

DRAFT

Huxley College

Master of Science
Environmental Science

GRADUATE STUDENT HANDBOOK

2011/2012

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PROGRAM REQUIREMENTS CHECK LIST

E-Sign Forms on the Graduate School web site <http://www.wvu.edu/depts/gradschool/forms/index.shtml>

Current quarter deadlines http://www.wvu.edu/depts/gradschool/pdfs/Deadlines_Current.pdf

_____	*Plan of Study (E-sign)	Complete during the first quarter—signed by your faculty adviser and the Graduate Program Adviser. Amend if coursework changes.
_____	Form the Thesis Committee	As soon as a thesis topic has been chosen-- <u>two</u> graduate faculty from Huxley <u>plus</u> a third person
_____	Submit Research Proposal	To entire committee after you have formed your thesis committee and developed initial ideas for your project
_____	*Thesis Topic Approval Form (E-sign)	Prior to 690 thesis registration—must be approved by all committee members, Grad Program Adviser, Department Chair the Graduate Dean
_____	Apply for Huxley research funds (optional)	Mid-November and mid-April
_____	Apply for RSP research funds (optional)	Apply spring quarter for funding in summer/next year
_____	Apply for Ross Travel Funds (optional)	Application dates: October 1, November 15, March 15 and May 15--notification within one week of deadline
_____	Register for Thesis Credits (requires Override from Huxley and Grad School)	After satisfactory completion of 12 credits on Plan of Study, completion of prerequisites <u>and</u> approval of Thesis Topic by the Graduate School
_____	Thesis Drafts	<u>First draft to faculty adviser at least one quarter prior to the quarter of graduation</u> —make revisions as necessary. Entire committee should have at least <u>two weeks</u> to read before oral defense is scheduled
_____	*Master's Degree Application (E-sign)	Due by end of the quarter prior to your graduation
_____	Public Presentation	Usually scheduled just before the Oral Defense--presented on WWU main campus; <u>program requirement</u>
_____	*Oral Defense Schedule (E-sign)	Due in the Graduate School <u>two weeks</u> prior to the Oral Defense.
_____	*Application for Master's Degree (E-sign)	Due before last day of classes the quarter prior to graduation
_____	Submit signed camera-ready thesis for Graduate Dean signature	Signature pages signed at the oral defense by all committee members. For procedures and formatting see http://www.wvu.edu/gradschool/pdfs/Thesis_Guidelines.pdf
_____	*Recommendation for the Master's Degree (E-sign)	Submit by the final deadline for completion of the degree. Fully approved form must be received by grad school two weeks before the end of the quarter you graduate

Note: All graduate students must be registered for at least 2 credits 690 or 699 continuous enrollment in the quarter of graduation or in the quarter immediately prior to graduation (not including summer quarter)

***Required by the Graduate School.**

- Ask the graduate program coordinator about environmental science program specifics, required forms, timelines, deadlines, TA assignments, room requests, payroll, stipends, tuition waivers, office space, registration and course overrides, thesis copying and binding, etc.:

Dorene Gould

dorene.gould@wwu.edu

360-650-3646, ES 545
(mailbox in ES 539)

- Ask the department manager for assistance before making travel arrangements, with all types of grant spending questions:

Diane Peterson

diane.peterson@wwu.edu

360-650-2844, ES 522

- Ask the scientific lab technician questions about laboratory preparation and availability, research equipment and supplies, and TA needs:

Scott Wilkinson

fraser.wilkinson@wwu.edu

360-650-3667, ES 422

- The environmental science graduate program adviser will be approving and signing most everything you do toward completion of the degree:

John Rybczyk

john.rybczyk@wwu.edu

360-650-2081, ES 336

Graduate School Forms

Forms are available in E-sign format. **E-sign forms must be submitted electronically from your WWU e-mail account only.** See <http://www.wwu.edu/depts/gradschool/forms/index.shtml>

To check on the current status of an E-sign form you have submitted, use the [Form Finder](#).

FUNDING:

Research and Sponsored Programs (RSP)

Internal

- [Summary of Funding Sources from the Graduate School](#)
- [Ross Travel Grant Application](#) (E-sign)
- [Fund for the Enhancement of Graduate Research](#) (Select Form at the bottom of the page)

External

- [National Science Foundation Graduate Fellowship Program](#)
- [Additional links to external funding sources for Students](#)

M.S. - ENVIRONMENTAL SCIENCE, THESIS ONLY

Graduate Program Adviser: John Rybczyk

Welcome to the environmental science Master's program. Through your course work and thesis research you will gain insights and experience in the following:

- how to conduct and interpret scientifically sound research
- laboratory and field techniques and designs for monitoring, measurement and analysis
- interpretation and evaluation of scientific data
- designs for environmental monitoring, analysis and assessment
- synthesis from disciplinary sources and communication of final results in management plans
- special skills needed for employment by government agencies, consulting firms and industry
- current environmental conditions and legislative requirements

HUXLEY GRADUATE FACULTY

A faculty member from this list has agreed to serve as your research adviser and will serve as the chair of your thesis committee. Faculty marked with an [*] generally serve as faculty advisers for environmental science graduate students. For all specializations other than MESP, at least two faculty members from this entire list will serve on your thesis committee. If you want to change advisers, you need to find another faculty member who agrees to serve. For complete faculty information:

<http://www.wvu.edu/huxley/> [click on Faculty and Staff Resources, then on Faculty and Staff Information, then on individual names]

Troy Abel -- environmental policy, conservation politics, civic environmentalism, policy analysis, globalization and environmentalism

Andy Bach -- physical geography, geomorphology, soils and weathering, water resources, geoarcheology, Elwha Dam removal and restoration, landforms of the Missoula Floods

Gigi Berardi -- all-hazards planning, resource management, agroecology, food security, international development

***Brian Bingham** -- invertebrate biology, marine ecology, experimental design

***Leo Bodensteiner** -- fisheries biology, aquatic ecology, fish ecology

Pat Buckley -- optimization modeling, economic and development geography, quantitative/qualitative methods

***Andy Bunn** -- climate change, paleoecology, energy, ecological modeling

***Rebecca Bunn** -- belowground ecology, toxicology, restoration, energy

***Jim Helfield** -- ecology of rivers and riparian forests, terrestrial-aquatic ecosystem linkages, watershed management and restoration

***Peter Homann** -- biogeochemistry, soil sciences, forest ecology

***Wayne Landis** -- environmental toxicology, population biology, risk assessment

***Robin Matthews** -- freshwater ecology, aquatic toxicology, statistical ecology

***John McLaughlin** -- terrestrial ecology, population biology, conservation biology

Mike Medler -- biogeography, GIS, remote sensing, forest fire and wilderness management

Jean Melious -- environmental and land use law and policy, international environmental policy

John Miles -- environmental education and history, public lands management

Scott Miles -- sustainable development for risk reduction, local self-reliance, community disaster recovery

Debnath Mookherjee -- comparative urbanization, regional development and planning, developing countries

Gene Myers -- environmental education, conservation psychology, evaluation, environmental ethics, human ecology

David Rossiter -- cultural-historical geography, political-ecology, Canada

***John Rybczyk** -- wetlands ecology and management, ecosystem modeling, global climate change

***David Shull** -- structure and function of marine benthic communities, pollution and marine ecosystems

Brad Smith -- global environmental policy, sustainable development

***Ruth Sofield** -- aquatic toxicology, biochemical and genetic toxicology, and environmental chemistry

Paul Stangl -- pedestrian planning, New Urbanism, urban landscapes, memory and meaning; Europe and Berlin

***Steve Sulkin** -- invertebrate biology, larval ecology

Tom Terich -- shoreline processes, natural hazards and geomorphology

***David Wallin** -- terrestrial ecology, forest ecosystems

Grace Wang -- natural resource policy, cultural resources management, community-based forestry

Nick Zaferatos -- community and sustainable development, environmental planning, EU policy, Native American political development

1. COURSE WORK

A. GRADUATE PLAN OF STUDY -- required (E-sign)

The "Plan of Study" is the form required by the Graduate School outlining the courses you plan to complete for your degree. It is important in that it identifies the minimum curricular requirements and serves as a means to determine when these requirements have been satisfied. The Plan of Study should be completed during your first quarter. Failure to submit the Plan will result in a registration hold. You and your faculty adviser together identify the appropriate course work.

- must include Esci 501 - Research in Environmental Science (3)
- **MESP:** must include Biol 505 - Current Research in Marine Science (1)
- must include 12 credits minimum (repeatable to 36 credits) of Esci 690 - Thesis Research
- must include three specialization courses
- must include electives to total 45 credits
- maximum of 10 credits of 400-level courses allowed
- maximum of 10 credits of Directed Independent Study (Esci 500) allowed
- maximum of 9 quarter or 6 semester credits of transfer courses allowed
- after completing the form, have it signed by your adviser and John Rybczyk, and then give it to Dorene Gould for a final check before it goes to the Graduate School
- the student and adviser will receive a copy when the Plan is approved by the Graduate School
- the WWU Financial Aid office refers to the approved plan of study to determine eligibility for financial aid (having an approved Plan on file by the second quarter ensures they can determine your eligibility)
- changes require an amendment initiated by you, signed by adviser, program adviser and Graduate Dean
- when you apply for your degree, the Plan is compared with courses completed for the degree evaluation
-

B. SPECIALIZATION COURSES -- Select at least three courses from your chosen area of specialization and list them on your Plan of Study in the middle column:

Freshwater Ecology

- Esci 410 - Forests-Fish Interactions (3)
- Esci 411 - Forest and Fish Assessment (2) *when freshwater ecology topic
- Esci 421 - Fisheries Management Lab (2)
- Esci 425 - Environmental Biology of Fishes (3)
- Esci 428 - Freshwater Algae Bioindicators (4)
- Esci 431 - Watershed Biogeochemistry (3)
- Esci 463 - Wetlands for Wastewater Treatment (3)
- Esci 500* - Directed Independent Study (10 credits max)
- Esci 502 - Experimental Design (4)
- Esci 503 - Statistical Ecology (4)
- Esci 522 - Estuarine Ecology (5)
- Esci 529 - Advanced Stream Ecology (5)
- Esci 530 - Advanced Limnology (5)

- Esci 533 - Advanced Population Biology (4)
- Esci 540 – Wetlands Ecology (5)
- Esci 545* - Current Trends (1-6) [Topics/schedule vary]
- Esci 559 - Aquatic Toxicology (3)
- Esci 597* - Courses generally offered only once [Topics/schedule vary]
- Esci 599* - Graduate Environmental Studies Seminar (1-2) [Topics/schedule vary]

Marine and Estuarine Science

- Esci 421 - Fisheries Management Lab (2) *when marine topic
- Esci 425 - Environmental Biology of Fishes (3)
- Esci 426 - Marine Invertebrates and Their Environment (5)
- Esci 432 - Topics in Marine Ecology (4)
- Esci 444 - Biogeochemistry of Marine Sediments (4)
- Esci 463 - Wetlands for Wastewater Treatment (3)
- Esci 491 - Oceanography of Puget Sound (4)
- Esci 500* - Directed Independent Study (10 credits max)
- Esci 502 - Experimental Design (4)
- Esci 503 - Statistical Ecology (4)
- Esci 521 - Biological Oceanography (5)
- Esci 522 - Estuarine Ecology (5)
- Esci 533 - Advanced Population Biology (4)
- Esci 540 – Wetlands Ecology (5)
- Esci 542 - Remote Sensing (5)
- Esci 545* - Current Trends (1-6) [Topics/schedule vary]
- Esci 597* - Courses generally offered only once [Topics/schedule vary]
- Esci 599* - Graduate Environmental Studies Seminar (1-2) [Topics/schedule vary]
- Biol 503 - Advanced Topics in Ecology (4)
- Biol 505 - Current Research in Marine Science (1) - **Required** course in this specialization.
- Biol 508 - Advanced Topics in Marine Biology (4) [Topics/schedule vary]
- Biol 545* - Current Trends (1-6) [Topics/schedule vary]

B. SPECIALIZATION COURSES (continued) -- Select at least three courses from your chosen area of specialization and list them on your Plan of Study in the middle column:

Regional, Global and Terrestrial Ecosystems

- Esci 408 - Field Methods in Wildlife Ecology (5)
- Esci 410 - Forest-Fish Interactions (3)
- Esci 411 - Forest and Fish Assessment (2)
- Esci 431 - Watershed Biogeochemistry (3) *when terrestrial-ecosystem topic
- Esci 500* - Directed Independent Study (10 max)
- Esci 502 - Experimental Design (4)
- Esci 503 - Statistical Ecology (4)
- Esci 507 - Advanced Forest Ecology (5)
- Esci 523 - Past Environments of the Pacific Northwest (4)
- Esci 533 - Advanced Population Biology (4)
- Esci 535 - Advanced Landscape Ecology (4)
- Esci 536 - Environmental Impact Assessment Practicum (4)
- Esci 539 - Advanced Conservation of Biological Diversity (5)
- Esci 541 - GIS and Environmental Modeling (3)
- Esci 542 - Remote Sensing (5)
- Esci 545* - Current Trends (1-6) [Topics/schedule vary]
- Esci 562 - Advanced Air Pollution (4)
- Esci 590 - Advanced Environmental Risk Assessment (4)
- Esci 592 - Effects of Global Climate Change (4)
- Esci 597* - Courses generally offered only once. [Topics/schedule vary]
- Esci 599* - Graduate Environmental Studies Seminar (1-2) [Topics/schedule vary]
- Egeo 450 - Intermediate Geographic Information Systems (4)
- Egeo 451 - GIS Databases (4)
- Egeo 504 - Geographic Methods and Techniques (5)
- Egeo 535 - Environmental Problems and Regional Development (5)
- Egeo 552 - Advanced GIS (4)

Environmental Toxicology and Chemistry

- Esci 450 - Environmental Chemistry I (4) *when a toxicology topic
toxicology/chemistry topic
- Esci 460 - Contaminant Movement in the Environment (4)
- Esci 500* - Directed Independent Study (10 credits max)
- Esci 502 - Experimental Design (4)
- Esci 503 - Statistical Ecology (4)
- Esci 533 - Advanced Population Biology (4)
- Esci 545* - Current Trends (1-6) [Topics/schedule vary]
- Esci 555 - Advanced Environmental Toxicology I (4)
- Esci 556 - Advanced Environmental Toxicology II (4)
- Esci 557 - Advanced Environmental Toxicology Laboratory I (3)
- Esci 558 - Advanced Environmental Toxicology Laboratory II (3)
- Esci 559 - Aquatic Toxicology (3)
- Esci 562 - Advanced Air Pollution (4)
- Esci 590 - Advanced Environmental Risk Assessment (4)
- Esci 597* - Courses generally offered only once. [Topics/schedule vary]
- Esci 599* - Graduate Environmental Studies Seminar (1-2) [Topics/schedule vary]

C. ADVANCEMENT TO CANDIDACY

Completing 12 cr. of coursework listed on your Plan of Study and submission of the Thesis Topic Approval will allow you to begin registering for thesis credits (Esci 690). The following criteria are monitored by the department (no form).

- your Plan of Study has been approved by the Graduate Dean

- you have completed all admission stipulations listed on your Plan of Study
- you have completed a minimum of 12 cr. of coursework listed on your Plan of Study while maintaining a 3.0 (B) grade point average

D. ANNUAL REVIEW OF GRADUATE STUDENT PROGRESS

Rationale: Environmental Science has developed a procedure to assess our graduate students' overall research progress prior to the final defense. Inasmuch as thesis research constitutes a substantial portion of a student's graduate requirements, we wanted an objective method to identify students that are not making satisfactory research progress and a systematic way to notify students concerning their progress in developing and completing their thesis research.

Approach: The Graduate Program Committee (GPC) will meet annually with each M.S. student during spring quarter for a short (ten minutes), scheduled appointment to discuss the student's progress toward the M.S. degree. These meetings will be open to any Huxley graduate faculty; the student's advisor will be encouraged to attend. Prior to each meeting the student's advisor will be asked to submit an assessment of whether the student is making satisfactory progress toward the M. S. degree, based on the following minimum guidelines.

<u>Timeline</u>	<u>Criteria for satisfactory progress</u>
Year 1	Completion of 12 credits of 400- and 500-level classes with a grade of 3.0 or better Completion and acceptance of the Plan of Study
Year 2	Selection of a thesis committee Completion and approval of the research proposal Completion and approval of the Thesis Topic Approval card
Years 3-5	Satisfactory research progress will be determined by the student's committee

Following the spring meeting each graduate student will receive a short letter from the GPC stating whether they are making satisfactory progress toward their thesis research. If not, the letter will list deficiencies noted by the GPC, and the student will be advised to meet with the advisor and the thesis research committee as soon as possible.

Termination from the Graduate Program: Students that fail to make satisfactory progress for two consecutive years will be terminated from the graduate program unless the student's advisor recommends in writing to the GPC that the student be retained in the program.

Appeals: Students that receive an unsatisfactory rating on their research progress may appeal that finding in writing within five working days to the GPC. The GPC will notify the advisor and the student of its decision within ten working days after receipt of the student's appeal.

If the unsatisfactory rating is not overturned, the student may submit a written appeal to the Dean of Huxley College within ten working days of notification from the advisor.

If the unsatisfactory rating is not overturned by the Dean of Huxley College, the student may then submit a written appeal to the Dean of the Graduate School within ten working days of the notification of the decision by the Dean of Huxley College.

E. OPTIONAL FORMS

AMENDMENT TO THE GRADUATE PLAN OF STUDY (E-sign)

If it becomes necessary to make changes in the courses listed on your Plan of Study, the Graduate School requires an amendment listing all courses to be added and/or dropped. The form is initiated by you and signed by your adviser, the graduate program adviser and the Graduate Dean.

INDEPENDENT STUDY CONTRACT AND REGISTRATION APPROVAL (E-sign)

Graduate independent study courses (Esci 500) are available to enable students to pursue

educational experiences not available through the regular graduate courses listed in the catalog. The content of a Directed Independent Study course, and the reason for requesting it, must be detailed in the contract initiated by you and sent to the graduate faculty member of the course you're creating. The scope and rigor of a Directed Independent Study proposal and the intellectual demands of the proposed study **must** equal or exceed regular graduate courses offered in the department.

No more than 10 cr. of Directed Independent Study may be applied toward the degree without additional approval from the Graduate School. Thesis-related work (such as survey of literature, library searches, data collection or proposal writing) is appropriate use of independent study credits.

The Independent Study Contract and Registration Approval is available as an E-sign form using **your WWU email address** as follows:

- the student completes Section I and forwards the form to the **instructor's WWU email address**
- the instructor completes Section II and forwards it to the Graduate Program Adviser, eventually ending up in the Graduate School for final approval
- the Graduate School authorizes registration by forwarding it to the Registrar
- the Registrar will create the course CRN and complete registration and lock the form, triggering an automated email to the **student's WWU email address** that registration is complete
- by initiating this form, the student takes full responsibility for completion of routing and tuition charges incurred by registration for the course
- up to 10 cr. of Directed Independent Study (Esci 500) may count toward your degree
- typically, you should expect to work three hours per week for each credit

RETURNING STUDENT APPLICATION (E-sign)

Once admitted to the Graduate School, you must submit a Returning Student Application (RSA) if you do not register continuously (not counting summers). The RSA activates your student record which allows you to register. Submit the RSA to gradschool@wwu.edu the quarter before you plan to register. There is no fee for this application. NOTE: If you attended spring quarter and plan to register for fall quarter, you do not need to submit the RSA.

2. THESIS

A. THESIS TOPIC APPROVAL [E-sign] -- required

Before registering for thesis credits, your topic and committee must be approved. This form indicates you have a thesis committee and research topic, which helps solidify discussions you have had with your thesis adviser and serves to protect the progress you have made. This must be approved by your entire thesis committee. This will generally happen after each of your thesis committee members has reviewed your **written** research proposal.

B. ESCI 690 - THESIS RESEARCH (1-36 credits) -- [registration]

In order to begin registering for thesis credits the following steps are required:

- you must have an approved Plan of Study on file in the Graduate School
- you must be Advanced to Candidacy
- the Thesis Topic Approval must be on file in the Graduate School
- at least 12 thesis credits are required (repeatable to 36 credits for financial aid purposes)
- you must register for the final two credits the quarter you defend your thesis [Note: if you are registered in the spring and defend by fall quarter deadlines you do not have to register again]
- you can register for 699--Continuous Enrollment credits if you have completed all coursework on your Plan, including 12 cr. of thesis, and if you have submitted the Application for Degree
- thesis credits are graded incomplete (K) until the Degree Recommendation, with the appropriate S or U assigned, is received by the Graduate School
- in environmental science 12 credits will convert to S (satisfactory) of U (unsatisfactory) following submission of the Degree Recommendation (all credits beyond 12 can be changed at the same time, or will remain an incomplete on your final transcript)

Graduate School guidelines to register for thesis credits:

- ask your adviser or Dorene Gould to enter an instructor override for the specific quarter you wish to register [this has to be done each quarter]
- contact the Graduate School (x3170 or gradschool@wwu.edu for their override for the specific quarter [this also has to be done each quarter]
- each faculty has a different CRN for thesis each quarter [the reason this has to be done each quarter]

C. THESIS / RESEARCH PROPOSAL

Although we speak of independent and original research, you must necessarily rely on your adviser and committee for guidance. You should plan to meet with your adviser upon arrival to begin the discussion of a thesis topic. You will be given every opportunity to pursue a research hypothesis that is particularly intriguing to you that is within your capability and the expertise of your adviser. Remember to consider the time required and the availability of needed equipment. Students whose research involves human subjects (including surveys) or live vertebrate animals **must** comply with University policies regarding these types of research. Approval **must** be obtained **before** research begins.

Faculty will typically ask to see a written research proposal before agreeing to serve on your committee and approving the Thesis Topic Approval. Consult your adviser (and other committee members) about what format they think suits your topic. There is no set format for a proposal, but it will probably be easier in the long run to use the margins, heading style, etc., required for the thesis so you can move parts of the proposal directly into your thesis.

Your research proposal should include:

- a short, clear statement of the research hypothesis and its scientific context
- a review of the relevant literature to help the reader understand the topic of the questions

- methods that will be used to test the hypothesis, with explanations of how the tests will be concluded
- questions posed by the research hypothesis
- possible outcomes to the hypothesis
- a statement of the applications and importance of the research
- references

NOTE: This type of proposal, with modifications and the addition of a budget, can be submitted to the Graduate Program Committee for Huxley research funds both fall and spring, and to the Office of Research and Sponsored Programs (RSP) for university research funds available each spring for the following year.

D. THESIS COMMITTEE

Your thesis committee will advise you and approve the proposed research topic. It also acts as a body of consultants during research and writing, and conducts the final oral examination. The selection of committee members should be based on expertise they can contribute to the research and writing.

- consists of three members: the chair and second member must be graduate faculty in Huxley
- your third committee member can be from Huxley, WWU or the professional community
- off-campus committee members send an e-mail to the Graduate School gradschool@wwu.edu indicating your name and the environmental science program, his/her title, affiliation and e-mail address
- **MESP:** the thesis committee for those in the marine and estuarine science specialization can have one graduate faculty member from Huxley College, one research scientist from Shannon Point Marine Center (this person being the exception to a second member from Huxley College) and a third member from Huxley, WWU, or the professional community, upon approval from the Graduate School
- all members must attend your oral defense (keep this in mind when considering out-of-town members)

What to consider when selecting your thesis committee:

- What are their research interests, expertise, and theoretical orientation? Can they provide you with the guidance needed when writing your thesis? Will you be comfortable with the scientific approaches that they are likely to recommend?
- What will they be like to work with? Are they supportive, reliable, constructively critical, and able to communicate well with you? How busy are they?
- How good are they at getting their students through the program? What is their track record in getting proposals written and approved? How long do their students take to finish? How well do they work with other faculty members on your committee?
- Do they and their students typically publish the results of research in the peer-reviewed literature?
- Are they likely to be helpful in getting you a job or into a Ph.D. program? What is their reputation in their field? How strongly will they support you when writing letters of recommendation?

E. THE THESIS

The thesis is the culmination of your graduate work, indeed the purpose of the Master's degree--to educate, guide and train the student to be an independent scientific investigator. The thesis demonstrates you are capable of doing an original and independent research project: designing and carrying out a research problem and reporting on the investigation in a proper scientific manner--all in a timely fashion. Writing a thesis teaches not just how to plan and carry out a research project, but also how to negotiate work through revisions and manage your time. If difficulties arise, or modifications are necessary, it is important that you discuss the matter with all

committee members--*preferably as a group rather than individually.*

A thesis can get out of hand! Longer does not necessarily mean better! The outline of the thesis should be developed early and revised often--with frequent review by your adviser. The style of the thesis should be discussed with and approved by your adviser. One style is to write a portion of the thesis in journal publication format, which can help in the development of a manuscript for publication. There are other styles, too--check with your adviser.

The Graduate School provides [Thesis Guidelines](#) on their website. Your **first draft** should be completed and presented to your adviser during the quarter prior to the quarter you wish to graduate. When the thesis has undergone sufficient revision and when your adviser agrees, a draft of the thesis is circulated to your entire committee. The committee should have at least two weeks to read it before you schedule your oral defense.

Some rewriting should be anticipated at each stage of this review process.

F. APPLICATION FOR MASTERS DEGREE [E-sign] -- required

The application for degree must be submitted by the last day of classes in the quarter prior to the quarter you intend to graduate. You should double-check to be sure all graduation requirements have been met before you submit the application. The non-refundable graduation fee will be charged to your student account. If you don't meet the deadlines for the quarter you applied, you will have to apply again (generally, one or two applications are done without a fee).

G. PUBLIC PRESENTATION -- required

A public presentation of the data, analysis, logic, philosophy and conclusions of the thesis must be given to a Huxley College audience on campus within an academic quarter. This is carried out in the form of a seminar. Ideally, your entire committee will be in attendance and you can then adjourn to your oral defense.

H. ORAL DEFENSE -- required

An oral defense in the presence of your thesis committee is required and must be scheduled within an academic quarter. The oral defense may cover any aspect of your education, but usually the questions are concerned with the thesis itself.

- you should discuss with your adviser the nature of the oral defense and prepare accordingly
- you may not schedule your public presentation or oral defense between quarters
- all committee members are expected to attend your oral defense
- two weeks before your defense submit the Oral Defense Schedule to Graduate School
- one week before your defense deliver the latest draft of your thesis to the Graduate School for review by the Graduate Council representative (the role of the Graduate Council representative at your defense is that of student advocate--to insure impartiality)
- if a Graduate Council representative is not available to attend, this copy is not necessary
- one week before your defense give your thesis chair the latest draft for Huxley College review
- take a minimum of **four** signature pages to your defense (you will probably need seven)--two of the four thesis copies are delivered to the Graduate School, one is given to your thesis chair, one remains in Huxley College (give to Dorene Gould)
- additional copies for other committee members and yourself are in addition to the required four
- the student initiates the Recommendation for Master's Degree via e-sign
- some committees prefer not to sign your thesis until corrections are completed and reviewed
- the Recommendation for Master's Degree is the final requirement toward receiving the degree

I. MEETING DEADLINES TO COMPLETE YOUR DEGREE

See published deadlines on the Graduate School website:

- you must be enrolled for at least 2 cr. in the quarter the degree is awarded or the preceding quarter
- in order to receive your degree, it is imperative that you complete all program requirements

within 5 years. After 5 years, your computer account, library privileges and all other technology services will be discontinued and all associated files will be purged, and you are withdrawn from the Graduate School

- you may participate in commencement only in the quarter in which your degree requirements are met

J. EXTENSION OF GRADUATE PROGRAM

You can request an exception of completing the degree within 5 years. The request can be for 1-3 quarters:

- you need to discuss, then request, an extension with your thesis chair
- your thesis chair and the program adviser determine if they will support the request
- if approved, you and your adviser work to develop a mutually agreed upon timeline
- the request, faculty statement of support, and detailed timeline are submitted to the Graduate School

K. TIMELINE FOR COMPLETION OF DEGREE

All requirements must be completed within 5 years. Students who have not completed their program after 3 years are required to file a plan for completion within the 5-year limit. Otherwise it is understood that the student has decided to withdraw from the program. Below is a sample TIMELINE to submit to the Graduate School due to (a) not graduating after 3 years or (b) excess registration of thesis credits. Specific dates or quarters are required for everything you have not completed.

TIMELINE FOR COMPLETION OF DEGREE

(PRINT OR TYPE YOUR NAME)

	<u>Date / Quarter</u>
• Completion of all program prerequisites and/or admission stipulations	_____
• Completion of remaining courses on Plan of Study	_____
• Submission of thesis topic approval	_____
• Completion of research	_____
• Completion of literature review	_____
• Completion of analyses	_____
• Submission of first draft	_____
• Submission of subsequent drafts	_____
• Anticipated quarter of graduation	_____
• Submission of Application for Master's Degree	_____
• Submission of Oral Defense Schedule	_____
• Registration for 2 cr. during quarter the degree is awarded	_____
• Tentative date of public presentation	_____
• Tentative date of Oral Defense	_____
• Submission of <u>defended</u> thesis to Graduate School	_____
• Submission of Recommendation for Master's Degree	_____

Student Signature

Date

Thesis Chair Signature

Date

L. DELIVERING THESIS FOR COPYING AND BINDING

When the Graduate Dean has signed the **minnum two (or more)** original signature pages, the Graduate School will notify you so you can deliver it to **Haggard Hall Campus Print and Copy Services (HH 246, 360-650-3762)**. The Copy Services staff will not accept any thesis without the Graduate Dean's signature.

- You are encouraged to submit the text of your thesis electronically to Campus Print and Copy Services. The files must be in PDF format. The signature page (with your thesis committee and the Graduate Dean's signatures) must still be delivered in hard copy. If you choose to submit electronically, contact Campus Print and Copy Services (x3762) before to make sure the files are compatible--they will require you to proof one copy before they proceed with making multiple copies.
- If you ask another person to submit your thesis for printing/binding the following is required:
 - ✓ your email address and phone number
 - ✓ the number of hard- and soft-bound copies you want
 - ✓ any special instructions regarding photos, maps, graphs, etc.
 - ✓ delivery instructions
 - ✓ **payment in full must be submitted in advance for all services** regardless of who delivers your manuscript to Campus Print and Copy Services.
- We do not require the copying be done on campus, although they provide this service very inexpensively. We do require that the binding be done with them. This insures that all bound theses are of standard size, color, title lettering, etc.
- At the time you place your copying/binding order, the costs for the copying, hard binding, soft binding and lettering must be paid in full. Call Campus Print and Copy Services for current charges (x3762).
- When you place your order, the type for the gold stamping of the front hard covers will be ordered. Once the type has been ordered, changes may not be made in the title, or additional fees will be charged for the re-order. **Title length on the cover can be no more than 50 spaces per line** (including punctuation and spacing), with a **maximum of 4 lines**, or 3 lines with 1 line of underlining; or 2 lines with 2 lines of underlining. (If your title is longer than this, it must be shortened for the cover, but may remain in its original length on the pages of your thesis.)
- Have Campus Print and Copy Services deliver 1 copy to the Graduate School and the others to any on-campus office (you can have all others delivered to Dorene Gould in ES 539/545).
- Allow six (6) weeks for the completion of your thesis copying/binding order.

Order Binding and Printing:

- make all recommended corrections and take your unbound corrected thesis in its final form (with at least **TWO (2) original signature pages signed by all committee members**) to the Graduate School--for the Graduate Dean's signature (additional editorial changes may be required)
- after retrieving the final copy, signed by the Graduate Dean, you can proceed with duplicating/binding
- **two (2) hard-bound copies are required**; additional copies made at your discretion
- the original to the Graduate School and one to Huxley College (deliver to graduate program coordinator)
- one copy to Huxley College (given to Dorene Gould)
- soft- or hard-bound copies may be provided to chair and each committee member (ask them if they want one)
- you should be prepared to bear the cost of duplicating and binding (approximately \$23 for each hard-bound cover, approximately \$13.00 for each soft-bound cover, five cents/page for copying, thirty cents/page color copies -- they accept Visa and MasterCard). As always, prices are subject to change.
- voluntary placement of a digital copy of the thesis for online access is available--one hard-bound copy of the thesis, delivered to the Graduate School, is still required (for placement in the library, available for check-out)
- if you agree to make your thesis available via the web, you must submit the thesis for copying purposes in .PDF format
- if you want your thesis available through the WWU digital library, you will be required to sign a release form, the Digital Thesis Authorization Esign form
- if you decide to make the thesis available through the web, the original must be submitted in PDF format for copying purposes, to meet both the requirements of the library and Campus Print and Copy Services

- the **Student Technology Center** (Haggard Hall 121, www.wvu.edu/techcenter, x4300) will provide support and expertise to students who need assistance in converting text files into **PDF format**; they say the process works best if you take your thesis to HH121 and sit down with their staff

Your diploma will be mailed and
your degree posted to your official transcript
after ALL the hard-bound copies have been delivered to:

- **Thesis Chair (optional)**
- **Huxley College (one)**
- **Graduate School (one)**

Outstanding fines or campus parking tickets must be paid before the diploma is issued.

3. MISCELLANEOUS INFORMATION

A. **ACADEMIC LOADS** (Graduate School and Financial Aid requirements)

Enrollment requirements for **GRADUATE SCHOOL** purposes –

- full-time = 8 cr. minimum / 20 cr. maximum
- graduate students (including TAs) who have completed all courses on your Plan of Study except thesis credits will meet the Graduate School requirement for holding a TA if enrolled for a minimum of two credits. [**Note:** For full financial aid register for 8 credits.] In this case, Financial Aid requirements supersede the Graduate School requirement allowing you to register for two credits. The two-credit enrollment works only for graduate students who are not on financial aid or other credit load conditions, such as international students]

Teaching Assistant (TA):

- TAs can register for 2-7 credits if they have completed all course work except thesis registration
- full- and part-time TAs are required to register for 8 cr. minimum each quarter [refer to above statement regarding the 2 cr. exception]
- full-time TAs work 20 hrs/wk, receive partial tuition waiver up to 18 cr. (may not work elsewhere on campus) Waiver applies only to coursework on your Plan of Study.
- part-time TAs work 10 hrs/wk, receive a half tuition partial waiver (may work 9 hrs/wk elsewhere on campus) Waiver applies only to coursework on your Plan of Study.
- student fees are never waived -- expect to pay \$400-500 yourself each quarter
- students can work on campus full-time during intercessions (the time period when school is not in session, including weekends and summers) -- may not exceed 40 hrs/wk
- assistantship canceled if a GPA of 3.0 is not maintained, or student fails to meet departmental expectations or performs duties in an unsatisfactory manner
- TAs receive health benefits through the Graduate School
- **you have to sign up for health benefits** -- they're not automatic because you're eligible or because they're provided -- **contact the Graduate School at 360-650-3170.**

Research Assistant (RA):

- RAs are required to register for a minimum of 2 cr. each quarter (except summer)
- graduate student employees who have completed all course work on their approved Plan of Study, except for thesis or research work, will be considered full-fee paying if enrolled for a minimum of two credit hours of **thesis or research**
- if you decide not to register you must be employed in an exempt position (non-student)
- RAs may receive a partial tuition waiver; check with your faculty sponsor
- RAs may be eligible for health benefits; check with your faculty sponsor
- **you have to sign up for health benefits** -- [see TAs above]

Graduate Hourly Employee (GA):

Students hired as Graduate Hourly Employees earn \$18/hr, must be registered for a minimum of 2 cr. each quarter, and generally have the same level of responsibility as a TA. Graduate Hourly Employees are exempt from paying social security and unemployment as long as the required credit load is maintained. As stated, these positions usually do not provide a tuition waiver or health benefits.

Temporary Exempt Staff:

These positions exist primarily to accommodate a graduate student who has RA support but is not registered for the minimum 2 cr. required for an RA. These positions may or may not provide a tuition waiver or health benefits; check with your faculty sponsor.

Graduate Work-Study Program:

Graduate work-study students serve as a graduate research assistant to faculty involved in research projects. The typical award amount for work-study is equivalent to approximately 15 hrs/wk for the student during the academic year. The current hourly wage is \$18/hr. These positions require the student be registered for 8 or more credits each quarter to receive full financial aid. **Graduate Work-Study is Financial Aid.**

Eligibility for graduate work-study (financial aid) is determined during the summer

Enrollment requirements for **FINANCIAL AID** purposes --

- full financial aid award requires registration of 8 credits or more each quarter
- students on financial aid (those with graduate work-study and/or RA support) can work up to 40 hrs/wk during intercession--the time period when school is not in session (i.e., during the Christmas break between fall/winter quarters and during spring break, but cannot submit time for actual holidays when the University is closed, i.e., Christmas Day, New Year's Day, etc.) weekends included as long as the 40 hrs/wk is not exceeded
- you may attempt up to 125% of the credits required for completion of your program of study (however, these credits are expected to be on your approved Plan of Study)
- students enrolled in thesis option programs are eligible for federal financial aid for the number of credits allowed by the program for thesis (**Environmental Science = 12-36 credits**)
- you are encouraged to plan your academic course loads efficiently to reduce excessive student loans; in other words, you cannot receive financial aid indefinitely

B. HEALTH INSURANCE INFORMATION

STUDENT HEALTH CENTER -- website at

http://www.wvu.edu/chw/student_health/index.shtml

- graduate students enrolled for at least six (6) credits have access to the **Student Health Center**
- if you are serving as a graduate TA or an RA, you may be enrolled for as few as two (2) credits and still be eligible for services from the Student Health Center (notify the Graduate School so your account can be manually charged)
- the fee, which is included in your tuition and fee statement, is approximately \$70/qtr. for the academic year, subject to a yearly increase

BASIC HEALTH -- website at <http://www.basichealth.hca.wa.gov/> **MAY NOT BE AVAILABLE**

- the Graduate School encourages all eligible students to apply for coverage through **Basic Health**
- all independent and low income graduate students who are a U.S. citizen or a resident alien and who are a resident of Washington State are eligible to apply for Basic Health (a federal and state subsidized health insurance program) where eligibility and amount of premium are determined by family income
- if you are a graduate TA or an RA whose grant provides funding for health insurance, and you are eligible in terms of residency status and income, you are eligible to apply for membership into the WWU Graduate TA/RA group (the Graduate School or your grant will pay your premium)
- if you are not a TA or an RA, you are eligible to apply as an Individual (www.basichealth.hca.wa.gov)
- the monthly premium is \$30-50/month (in the very rare instance where the premiums are over \$100/month, the insured is requested to pay the difference between the actual amount and \$100)
- for TAs and RAs an advantage to the Basic Health program is that after you have graduated your coverage may be transferred to an Individual, self-pay account until you obtain employment which makes you ineligible in terms of income.
- international students are never eligible for Basic Health (however, if an international student is serving in a TA or a qualified RA position, the Wells Fargo premium is paid for the student health insurance)
- for students who are a U.S. citizen or a resident alien, and who are moving to Washington State to attend school, you will qualify as residents 30 days after you have established physical domicile (residency for health care is defined differently than it is for tuition fee paying purposes)
- for TAs and eligible RAs, the Graduate School sends you the Basic Health application [return the completed application with required documents to the Graduate School -- if you do not receive the application, contact the Graduate School (x3170 or gradschool@wvu.edu) immediately]

WELLS FARGO STUDENT HEALTH INSURANCE PLAN -- also see Student Health Center website above

- graduate students who are registered may enroll in the **Wells Fargo Student Health Insurance Plan** (with whom WWU contracts to provide health insurance to our students)
- if you are an international graduate TA or an RA whose grant provides funding for health insurance, and you are not eligible for Basic Health, the Graduate School or your grant fund will pay for this insurance premium -- the premium is paid directly to the insurance company.

If none of these options meets your needs or fits your circumstances, please contact the Graduate School for assistance at 360-650-3170.

C. RESIDENCY

Washington law does not allow a non-resident who comes to the state primarily for education purposes to be reclassified as a resident, unless that person remains out of school for a full year while establishing the domicile in Washington and fulfilling all other requirements. The law (RCW 28.15) also stipulates that enrolling in six (6) credits or more upon arrival in the state will be regarded as constituting educational purposes. Registering as a non-matriculated student through SPAN for a year (to avoid non-resident tuition) before gaining residency will not work. Do not register for more than five (5) credits per quarter or you will jeopardize ever becoming a resident of Washington State for fee paying purposes.

D. GRADES AND GRADING

- students must maintain a 3.0 GPA in courses listed on your Plan of Study
- satisfactory/unsatisfactory (S/U) grading is allowed, but not computed in your GPA
- pass/no pass grades are not applicable toward a graduate degree (a grading mode chosen by student)
- incomplete (K) grades must be completed within one calendar year from quarter posted, an incomplete received in fall must be removed by the end of the following fall or convert to a failing grade of Z (ideally the student and instructor will have a written agreement as to when the work will be complete)
- incomplete (K) grades received for thesis credits are an exception to the one-year time limit
- a maximum of 10 credits of C+ or U grades is allowed toward completion of approved program; however, required courses graded "unsatisfactorily" (S/U) must be repeated

E. FUNDING OPPORTUNITIES

- Each fall and spring Huxley provides a limited number of small grants to foster and facilitate graduate research in environmental science and geography. These grants are intended only to cover small expenses, such as expendable supplies (chemicals, glassware, computer disks), travel to field sites, or attendance to present results at a professional meeting. Awards are competitive and will likely be in the range \$300-\$800. Maximum duration to spend funds without requesting an extension is 18 months. Deadlines for applying are mid-November and mid-April. Your Thesis Topic Approval card must be on file in the Graduate School before these research funds will be made available.
- The Fund for the Enhancement of Graduate Research, sponsored by the Office of Research and Sponsored Programs (RSP) and the Graduate School, awards students currently enrolled in graduate programs research support in amounts up to \$1,000. Students must apply in the spring for funding the following year, therefore first year students are encouraged to apply. Awards are designed to assist students in accomplishing their thesis work (equipment, computer software, consumable items, travel, etc.).
- The Ross Travel Funds for Graduate Students provides support for students to travel to present papers at professional meetings and conferences. The awards cover the amount equivalent to the minimum airfare or other public transportation cost to the conference city, with a maximum of \$500 granted to any single applicant. Ground transportation, lodging, per diem and registration fees are not covered.

F. SAFETY TRAINING

The University has a responsibility to provide safety training to new employees and students (graduate and undergraduate) who will be working with chemicals and performing hazardous tasks. It is ultimately the responsibility of each faculty member to ensure that his or her employees and students are trained. Contact Environmental Health & Safety (x6582) for the safety orientation checklist and the specific job safety orientation for new employees including student workers.

Graduate students who perform research in the field and laboratory should be trained in issues such as transportation of chemicals in vehicles (personal and university) and the potential risks if they

transport chemicals in luggage via air. In addition, personal protective equipment, hazard communication, lab safety and hazardous waste are among the other topics that should be reviewed. It cannot be assumed that graduate students have already had this training at other institutions prior to attending Western.

Environmental science TAs are required to contact Scott Wilkinson (ES 422, x3667) prior to the beginning of each quarter for lab safety training information.

G. GRANT SUPPORT

GRANTS FOR THESIS RESEARCH (from **on-campus** sources)

If you apply for a "small grant" through Huxley College or a Research and Sponsored Programs (RSP) grant for thesis work, the funding will be deposited into the department account. Purchases can be made with WWU purchase forms or through Purchasing, or reimbursements using services/reimbursement forms. However, for some purchases, such as computer software, there are rules to be followed. There are various ways to spend your grant--see Diane Peterson for assistance. Refer to the travel section below for grant money of any sort being used for travel to seminars, research sites, and any type of travel. In all cases, **keep your receipts.**

GRANTS FOR THESIS RESEARCH (from **off-campus** sources)

Grants administered through RSP must follow guidelines. If you are overseeing a grant with your faculty adviser, all paperwork will require his/her signature. If you or anyone else (other students) are to be paid out of grant monies, you must have a Payroll Appointment form in the university payroll system before you begin working on the grant. Grants all have a designated five-digit number beginning with a "5." See Diane Peterson to be placed on the payroll, for travel, for purchases, and for reimbursements.

H. TRAVEL--Regulations and Procedures

First, consult your department manager Diane Peterson about procedures.

A Travel Authorization form is required prior to traveling to seminars, research sites, etc. A Travel Expense Voucher is required upon your return. You will need a Travel Authorization number in order to book your travel. Airline travel must go through a state-qualified travel agent. **Do not charge airfare to your private credit card.** Refer to the WWU Travel Desk site on-line for the currently-approved local travel agencies.

For day travel involving your personal vehicle, a new form is available on-line at the Travel Desk site. For the current reimbursement rate for private vehicle expenses, see www.gsa.gov/travel.htm. For overnight travel when lodging and meals are authorized, see Diane Peterson for information. In all cases, keep your receipts.

I. 12-Passenger Van Rentals from ENTERPRISE--Regulations and Procedures

Vehicle Reservations

As a TA, or when conducting research, you may be asked to reserve a 12-passenger van from Enterprise and drive the van for the class. Contact department manager, Diane Peterson, as early as possible for complete instructions and van rental procedures. Information you will need to provide:

- Date of trip
- Time of pick up and return of vehicle
- Destination
- Purpose of trip
- Driver's name

Vehicles must be reserved for individual trips. Remember to cancel vehicle reservations if plans change.

Van Training

Van safety training is required for everyone who drives a 12- or 15-passenger Motor Pool van. After receiving training, you will be issued a card as proof that you are trained. Secure training early in the year in order to be prepared for potential TA assignments. Van training is provided by Risk Management (x6582). Training is available on ***Blackboard***.