facility.

The Language Examination: The student may meet the foreign language requirement by any one of the following means:

1. The requirement is automatically satisfied when English is the second language of the student. This means that a student fluent in his or her native language and required to take the TOEFL test for admission to Oregon State University can be exempted from further certification, at the discretion of his/her graduate committee.
2. Student completing the second year of college level language training can be certified as meeting the language requirement by his/her graduate committee.
3. Students with a language proficiency developed from experience, private study, or non-academic training may satisfy the foreign language requirement by passing a reading test with an approved examiner. This procedure is designed as a convenient way to certify proficiency. It is not designed to accommodate a continual re-testing of marginal language skills. It will be given no more than twice for each student. A student who fails must be certified by an alternative procedure in sections 2 or 4. Some of the approved examiners in the department are:
 - a. Julia Jones (French)
 - b. Julia Jones (Spanish)
 - c. Gordon Matzke, Emeritus (Swahili)
 - d. Keith Muckleston, Emeritus (German)
 - e. Aaron Wolf (Hebrew)
 - f. Julia Jones (Italian)

Individual graduate committees may make alternative arrangements to test other languages in the absence of designated departmental examiners.

4. One hour is the suggested examination length. The examiner will select suitable portions of a geography journal or reference material for written translation (usually a total of two pages). The student may use a dictionary. The translation is to be accomplished in a reasonable time (not more than one hour) and to correctly express the context of the assigned paragraphs. The examiner may ask questions concerning the language structure and grammar in the translated portions, to assure that the student has reasonable comprehension.
5. The language requirement may be satisfied by passing the Foreign Language Achievement Test developed and provided by Brigham Young University (<http://flats.byu.edu>).
6. Following a successful examination, the examiner will complete the appropriate form (available at http://oregonstate.edu/dept/grad_school/current/forms.html#PhDlanguage) to be filed with the Graduate School.

DOCTORAL COMPREHENSIVE EXAMINATION

The comprehensive examination follows the coursework included on the student's Graduate Doctoral Program, the completion of the foreign language requirement, and the dissertation proposal meeting (defense). Normally a delay of two months is required to allow the student time for reading, review and reflection. Students are encouraged to visit with members of their committee for suggestions and assistance during this period. Some major professors hold discussion sessions to help their students prepare.

The comprehensive examination consists of three phases:

Phase I is a written examination which has the intention of testing: (1) the student's philosophical understanding of the discipline and particular specialization; and (2) ability to handle questions or problems thoughtfully and with particular concern for conceptual structures. Phase I normally consists of five to seven questions prepared by members of the committee, and selected and assembled by the major professor. The student is given five hours to deliver typed copies of responses to members of the committee for evaluation. Normally within three days, the major professor can give the student the committee evaluation.

Phase II has the purpose of testing the student's ability to define and design a researchable problem within the specialization field. The problem area is set by the major professor, who is also the principal evaluator. The problem assigned may involve either field or library research, and may stress either a proposal for an extended effort or a small scale problem for which research and reporting can be completed in the allotted time. The major professor can choose a format of either two days (48 hours) or three days (72 hours) for Phase II. Typed copies of a specified report are delivered to the committee at the end of the specified time period.

Phase III is the formal oral examination by the full committee, including the Graduate Council Representative. Questions may range across the student's background, with the time equally divided among the examiners. This two-hour examination must be scheduled with the Graduate School at least one week in advance (two weeks is even better). At least one complete academic term must elapse between the preliminary oral exam and final oral dissertation defense.

After successfully completing the oral examination, the student is advanced to candidacy for the Ph.D. degree. The student must then complete and defend a Ph.D. dissertation within five years in order to be awarded the degree.

DEGREE REQUIREMENT CHECKLIST FOR GEOGRAPHY Ph.D.

1. Background Requirements

Does the audit of your student record (performed by your major professor before you begin classes) specify the need to take any of the following minimum background coursework? If the audit specifies any of these courses, they are to be taken for undergraduate credit early in the program. They may not be audited or taken for graduate credit. They must be taken on a graded bases (not S/U or P/N).

- GEO 201 - Physical Geography
- ST 351 - Introduction to Statistical Methods
- GEO 300 - Environmental Conservation and Sustainability
- GEO 360 - Cartography

2. Exit Requirements

Does the audit of your student record specify the need to take any of the following exit requirements coursework? The courses listed below may be used to simultaneously meet exit requirements and graduate program requirements.

Field work (GEO 548 or substitute approved by major professor)

- GEO 548 – Field Research in Geomorphology and Landscape Ecology

Physical Geography (choose from below or substitute approved by major professor)

- GEO 531 – Applied Climatology
- GEO 532 – Applied Geomorphology
- GEO 539 – Topics in Physical Geography
- GEO 546 – Advanced Landscape Ecology
- GEO 582 – Geomorphology of Forests and Streams
- GEO 583 – Snow Hydrology

Resource Geography (choose from below or substitute approved by major professor)

- GEO 520 – Geography of Resource Use
- GEO 521 – Humans and Their Wildlife Environment
- GEO 523 – Land Use
- GEO 524 – International Water Resources Management
- GEO 525 – Water Resources Management in the United States
- GEO 526 – Third-World Resource Development
- GEO 529 – Topics in Resource Geography
- GEO 551 – Environmental Site Planning
- GEO 552 – Principles and Practices of Rural and Resource Planning
- GEO 553 – Resource Evaluation Methods/EIS

Remote Sensing/Image Processing (choose from below or substitute approved by major professor)

- GEO 544 – Remote Sensing
- GEO 566 – Digital Image Processing

Geographic Information Systems (choose from below or substitute approved by major professor)

- GEO 565 – Geographic Information Systems and Science
- GEO 580 – Advanced GIS Applications in the Geosciences

Statistics (ST 511 or substitute such as GEO 541 approved by major professor)

- ST 511 – Methods of Data Analysis
- GEO 541 – Spatio-Temporal Variation in Ecology and Earth Science

3. **Program Requirements**

The total program must have at least 108 graduate course hours. The combination of exit, major and minor program requirements must list at least 30 graduate hours in geography including the common set of core classes listed below.

- GEO 601 – Research Paper (3 credits) or GEO 603 – Thesis (36 credits)
- GEO 607 – Seminar: Geographic Research (1 credit)
[Repeat 3 times; one must be taken concurrently with GEO 515]
- GEO 515 – History and Philosophy of Geography (3 credits)*
- GEO 518 – Geoscience Communication (3 credits)*
- GEO 548 – Field Research in Geomorphology and Landscape Ecology (3 credits)*
- GEO 534 – Field Geography of Oregon (3 credits)* [Highly recommended but not required]
- Professional Experiences (2) Research Proposal Presentation Grant Proposal

Every student must complete a major program of study including at least 27 credits. The major areas of study are geographic information science, physical geography or resource geography. The specific courses selected must meet the approval of the major professor and program director.

A minor program of study is NOT required. However, if a student desires a minor, many are available on the OSU campus, including an integrated minor that combines fields around a student-designated theme (such as physical geography or resource geography). These minors must consist of at least 15 credits. There is also the graduate certificate in geographic information science at 19 credits. The following list is helpful in guiding the selection of geography courses for inclusion in major and minor programs:

Internship

GEO 510 – Internship

Geographic Information Science

GEO 541 – Spatio-Temporal Variation in Ecology and Earth Science*
GEO 544 – Remote Sensing
GEO 545 – Computer-Assisted Cartography
GEO 565 – Geographic Information Systems and Science
GEO 566 – Digital Image Processing
GEO 580 – Advanced GIS Applications in the Geosciences*
GEO 585 – Advanced Remote Sensing and Digital Image Processing*
GEO 599 – Special Topics

Resource Geography

GEO 520 – Geography of Resource Use
GEO 521 – Humans and Their Wildlife Environment
GEO 522 – Reconstructing Historical Landscapes
GEO 523 – Land Use
GEO 524 – International Water Resources Management
GEO 525 – Water Resources Management in the US
GEO 526 – Third-World Resource Development
GEO 529 – Topics in Resource Geography
GEO 552 – Principles and Practices of Rural and Resource Planning

Physical Geography

GEO 531 – Applied Climatology

GEO 532 – Applied Geomorphology

GEO 534 – Field Geography of Oregon*

GEO 539 – Topics in Physical Geography

GEO 546 – Advanced Landscape Ecology*

GEO 548 – Field Research in Geomorphology and Landscape Ecology*

GEO 581 – Glacial Geology*

GEO 582 – Geomorphology of Forests and Streams*

GEO 583 – Snow Hydrology*

GEO 593 – Topics in Quaternary Geology

*500-level-only courses: In other departments, related 500-level-only courses are listed below. You may petition the Graduate School to accept a 400/500 course as 500-level-only if you include the syllabus of the course with a clear statement of learning outcomes for graduate students.

FOR 520 – Advanced Aerial Photos and Remote Sensing

FOR 521 – Spatial Analysis of Forested Landscapes

FOR 523 – Quantitative Analysis in Social Science

FOR 558 – Concepts of Forest Recreation Planning and Management

FOR 561 – Forest Policy Analysis

MRM 525 – Special Topics in Marine Resource Management

OC 678 – Satellite Oceanography

ST 565 – Time Series and Spatial Statistics

CS 549 – Selected Topics in Information-Based Systems

CS 553 – Scientific Visualization

GUIDELINES AND CHECKLIST FOR PH.D. PROGRAM

- _____ 1. **Initial advising and selection of first term classes - Before classes begin**
Initial orientation and advising are usually provided by the geography program director and the student's major professor respectively. You should assume responsibility for this contact.

- _____ 2. **Meet with your major professor - 1st or 2nd term of program**
By the end of your first term, meet with your major professor and discuss research interests and compatibility. You may also meet with other professors if you find that your interests or goals have changed. It is most advantageous not to delay the selection of a final major professor. Confirm agreement with a major professor by the end of your second term.

- _____ 3. **Form your doctoral committee - 1st or 2nd term of program**
The graduate committee is made up of a minimum of five faculty with your major professor as chair. At least two committee members must be regular geosciences faculty and one faculty member must represent the minor field, if a minor is chosen. A minor professor is not required if pursuing a certificate in Geographic Information Science. The Graduate School provides a list of Graduate Council Representatives from which you choose an additional member to complete your committee.

- _____ 4. **Prepare program of study – 2nd term of program**
Major field must be either resource geography, physical geography or geographic information science (a minor field is not required).
 - Total course hours should be 108 including a minimum of 50 hours post-masters courses at OSU (500 & 600) exclusive of dissertation. When a student has not completed a previous geography degree, the Ph.D. program must include geography course work at least equivalent to that required for a geography M.S. program.
 - Must include ST 511 Methods of Data Analysis or equivalent
 - Must include GEO 515 History and Philosophy of Geography (GEO 518 Geoscience Communication is strongly recommended, but not required)
 - Must include GEO 548 Field Research in Geomorphology & Landscape Ecology (GEO 534 Field Geography of Oregon is also strongly recommended, but not required)
 - Must include a course in physical geography and a course in resource geography
 - Must include two courses in geographic information science
 - Must include three GEO 507 (1 cr.) geography research seminars (one must be taken concurrently with GEO 515)
 - One foreign language is required on all doctoral programs

- Dissertation – 36 hours in addition to course work and is part of major field
- Maximum of 15 hours of blanket numbers (501/601, 505/605, 507/607, 508/608)

- _____ 5. **Schedule a program meeting with your committee – 1st or 2nd term**
After discussion with your major professor, schedule a meeting with all committee members. Your program should be informally reviewed by all committee members before the meeting. The program must be approved by the geography program director before submitting it to the Graduate School
- _____ 6. **File program of study – 2nd term (before completion of 18 credit hours)**
If the doctoral program is not filed by the end of the fourth term, the student is not making acceptable progress and may be dropped from the program.
- _____ 7. **Complete course program and language requirement as approved – 1st to 9th term and before comprehensive examination**
Note that any change in your program requires filing a Petition for Change in Graduate Program prior to scheduling your defense. Your GPA must be at least 3.00 in both major and minor fields. GPAs below 3.50 will be reviewed by the Graduate Committee because Ph.D. students are expected to exhibit superior performance.
- _____ 8. **Prepare research proposal in consultation with major professor. Hold a proposal review meeting (proposal defense). Submit proposal to department office to be placed in your student file – 1st to 9th term**
Prepare a formal proposal of a research problem and design of research. Schedule a meeting of the full committee, including the Graduate Council Representative, and present the proposal. Normally serious research begins after the oral examination; however *it is desirable to have begun consideration of your research problem earlier. Secure committee approval.*
- _____ 9. **Seek financial support for proposed research – ongoing**
- _____ 10. **Schedule comprehensive preliminary examinations – after completing all above**
The examination is in three parts, to be passed in sequence. Only the third part is scheduled with the Graduate School Office.
- Part I is a written examination on knowledge of your fields of specialization and comprehension of the discipline of geography.
 - Part II is a field problem that you are asked to formulate and analyze.
 - Part III is a two-hour oral examination and must be scheduled one week in advance with the Graduate School by submitting the exam scheduling form available online at http://oregonstate.edu/dept/grad_school/current/forms.html. Provide a copy of the exam scheduling form to Stacey in the department office. Upon passing all three parts, the student is advanced to doctoral candidacy.

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- _____ 11. **Research and write your dissertation**
- During the research and writing, maintain rapport with your major professor and all committee members in order to gain their guidance. “Each Ph.D. candidate must submit a dissertation embodying the results of research and giving evidence of originality and ability in independent investigation. The dissertation must be a real contribution to knowledge, based on the candidate’s own investigation.” The booklet “Thesis Guide” is available on the web at http://oregonstate.edu/dept/grad_school/. One way of meeting the requirements for a Ph.D. dissertation is to write a single narrative. An alternative is the publishable papers option. The option is three publishable papers, which must be related in their overall research theme. A publishable paper is one that is targeted to a specific journal, is in the format and length required for submission to that journal, and is deemed publishable by the student’s graduate committee. The papers option shall include an introduction and literature review that ties the papers together into a common theme, all of which shall be bound together and submitted to the department as a dissertation. The student’s graduate committee and major professor must agree to the option before the student proceeds.
- _____ 12. **Submit pretext pages of dissertation to Graduate School for editing and schedule final defense—at least two weeks before final defense**
- After approval of your dissertation by your major professor and other members of your committee, schedule final examination date and time with all committee members. Come to the department office and reserve a room for the meeting. Once the date, time and location are set, schedule the meeting with the Graduate School by submitting the Event Scheduling Form. At this time students must submit the pretext pages only of the dissertation to the Graduate School for editing instead of the entire draft. If spring term, check the deadline dates. You should also apply for graduation with the Graduate School at this time. Submit copy of the exam scheduling form to Stacey in the department office with the title of your dissertation.
- _____ 13. **Submit final dissertation – within 6 weeks of defense**
- Regardless of option (narrative or three publishable papers), the dissertation must be submitted as one bound copy to the department and as one unbound copy to the Graduate School. In addition, a single, electronic PDF file must be submitted to ScholarsArchive, the OSU institutional repository. See http://oregonstate.edu/dept/grad_school/current/thesis.html for more information especially instructions for electronic submittal of the dissertation.
- _____ 14. **Exit interview, exit survey and checking out—prior to leaving campus**
- Make an appointment with the department chair for an exit interview. Complete the exit survey (available from the department office) and bring it to the appointment. After the interview, turn in the survey and check-out form to Stacey.
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GRADUATE SCHOOL FORMS AND HELPFUL TIPS

Graduate School ▪ 300 Kerr Administration ▪ 541-737-4881 ▪ graduate.school@oregonstate.edu

Graduate Program and all necessary forms are available by clicking on “Graduate Forms” on the web at http://oregonstate.edu/dept/grad_school/.

The OSU Graduate School Survival Guide, a step-by-step guide to processing through your graduate degree can be found at

http://oregonstate.edu/dept/grad_school/current/success.html.

OSU Graduate diploma and commencement deadlines:

http://oregonstate.edu/Dept/grad_school/current/deadlines.html.

Information that applies to both masters and doctoral degrees can be found at

<http://catalog.oregonstate.edu/ChapterDetail.aspx?key=38>.

The Graduate School will be pleased to answer questions on these or any other degree requirements. Please call 541-737-4881, stop by the Graduate School office on the third floor of Kerr Administration Building or email us at graduate.school@oregonstate.edu.

OTHER GREAT RESOURCES

- **The OSU Center for Writing and Learning:** Writing assistants are available to help with brainstorming, organization, grammar and usage, and all aspects of writing. Online writing lab for assessment of writing problems (24-48 hour turnaround). 123 Waldo Hall, <http://cwl.oregonstate.edu/>, 541-737-5640.
- **The OSU Academic Success Center:** Assistance with goal setting, study skills, listening habits, time management and wellness. 101 Waldo Hall, <http://success.oregonstate.edu/>, 541-737-2272.
- **International Student and Faculty Services:** Information for international students holding F-1 or J-1 visas. A110 Kerr Administration Building, <http://oregonstate.edu/international/>, 541-737-6310.

