

GEOLOGY DEPARTMENT



Graduate Student Handbook

2024-25



Mt. Baker from High Pass

Table of Contents

Section 1: Logistics

MS in Two Years: Table, timeline, and deadlines.....	1-2
Completing your Thesis in a Timely Fashion.....	3-4
Program Guidelines	5-7
Course Planning and Requirements.....	8
Plan of Study Worksheets.....	9-10
Advancement to Candidacy.....	11
Registration for Thesis Credits	11
Application for Master’s Degree	11
Graduation Checklist	12

Section 2: Thesis specifics

Your Thesis from Proposal to Printing.....	13
Your Faculty Research Advisor.....	13
The Thesis Committee.....	13
Thesis Proposals	14-15
Thesis Writing	15
Timeline for Thesis Presentation to Graduation.....	16-17
WWU Journal Thesis Option.....	18-20
Thesis Collections (samples and other physical materials).....	21

Appendix 1 – Costs of Attending WWU- Tuition Waivers, Fees, Health Insurance, Access to Student Health Center, Financial Aid.

Stipends, tuition waivers, fees, and financial aid	22
Health Insurance	23
Access to Student Health Center, etc.	23
Table: Requirements for TA, RA, Reciprocity, & Tuition Waivers	24

Appendix 2 –Training

Safety Training	25
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Appendix 3 - Research Grants and Department Awards

Research Grants	26-27
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TIMELINE: MS THESIS IN TWO YEARS

Timeline and deadlines

Quarter	Year 1
Fall (Q1)	<ul style="list-style-type: none"> • Enter MS program (with few or no prerequisite courses) • Take 10 - 16 credits of courses pertinent to your MS program, including any prerequisite courses. This should include Geology 595 (3 credits) and may include some subset of Geology 502 and Geology 503 credits related to reading or lab work relevant to your thesis. • Develop a "Plan of Study" in Degree Works with your Faculty Research Advisor • Finalize thesis topic and goals with thesis advisor • Start writing grant proposals and begin writing your thesis proposal <p><u>Deadlines/Benchmarks:</u> Plan of Study due at the end of Fall Quarter</p>
Winter (Q2)	<ul style="list-style-type: none"> • Assemble thesis committee and arrange your first meeting with them to explain your project (either informal or formal) • Finish the first draft of your thesis proposal, proofread, and revise the proposal before giving it to your thesis committee chair for comments. • Take 10 to 16 credits of courses pertinent to your MS program. This should include Geology 595 (3 credits) and may include some subset of Geology 502 and Geology 503 credits related to reading or lab work relevant to your thesis. • Submit funding proposals to GSA, WWU Research and Sponsored programs (RSP), Sigma Xi, AAPG, or other agencies. Even if you do not need funding it is important to practice writing your impactful “elevator speech” describing the importance of your research in minimal words. <p><u>Deadlines/Benchmarks:</u> GSA Deadline Typically 1st of February, 5:00 PM (MST); confirm on GSA web page RSP Guidelines and deadlines found here</p>
Spring (Q3)	<ul style="list-style-type: none"> • Complete required 33 credits of course work and all prerequisite courses by the end of the quarter. (<u>One</u> course in year two could be taken if you are good at managing your time and unlikely to suffer writer's block). This may include some subset of Geology 502 and Geology 503 credits related to reading or lab work relevant to your thesis. • Revise thesis proposal per committee chair's comments and give to all committee members for comments. • Arrange a meeting with your committee and present a formal presentation of your thesis project if not done in Winter quarter. • Submit additional grant proposals as needed (especially WWU Research and Sponsored Programs https://rsp.wvu.edu/graduate-research-and-creative-opportunities-grant and WWU Geology Department • If committee member's opinions on the proposal differ, hold a committee meeting to work out areas of disagreement before rewriting. • Rewrite/edit thesis proposal. • When proposal is approved, submit Approval of Thesis Topic e-form (https://esign.wvu.edu/forms/Grad_School/thesis_topic_approval_2.aspx) <p><u>Deadlines/Benchmarks:</u> Finalized thesis proposal, must be approved on or before the end of spring quarter.</p>
Summer (Q4)	<ul style="list-style-type: none"> • Data collection in field or lab depending on nature of thesis research. • Prepare samples for analysis • Field/Lab work should be done or nearly done by the end of summer. • Submit GSA / AGU abstract with thesis chair input/approval if research is far enough along

Quarter	Year 2
Fall (Q5)	<ul style="list-style-type: none"> Register for Geol 690 thesis credits. Typically, you would take 4 credits of 690 Thesis per quarter to total 12 at the end of the year. This provides TA's with a tuition waiver. Please note: you must be registered for at least 2 credits of Geol 690 Thesis to be eligible to work as a TA or RA. See Appendix 2 for how different numbers of credits of 690 affect your access to student health center and gym. Aim to complete field and lab work Start writing sections of your thesis (see Manuscript Guidelines) Arrange a meeting with your thesis committee (optional, but *highly* encouraged) Take a course or courses only if you have little or no field and lab work to do this quarter or if the remaining course you need is offered only in fall. <p>Prepare GSA/AGU presentation and attend Fall meeting (if presenting)</p>
Winter (Q6)	<ul style="list-style-type: none"> Register for 4 credits of Geol 690. See above. Complete thesis writing by mid to end of quarter. <ul style="list-style-type: none"> Edit and revise each section at least two days after writing it. Give section by section or as complete draft to your thesis advisor Discuss your advisor's comments, then revise thesis (taking comments into account). Arrange a meeting with your thesis committee (strongly suggested) Submit abstracts to conferences (e.g., Goldschmidt, Cordilleran GSA) <p><u>Deadlines/Benchmarks:</u> **If you are planning to graduate in spring, then you must file your application for MS Degree (e-form) with Graduate School by the end of winter quarter. https://esign.wvu.edu/admcs/process/forms/Grad_School/Masters_Degree_Application_blue5.aspx</p>
Spring (Q7)	<ul style="list-style-type: none"> Register for 4 credits of Geol 690. See above. Submit revised thesis to all committee members by the beginning of the quarter; allow at least two weeks for them to read it. See thesis manuscript formatting requirements here: https://gradschool.wvu.edu/thesis-information Revise thesis to incorporate committee suggestions; if necessary, hold a committee meeting first to discuss any divergent views Schedule your thesis defense presentation with Kate at least two weeks beforehand (in very special circumstances you may be able to schedule your defense earlier) Have committee declare thesis as ready to defend (see link below). One week before the defense email a PDF and Word or a link to your thesis to Kate to be shared with faculty and grad students. <p><u>Deadlines/Benchmarks for spring graduation:</u></p> <ul style="list-style-type: none"> Week 6: Schedule defense and Week 7: Provide PDF and MS Word of thesis to Kate (https://esign.wvu.edu/forms/Grad_School/_masters_oral_defense_sch_1.aspx) Weeks 8 – 10: Defend and submit thesis Week 10: File Degree Recommendation Thesis Option (e-form) with grad school (https://esign.wvu.edu/forms/Grad_School/_degree_rec_thesis_1.aspx) <p>If you are planning to graduate in summer, submit your Application for Degree e-form to the Graduate School by the end of the quarter https://esign.wvu.edu/admcs/process/forms/Grad_School/Masters_Degree_Application_blue5.aspx</p>
Spring (Q7) or Summer (Q8)	<ul style="list-style-type: none"> Revise defense copy, complete drafting, assemble final copy. Turn in full copy on CEDAR (see https://gradschool.wvu.edu/thesis-information) Be ready to make any changes required by the graduate school. Submit e-form for printing required hardbound copy of thesis to go to Library Special Collections. https://esign.wvu.edu/forms/Publishing%20Services/_print_copy_thesis_order_2.aspx <p><u>Deadlines/Benchmarks for summer graduation</u></p> <ul style="list-style-type: none"> See deadlines here: https://gradschool.wvu.edu/degree-completion

Year 3 if necessary
If not currently registered for any credits, register for GRAD 699 Continuous Enrollment for one credit (minimal charge plus fees, no other tuition), as required by the Graduate School every quarter (excluding summers) until all degree requirements are completed. {Please note: you must be registered for 2 credits of Geol 690 Thesis to be eligible to work as a TA or RA}

COMPLETING YOUR THESIS IN A TIMELY FASHION (the short version, see later sections for more detail)

The Geology faculty is committed to helping you graduate in two years. This implies cooperation between faculty and students to ensure speedy and efficient progress on the course of study and the thesis. This timeline may take longer if you decide to take additional classes, pursue many lines of research, pursue internships, or any number of other reasons. There is a 5-year Graduate School limit; <http://www.wvu.edu/gradschool/graduation.shtml>).

GOAL SETTING

You should be thinking about thesis topics soon after coming to Western. Opportunities for Sigma Xi, GSA, and AAPG funding require deciding on the thesis topic by January of your first year. Thus, you should work with faculty early to ensure that deadlines for grant proposals can be met.

Although you are encouraged to pursue any topic for which the department has equipment and expertise, experience shows that the better the match between the problem and your advisor's current research interests, the greater will be the benefit to you.

In defining the thesis topic, faculty can help in:

- *** Clearly defining the problem and the scope of the project at the beginning of the research. This is a particularly difficult task as theses tend to expand in scope as they develop and may become mini-Ph.D.'s.
- *** Defining the project that will address the problem. Good practice is to set a research goal (big picture), define objectives that will help you achieve that goal, and then decide on what methods are appropriate for each of those objectives.
- *** Defining and planning to obtain the funding needed to complete the objectives of your thesis.
- *** Developing an initial plan to carry out the project. This involves advising on organization of the work and discussing the format of the thesis.

You are encouraged to use the Geology 595 Geology lunch talk presentations as a way to provide background research, methods, or presentation practices into your own work.

PROGRESS

Faculty advisors play a significant role in the success of their students. By constantly reviewing progress and providing positive feedback and constructive criticism, faculty can help you to meet your goals. You will be encouraged to give poster sessions or talks at the local and regional professional meetings, which provide worthwhile occasions to clarify ideas and organize data. Faculty can organize "show and tell" sessions for groups with common interests. Ultimately, you decide your activities and timetable as long as they achieve mutually agreed-upon goals and objectives, and faculty respect those decisions.

You should make good use of your *thesis committee*. The minimum is meeting with your committee in spring of your first year, but better outcomes are achieved when you have another committee meeting in fall of your second year to report on progress over the summer and to solicit feedback, and another in winter or spring of your second year to report on thesis writing progress and to solicit feedback.

THESIS WRITING (the short version, find more details beginning on p. 14)

Theses can get out of hand! Every effort should be made to shorten the thesis, including efficient design of maps and figures, and serious thought should be given to presenting the thesis in "journal publication" format with appendices for large blocks of data or description of methods.

In agreeing to serve as committee chair, faculty take the responsibility to assist you in setting goals, provide guidance on techniques and methods, and analyze your work. Faculty also agree to be available on a regular basis. The writing of the thesis is time-consuming and often difficult. You are encouraged to begin writing from the beginning of the thesis-definition stage and continue writing through the field and laboratory phases of the work. The outline of the thesis should be developed early and revised frequently--with constant faculty review. You should discuss timetables with faculty prior to giving them something to read; then you can expect faculty to return material within two weeks of receiving it.

You should feel free to give chapters to other committee members at any stage of the thesis writing, but generally give them chapters relevant to their interests. Generally, you should not ask other committee members to read large sections of the thesis until the thesis advisor is satisfied that the initial revisions are satisfactory. However, in the quarter you expect to defend, the faculty are all prepared to help in whatever way they can. Allow two to three weeks for a committee member to read your thesis, and expect to revise and have it reread, perhaps more than once, before you are ready to defend.

THESIS DEFENSE (aka thesis presentation, see more details on p. 17)

You must schedule your thesis presentation 2 weeks before the presentation date (required by the graduate school). The committee does not approve a thesis presentation until satisfied that the thesis is defensible and ready to present to the department. You are expected to schedule your defense when your committee members are available; the committee chair should always be present (unless away on professional leave). The defense is a presentation to the community and may take place on any class day of the academic year, but with an exception for finals week during Spring quarter only. As faculty are not in contract during the summer, summer defenses will be scheduled only in exceptional circumstances. Permission for a summer defense and its date must be approved by the end of Spring quarter by the thesis committee and the department chair.

GOOD LUCK!

Program Guidelines

1. **Desk Space**

- a. All first-year graduate students and all graduate teaching assistants will be assigned shared office space.
- b. All desks must be vacated by July 31st every year except for those with continuing assignments.

2. **Use of Department Supplies and Equipment**

The department does not fund student printing, copying, long distance telephone calls or faxes, postage, or general office supplies, except for TA-related work.

There are computers available for graduate student use in ES230 and ES214.

3. **Geology 595**

GEOL 595 is a 6-credit, two-course sequence (fall and winter) designed to provide the information and resources that will facilitate the development your MS research project and thesis proposal. In the fall, the course focuses on defining your research question, reviewing background literature, scientific writing, and the development of a research proposal for outside funding, specifically a GSA Graduate Student Research Grant. Winter quarter focuses on the completion of your GSA proposal, the development of your thesis proposal, and the preparation of a presentation on your thesis topic to your committee that will occur spring quarter. You are also required to attend all scheduled Friday Geology Lunch talks (12-1 pm) and Tuesday research seminars (4 pm).

Another objective of GEOL 595 is to introduce you to local and regional geology and research. A hallmark of the Geology Department is its strong field program. Because students will be graduating with a MS degree in Geology, the department has the following guidelines for engaging graduate students in field-based research. *Three full days of field trips are required.*

The fall 595 instructor will be responsible for helping students create a field trip plan that they will include in their plan of study.

1. One to Two mandatory days of field trips will be offered by the 595 instructor in Fall and Winter quarters.
2. The remaining field trip can include any of the following:
 - a. Field trips from a course.
 - b. Attending field trips associated with outreach activities.
 - c. Visiting geology-related museums, government agencies (e.g., Cascade Volcano Observatory), etc.
3. Field trips must be signed off by field trip instructor or by thesis advisor (form provided by 595 instructors).

Other clarifications:

- A list of class field trips will be curated by the 595 instructors for the quarter they are teaching 595. The spring quarter field trip list will be curated by the department office.
- Thesis field work is not included, nor are museum trips that are required for thesis research.

- Field trips should be completed within the first year but can be extended under extenuating circumstances with permission of advisor.
- The point person for questions about 595 trips (including accessibility issues) is the fall 595 instructor. This is the faculty member that taught the class in the student's first year. The graduate program advisor is the secondary point person.
- Students who have already met this requirement of WA-based field trips prior to entering the MS program should reach out to their 595 instructor.

Registration for Courses

The Graduate Program Administrator (Kate) will provide initial registration advice and guidance to new graduate students. Students must develop their Plan of Study during their first quarter of graduate work with their faculty advisor and have it approved (it can be updated in Degree Works if necessary). See Course Planning and Planning of Study Worksheets later in this chapter.

Graduate students register for classes using Web4U for courses available online in classfinder. Registration for independent study requires use of the Graduate School Directed Independent Study Contract and Registration Authorization eform.

(https://esign.wvu.edu/forms/Grad_School/dir_ind_study_and_contract_1.aspx)

Academic Load (credits per quarter)

For full-time graduate students the maximum academic load is 16 credits during a single academic quarter. The typical load is considerably less. The Graduate School defines full-time enrollment as 8 or more credits per quarter before advancing to candidacy (see below), and 4 or more credits after advancing to candidacy. Because the Geology MS requires at least 33 credits of courses at the 400- and 500-level and 12-15 credits of Geology 690, you should expect to take 10-12 credits quarterly in your first year and leave few to no 400-500-level courses in your second year.

A full-time graduate teaching assistantship requires 20 hours of service per week to the department or program and can limit the number of credits the assistant may reasonably be able to take in one academic quarter. A full-time assistantship does not allow for additional salary or employment from the University.

Graduate Plan of Study

The student and the Faculty Research Advisor develop a "Plan of Study" in [Degree Works](#). The Plan of Study will be reviewed and approved by the Graduate Program Administrator in the Geology office at the end of fall quarter.

The Graduate Plan of Study is very important, as it specifies minimum curricular requirements which must be met, and it serves as a means for the Graduate School to determine whether all these requirements will be satisfied. This form should be filed by the end of your first quarter.

Graduate students are free to enroll in courses not on their Plan of Study. The Plan of Study is simply the approved courses which must be completed in order to meet the M.S. course work requirements. Courses not on the Plan of Study may be audited or taken Pass-Fail, at the student's discretion, and they do not count in your grade point average.

Advancing to Candidacy (see more detail on p. 11)

Satisfactory completion of a thesis proposal that is approved by all committee members at the end of the first year results in advancement to candidacy. This allows for enrollment in thesis credits, or Geology 690 in the second year. Students typically take 4 thesis credits per quarter in their second year.

Progress Toward Degree

Satisfactory progress is required. The program must be completed in five years, requires a "B" (3.0) GPA, and continuous enrollment. Courses to satisfy background requirements are to be first priorities. Students are encouraged to seek frequent evaluations from the Graduate Program Administrator (Kate) or their Faculty Research Advisor.

Transfer, Extension, Correspondence, Workshops

Transfer of credits into a student's graduate program is limited to nine quarter credits. Such credits must meet the requirements of the student's program and be approved by the Graduate Program Advisor and the Graduate School. The courses can be taken before or after enrollment at WWU.

Grades and Grading

Students must maintain at least a 3.0 grade point average for their core courses (those listed on the Graduate Plan of Study) with no grades below C- and no more than 10 credits below B-. A grade of C+ or lower counts towards the 10-credit maximum, even if the course is repeated and an A or B is earned. Pass/Fail grades are not applicable toward a graduate degree; however, S/U grades are.

Credits and Financial Aid (only for students without TA or RA)

New Federal rules specify that you can receive financial aid for **no more than 56 credits** in the geology M.S. program (125% of the required 45 credits). Be sure to keep this limit in mind when planning your program with your thesis advisor.

M.S. IN GEOLOGY

Core Course Requirements

45-48 credits, including:

- at least three quarters of full enrollment (8-12 credits)
- 33 or more credits of courses at the 400- and 500-level, including 6 required credits of Geology 595, with a maximum of 10 credits from 400-level courses. Be sure to discuss use of Geology 502 and 503 with your advisor.
- 12 -15 credits of Geology 690 (thesis)
(you may take more than 15 thesis credits, but only 12-15 credits will count towards the 45-48 required credits that will be graded.)
- up to 9 transfer credits, by special arrangement only (very unusual)

with no more than:

16 credits per quarter

10 credits of approved 400-level course work

10 credits of independent study (Geology 500)

Once your coursework is completed after your second year, and if you are not yet ready to schedule and defend your thesis, you must register for GRAD 699 Continuous Enrollment for one credit (minimal charge plus fees, no other tuition), as required by the Graduate School every quarter (excluding summers) until all degree requirements are completed.

Requirements Specified at the Time of Admission

You should work to satisfy any such requirements for prerequisite courses as soon as possible.

Grade Requirements

You must maintain at least a 3.0 GPA for the courses on your Plan of Study. These courses may include no grades lower than C- and no more than 10 credits with grades below B-.

PLAN OF STUDY WORKSHEET

First Year

Fall Quarter

Geology 595 (3 credits)

Complete Plan of Study in Degree Works
Meet with faculty to develop thesis proposal.

Winter Quarter

Geology 595 (3 credits)

Complete draft of thesis proposal

Spring Quarter

Present thesis proposal and submit thesis proposal form for approval.

By the end of Spring quarter, you should have:

Completed Geology 595

Cleared all entrance requirements

Presented a thesis proposal and submitted a thesis proposal approval form

Summer Quarter

Thesis field/lab work

PLAN OF STUDY WORKSHEET

Second Year

Fall Quarter

Geology 690 (recommended 4 credits)

Most of your thesis lab work will be done this quarter.

Winter Quarter

Geology 690 (recommended 4 credits)

Complete the first draft of your thesis before the middle of the quarter. Turn draft in to your thesis advisor to approve your draft for distribution to other committee members by the end of Winter Quarter.

Spring Quarter

Geology 690 (recommended 4 credits)

Finish and defend your thesis!

Advancement to Candidacy

The next step after a student's Plan of Study has been approved and filed in the Graduate School office is Advancement to Candidacy. Advancement to degree candidacy is formal recognition that the student has completed all admission requirements, has demonstrated satisfactory performance in at least 12 credits of graduate study, and has submitted an approved thesis proposal. The student must have completed at least 12 credits from the Plan of Study on Degree Works with grades of B or better. If the student was initially admitted provisionally, advancement to candidacy cannot be made until this status is changed to full admission. No thesis course work (Geol 690) may be undertaken until the student is advanced to candidacy (turned in their approved thesis proposal and signed Thesis Topic Approval eform https://esign.wvu.edu/forms/Grad_School/_thesis_topic_approval_2.aspx).

Advancement is granted by the Graduate School upon the recommendation of the Department Chair. Normally, a student should have been advanced to candidacy by the end of their third quarter at Western.

Registration for Thesis Credits

Because Geology 690 is a variable credit course, the student must have an override code entered by both the Department of Geology and the Graduate School prior to registering. Contact both and have them enter the override code, then register. A total of 12 credits of Geology 690 is required; however, you may take more thesis credits, for example, to maintain full-time status. If you do not hold a TA or an RA, and rely on financial aid, new Federal rules specify that you can receive financial aid for no more than 56 credits in the geology M.S. program (125% of the required 45 credits). Be sure to keep this limit in mind when planning your program with your thesis advisor.

A "K" (incomplete) grade is given for thesis credits (Geol 690) until the thesis is completed. Then the final grade is given and the "Ks" become the final grade, e.g. K becomes KA. This occurs when the thesis committee chair sends to the Graduate School the final grade for the thesis and information about the number of credits to be allowed on the Recommendation for Master's Degree form. No more than 12 thesis credits will be converted from K to a letter grade. Any additional thesis credits will remain as K permanently.

The Graduate School will notify the Registrar of the final grade, and the change from "K" to the final grade will be made.

Application for Master's Degree

The Master's degree is earned at the end of the quarter in which the student completes all degree requirements, provided all Graduate School deadlines have been met. Application for the degree must be made according to the deadlines posted by the Graduate School:

<https://gradschool.wvu.edu/degree-completion>

Application is made using the "Application for Master's Degree" eform

https://esign.wvu.edu/forms/Grad_School/_masters_degree_app_1.aspx . A diploma fee will be

charged. ***If you need to delay to another quarter, you can fill out the Masters Degree Application form again, with the new quarter listed and route for approvals. The fee will not be charged twice.***

The Graduate School can provide you with a letter of completion necessary for applying for employment when you have defended and turned in your thesis but have just not been awarded your degree.

Continuous Enrollment Registration Requirements

If not currently registered for any credits, register for GRAD 699 Continuous Enrollment for one credit (minimal fee, no other tuition), as required by the Graduate School every quarter (excluding summers) until all degree requirements are completed.

Graduation Checklist

1. Have I completed all prerequisite courses by the end of the 1st year?
2. Have I filed my Plan of Study by the end of the 1st Fall quarter? (in Degree Works)
3. Have I turned in my thesis proposal and filed the thesis topic approval eform by the end of Spring quarter my 1st year? <https://gradschool.wvu.edu/thesis-information>
4. Have I completed all the courses listed on my Plan of Study? (see Degree Works)
5. Are all "K" (incomplete) and "X" (missing) grades taken care of?
NOTE: *All "K" grades become "F" if not completed within one year.*
6. Do I have the List of Important Dates from the Graduate School for the quarter I intend to graduate and have I applied for a degree? <https://gradschool.wvu.edu/degree-completion>
7. Have I completed at least 12 credits of Geology 690?
8. Has my Application for Master's Degree eform been filed?
<https://gradschool.wvu.edu/degree-completion>
9. Has my thesis been approved for presentation 2 weeks in advance of the presentation?
<https://gradschool.wvu.edu/degree-completion>
10. Has my presentation been scheduled and the Oral Defense Schedule form submitted?
https://esign.wvu.edu/forms/Grad_School/_masters_oral_defense_sch_1.aspx
11. Has my thesis been presented to the department both orally and in written form?
12. Has the revised thesis been signed by my thesis committee and eform sent to my thesis advisor(s), and my thesis turned in on CEDAR?
https://esign.wvu.edu/forms/Grad_School/_degree_rec_thesis_1.aspx

If all answers are YES, then I'm done. Huzzah!

SECTION 2: THESIS SPECIFICS

YOUR THESIS FROM PROPOSAL TO PRINTING

Your faculty research advisor (thesis committee chair)

Your thesis advisor is the single most important person in the faculty during your MS program; they will help guide you through your entire thesis program. Because this relationship is so crucial, the Geology Department requires that all incoming MS students have a thesis advisor when they are admitted to the program. In accepting you to their research program, your advisor has committed to being your primary academic mentor towards your goal of obtaining an MS degree. In certain (fairly rare) circumstances, however, a student may need or wish to change thesis advisors. Generally, this happens because either the faculty member is not able to continue advising the student, or some other incompatibility develops between student and advisor (such as a change in research interest by the student). In such a situation, the student should seek another member of the Geology faculty to act as their thesis advisor. In order to be approved, both the original advisor and the prospective advisor must agree to the change. Following the change, the student must proceed through the thesis checklist as originally outlined (from Topic Approval through the defense) in order to graduate.

The Thesis Committee

The student together with the Faculty Research Advisor selects the thesis committee, which must have at least three members. The Faculty Research Advisor, who must be from the Geology Department, chairs the committee. At least one additional committee member must hold a regular faculty appointment in the Geology Department. Other committee members may be appropriate faculty from other departments, research associates, or from outside the university.

The student submits the names of the committee members on the Thesis Approval eform (see Appendix I) together with the approved thesis proposal to the Graduate Program Advisor for their signature. The proposal goes to the student's file, and the eform is sent to the Graduate School after departmental approvals.

The Graduate Dean formally appoints the committee. The student is officially notified of their committee membership by the Graduate School office. The committee's function is to advise on and consent to the thesis topic, to act as consultants during the course of the research and writing, to judge when the thesis is ready for defense, and to approve the final thesis before it is submitted to the Graduate School.

Normally, appointments to the thesis committee are permanent. However, circumstances may arise that make a change desirable. Any change in the membership of the thesis committee should be initiated by memo to the Graduate School by the Department Chair.

It is up to the student and the student's thesis committee to design the details of the actual thesis project. If difficulties arise, or if project modification is necessary, it is important to discuss the matter with all committee members, preferably as a group rather than individually.

Students are highly encouraged to set up regular meetings with their thesis committee, especially during spring of the first year, fall of the second year, and either winter or spring of the second year.

Thesis Proposals

Consult your thesis advisor 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, and so forth that are required for the thesis. Then you'll be able to move parts of the proposal directly into your thesis. Use the model on the following page when you fashion the signature page for your proposal. The section of this Handbook on Thesis Manuscript Regulations covers requirements for the thesis itself.

How long should a thesis proposal be?

A proposal needs to be as long as necessary to state what needs saying, and not a word longer. Typically it will be about 15 pages of double-spaced text (12-point font Times Roman), but some faculty prefer a longer proposal with a full discussion of previous work. Keep in mind that a typical NSF proposal is 15 pages maximum single spaced, including figures, so you should be able to contain the thesis proposal within somewhat less than that.

What things need to be covered in a thesis proposal?

Although different topics may need you to say different things, the sections listed below will be needed in nearly all proposals.

- An introduction to the particular problem that you will be trying to solve, including why the problem is worth solving. This should include a brief statement of objectives and methods that will be expanded upon later.
- Enough background to assure two things:
 - that the problem is understandable to geologists outside the specialty, such as the second and third members of the thesis committee.
 - that you are familiar with the work that has already been done in the area, understand it, and know how your work fits into the pattern of what has already been done.
- A more detailed discussion of the problem, in particular stating hypotheses, which of them you plan to test, and how you envision testing them - how the research will be approached. You should specify what the possible outcomes of the tests will say about the hypotheses, which outcome would refute a hypothesis and which would support it.
- The importance of the proposed research as compared to alternative approaches (a justification).
- A description of the study area, and why that area was selected.
- A description of the methods you plan to use to collect data and why they are appropriate for your problem and how they will help you achieve your objectives/research goal.
- A discussion of the anticipated (or potential) results and potential implications. Depending upon the nature of the project and the particular advisor, you may also need to describe the estimated timeline for the project and give a budget.
- Plans for publication of the results.
- References.

How should I get started?

Try using the list of sections above as the basis for an outline. Share that outline with your advisor (and committee members). Ask your advisor if you may see a copy of a successful proposal by one of their students.

When is the first draft ready to show to my advisor?

The “first draft” that your advisor gets should not be the first one you write. Talk to your advisor about what and how you should write as you go along, but don't hand in a draft until you know it is well

written. Your draft will help shape your advisor's view of your talent as a writer and as a geologist. So write a complete draft, let it sit for a couple of days, ask a friend to look it over, then review and rewrite. Correct Typos. And be sure to run a spell check before turning it in!

Thesis Writing

Writing a thesis teaches not just how to plan and carry out a research project and the scientific skills needed but also how to negotiate for approval and manage your time. When you write, follow the format explained in this handbook and on this website from the graduate school:

<https://gradschool.wvu.edu/thesis-information> . The way to write is to write. Start as early as you have anything to say, and work closely with your thesis advisor. Talk to your committee members and get their advice about both science and its presentation. They may not all agree, and you need to get disagreements resolved early. A group meeting of you and your whole committee is a good way to work out problems. And keep on writing. It is usually easier to write about research methods, for example, as you are carrying them out.

It takes a great deal of time to write your thesis. As a rule of thumb you'll need to have your first complete draft to your committee prior to the quarter in which you plan to graduate and by the beginning of the quarter in which you plan to defend.

If a thesis committee member is expecting a draft of your thesis and gets it on schedule, normally you can expect to get the draft back with comments in two weeks or less. Normally excludes drafts that are delivered when the committee member is, will be, or just has been away from campus; or is completing a major project; or has informed the student that longer will be needed. Normally also excludes drafts that haven't been well organized and thoroughly edited and proofread by the author. Once you get a draft back, it is up to you to talk to your committee members and work out what changes are needed for them to give their approval.

Once you think you have a draft that your committee will approve as ready for defense, circulate it to the members.

Graduating in a Timely Fashion, in the first chapter of this handbook, also has suggestions for writing your thesis.

Remember to stay in touch with the Graduate Student Success Committee! In addition to your committee, they can help you navigate any troublesome spots in this process.

Timeline for Thesis Presentation to Graduation:

This website shows specific dates for degree application, thesis defense, and submission of thesis for the specific quarter that you would like to graduate

- <https://gradschool.wvu.edu/degree-completion>

Apply to Graduate the quarter before you plan to graduate:

- https://esign.wvu.edu/forms/Grad_School/ masters degree app 4.aspx

Scheduling your Thesis Presentation (which requires an approved thesis draft):

- You must schedule your thesis presentation 2 weeks before the presentation date (required by the Graduate School). Thesis defenses may take place on any class day of the academic year and, for Spring quarter only, during finals week. Because faculty and the rest of the geological community are frequently away in the field, summer defenses will be scheduled only in exceptional circumstances. Permission for a summer defense and its date must be approved by the end of Spring quarter by the thesis committee and the department chair.
- To schedule your thesis presentation, you will need to know the day/time you and your committee are available for your presentation. Kate will book a room and can check on available dates before you schedule.
- This form must be completed with the thesis presentation time and sent to your committee chair (and then to Kate) to notify the Graduate School:
https://esign.wvu.edu/forms/Grad_School/ masters oral defense sch 1.aspx
Fill out sections 1, 2, and 3. Leave section 4 blank and then submit the form to me at: blizzak@wvu.edu
- You will need to send a photo of you, or of you and your research, for your flyer along with your thesis title to Hye In at parkh23@wvu.edu and Kate at blizzak@wvu.edu
- One week before your thesis presentation you must send Kate both a word document and a pdf of your thesis (that your committee has approved for the presentation). You also will need to provide the pdf to the Graduate School, if requested.
- Kate will upload both versions of your thesis to the Teams site: Geology Graduate Thesis- for review. The pdf version will serve as the original copy and the word document will be set to track changes and allow comments to be added.
- Kate will email notification of your thesis being submitted for review to faculty, staff and grad students, along with your scheduled presentation date and time.

Your thesis committee members are expected to be present at your thesis defense. You are responsible for arranging with the members of your committee a defense date that will be convenient for them all. Exceptions are made only when a committee member is out of town for an extended period. If you are trying to arrange a defense date to suit your family or employers as well as your committee, ask everyone involved for their schedules early, well before you plan to schedule your defense.

Thesis Presentation:

- After your Thesis Presentation, this form must be completed (after your committee has approved any final edits to your thesis):
https://esign.wvu.edu/forms/Grad_School/ degree rec thesis 2.aspx

Timeline:

Allow at least two weeks after your presentation for making changes to address comments written on your defense copy and points raised at your presentation. More time may be needed, especially if the figures and tables in your defense copy are not in final form. Your advisor can help you estimate the time needed. Keep in mind that this rewriting may change your quarter of completion if the Graduate School deadlines cannot be met. See following section for requirements for the format of your thesis.

- The timeline for graduating each quarter is on the link below: <https://gradschool.wvu.edu/degree-completion>
- The due date listed for when your final thesis is due can possibly be extended with permission from the graduate school. Usually, they can give you until early dead week if you need it.

Thesis Completion:

- Here is info on completing your thesis: <https://gradschool.wvu.edu/thesis-information>
- The Graduate School requires theses to be uploaded via CEDAR. CEDAR tips: Subject – LCSH, Rights Statement, and Creative Commons License can all be left blank. The grad school will fill them in when the thesis is cataloged.
- One hardbound copy of your thesis is **required** by the Western Library's- Special Collections. The order form is on the Thesis Information Webpage under Defenses and Final Submission, Hard Copies.

Order form: https://esign.wvu.edu/forms/Publishing%20Services/_print_copy_thesis_order_2.aspx

Sample:

<https://esign.wvu.edu/getForm.aspx?ref=a86b9158ba38f51987d22f2ce0a0e33412dc818d1b2c1bce>

- You also should ask your committee if they want a bound copy of your thesis. (The department no longer requires a hardbound copy of your thesis and will instead use CEDAR).
- We highly recommend that you get yourself a copy at this time (or as many copies as you might want). It is much easier to get them now.
- ***Please Note: Your degree will not be issued to you until the hard bound copy of your thesis is received by the Library Special Collections!***

Required Thesis Pages:

The Graduate School requires certain pages in every thesis and details are provided here (including a Word template): <https://gradschool.wvu.edu/thesis-information> . That URL will lead you to detailed instructions also for uploading to CEDAR. For more information or any questions about these pages, please contact the Graduate School.

WWU Journal Thesis Option

Journal Article Thesis

In the Journal Article Thesis, the candidate divides the thesis into two parts. **The first part is one or more articles prepared according to the style requirements of a national or international scholarly journal so that the article(s) is (are) suitable for publication.** The article(s) should avoid extreme brevity and be understandable to the members of the candidate's thesis committee even if this necessitates some elaboration of the standard article format. The second part of this thesis provides greater context and/or supporting information for the article(s).

Specific requirements are:

1. The student must use the publication style of either (1) one of the discipline's reading periodicals or (2) the published standards of the Geological Society of America Bulletin for the article(s). Two or more articles included in the same thesis may have different styles if written for different journals.
2. The **Abstract** is a summary of the entire thesis.
3. **In the version approved for defense only**, the **Citation page** will give the literature citation for each **published article** included or specific information concerning **submission for publication** (i.e., name of journal and date of **acceptance for publication** or date of **submission to journal**). Do not include in the post-defense copy. See p. 21 for detail.
4. The main body of the thesis will include **one or more articles in approved journal or periodical style**. The following are also required, if not included (or deemed too brief by the thesis committee) in the journal article(s): (1) a **Comprehensive Introduction** and (2) a **Comprehensive Methodology** to precede the individual articles to provide an integrated perspective to the total body of research and literature, and to the details of the methods used.
5. All references for all parts of the thesis will be included in a **Comprehensive References Cited** section, including all references from the article or articles and all references from other sections, including **Comprehensive Introduction** and **Comprehensive Methodology** if those are used. No portions should have separate reference sections.
6. **Any article comprising a major portion of a thesis must be the work of the student.** The student must be the **sole author** or, if there is more than one author, the **primary and first listed author of articles prepared for publication**. In situations of more than one author, it is the responsibility of the thesis committee to determine that the research and writing is indeed that of the candidate for the degree. **Provide a statement of what the student has done and what the coauthors have done.** A separate acknowledgements section for the thesis (that is more detailed than the journal article) can be included.
7. The Journal Article Thesis contains appropriate appendices needed for detailed and ancillary information required for completeness and explanation but not usually presented in a published paper.

8. The manuscript(s) that forms the core of the journal-thesis option must be submitted to the journal publisher for scholarly review prior to submitting the thesis to the Graduate School; the manuscript need not be accepted, however. In addition, regardless of the publication status of the manuscript, the manuscript must be accepted by the thesis committee before submission to the Graduate School, and any comments or criticisms from the committee that are noted in the reviewed copy and during the defense must be dealt with to the satisfaction of the thesis committee. Publication of a thesis manuscript is not sufficient in itself for the degree.

NOTE: THE COMPREHENSIVE BIBLIOGRAPHY MUST BE IN ALPHABETICAL ORDER BY LAST NAME OF AUTHOR.

Each article will contain its own Reference section in addition to the Comprehensive References Cited section.

The organization of a Journal Article Thesis/Dissertation is as follows:

- Committee Signature Page
- Authorization/Copyright Page(s)
- Title Page
- Abstract Page - for entire thesis (one only)
- Citation Page - special requirement - **copy approved for defense only**
- Acknowledgement Page (optional) include anyone who contributed to or who will be a co-author of the paper (or you may include this information as an Appendix)
- Table of Contents
- List of Tables
- List of Figures
- Comprehensive Introduction (if not included in journal article(s))
- Comprehensive Methodology (if not included in journal article(s))
- Acknowledgements that are more extensive than in journal article(s) (optional)
- Articles(s) - Format follows journals' specific requirements
- Comprehensive References - Alphabetical order by last name of author
- Appendixes (optional)
- Vita (optional)
- Pocket Material (optional)

In all provisions expect the Article(s) itself - which follows the format of a scholarly journal - the directives and requirements of the Graduate School and the Geology Department, as listed in the WWU Graduate Student Handbook, shall govern the preparation of a Journal Article Thesis.

MECHANICAL FORMAT FOR STANDARD AND JOURNAL ARTICLE THESES

The Standard Thesis and the Journal Article Thesis differ in organization and placement of material, but not in overall content, scholarship, or clarity or presentation. **Both plans have an identical title page, signature page, authorization page, abstract, table of contents, and mechanical format (margins, pagination, etc.).** See <https://gradschool.wvu.edu/thesis-information> for more information on required pages for the thesis

The candidate's graduate advisor supervises the preparation of the thesis. **Regardless of style and format, all theses must be prepared in accordance with accepted standards of academic integrity,**

including proper citation and attribution of all material that is not the original product of the writer. When preparing theses, candidates are expected to consult their graduate advisor and thesis committee regarding specific thesis preparation problems. The thesis committee and Candidate is also responsible for consulting the Graduate School regarding University requirements and thesis deadlines.

EXAMPLE CITATION Page for JOURNAL Format

(Required for the copy approved for defense, but not included in the defended and signed thesis)
This page **MUST BE APPROVED** by the Thesis Committee. *Use correct margins. Spell check.*

*If one or more of these categories apply, complete the wording below. Follow a journal reference format you have adopted for your thesis or dissertation. See **NOTE** below.*

Citation(s)

Material from this thesis has been published in the following form:

Swenson, R.M. (1999). The effect of eating New York Super Fudge Chunk on the productivity of graduate students. Journal of Ice Cream Eaters, 10, 235-255.

AND/OR

Material from this thesis has been accepted for publication in (name of journal) on (month, day, year) in the following form:

Swenson, R.M. (1999). The effect of eating New York Super Fudge Chunk on the productivity of graduate students. Journal of Ice Cream Eaters, 10, 235-255.

NOTE: *The manuscript must be submitted for publication **ON OR BEFORE the day you submit your thesis to the Graduate School.** Any article comprising a major portion of a thesis or dissertation must be the **work of the student.** The student must be the **sole author** or, if there is more than one author, the **primary and first listed author** or articles prepared for publication.*

Thesis Collections (samples and other physical materials)

Consult with your thesis committee at the time you are writing your thesis proposal to find out how extensive a collection of samples they expect you to leave with the department. Generally significant samples and those referred to specifically in the thesis are expected to be left with the department in support of your work. You are responsible for leaving your thesis specimens properly labeled and identified. Speak to Ben Paulson and your advisor about proper labeling and identification protocols.

The minimum information on each specimen (best put in an Appendix, otherwise in the specimen catalog) is: (1) specimen number; (2) locality (give map coordinates or refer to a specimen locality map); (3) formation name; (4) page reference to thesis or description of rock and its occurrence; (5) any relevant field notes.

APPENDIX 1:

COSTS OF ATTENDING WWU – Tuition Waivers, Fees, Health Insurance, Access to Student Health Center, Financial Aid

The table on p. 23 summarizes procedures for TAs (row 1), RAs (row 2), non TA or RA reciprocity students (row 3, rare) and students without TAs or RAs who are on financial aid (row 4, also rare). More detail is provided in the following paragraphs.

Stipends, Tuition Waivers, Fees, and Financial Aid

Teaching Assistantship stipends

The Geology Department normally provides stipends and tuition waivers associated with teaching assistantships (TAs) for first- and second-year graduate students only. *(Please note: you must be registered for at least 2 credits of Geol 690 Thesis to be eligible to work as a TA or RA).*

Note: if your degree takes longer, you may be supported by your advisor on a research assistantship (RA), but generally you will need to rely on other financial aid offerings as described below. Limited tuition waivers are supplied by the graduate school.

Tuition Waivers

As described above and in the table, tuition is waived for TAs, and stipends are set by the graduate school. If you are an RA, tuition is not waived, but is instead paid for by your advisor's grant. Your stipend is also set by the grant.

Fees

Fees have historically been paid for the by the student, but as of Spring 2023, fees are partially paid for by a generous donation to the department or by your advisor's grant. For current fees, go to <https://sbo.wvu.edu/tuition-and-fees#graduate>, scroll down to "Graduate Students" then "Quarterly Fees and Tuition", click on the "Non-resident graduate" link.

Importantly, continue to scroll down to "Fees all students" and you will see the breakdown of all the fees.

Note that in order to make use of the health center, the Wade King recreation center, etc. you must be enrolled for at least 6 credits, even in your second year when you are normally only taking thesis credits. See details on the next page and talk to the graduate program administrator (Kate) for more details.

Financial aid options (if you are not a TA or an RA)

The financial aid services center at WWU has summarized financial aid information for graduate students here:

https://www.finaid.wvu.edu/client_services/pages/apply/gradstudents.php

and the WWU Graduate School has other suggestions here:

<https://gradschool.wvu.edu/paying-graduate-school>

Health Insurance

Teaching Assistants are eligible for health insurance, paid for by the Graduate School, for each quarter serving as a TA. If you are an RA, the same should be true. Insurance is provided through AHP Health Plans and you will need to enroll. This is described here:

<https://gradschool.wvu.edu/health-insurance>

However one very important things to note for TAs:

- The health insurance premiums are paid for by the graduate school **only** in quarters that you are a TA. This means that if you would like the insurance to continue through the summer you will need to purchase your own coverage. The process is described on the graduate school health insurance page.

Access to the Student Health Center, Counseling Center, Recreation Center, and Free Student Bus Pass

The WWU Student Health Center (and the other options described in the header) is available to all students who are enrolled in six or more credits on Western's campus. Most graduate students are enrolled in at least six credits in their first year, but this may not always be the case in subsequent years if you are trying to minimize the per-credit fees (described here: <https://sbo.wvu.edu/tuition-and-fees#fees>).

Here are some things to consider:

- If you plan to access the student health center, counseling center, rec center, and a student bus pass, then you need to register for at least 6 credits and pay those required fees (see link above). This is particularly important for 2nd year graduate students, who may be registered for fewer credits of Geology 690.
- You must be registered for at least 2 credits of 690 to be eligible to work as an RA or TA in your 2nd year. during one quarter in the academic year. If you only register for two credits, the Student Employment office would require you to fill out a credit load waiver request. Your fees would be lower, but as above, you would not have access to student services. And, if you have student loans, those could go into repayment status.
- At 4 credits, you would be considered half time and would pay reduced fees (see link above). You would not have access to the student services listed above, but your enrollment status would qualify for student employment (TA or RA position) without having to request an enrollment status waiver, and would keep any student loans at "in school deferment" status.

Your degree requires 12-15 credits of 690, so you'll want to spread those over the academic year in a way that makes the most sense for your needs.

TYPE	ELIGIBILITY (WHO CAN GET IT)	HOW NOMINATED	PROCEDURE (HOW AWARDED)	BENEFITS/AWARD AMOUNT	OTHER RESTRICTIONS AND COMMENTS
Teaching Assistantship, also called TA	<ol style="list-style-type: none"> 1. Full admit 2. 3.0 GPA if current student 3. FT enrolled (8 credit minimum) 4. Credit must be through WWU 	Department selects from among TA applications completed by students and forwards names to the Graduate Office.	<p>Graduate Office checks for eligibility requirements.</p> <p>Graduate Council approves.</p> <p>Graduate Office forwards department initiated PA to Student Accounts with a copy to the Student Employment Office.</p> <p>Graduate Office informs the student by letter.</p>	<ol style="list-style-type: none"> 1. Salary set by State and/or WWU 2. Student pays fees when registering, health fee and other misc. fees. 3. A tuition waiver is in effect for <u>all full-time assistants</u>. Out-of-State tuition is also waived for non-residents who are full-time assistants. 	<p>Students may not have other WWU employment.</p> <p>Student Accounts monitors credit load. Before advancing to candidacy in 2nd year, if students drop below 8 credits or withdraw, they are ineligible for the waiver, which must then be repaid.</p> <p>If the student is a non-resident, only full appointment as a TA qualified him/her for reduction of the out-of-state tuition.</p> <p>Students are obliged to provide 20 hours per week of supervised service.</p>
<p>Note: If a department, grant, or faculty member employs a graduate student as a full-time Research or Lab Assistant, the appointment qualifies a non-resident student for in-state tuition and for the reduction in fees and deduction of operational fees from their TA salary. Such appointment must clear through the Graduate Office.</p>					
Research Assistantship, also called RA	<ol style="list-style-type: none"> 1. Full admit 2. 3.0 GPA if current student 3. FT enrolled (8 credit minimum) 4. Credit must be through WWU 	Faculty member with a grant selects the RA.	<p>Research and Sponsored Programs (RSP) checks for eligibility requirements.</p> <p>RSP forwards department initiated PA.</p>	<ol style="list-style-type: none"> 1. Salary determined by grant budget. 2. Most grants pay tuition. 3. Some grants cover medical benefits 	<p>Graduate Office monitors registration and cancels appointment if credits fall below eight prior to candidacy.</p> <p>Students are obliged to provide 20 hours per week of supervised service.</p>
Reciprocity British Columbia, Canada	<p>Student must be a bona fide resident of B.C.</p> <p>Student must be full admit and should have demonstrated ability (normally one successful quarter).</p> <p>Student must be enrolled for 10 credits in regular WWU classes.</p>	Student completes reciprocity application form.	Graduate Office checks for eligibility. The total number of recipients is limited. Preference is given to BC students enrolled in graduate programs not available in B.C. Graduate Office notifies Registrar's Office of recipients, which in turn notifies Student Accounts.	<p>Student pays in-state fees for quarters he/she has been awarded reciprocity (award may be for one, two or three quarters).</p> <p>There is no guarantee of renewal for subsequent quarters.</p>	<p>Student may not hold a full-time TAship.</p> <p>Student Accounts monitors the number of credits registered for. If student falls below, student is billed by Student Accounts for the difference of in- and out-of-state tuition.</p>
Graduate Tuition Waiver Scholarship (State funding if no TAship or RAship has been awarded)	<ol style="list-style-type: none"> 1. U.S. citizen or Resident Alien 2. Full admit 3. Good academic standing 4. Enrolled for 10 credits 5. Clear financial need 	Department nominates and forwards names to Graduate Office with short statement describing student's needs.	Graduate Office checks for eligibility. Graduate Council recommends to the Graduate Dean. Graduate Office completes scholarship award form and forwards it to the Financial Aid office which notifies Student Accounts.		Student may <u>not</u> have a TA appointment.

APPENDIX 2:

SAFETY TRAINING

All graduate students must take the Geology Department's General Safety Training course annually. This training will be available via Canvas and is prerequisite to use any Geology Department resources. In addition to the General Safety Training course, graduate students who perform research in the laboratory must be trained the use of the specific chemicals they intend to use as part of their research (or as part of their RA). Training will include topics such as the proper use of personal protective equipment, hazard communication, basic lab safety, hazardous waste disposal, and other specific relevant topics

The University has a responsibility to provide safety training to new employees and students who will be working with chemicals and/or performing hazardous tasks. It is the responsibility of each faculty member to ensure that their employees and students receive the necessary training. Contact Ben Paulson (x3585) to consult about specific safety training that might be needed when using specialized equipment, hazardous chemicals, or specialized fieldwork (e.g. boat use).

Ben Paulson (Ben.Paulson@wwu.edu, ES 208, (360) 650-3585)

- Geology's Departmental Safety Coordinator
- contact person if you have building related concerns (e.g., no heat, no tap water, leaks, etc)
- contact person for office needs (e.g., broken chair, etc.)
- provides technical support and instruction for most pieces of equipment
- liaison with technicians in Scientific Technical Services
- loans equipment and supplies (when available) for graduate research
- assists in ordering supplies for graduate student research

APPENDIX 2: Research Grants and Department awards

RESEARCH AND TRAVEL GRANTS

Most forms for these grants are available online. If you don't find an online source, check with Kate in the Department Office. Talk to your GEOL 595 professor or graduate advisor about additional opportunities and previous successful applications.

Details, deadlines, and weblinks:

Internal funds (WWU Research and Sponsored Programs or Geology Department)

- Geology Dept. Advance for Research and other Scholarships – typically ~April 15. See details on next page
- Full Geology Department Scholarship list, deadlines typically spring - <https://geology.wvu.edu/graduate-scholarships>
- Ross Travel Grant – no deadline, [apply](#) when needed
- Research and Creative Opportunities Grant Program for Graduate students – application [deadlines](#) are once each quarter, but you can typically only receive one award. Think carefully about when funds would be most useful.

External funds

- **GSA Research Grants** - early February - <http://www.geosociety.org/grants/>
- **GSA Travel Grant for meeting travel** - https://www.geosociety.org/GSA/Education_Careers/Grants_Scholarships/Travel_Grants/GSA/grants/travel.aspx?hkey=3bea9b23-e954-4b23-b018-fb532dbb6b45
- **American Association of Petroleum Geologists (AAPG)** – mid February
 - AAPG Student Page - <http://students.aapg.org/>
 - AAPG Foundation Grants-in-Aid - <https://foundation.aapg.org/grants-in-aid-requirements-guidelines>
- **American Geophysical Union (AGU)** various deadlines - <http://education.agu.org/grants/>
 - Student Travel Grants (Aug. deadline)- <http://education.agu.org/grants/student-travel-grants-application-requirements/>
 - Research Grants & Fellowships - <http://education.agu.org/grants/research-grants-fellowships/>
- **Sigma Xi** – mid-March, early October <http://www.sigmaxi.org/>
 - Grants-in-Aid of Research - <https://www.sigmaxi.org/programs/grants-in-aid-of-research/apply>
- **Mazamas** – early February <http://mazamas.org/>
 - Research Grants - <http://mazamas.org/index.php/resources/research-grants/>
- **Northwest Fund for the Environment** mid-February - <http://www.nwfund.org/>
 - Application Process - <http://www.nwfund.org/application/>
- **Evolving Earth Foundation** – mid-March <http://www.evolvingearth.org/>
 - Grants - <http://www.evolvingearth.org/evolvingearthgrants/grantsmain.htm>

Geology Department Advance for Research

The Department of Geology will generally draw on its donation fund held by the Western Foundation to grant small advances for research expenses to undergraduate and graduate students in the department. Funds are available for field and laboratory expenses, which may include costs of analyses performed at other institutions. The amount of the advances will vary. All applicants are expected to apply for funds outside of the department. The effort you make to gather outside money will be a factor in our decisions to offer these grants.

Interested applicants should submit the following:

A **research proposal** approximately 2 pages in length; or a proposal submitted for another grant to fund the same research, include a cover letter to the Chair outlining how you would use the Departmental Advance in your research.

A **statement of other support**, including awards received or pending, including copies of the proposals submitted;

A **budget of total proposed field and laboratory expenses**, and how much of the total is requested from the Geology Department;

A **transcript** for any classes not taken at WWU (for undergraduates only);

A **statement of support** from your faculty advisor.

Proposals should be submitted to the department chair's office not later than **April 15**, unless that falls on a weekend or holiday, in which case it will be the following school day.

Past recipients of Departmental Research Advances for Field Work may apply again, but preference will be given to first-time applicants. Recipients will receive a notification letter informing them of the award and outlining the reporting requirements of the Western Foundation; when that letter is signed and returned, an advance will be dispensed.