

Graduate Student Handbook, 2009-2010



Master of Arts in Geography Master of Science 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 Master's 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 MASTER'S PROGRAM

The master's program in geography has been designed to give students a pragmatic, applied approach to the advanced study 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 master of arts program provides an opportunity for in-depth graduate study, normally in the areas of resource, human or cultural geography. In addition, the Graduate School requires that a master of arts student "show foreign language proficiency (including American Sign Language) equivalent to that attained at the end of a second-year university course in that language with a grade of 'C' (2.00) or better....The foreign language requirement for the M.A. degree must be completed before the student takes the final oral examination for the degree." (OSU Catalog).

The master of science program provides an opportunity for in-depth graduate study in all areas of strength in the department (resource geography, physical geography, geographic information science, ecosystem informatics). There is no foreign language required.

GENERAL PROGRAM REQUIREMENTS

1. Background and Exit Requirements: Admission to the graduate program in geography is open to applicants with a bachelor's degree and strong academic credentials from many different disciplines. Requirements for the M.S. degree are tailored to reflect the diversity of backgrounds of incoming students 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 Program Requirements sheet located on pages 19-21. 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 classes and additional classes selected in consultation with the student's supervisory committee. Students and advisors should refer to the Incoming Geography Student Audit form and the degree requirement checklist when developing a plan of study.

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 [e.g., professional meeting, internship report to clients, a seminar open to the public (required for thesis students)];
 - 3) preparation of a competitive grant proposal.
2. Public Seminars: Each graduate student on a thesis program is expected to present a seminar related to their thesis 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.
 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, 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. 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 503 Thesis (1-16 hours) to "top up" their credits to the 12-16 credit level.

Since GEO 503 credits get an R grade (research continuing), they are not calculated in the grade point average. Thesis students can list only six GEO 503 credits on their graduate program, but the GEO 503 enrollment limit is 16 credits per term.

“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]

6. Thesis vs. Research Enrollment for International Students: It is especially important that international students register for GEO 503 Thesis instead of GEO 501 Research beyond those required on their degree program (three GEO 501 Research credits are required on the research paper option, six for thesis option). 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 INS. 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 (ISFS) 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 the ISFS web site at <http://oregonstate.edu/international/>.

During the final phase of your degree, you may petition to register for fewer than nine credit hours if you have completed all required course work and all credits listed on your specific Graduate Program of Study. If approved, you 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 sizes are as follows:

M.A./M.S. (non-thesis)	1 major professor 1 department representative 1 external or minor representative <u>0 Graduate Council representative</u> 3 TOTAL COMMITTEE MEMBERS
M.A./M.S. (thesis)	1 major professor 1 department representative 1 external or minor representative <u>1 Graduate Council representative</u> 4 TOTAL COMMITTEE MEMBERS

As shown above, the graduate committee for the master's degree consists of a minimum of three graduate faculty members: the major professor, the departmental representative (a faculty member with some experience in the general area of the student's research), and an external or minor representative.

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 thesis committee and both must sign the approved thesis. Before graduate program forms are submitted to the Graduate School, the geography program director may review thesis 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 for 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.

In the thesis option, a **Graduate Council representative (aka 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 thesis defense. In the non-thesis option, there is no Graduate School representative on the committee.

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 graduate faculty. Adjunct members from other universities or appropriate organizations may also serve if approved by the thesis committee and the Graduate School.
2. The committee must be appropriate to represent the proposed course of study and the relevant degree authority. **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. If experiencing serious difficulties with the major professor, the student should discuss the matter with the geography program director.

The **major professor** should 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 other committee members, encourage active participation in departmental seminars, regional and national scientific meetings and ensure that research, teaching and extended education efforts include advisee students when possible.

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 thesis), and as participants in the various meetings and examinations held during the student's program.

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 research facilities for graduate thesis research. For geography students, the Geography Program Director usually acts for the department 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

A Master's 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. This includes credits reserved as an undergraduate student and hours earned as a post-baccalaureate, graduate non-degree seeking, graduate special student or classified graduate student. A maximum of 15 hours of graduate coursework may be transferred into a 45 hour program. Thirty (30) hours of coursework taken at OSU after admission into a graduate program must appear on the program of study. The Master of Science program of study must consist of a minimum of 50% graduate level stand alone courses (not 400/500 "slash" courses). You will find the Program of Study form as well as other Graduate School forms at http://oregonstate.edu/dept/grad_school/current/forms.html.

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 major professor, minor professor 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.

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 and the examination portion of the preliminary and final oral meetings. The Graduate Council representative will chair the portion of the meetings that involve the evaluation of the student's performance on a thesis option oral exam.

RESEARCH PAPER AND THESIS

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 geography program allows students two alternatives to demonstrate their research competence. Student must either complete a research paper or a thesis. The decision is made jointly by the student and the major professor (see Comparison of M.S./M.A. Thesis vs. Research Paper).

THE MASTER'S RESEARCH PAPER

(GEO 501, 3 credits) This is part of a program requiring a minimum of 48 credit hours. Students should enroll in GEO 501 (3 credits) during the final term of residency. Early consideration of the problem, however, is recommended. Some students use ideas and materials from other courses in developing background for their research papers. Students should enroll for GEO 503 (Thesis) to maintain full time status while reducing course load to devote energy to research, even if doing a research paper. Thesis hours are not graded, nor are they listed on the program of non-thesis students. In fact, non-thesis students should strongly consider taking GEO 510 Internship in order to help them develop a viable research project and paper.

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 a student is well organized. Students often take longer to complete the process. The research paper, limited to 25 pages in length, is done under the guidance of the major professor 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. (Examples can be found on pages 17 and 18. A range of alternatives can be found by using a web search engine and the key words "research proposal format.")
2. After obtaining approval of the proposal, the student carries out the research and prepares a finished draft of a paper. The major professor will provide at least one critical review of the paper in draft form.
3. The student will prepare a final copy of the research paper. This copy will be awarded a letter grade by the major professor. **Only 3 credits of GEO 501 will receive an actual grade. Any additional research credits (and any other courses) which receive an "I" (incomplete) and have not been changed to a grade within one year, will revert to an F grade on your transcript.**

There are several points concerning research papers for which firm policy has been developed and implemented. The purpose of this statement is to reaffirm policy and to address several points, which typically generate questions. Each point is addressed below.

1. **Timing:** Oral examinations are scheduled **after** one bound copy of the research paper has been turned in to the Department of Geosciences and one electronic pdf (portable document format) copy has been submitted to the OSU Scholars Archive. The bound and electronic copies must be exactly the same! See http://oregonstate.edu/dept/grad_school/current/thesis.html for more information on electronic submittal of the research paper. A letter grade is assigned after the copies are deposited with the department. There is no

formal defense of the paper although the committee members may choose to use the paper as a stimulus for questions. The oral examination will focus on coursework from the graduate program.

2. Grading: Grading of research papers completed while the student is enrolled in GEO 501 (Research) will be treated as the grading of any other course. The major professor will aid and advise the student in design and formulation of the research problem and provide a critique of the first written draft of the paper. The student will then rewrite the paper taking into account the suggestions of the major professor and will then resubmit the paper to the major professor for evaluation and grading. The grade received at this point will stand as the final grade for the paper. Other committee members are not involved in critiquing or grading the paper. The grade must be a C or better in order to schedule the oral examination.
3. Credit: There is a maximum of three (3) credit hours to be earned from completion of the research paper. Students may elect to register for GEO 501 more than once, although GEO 501 will appear only once in the program filed with the Graduate School.
4. Length and Scope: Great effort should be made to scale down the breadth and length of master's research papers. The papers should be of publishable length and not be a mini-thesis of a length that would be beyond limits generally set by professional journals. The acceptable length of such papers is 25 text pages, double spaced. Appendices are not included in this length, since they can be dropped in the event of publication.
5. Illustrations: Any figure referred to in the manuscript must be included in the manuscript, and must be no larger than page size unless included in an appendix.
6. Major Professor: The name of the major professor who directed the Master's student in completion of his or her research paper should be noted on a title page prepared according to the format shown in the Graduate School Thesis Guide (http://oregonstate.edu/dept/grad_school/thesis/thesisguide.pdf).
7. Format: The research paper should follow the format of papers published in the Annals of the Association of American Geographers unless the major professor certifies it is prepared for submission to a different journal. A section (Information for Authors) on submitting a paper to the Annals is available at <http://www.aag.org/Publications/Annals/docs/Annals-Info-for-Authors.pdf>.
8. References: References should be cited in the text (i.e., Jones 1985, 26). At the end of the paper, references should be listed alphabetically, see Annals Style Sheet available at <http://www.aag.org/Publications/annalsweb3.html>. Note that the format for referencing publications in the Annals differs from styles used in other journals.
9. Appendix: If there is an Appendix, it is to follow the References.
10. Headings: The paper should make proper use of first, second and third-order headings.
11. Pages before the body of the paper: The title page should follow the format shown on page 10. More information can be found on the Graduate School web site at http://oregonstate.edu/dept/grad_school/thesis/thesisguide.pdf. Additional pages before the body of the paper should include: a) Acknowledgements; b) Table of Contents; c) a list of Figures (all maps, graphs and photos are listed as Figures); and d) a list of Tables.

THE MAPPING OF EELGRASS IN WILLAPA BAY, WA
AND AN EVALUATION OF C-CAP MAPPING GUIDELINES

By
Christopher J. Hazen

A RESEARCH PAPER
Submitted to
THE DEPARTMENT OF GEOSCIENCES

In partial fulfillment of the
requirements for the
degree of

MASTER OF SCIENCE
GEOGRAPHY PROGRAM

June 1996
Directed by
Dr. C.L. Rosenfeld

12. First page of the body of the paper: The first page of the research paper should take the following form:

TITLE* (double space if necessary)

(5 spaces between last line of abstract and first line)

ABSTRACT:

.....

(4 spaces between last line of abstract and first line)

*The name and address of the author is not to follow the title.

Body of paper.

THE MASTER'S THESIS

(GEO 503, 6 credits) This is normally a more substantial commitment to research than the research paper, requiring a minimum of 45 credits. Its length is not limited and the process of research, writing and defense often continues over several terms.

The thesis option differs from the research paper option in several ways including:

1. The requirement that the work produced is a substantial original contribution to the body of knowledge in the student's field;
2. Supervision of the thesis research by a four-member committee including a person chosen from a list of Graduate Council representatives;
3. The thesis style is determined by the Graduate School document, Thesis Guide available at the OSU Bookstore or from the Graduate School web site (http://oregonstate.edu/dept/grad_school/thesis/thesisguide.pdf). The Graduate School examines every thesis to ensure compliance. A "publishable papers" (manuscript) option is one way of meeting thesis requirements. The MS option is usually two 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, is deemed publishable by the student's graduate committee and the major professor must agree to the option before the student proceeds; and
4. 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. Additional copies of the thesis are distributed by the student to members of the examining committee.

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 revisited, as often as necessary to meet the major professor's expectation for a defensible document. When the major professor is satisfied with the product, a defense is scheduled. 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 defense. If more than six weeks elapse, a re-examination of the student may be required.

The oral defense will focus on the thesis, although questions pertaining to coursework are allowed. After a successful defense, one revised **bound** copy of the thesis is turned into the Department of Geosciences office, one revised **unbound** copy is delivered to the Graduate School to be put on permanent deposit in the OSU Library and one electronic pdf copy is submitted to the OSU Scholars Archive. See http://oregonstate.edu/dept/grad_school/current/thesis.html for more information on electronic submittal of the thesis.

COMPARISON OF THE M.S./M.A. **THESIS VS. RESEARCH PAPER PROJECT**

By Julia Jones, February 2004

The most important decisions a M.S./M.A. student makes during his/her program are to choose an advisor, a set of courses and a research topic. The research topic must be described in a written document, which can take the form of either a thesis or a research paper project. The advisor and student decide which format is best suited for the student's research. Many factors are involved including the nature of the research topic, the student's circumstances, time frame and career plans, the advisor's time availability, level of interest and expertise in the topic, and the availability of funding. Please consider the facts in the table on the next page when making your decision.

	Thesis	Research Paper/Project
Form	Up to 75 or 100 pages, entire document must be formatted according to Graduate School requirements.	25 pages maximum, format is choice of student and advisor
Permanent Record	One unbound copy of the final thesis is submitted to the Graduate School, one bound copy is submitted to the department office, one copy submitted to ScholarsArchive	One bound copy submitted to the department and one copy to ScholarsArchive.
Content	Original work by the student including original questions, data analysis and writing; may involve primary data collection by the student.	Original work by the student including original questions, data analysis and writing; often does not involve primary data collection by the student.
Funding	Student typically supported by research funding for one or more quarters of data collection and one or more quarters of data analysis and writing. Funding may be from research grant obtained by advisor or student job with an agency.	Student should be able to complete data analysis and writing during a summer or an academic quarter while supported by a non-project source of funding such as a summer job or assistantship.
Committee Structure	Committee contains advisor, two additional committee members and graduate representative.	Committee contains advisor and two additional committee members.
Editing and Feedback	Multiple drafts of thesis are reviewed by advisor; committee members may (but may decline also) review parts.	Draft of paper is reviewed by advisor one time.
Assessment and Grading	All committee members review the final draft and provide comments or changes at the defense.	Advisor reads final draft and assigns a letter grade. Grade must be B or better for MS degree.
Role in MS Defense	All students give an oral presentation open to the public. After the presentation, a thesis student is examined by the MS/MA committee, primarily on the thesis but also on related coursework.	All students give an oral presentation open to the public. After the presentation a project, student is examined by the committee, primarily on coursework but also on the project.
Likelihood of Publication	There is little difference in the likelihood of publication of a thesis compared to a project, based on the experience of the OSU geography program. A publication from the master's is principally useful to the student who intends to continue in graduate school or whose job requires publication. Publication of an MS/MA thesis or paper may also benefit advisors and committee members who are co-authors, particularly when the research makes a contribution in their area of expertise. Publication of a thesis depends mostly on the efforts of the authors, including the student and his/her advisor and committee members. The process can take several years after the defense.	
Work Required to Publish	About 25% of geography theses have been published. Refinements of both formatting (length, organization) and content (ideas, exposition) are required to convert a research paper (thesis or project) into a submittable manuscript. Because a submittable manuscript is generally short (25-35 pages) a thesis typically has to be edited down by about 2/3 before it can be submitted. However, because it has been edited more, the ideas may be more mature.	About 5% of geography research papers have been published. Refinements of both formatting (length, organization) and content (ideas, exposition) are required to convert a research paper (thesis or project) into a submittable manuscript. Because a submittable manuscript is generally short (25-35 pages) a project may be suitable for submission in terms of length. However, because it has been edited less, may require more thinking and refinement.
Example of Publication	Wemple, B.C., J.A. Jones and G.E. Grant. 1996. Hydrologic integration of forest roads with stream networks in two forested basins in the western Cascades of Oregon. <i>Water Resources Bulletin</i> . 32(6):1195-1207.	Rustigian, H.L., M.V. Santelmann, and N.H. Schumaker. 2003. Assessing the potential impacts of alternative landscape designs on amphibian population dynamics. <i>Landscape Ecology</i> , 18, 65-81.
Eligibility for PhD	Admission to a PhD program depends on the student's motivation, finding a good potential PhD advisor, strong letters of recommendation (including from master's advisor and committee members) and evidence of the student's ability to conduct an independent, original research project. Both the thesis and the project provide evidence of this ability.	
Job Qualifications	Job applicants often are asked to provide evidence of writing ability and ability to work independently. Both the thesis and the project provide evidence of this ability.	

THESIS AND RESEARCH PAPER PROPOSAL TOPICS

GUIDELINES FOR GAINING APPROVAL

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

1. Identify the problem area. Discuss with major professor and committee members independently.
2. Read to determine existing research on topic.
3. Refine topic. Test problem thrust with major professor, committee members, and other relevant persons.
4. Prepare formal research proposal. (See example formats starting on page 17.) Consult library proposal preparation references for extended discussion.
5. Test your proposal ideas during independent discussions with major professor and committee members.
6. If doing a thesis, reach agreement with major professor as to the format of the proposed thesis (regular or manuscript option).
7. Provide copies of the approved thesis proposal to members of the committee and to the geography program director.
8. As work progresses, keep in contact with your major professor and committee. Submit material for review as drafts are completed.

SUGGESTED STRUCTURE FOR A MASTER'S RESEARCH PROPOSAL

The student is asked to prepare a research proposal in order to facilitate discussion of his/her research plans. 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 typing 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 thesis will be written; and e) the expected date for completion of the degree requirements.

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.

DEGREE REQUIREMENT CHECKLIST FOR GEOGRAPHY MASTER'S

1. Background Requirements

Does the audit of your student records 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 basis (not S/U or P/N).

- GEO 201 - Physical Geography
- ST 351 - Introduction to Statistical Methods
- GEO 300 – Sustainability for the Common Good
- GEO 360 - Cartography

2. Exit Requirements

Does the audit of your student records 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 45 graduate course hours (48 for non-thesis students). 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 501 – Research Paper (3 credits) or GEO 503 – Thesis (6 credits)
- GEO 507 – 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 ecosystem informatics minor at 18 credits and 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 [Three credits of Internship may be used in the graduate program when a student has chosen the non-thesis option.]

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
- 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 course. 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 RESEARCH

PAPER (NON-THESIS) PROGRAM

(Full-time Students)

- _____ 1. **Initial advising and selection of first term classes – before classes begin**
Meet with your advisor for advising, selection and registration of first term classes. Discuss your goals and expectations with your advisor.
- _____ 2. **Choose major professor and graduate committee members -- 1st or 2nd term of program**
Confirm agreement with faculty member to serve as your major professor. Select two additional committee members and meet to discuss a program of coursework and research direction.
- _____ 3. **Prepare a Program of Study and get approval signatures from appropriate people – before completing 18 credits**
File Program of Study form with Graduate School (**before completing 18 credits**). The Program of Study form is available on the Graduate School web site at http://oregonstate.edu/dept/grad_school/current/forms.html. A Program of Study may be changed later by filing a Petition for Change in Graduate Program also available at the web page listed above.
- _____ 4. **Prepare research proposal in consultation with your major professor -- 1st, 2nd or 3rd term of program**
- _____ 5. **Seek financial support for proposed research -- ongoing**
- _____ 6. **Complete courses on program of study -- 4th through 6th terms of program**
- _____ 7. **Submit draft of research paper to major professor -- at least one term before final oral examination**
- _____ 8. **Revise and resubmit research paper based on major professor's comments -- at least two weeks before final oral examination**
- _____ 9. **Submit paper -- at least one week before final oral examination**
When approved by major professor, submit one bound copy of your research paper to the Department of Geosciences office and one electronic PDF copy to the Library for ScholarsArchives (see <http://ir.library.oregonstate.edu/dspace/handle/1957/89> for instructions on how to submit your document).
- _____ 10. **Coordinate with your committee to set a time for your final oral examination**
- _____ 11. **Reserve a room for the exam (see staff in the department office for assistance)**
- _____ 12. **Schedule your final oral examination 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 scheduling form to Stacey in the department office with the title of your paper.

- _____ 13. **Submit a diploma application (available on the web page listed above) -- 4th term or later but only after research paper copies are delivered to the Department of Geosciences and ScholarsArchive@OSU**
- _____ 14. **Final oral examination**
- _____ 15. **Complete Geosciences exit interview survey and student check-out form (available in the department office). Schedule an exit interview with the Department Chair -- prior to leaving campus**

GUIDELINES AND CHECKLIST FOR *THESIS* PROGRAM

(Full-time Students)

- _____ 1. **See your advisor for advising, selection and registration of first term classes. Discuss your goals and expectations with your advisor -- before classes begin**
- _____ 2. **Choose major professor and graduate committee members -- 1st or 2nd term of program**
Confirm agreement with faculty member to serve as your major professor. Select two additional committee members and arrange for a Graduate Representative through the Graduate School. Convene committee to discuss a program of coursework and research direction.
- _____ 3. **Prepare a Program of Study and get approval signatures from appropriate people – before completing 18 credits**
File Program of Study form with Graduate School (**before completing 18 credits**). The Program of Study form is available on the Graduate School web site at http://oregonstate.edu/dept/grad_school/current/forms.html. A Program of Study may be changed later by filing a Petition for Change in Graduate Program also available at the web page listed above.
- _____ 4. **Prepare research proposal in consultation with your major professor – 1st, 2nd or 3rd term or program**
After approval, circulate proposal to all committee members. Provide a signed copy to department office for your student file.
- _____ 5. **Seek financial support for proposed research – ongoing**
- _____ 6. **Complete courses on program of study – 4th through 6th terms of program**
- _____ 7. **Submit draft of thesis to major professor -- At least one term before final oral examination**
Revise as necessary.
- _____ 8. **Distribute a defensible copy of the thesis to your committee members -- At least two weeks before final oral examination**
- _____ 9. **Coordinate with your committee to set a time and date for your final oral examination -- At least one week before final oral examination**
Reserve a room for the exam (see staff in the department office for assistance). Schedule your final oral examination 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 with the title of your thesis. Submit a diploma application (available on the web page listed above). Submit (by hand or email) pre-text pages of your thesis to the Graduate School.
- _____ 10. **Final oral examination/defend thesis -- 4th term or later**

- _____ 11. **Hand in corrected thesis (unbound) to the Graduate School -- within six weeks after oral examination**
Submit final copy in PDF form to ScholarArchives@OSU (see <http://ir.library.oregonstate.edu/dspace/handle/1957/89> for instructions). Hand in final BOUND copy to Stacey in the Department of Geosciences.

- _____ 12. **Complete Geosciences exit interview survey and student check-out form (available in the department office). Schedule an exit interview with the Department Chair -- prior to leaving campus**

GRADUATE SCHOOL FORMS AND HELPFUL TIPS

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

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

The OSU Graduate School Survival Guide, a step-by-step guide to processing through your master 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.