Crop and Soil Sciences Graduate Student Handbook

Academic Year 2025-2026

This document has been reviewed and meets WCAG 2.1 AA accessibility standards.

Department of Crop and Soil Sciences
Washington State University
Pullman, WA 99164-6420

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WELCOME

Welcome to the Department of Crop and Soil Sciences (CSS) at Washington State University! We offer M.S. and Ph.D. degrees in Crop Science and Soil Science, with the ability to focus research in a variety of specialized areas within each discipline. Current research foci in Crop Science include plant breeding, genomics, molecular genetics, agronomy, and weed science. We work with wheat, forages, barley, alternative grains (quinoa, spelt, oats), grain legumes, and brassicas. The Soil Science program features research in soil health, biogeochemistry, microbiology, nutrient management, the rhizosphere and vadose zone hydrology. Crop and Soil Science faculty also lead collaborative research on organic, sustainable and precision agriculture and cropping systems. Program options in human dimensional areas include agricultural education and rural sociology.

Our goal is to train tomorrow's leaders, scientists and educators to make valuable and lasting contributions in their chosen field or endeavor. To achieve this goal, CSS provides students the opportunity to develop in-depth knowledge in their field, to develop critical thinking skills and to conduct original, creative, cutting-edge research. CSS students have opportunities to teach in the classroom and in outreach programs. Students also have the opportunity to develop a breadth of knowledge across the varied CSS disciplines and beyond by interacting with colleagues and faculty working in research areas outside of their own.

We have a long-standing commitment to financially supporting our graduate students with a combination of funds from Washington State and from various private and governmental external grants. Since the availability of these funds fluctuates from year to year, we cannot guarantee support for all students throughout their entire programs. Nevertheless, we have an outstanding and consistent track-record of fully supporting productive and progressive students from the day they start to the day they complete their degree. Graduate students on formal appointment and receiving a stipend are considered full-time graduate assistants in the department. These appointments represent an agreement between the student and the department with each party having defined responsibilities. Academic responsibilities are defined in this handbook. Your advisor and committee define your research responsibilities. Being a graduate student is more than a full-time endeavor and requires your undivided attention and effort to succeed. Employment in addition to an assistantship is not permitted. Students generally devote half of their time to academic studies and half to research under the guidance of a major professor. Students are expected to complete their research project and thesis prior to graduation. Publication of the research is an expected outcome of the CSS graduate program.

Most agree that the time they spent in graduate school was some of the most challenging and rewarding in their life. Immerse yourself in the experience and take full advantage of the many social and professional opportunities coming your way. You will make many new and lasting friends from throughout the U.S. and world. Your time here will be filled with personal and professional growth, challenge, change, and accomplishment. At times you may want to give up. Don't. The CSS faculty and staff are dedicated to enriching your graduate experience and ensuring that it is World Class. We wish you every success in your program and your subsequent endeavors in crop and soil science-related professions.

Dr. Lynne Carpetner-Boggs, Chair
Department of Crop and Soil Sciences

INTRODUCTION

Policies and procedures regarding graduate education are set at three levels--- the university, college, and department. The WSU Graduate Catalog and the Graduate School's Policies and Procedures contain most of the general policies on admissions and programs. Please refer to these websites for current information. This handbook addresses departmental policies and procedures in addition to the aforementioned. Failure to follow these policies and observe the degree requirements inevitably results in complications and could delay or jeopardize completion of your degree. Please read this handbook carefully and refer it throughout your program of study here.

The requirements of the Graduate School, which must be met for completion of a graduate degree program, are those published in the Policies and Procedures of the Graduate School at the time of the student's initial admission as a regular or provisional student. Departmental requirements are those in effect at the time the student files a program of study.

Non-Discrimination Statement

WSU prohibits sex discrimination in any education program or activity that it operates complaint with Title IX. Inquiries regarding Title IX and reports of sex discrimination can be directed to the WSU Title IX Coordinator. More information on WSU's policies and procedures to respond to discrimination and harassment are available here: Nondiscrimination statement.

Statement of Ethics

The CSS faculty and staff are committed to the basic values of:

Accountability
Integrity
Positive Attitude
Respect
Honesty
Passion
Quality
Work Ethic

By upholding these values, we strive for our students to develop scientific and professional values of their own. We highly encourage our students to reflect on and consider the following guiding principles:

1. Uphold the highest standards of scientific integrity and professional conduct, and an uncompromising commitment to the advancement of knowledge.
2. Honor the rights and accomplishments of others, and properly credit the work and ideas of others.
3. Strive to avoid conflicts of interest.
4. Demonstrate social responsibility in scientific and professional practice, by considering whom your scientific and professional activities benefit, and whom they neglect.
5. Provide honest and impartial advice on subjects about which they are informed and qualified.
6. As mentors of the next generation of scientific and professional leaders, strive to instill these ethical standards in students at all educational levels.

Adopted by ASA, CSSA, and SSSA

Standards of Conduct

Plagiarism and misconduct in research will NOT be tolerated. Students failing to follow standards of conduct dictated by the Center for Community Standards may face dismissal from Washington State University. If you are not sure what constitutes plagiarism, consult the WSU Plagiarism Information site. If you are unsure what constitutes academic integrity, please review the Academic Integrity Policy. Related, all graduate students are required to complete the web-based CITI Responsible Conduct of Research and Conflict of Interest trainings upon admission.

Mission, Objectives, and Learning Outcomes

Mission Statement

The mission of the Graduate Program in CSS is to provide fundamental training in basic and applied plant and soil sciences. Upon completion of their graduate program, students in CSS will be able to formulate, design, and implement research; evaluate and interpret data objectively; and communicate results of their work effectively in oral and written forms.

The CSS Graduate Program has four primary objectives:

1. Develop effective programs for students that allow them to become well educated and highly skilled individuals with the potential to be national and international leaders;
2. Conduct scientific research on globally relevant problems in crop and soil sciences and contribute this knowledge to their discipline;
3. Enhance the visibility and impact of graduate programs in crop and soil sciences;
4. Place students in lead academic, research, and industry positions.

Student Learning Outcomes (SLOs) are defined in four broad areas:

1. Knowledge of field. Understands the breadth and depth of knowledge associated with their discipline;
2. Scientific reasoning. Designs, conducts, analyzes, and interprets research effectively on important problems in their discipline;
3. Communication. Communicates effectively to a diverse group of people using appropriate traditional and emerging technological media;
4. Original contribution. Makes an original contribution to their discipline.

GRADUATE PROGRAM ADMINISTRATION

Graduate Program Bylaws

The Department of Crop and Soil Sciences Graduate Programs are governed by official bylaws, approved by the Graduate Faculty in Crop and Soil Sciences, The Graduate School, and the WSU Faculty Senate. The Department of Crop and Soil Sciences Graduate Program Bylaws define the qualifications for membership for the Crop and Soil Sciences Graduate Faculty, administration of the Crop and Soil Sciences Graduate Programs, composition of graduate student faculty advisory committees, and participation of Crop and Soil Science graduate students in the administration of the Crop and Soil Sciences Graduate Programs.

The Department of Crop and Soil Sciences Graduate Programs are administered by the Graduate Program Director who is also the department Chair. Duties of the department Chair related to the Graduate Programs in CSS are to provide overall leadership, develop and implement policies, represent the interests of the Graduate Program to campus and University administrators, be responsible for coordinating all Graduate Program administrative matters with the Graduate School, manage the departmental resources for graduate student support, coordinate CSS graduate course teaching assignments, and appoint a CSS Graduate Committee. The CSS Graduate Committee coordinates and advises the department Chair on the Crop and Soil Sciences Graduate Program. Currently the committee is composed of the Crop Science and Soil Science Graduate Coordinators.

Areas in which the CSS Graduate Committee assists and advises the Chair include:

- Review, develop and update long-range goals for the CSS graduate programs and plans for their attainment. These ideas shall be presented at least once annually to a meeting of all faculty.
- Serve as a sounding board for new ideas, changes, etc., in academic or administrative areas.
- Provide guidance on administration of the CSS Graduate Programs.
- Lead the assessment process for the CSS Graduate Programs.
- Coordinate all activities related to recruitment of CSS graduate students.
- Develop and maintain recruiting materials, including web materials, as required.
- Review all student applications and, in conjunction with the department Chair and after consultation with appropriate CSS Graduate Faculty, determine the appropriate disposition of applications (acceptance or rejection) in a timely manner.
- Make recommendations regarding the use of departmental resources for providing financial support to graduate students, including assistantships, scholarships and awards.
- Regularly (at least annually) review the CSS graduate curriculum.
- Make recommendations to CSS Graduate Faculty regarding curricular revision. Such recommendations are forwarded to the department Chair to be presented to the Graduate Faculty for approval by majority vote.
- Prepare drafts of course or curricular change forms for revision and submission by the CSS department Chair.
- With approval by the CSS department Chair, other ad hoc committees may be appointed as needed. Changes to the existing Graduate Committee responsibilities must be approved by amendment of bylaws.

Department Chair

Dr. Lynne Carpenter-Boggs, Chair, lcboggs@wsu.edu

Graduate Coordinators

Crop Science

Dr. Kim Campbell, ITB 2076, 335-0582, kgcamp@wsu.edu
Dr. Mike Pumphrey, ITB 3043, 335-0509, m.pumphrey@wsu.edu

Soil Science

Dr. Markus Flury, R&E Center Puyallup, 253-445-4522, flury@wsu.edu
Dr. Joao Antonangelo, Clark 351, 335-4877, joao.antonangelo@wsu.edu

Academic Coordinators (CAHNRS Graduate Center)

Deb Marsh, remote, 335-2615, marshdj@wsu.edu
Lisa Lujan, remote, 335-9542, llujan@wsu.edu
Jill Staab, remote, 335 0691, jill.staab@wsu.edu

The academic coordinators are responsible for coordinating graduate admissions, student appointments, initial student orientation, graduate student records, forms processing, preliminary and final exam scheduling, as well as curriculum issues such as the catalog and time schedule. They are your first point of contact upon arrival, and should be your first point of contact thereafter regarding academic policies and procedures. In addition, all Graduate School forms must be routed through your Academic Coordinator.

Graduate Student Representatives

In addition to the major advisor and the Graduate Coordinator, CSS students are represented by an elected graduate student representative. The graduate student representative acts as a liaison with the faculty and attends all faculty meetings except those involving personnel matters. He/she will communicate student recommendations to the faculty and will serve as their advocate. These representatives are elected by the graduate students and are the representatives for one academic year.

CSS Statewide Locations

Department of Crop and Soil Sciences, WSU-Pullman http://css.wsu.edu
WSU Puyallup Research and Extension Center http://www.puyallup.wsu.edu/
WSU Prosser Research and Extension Center http://www.prosser.wsu.edu
WSU Mt. Vernon Research and Extension Center http://mtvernon.wsu.edu/

GENERAL INFORMATION

Access Center

The Access Center (https://accesscenter.wsu.edu/) provides accommodations and services to incoming and current WSU students with disabilities, psychological or medical conditions, or temporary injuries that limit their access to the WSU environment.

Address Change

You can update your address by going to http://my.wsu.edu/. Paychecks will not be forwarded. International students are required by SEVIS to update their address within 10 days of any move.

Child Care Center

Full- and part-time child care for 6 weeks to 12-year-old children; call 335-8847. Child Care Resource & Referral Services offers information to all center and family day care homes in Whitman County, call 335-7625, or visit The Children's Center, Room 108.

Compton Union Building (CUB)

Please visit their website for a list of amenities including wireless internet access, increased student meeting space, an upgraded and relocated home for the Student Book Corporation (Bookie), and a multitude of new vendors. Should you need further assistance, please call 335-8426.

Cougar Health Services

Health care concerns can be addressed through Cougar Health Services. Information on services, making appointments, pharmacy, health promotion, insurance, and more can be accessed online at Cougar Health Services.

Crisis Support and Mental Health Resources for WSU Graduate Students

The CAHNRS Graduate Center has prepared this guide, Mental Health Resources for WSU Graduate Students, to help assemble what's available for our Pullman graduate students, as well as our graduate students located state-wide.

Graduate Student Health Insurance

WSU offers health insurance to eligible graduate student assistants, and for international students holding F1 and J1 visas. Complete information regarding the health plans is provided on the Cougar Health Services website. Graduate assistants and international students will be automatically registered for the proper health plan. You are strongly advised to review the Cougar Health Services website to learn more about your plan.

Students who do not qualify as a dependent on another person's insurance and who are not eligible for one of WSU's plans can also purchase a plan through the Washington Health Benefit Exchange. If you meet certain financial criteria, you may be eligible for Apple Health (Washington Medicaid), which is accepted by Cougar Health Services at Pullman.

Email and List Serves

All correspondence regarding academic and business-related activities will be sent to your WSU e-mail address. This address will also be included in the CSS graduate student list serve upon your admission.

Establishing Residency

Because tuition is considerably less expensive for Washington residents than out-of-state students, you should take steps to establish residency within the first 30 days of arrival in Washington state. Please review Establishing Residency for more information and to ensure a successful residency application at the start of your third semester.

For students holding an assistantship, the non-resident domestic student will receive the non-resident differential tuition waiver for their first year of graduate studies, if living in WA state during enrollment at WSU. However, the non-resident differential tuition waiver cannot be guaranteed beyond one year. Students who have not established Washington State residency by the one-year limit will be required to pay non-resident tuition, even if they have an assistantship**.**

Graduate Writing Center

The Graduate Writing Center offers a number of services to graduate and professional students who would like help with writing. Whether you bring in a polished draft of a dissertation or a brand new cover letter for a job application, the GWC is able to help. The GWC offers individual face-to-face appointments as well as walk-in hours. The GWC works with students to help them learn to revise and edit their own writing.

Graduate and Professional Student Association

All graduate students in the university who are currently enrolled in 10 or more hours are members of the Graduate and Professional Student Association (GPSA). GPSA represents the concerns of graduate students within the university and nationally. The Crop Science graduate program and the Soil Science graduate program each have one representative to the GPSA Senate (the governing body for GPSA), who are elected each spring for the next year. Many of the important advisory committees within the university itself have voting positions for graduate students.

Greenhouses and Growth Chambers

The College of Agricultural, Human and Natural Resource Science (CAHNRS) Office or Research operates the Plant Growth Facility, a modern greenhouse complex for research on wheat and legumes, and other greenhouses along Grimes Way. Growth chambers are located in both sets of the greenhouses. To schedule greenhouse and growth chamber space, contact the greenhouse supervisor, Jessica Pestana Wiest, jes.pestana@wsu.edu, (509)335-5824. Greenhouse policies and regulations can be found online, along with the space request form. Greenhouse and growth chamber space is subject to charge and must be coordinated with the thesis or dissertation advisor. All people who use the greenhouses must take a Worker Protection Training course (about 1 hour) that is offered periodically by the greenhouse staff.

International Programs/SEVIS Information

The International Programs Office of International Students Services is located in Bryan Hall, phone (509) 335-4508, or email them at: ip.intlservices@wsu.edu. **Students are responsible for maintaining their legal status within the country**. If there are any changes to a student's I-20 (including gaining Permanent Residency), that student is responsible for reporting the change to the their Academic Coordinator,

All SEVIS information, including required entry and departure documents, is available through the International Programs office.

Keys and Card Access

To obtain keys for your office, labs, greenhouses, etc., see the CSS main office in Clark Hall, Rm 379.. There is no initial charge for the keys; however, in the event that they are lost or the student leaves the University without returning them, the student will be billed a $3.00 replacement fee per key. If the keys are not returned transcripts may be held by the Registrar's Office. Security is the responsibility of everyone, so please assume responsibility for locking your office and lab doors after regular hours. Access to Vogel and the Plant Growth Facility is through your WSU Cougar Card. Coordinate this access with your thesis or dissertation advisor and through the CSS main office staff.

Mail

Graduate students share mailboxes in Clark 271, marked A-Z for the first letter of your last (family) name. Please check this box regularly. Mail sent and received at the university should be official correspondence only. Personal mail should be sent to and from your private residence. Business

correspondence can be left in the CSS office for mailing. Letters and packages should not be stamped, and must have the correct departmental return address:

Department of Crop and Soil Sciences
Washington State University
PO Box 646420
Pullman, WA 99164-6420

Offices and Desks

Contact the CSS office for a desk and space assignment. Office space is limited, and you may have to wait for an opening.

Parking Regulations

Parking regulations are enforced every day, 24 hours a day, all year. If you have a car and intend to park on campus, you need to purchase a parking permit. You should also pick up and read the Parking Rules pamphlet. Permits and pamphlets are available at WSU Transportation Services located on the corner of Colorado and D Street. Phone: (509) 335-PARK.

Photocopying

The copy machine in the CSS office is to be used only for copying materials that are clearly related to a faculty research project, or to copy course materials for the course in which the student is a TA. Graduate students may not use the copy machine to copy any personal material such as classroom notes, term papers, books, theses, etc. When in doubt, consult your advisor. Copy machines available for personal use on campus are located at Cougar Copies in the CUB, WSU libraries, and the GPSA office.

Photo Identification Cards - Cougar Card

NOTE: This card is required to obtain access to the Vogel PBS building.

New students may obtain their Cougar Card in the Cougar Card Center located in the Compton Union Building (CUB), room 60. Returning students will continue to use their previously issued card. The Cougar Card Center is open from 8:00 a.m. to 5:00 p.m., Monday through Friday. A replacement fee is charged for replacement cards. For any information or to report lost or found ID cards, call 335-CARD or visit their website.

Purchasing

Prior authorization is required for all purchases. Contact the faculty member whose budget you will be using before buying anything. It is not appropriate to make a purchase and then later request a purchase order or reimbursement. Refer to the Business Center website for training and procedures. Most research supervisors maintain "blanket" purchase orders at WSU facilities (Central Stores, Chemical Stores, Surplus Stores, etc.) and service centers (Physical Plant, Technical Services, etc.).

Safety

Safety at WSU is regulated by the Washington State Department of Labor and Industries and the US Occupational Safety and Health Administration (OSHA), through the WSU Environmental Health and Safety (EHS) Office. A safe and healthy working environment at WSU is to be maintained at all times.

It is the responsibility of each graduate student to become familiar with safety policies and to follow safe procedures. Departmental policies and procedures regarding safety are detailed in the WSU Safety Policies and Procedures Manual (SPPM) available at the Office of Procedures, Records and Forms, while policies and procedures specific to individual labs are detailed in the Laboratory Safety Manual located in each lab. Information regarding physical and health hazards, entry routes, permissible exposure limits and precautions or controls for safe use, including emergency first aid procedures, and the name, address and telephone number of the chemical manufacturer or supplier for all chemicals is available on Safety Data Sheets (SDS) located in the individual labs in which the chemicals are used. EHS is also responsible for laboratory and workplace safety, public health and environmental issues, hazardous materials and wastes (except radioactive materials), and training. All disposals of hazardous chemical wastes must be made through EHS.

Radioisotope use is governed by the WSU Radiation Safety Office. Students using radioactive materials must complete online Radiation Safety Training prior to their use.

Greenhouse users on the Pullman campus must attend Worker Protection Standard Training. This jes.pestana@wsu.edu, 509-335-5824.

Students located at branch campuses or Research and Extension Centers should consult the safety committee and specific safety requirements at those locations. Many departmental employees have First Aid training. American Red Cross First Aid and CPR/AED classes are available to all graduate students through WSU University Recreation. Report all accidents and injuries, however minor, to your supervisor your local department administrative office immediately, and complete an electronic accident/illness Incident Report Form.

Student Care Network ***If you are concerned about a student***

> **Remember:** If someone poses an immediate threat to themselves or to others, call 911.

WSU's Student Care Network https://studentcare.wsu.edu is dedicated to supporting student success across the system through access to resources and early intervention. Each WSU location has a designated Student Care Team comprised of professionals who can recommend appropriate resources and services that can help students succeed.

> **Submitting a Care Referral (refer a student OR request support for yourself)**
>
> The Student Care Network can help when you have a concern about a student's well-being, behavior, academic performance, or access to financial, food, or housing assistance. Please submit a referral to your colleagues via the Student Care Network. Students can also use this form as a way to reach out for themselves or others. We will contact whoever submitted the form to gather additional information, talk about the situation, and identify the next steps. Reports may also be submitted anonymously.

Faculty and staff are often able to recognize when a student is struggling, but it can be hard to know what to say or do. Reference your campus guide for specific WSU and community resources to aid a student in distress: https://studentcare.wsu.edu/faculty-staff-resources/

Telephone

WSU telephones are available for local calls. Most graduate student offices have telephones or one can be found nearby. Students should consult their advisor or main office regarding authorization codes for long distance calls. In most cases, phones are restricted and an authorization code is required.

Travel

Students are strongly urged to attend professional meetings; however, the department has limited funds to pay travel expenses of students. Student travel on official business should be coordinated and approved by faculty advisors. Travel grants that are awarded on a competitive basis include the GPSA travel grant, if you are presenting a quality paper at a professional meeting, the Crop and Soil Sciences O.A. Vogel Washington State Crop Improvement Association Travel and Education Grant, and the Harry E. Goldsworthy Fund. Check with the CSS office about the availability of these departmental awards. Advisors may use grant or project monies to pay partial or full travel expenses for graduate students attending professional meetings. In addition, space may be available in University vehicles or some faculty members may share travel expenses. The department owns several vehicles available for official business and intended to provide low-cost transportation to local sites and businesses. WSU Motor Pool vehicles are another resource for approved business travel. The use of personal vehicles is an exception to policy and must be justified and approved in advance in order to receive compensation for personal vehicle use.

In all cases, travel arrangements should be made using the most economical accommodations available.

Please refer to the Business Center website **in advance** for travel training, procedures, and assistance..

International Travel Requirement

Your safety and security during your time abroad is important to us. The required International Travel Registry is an online registration system that provides WSU with a secure means of documenting international travel plans for undergraduate and graduate students participating in WSU related, **not-for-credit** activities—including graduate research while enrolled in research credits.

ACADEMIC INFORMATION

Academic Calendar

The Academic Calendar provides relevant deadlines for registration, fees, applications, enrollment, and exams.

Catalog of WSU Courses

The WSU Catalog is found only online. It is used by both prospective and enrolled students to inform them of the courses offered at WSU and the requirements for each degree. It also highlights faculty research interests.

Schedule of Classes

In addition to myWSU, the web version of the Schedule of Classes (SOC or Time Schedule) lists times and places for all courses offered each semester. Cooperative Courses at the University of Idaho

Students register for UI cooperative courses directly via a special non-degree cooperative course application to the University of Idaho. Students will enroll at the U of I, and a placeholder of '900' with associated credit will be applied in myWSU for the term. After grades are issued, the WSU registrar will arrange for the credit to be transferred to WSU (limited to 500-level courses in which a B or better is earned). UI COOP coursework follows the Graduate School's transfer credit policy (limited to 500-level COOP coursework, in which a B or better is earned, and does not affect the WSU GPA).

The WSU and UI Registrar's websites have links to the cooperative listings of both institutions for each term, as well as applications forms and cooperative course policy and procedures. The academic (and grading) policies of the teaching institution apply.

Tuition for UI cooperative courses will be covered by the student's WSU tuition if enrolled full-time. Students enrolling in UI courses that are not officially identified as cooperative will be responsible for any associated tuition and fees.

Graduate School Policies and Procedures (GSPP)

Referenced frequently, the Graduate School's Policies and Procedures manual serves as a guide to students, faculty and staff to insure that proper advising occurs leading to the completion of a graduate degree.

Enrollment and Graduate Leave Policies

See Chapter 5 of the *Graduate School Policies and Procedures Manual* for full details on enrollment and academic leave policies.

All full-time graduate students must register for a minimum of 10 credit hours each Fall and Spring semester, including at least one (1) research credit (CROP_SCI or SOIL_SCI 700, 702, or 800) to track the contributions of your major advisor. Full-time students on assistantship should maintain 10-12 credits to maximize their tuition waivers by enrolling in additional research credit. Part-time graduate students must register for a minimum of 2 credit hours and a maximum of 9 credit hours each Fall and Spring semesters. International graduate students with F-1 or J-1 visa status should consult with the Office of

International Students and Scholars for enrollment requirements, which in general requires the same enrollment level as full-time graduate students.

Apart from exceptions for **graduate leave** for personal reasons or **internship leave**, all MS and PhD students (prior to preliminary examination) are required by the Graduate School to be continuously enrolled in a minimum of 2 graduate credits each semester, excluding summer, until they have completed all of the degree requirements on their Program of Study. Doctoral Students who have taken their preliminary exams, have met all their program requirements except completion of their dissertation, and do not have the funding to register for graduate credits may be placed into **Continuous Doctoral Status** for a limited number of semesters. Doctoral students in Continuous Doctoral Status will be charged a small administrative fee and will have limited access to university resources. Graduate students who are not enrolled for a semester (except doctoral candidates in Continuous Doctoral Status) and have not received approval from the Graduate School for graduate leave or internship leave are subject to the Graduate School's re-enrollment policy and will owe additional fees.

Short-Term Pregnancy/Parental Leave

The Short-term Pregnancy/Parental Leave plan provides up to six consecutive weeks of leave for the period directly before or after the birth or adoption of a child. During this time, the student continues to be enrolled and maintains their status as a full-time student. Please refer to GSPP 5.A.7 for additional details and procedures. The related application form is located here.

Other Pregnancy/Parental Resources for Graduate Students:

- ASE - **Childcare Reimbursement** information page. Are you an Academic Student Employee (ASE) at WSU? Do you have children? Check out the childcare reimbursement page to get all the information you need in order to apply for a childcare subsidy!
- Resources for Students | Access at WSU | Washington State University]
- WSU Tri-Cities and area Community Resources
- Student health insurance (via WSU Cougar Health Services):
  Note: Dependent care insurance is available at an additional cost; that cost is the responsibility of the student
  - WSU graduate assistant health insurance benefits (for qualified domestic and international students on assistantship/fellowship)
  - WSU international student health insurance plan (ISHP) benefits
  - Washington Health Exchange (for all others needing insurance)

  Questions: contact student.insurance@wsu.edu or call 509-335-6758. Becky Meyer is the student insurance specialist.

Graduate Research/Special Projects/Examinations Credits

Non-thesis 702 Credits (Crop Science and Soil Science non-thesis degrees are permitted by exception only)

The 702 credit is Master's Special Problems, Directed Study, or Examination credit. Faculty should set course requirements for each semester that a student is enrolled in 702 credits and provide an S/U grade at the end of the semester based on the student's performance in meeting those requirements. Generally, students enroll in at least two credits of 702 in the semester in which they take their final examination or present their special project. In the event of exam failure, a U grade may be assigned for that semester's 702 credits. **Two U grades for 702 credits will lead to dismissal from the program.** In extenuating circumstances, faculty may use the X grade to indicate continuing progress toward completing those requirements. The X grade should be changed when the faculty member determines that the student has successfully met the requirements for that semester; the X grades should be changed by the faculty no

later than the last semester of study. For 702 credits before Fall 2013, only the S/F grades may replace the X grade. For 702 credits taken in fall 2013 and beyond, only the S/U grades may replace the X grade.

700/800-Level Research Credits

700-level credit is for students working on their master's research, thesis and/or examination. 800-level credit is for doctoral research, dissertation and/or examination. Credits are variable and grading is satisfactory/unsatisfactory (S/U). Credit is awarded for a grade of 'S'; no credit is awarded for a grade of 'U'. The S/U grade does not carry any quality points and is not calculated in the grade point average (GPA). **In the event of exam failure, a 'U' grade should be recorded for that semester's 700 or 800 credits. Two 'U' grades for 700 or 800 credits will lead to dismissal from the program.** Faculty should set requirements for each semester that a student is enrolled in research credits and provide an S/U grade at the end of the semester based on the student's performance in meeting those requirements. In extenuating circumstances, faculty may use the 'X' grade to indicate continuing progress toward completion of those requirements. The 'X' grade should be changed when the faculty member determines that the student has successfully met the requirements for that semester; the 'X' grades should be changed by the faculty no later than the semester of the final defense. Generally, students enroll in a minimum of 2 credits of the appropriate 700/800 level in the semester in which they take their final oral examination.

Credit Expectations Agreement

Because 700, 701, 702, or 800 credits are associated with students' work on research projects or special problems/directed study, a formal course syllabus is not required. However, credits for these courses are determined through a *Credit Expectation Agreement* between the student and their advisor based on the time commitment required for the specific research, project, or examination activities, in accordance with Academic Regulation 27. Students are still accountable for meeting the expectations set by the faculty overseeing their 700, 701, 702, or 800 work and for adhering to the standards of conduct and academic integrity required of all WSU students. Instructors (typically the major advisor) for 700, 701, 702, and 800 courses are assigned in myWSU and are responsible for submitting final grades.

Incomplete Grades

Students will have up to one year (unless a shorter time is specified by the instructor) to complete work for which they received an 'I' grade. After one year the 'I' grade will become an "F" if work is not completed.

Deficiency/Reinstatement

The Graduate School reviews records at the end of every semester to be sure students have a cumulative grade point average of at least 3.00.

When the cumulative GPA drops below 3.00, reinstatement is needed for continued enrollment. Such students will receive a letter of deficiency from the Graduate School indicating that continuance in graduate studies will not be allowed without a letter of support from the advisor and the Graduate Program Director (CSS Department Chair). Students must discuss plans to increase grades, to make adequate progress with their advisor, and a strong case for reinstatement should include reasons for the poor performance and a specific improvement plan. Once a favorable letter is sent to the Associate Vice Provost of the Graduate School for reinstatement, students will be sent a formal letter of reinstatement. If a student is not reinstated, the Graduate School will send a notice of termination.

Grievances

Differences of opinion between graduate students and their major advisors and/or committee members may arise in the course of a graduate degree. The informal complaint process includes:

1. Students and their faculty mentors are encouraged to communicate regularly and directly to resolve such differences.
2. The next level of involvement would be the respective CSS Faculty Graduate Coordinators and next would be the Department Chair (Graduate Program Director).
3. In the event that such communication does not resolve a concern, the graduate student may wish to speak with a Graduate School leadership team member for further advice.
4. The dean of the Graduate School and vice provost for graduate education or the vice provost's designee will review the complaint and recommend possible actions for resolution to the student, the chair or director (in the graduate program, department, or school), the college dean, or a faculty liaison.

An important role of the Graduate School is to serve as an impartial arbitrator in these matters and to provide guidance to both students and faculty with the intent of helping the student continue in good academic standing.

Full text and information on formal academic grievance procedures Chapter 12.6 of the *Graduate School Policies and Procedures Manual*.

Academic grievances are separate from employment grievances, detailed in Chapter 9 of the *Graduate School Policies and Procedures Manual*.

PROGRAM INFORMATION

Degree Options (General)

Master of Science (MS) Thesis Option

Because research is an integral part of science, most students complete the thesis degree program. The thesis describes a research project conducted by the student. The thesis typically has three sections: a background or literature review that sets the stage for the research; a section with one or more chapters describing the actual research and containing data and analysis; and a general conclusion. Each of these parts may be contained within each chapter of the thesis when the chapter is formatted as a publication. The thesis should be formatted in a style that is consistent throughout, according to Graduate School guidelines. The final exam is in two parts. The first is a seminar presenting the results of research project. This is a public presentation. The second part is an oral exam that focuses on defense of the research project.

Master of Science (MS) Non-Thesis Option

In a few instances, students may wish to obtain advanced knowledge but do not want to write a traditional research thesis. Such students may elect the non-thesis option. This option must be chosen within the first semester following enrollment and with consultation and approval of the faculty mentor(s). Students in this option are required to take more coursework than is required of students in the thesis option. Students in the non-thesis option must complete a project and final report in lieu of the thesis. The final report needs to be approved by the major advisor and committee before scheduling the final exam. The final oral exam will focus more on broad knowledge and less on project defense than would an exam for the thesis option. More details are provided in the 'Final Exam' section of this handbook.

Doctor of Philosophy (PhD)

The PhD degree is awarded in recognition of excellence in scholarship and for making an original contribution to the advancement of science in one's field. The degree is awarded for originality and creative scholarship rather than for an accumulation of academic credits.

The PhD program is separated into the "initial" period preceding the preliminary examination and the "candidate" period following the preliminary examination. During the initial period, the student acquires knowledge and skills needed for his/her research program. Most of the academic program is completed during the initial period. The preliminary exam should be completed during the fifth semester of the PhD degree program. After passing the preliminary examination, the candidate concentrates on research, including original research, and preparation of the dissertation. The final oral examination should reflect that students have developed into mature scientists, which includes the ability to conceive and design research projects, to critically evaluate the literature, to gain knowledge of acceptable scientific behavior, and to think and discern outside the area of the dissertation. More details are provided in the 'Major Examination' section of this handbook.

Graduate Committee/Program of Study

Graduate students are ultimately responsible for their own progress in the program and completion of the degree. Faculty shall provide mentoring, financial support (when available), facilities, and equipment. Additionally, faculty are responsible for regular communication with their graduate students and for evaluating students both annually and through required examinations. It is critical that both MS and PhD graduate students are self-motivated and responsible for making sure that their research progresses and program requirements are met in a timely manner. See Appendix for the student-authored Advisor "Check-in' Guide for initial communication with your advisor. Expectations for graduate students, advisors, and programs are listed in the Good Practices document available from the Graduate School, and also in the Appendix.

Major Advisor

The major advisor is the thesis or dissertation advisor and is the graduate student's primary contact for all matters related to the program of study and thesis/dissertation research. The major advisor assists in selecting the student's faculty advisory committee, developing a program of study, and advising the student while he/she writes the thesis or dissertation research proposal. The major advisor monitors the student's academic and professional growth, reviews program changes, and is responsible for writing the annual student review of progress. While the major advisor generally supports their advisees financially in the program, such funding is provided at the discretion of the major advisor. In the event the major advisor is unable to provide continued funding, the student shall be responsible for seeking funding from other sources. The major advisor serves as the committee chair. The major advisor must be a member of the faculty for that program.

If the major advisor is located at a Research and Extension Center, a *campus advisor* should be identified who will support the academic development of the student if/when that student resides on the Pullman campus for part of their program. If the student is conducting their research project at least partly on campus, then the campus advisor will be a co-advisor on the student's research with the major advisor. Although the major advisor is responsible for advising the student on experimental design, analysis and interpretation of data, and for reviewing initial drafts of theses/dissertations and papers, the student may be integrated into the campus advisor's research program. For those students whose research program focus is off-campus, the campus advisor will serve on the student's graduate advisory committee, answer day-to-day questions while the student is in Pullman and may invite the student to research group meetings, journal clubs, and similar activities.

Faculty Advisory Committee

All students have a thesis or dissertation faculty advisory committee. The roles of the Faculty Advisory Committee are listed below:

1. Meet at least once per academic year with the graduate student to assess performance and progress toward degree, and to propose goals for the upcoming year. (Students are encouraged to meet with their advisory committee members more regularly either individually or in small groups.)
2. Provide guidance and approval of the program of study.
3. Provide research guidance.
4. Administer the PhD preliminary exam.
5. Administer the final exam for MS and PhD students.
6. Review and approve the final thesis or dissertation.

The faculty advisory committee chair/co-chairs ensure that the student is making satisfactory progress towards a degree. The faculty advisory committee aids in developing the course program and provides guidance and expertise for the student's research. To ensure guidance in all aspects of their research, many students, especially PhD students, elect to have four or five faculty on their faculty advisory committee. In addition to advising the student, each committee member must read the thesis or dissertation, attend, and vote at the preliminary and final exam. Faculty advisory committee members often participate in the annual student evaluation. The department Chair must approve each faculty advisory committee.

The initial selection, or subsequent changes of a graduate student's faculty advisory committee, shall be determined jointly by the student and the student's major advisor and approved by the department Chair.

It is preferred that 'Crops' designated faculty and 'Soils' designated faculty serve as co-chair vs. sole chair when advising students in the other discipline.

CSS allows non-tenure track professionals internal to WSU (i.e. research, clinical, adjunct) and appointed as adjunct graduate faculty to act as co-chair or serve as member of the faculty advisory committee. Affiliate USDA–ARS researchers can act as major advisor but must co-chair the faculty advisory committee, per USDA-ARS Ethics regulations.

At a minimum, the MS committee must include at least three WSU faculty members and all members must hold a degree of comparable level to the degree sought by the student. At minimum, the committee must include one tenured/tenure track faculty member who is graduate faculty in your graduate program; the second member must be graduate faculty in your program, but is not required to be tenured/tenure track faculty; the third member can be from inside or outside your graduate program, does not need to hold graduate faculty status, and does not need to be tenured/tenure track faculty; the chair must be tenured or tenure track in the graduate program unless specified otherwise in the bylaws for your specific graduate program.

At a minimum, the PhD committee must include at least three WSU faculty members and all members must hold a doctoral degree. At minimum, the committee must have two tenured/tenure track faculty who are also members of the graduate faculty in your program; the third member must be graduate faculty in any WSU graduate program but is not required to be tenure/tenure track faculty. If the statistics minor is chosen, a statistics faculty member must be represented as the fourth committee member.

Experts outside of WSU and faculty from other institutions may serve on committees as a fourth member – you are required to attach a completed "External Committee Member" form when including someone outside of WSU as a committee member.

For any non-WSU committee member, or for any member who is not tenured/tenure track and is outside of your graduate program, please attach a vitae and include a rationale below to be reviewed for approval by the Dean of the Graduate School.

Advisory committees may have more than three members; however, all members must meet Graduate School policy and program bylaws**, and the majority of the advisory committee members must be graduate faculty in the program.**

Any exception to the composition noted above, or to program bylaws, requires a memo to the Graduate School requesting an exception to policy.

Preparing the Program of Study

Policies and procedures, deadlines, and the Program of Study forms are found on the Graduate School website.

The student works with the faculty advisory committee chair/co-chairs and other advisory committee members to develop the official program of study including a list of classes that have been and will be taken, and research that will be conducted. All students should become familiar with the Graduate School program of study requirements as outlined on the Graduate School website.

The POS should be submitted early in the second semester. It is the student's responsibility to have appropriate forms **typed**, proofread, and presented to the faculty advisory committee.

After the POS is developed, approved by the student's faculty advisory committee, and each member of the committee has signed, it is submitted to your Academic Coordinator. The Academic Coordinator will review the POS, obtain the Dept Chair's signature, and then submit the POS to the Graduate School. A copy is then provided to both the student and respective Graduate Coordinators. The Graduate School then reviews the POS and contacts the student and Academic Coordinator both regarding any problems.

Once any problems are resolved, the Dean of the Graduate school will approve the POS and send electronic notification to both the student and Academic Coordinator.

Once approved by the Graduate School, the program becomes official and students are required to take all courses listed on the POS. **Any course included in the advanced degree program in which a grade of 'C-' or less has been earned must be repeated for credit.** Students may choose to take additional courses not on the POS without the need to revise the POS.

Program/Committee Changes

Revisions to the Committee/POS are possible using a 'Change of Program' or 'Change of Committee' form available on the Graduate School website. These proposed changes must be approved by the faculty advisory committee, and the department Chair prior to submission to the Graduate School for final approval. Submit all forms to your Academic Coordinator for review, Chair signature and upload to the Graduate School for their review and approval.

Seminar Requirements

CSS Department Seminars

All graduate students and faculty are expected to attend and participate in CSS departmental seminars where guests may include invited external speakers, internal speakers, selected graduate student speakers, and industry speakers. Seminars are normally made available via videoconferencing to the Research and Extension Centers at Puyallup, Prosser, and Mt Vernon. It is highly recommended that students in other degree programs (such as Molecular Plant Sciences), who are advised by CSS faculty, also attend departmental seminars.

Proposal and Exit Seminars

All graduate students are expected to present a final exit seminar on their research. All Ph.D. students are expected to present a seminar on their dissertation research proposal topic. These seminars are open to the public. Refer to the prelim and/or final exam sections of the handbook for more details on scheduling these seminars. Students should also reach out with a personal invitation to individuals they would like to have attend and provide specific feedback on their seminar.

Required Courses

Research Presentation

All Crop Science and Soil Science graduate students are required to take the CSS Research Presentations course (Crop Sci/Soil Sci 506, 2 credits). This course is offered Spring term only and can be taken any time but preferably by the end of your third semester (and preferably by end of prelim term for doctoral students, to qualify for ABD waiver). This course will enhance professional development opportunities for students and cover a wide range of presentation modes.

Special Topics, Washington State Tour

To provide graduate students with an introduction and overview of the diverse agricultural systems in Washington and to acquaint students with our statewide WSU faculty, staff, and graduate students, all incoming Crop Science and Soil Science graduate students are required attend the Graduate Student Statewide Tour at their earliest opportunity. The tour occurs sometime during the summer break, usually in May. Participating students must enroll for one credit of Crop Sci 512 or Soil Sci 502 *Special Topics: Statewide Tour* in the Fall semester that immediately follows the tour, to coincide with a required written summary and group presentation. The instructor of the Statewide Tour course rotates among Crops, Soils and Horticulture faculty. The tour is optional for students completing a second graduate degree in Crop Science or Soil Science at WSU. Students should only take Statewide Tour once.

Science Writing Workshop

Required for Crop Science and Soil Science PhD students, Crop Sci/Entom/Soil Sci 511 (2 credits, Spring semester, graded) assists students to: 1) Learn how to research and identify grant funding and journal resources for submission of grants or manuscripts; 2) Learn about grant and manuscript structure and effective writing methods that help to "tell a story" to best convey research ideas and results; 3) Engage in peer mentored writing groups to outline, draft and review grant proposals/concept proposals, or manuscripts; and 4) Produce a polished draft of either a research proposal or manuscript for submission. Enrollment is open to students from other programs. M.S. students may also enroll. It is recommended that students enroll in their second semester or later so they have a project outlined prior to taking the course. **Related, the proposal should follow the Dissertation Proposal Format (see appendix.).**

Annual Review and Evaluations

The Graduate School requires an annual review of each graduate student. In CSS, this review includes performance and progress in the academic program (coursework), research, outputs (publications and presentations), TA performance (when applicable) and expectations for future performance. These reviews have to be completed and discussed by the student and the major advisor. It is recommended that the review is circulated to the student's faculty advisory committee. Teaching Assistants are also evaluated at the end of the semester by their students.

If a student's progress is deemed unsatisfactory in one or more dimensions of the review, the faculty advisory committee will be consulted to determine if graduate student status should be continued. The department Chair will notify the student in writing of the faculty advisory committee's recommendation and forward a copy of the report to the Graduate School.

Continuing for Another Degree

To continue for another degree, you should contact your Academic Coordinator and appropriate Graduate Program Coordinator. A form must be filed for any of the following situations:

- Completed MS and continuing for a PhD in the same department.
- Not completing a PhD and continuing for a MS in the same department.
- Not completing a graduate degree and continuing as an undergraduate.
- New Application: Continuing a graduate degree program in a different department.

MILESTONES FOR COMPLETION OF GRADUATE DEGREE

Milestone	MS Degree	PhD Degree
Committee identified and agrees to serve	End of first or early in second semester.	End of first or second semester.
Research Topic identified	End of first semester.	End of first semester.
Initial Committee Meeting, Program of Study approved by committee and submitted to Academic coordinator	Early in second semester (thesis). End of first semester (non-thesis).	Recommended in second semester, but no later than third semester.
Enroll in Crop Sci/Soil Sci 506, Research Presentations	By end of third semester (Spring only).	By end of third semester (Spring only).
PhD Proposal Seminar and defense.	Not applicable.	By the end of the third semester.
Enroll in Crop Sci/Soil Sci 511, Science Writing Workshop	Not required.	Fourth semester (Spring only).
Statewide tour Special Topic completed	During first year (Fall only).	During first or second year (Fall only).
Coursework completed	End of fourth semester.	End of fourth semester.
Oral Preliminary Exam completed (PhD students). Scheduling Form required; fully signed copy due 12 working days in advance of the exam to the Graduate School, via your Academic Coordinator	Not applicable.	Fourth or fifth semester.
Thesis/Dissertation Research completed	One semester prior to expected graduation.	One semester prior to expected graduation.
First draft of Thesis/Dissertation submitted to advisor	At end of semester prior to expected graduation.	At end of semester prior to expected graduation.
Notice of Intent to Graduate submitted to advisor, committee, and Academic Coordinator	No later than first week of semester in which student expects to graduate.	No later than first week of semester in which student expects to graduate.
Application for Degree filed with the Graduate School	No later than first week of semester in which student expects to graduate.	No later than first week of semester in which student expects to graduate.
First draft of Thesis/Dissertation submitted to committee	During second month of last semester.	During second month of last semester.
Committee and Advisor revisions incorporated into Thesis/Dissertation	During third month of last semester.	During third month of last semester.
Final draft of Thesis/Dissertation submitted to Committee (final draft required for scheduling form signatures)	Minimum 1 month prior to exam date.	Minimum 1 month prior to exam date.
Exit Seminar	Scheduled at completion of degree requirements near defense	Scheduled at completion of degree requirements near defense
Final Examination scheduling form with committee signatures submitted to your Academic Coordinator for Chair signature, simultaneous with e-copy of thesis/dissertation to the Graduate School (or ProQuest for PhD) and your Academic Coordinator (display copy)	Scheduling Form must be submitted 12 work-days prior to exam.	Scheduling Form must be submitted 12 work-days prior to exam.
Final Examination	See Graduate School Deadlines	See Graduate School Deadlines
Revisions to Thesis/Dissertation completed and submitted to Graduate School	Five working days after examination.	Five working days after examination.
Graduation	If on RA/TA, four to five semesters after beginning study.	If on RA/TA, 6 -10 semesters after beginning study (depending on whether student begins with BS or MS).

CROP SCIENCE DEGREE REQUIREMENTS

Recommended Areas of Competency

The advisor and thesis committee will discuss course expectations of incoming students on an individual basis. Entering students should have a solid B.S. level background in mathematics, chemistry, and the biological sciences. If it is determined that an incoming student is deficient in any of these areas, they may be asked to make up those deficiencies by taking or auditing courses or by doing extra reading.

Recommended Deficiency Coursework	Title	Cr	Sem	Offered
SOIL SCI 201	Soil Science: A Living System	3	F, S	every year
CROP SCI 202	Crop Growth and Development	4	S	every year
STAT 212	Introduction to Statistical Methods	4	F, S, SS	every year
CHEM 102	Chemistry Related to Life Sciences	4	S, SS	every year
CHEM 345	Organic Chemistry I	4	F, S, SS	every year
CHEM 346	Organic Chemistry II	3	F, S, SS	every year
BIOL 420	Introduction to Plant Physiology	3	F	every year
CROP SCI 411	Crop Environmental Interactions	3	F	every year
PI P 429	General Plant Pathology	3	F	every year
SOIL SCI 441	Soil Fertility	3	S	every year
CROP SCI 445 Or MBIOS 301	Plant Breeding General Genetics	4 4	S F, S, SS	every year every year

HIGHLY RECOMMENDED FOR CROPS MAJORS MS/PHD
BIOL 517 Stress Physiology of Plants (3) – Spring even years onlyeven years only years only
BIOL 519 Intro to Population Genetics (3) – Fall
BIOL 521 Quantitative Genetics (3) – Spring even years only
CROP SCI 512 Topics in Crop Science (V) – Fall/Spring
CROP SCI 503 Adv Cropping Systems (3) – Fall
CROP SCI 505 Adv Class & Molecular Breeding (3) – Fall odd years only
CROP SCI 545 Statistical Genomics (3) – Spring
CROP SCI 555 Epigenetics in Plants (2) – Fall odd years only
IPM 552 Pesticides and the Environment (3) – Spring
MPS 525 Plant Molecular Genetics (3) – Spring
PLP 521 General Mycology (3) – Fall
SOIL SCI 541 Soil-Plant Microbioal Interact (3) – Fall
STAT/AFS 511 Statistical methods for graduate researchers (4) – TBD
STAT 512 Analysis of Variance of Designed Experiments (3) – Fall/Spring
STAT 519 Applied Multivariate Analysis (3) – Fall
STAT 530 Applied Linear Models (3) – Spring

RECOMMENDED FOR SPECIFIC DISCIPLINES IN CROP SCIENCE FOR MS/PHD
AFS 501 Current Res Organic & Sustainable Ag (3) – Fall
AFS 545 Sustainable Food Sys (3) – Spring----------not currently taught
AFS 590 Soc of Ag & Food Sys (3) – Spring even years only
BIOL 504 Exp Methods in Plant Phys (3) - Fall
BIOL 509 Plant Anatomy (4) – Fall even years only
BIOL 513 Plant Metabolism (3) – Fall even years only
BIOL 534 Methods in Population Genomics (3) – Spring even years only
BIOL 537 Plant Cell Biology (3) – Spring
BIOL 566 Mathematical Genetics – Fall odd years only
BIOL 576 Epigenetics & Systems Biology (3) – Spring odd years only
BIOL 579 Mathematical Modeling in Biol (3) – Fall odd years only
CROPS 555 Epigenetics in Plants (2) – Fall even years only
E_MIC 586 Projects Electron Microscopy (2-3) – Fall

E_MIC 587 Topics in Electron Microscopy (1) – Fall (S/F grading)
ENTOM 555 Agri Chemical Technology (3) – Fall
H_D 505 Developing Effective Leadership (2) – Spring
HORT 516 Adv Horticultural Crop Physio (3) – Spring
HORT 521 Fruit Crops Management (3) – Spring even years only
HORT 550 Bioinformatics for Research (4) – Spring
MBIOS 503 Adv Molecular Biology I (3) – Fall
MBIOS 578 Bioinformatics (3) - Fall
MBOIOS 513 General Biochemistry (3) – Fall
PLP 521 General Mycology (3) – Fall
PLP 525 Field Plant Pathology & Mycology (3) – Summer even years only Yrs only
PLP 535 Mol Genes Plant & Pathogen (3) – Spring even years only
PLP 551 Epidemiology and Mgmt Plant Dis (3) – Spring even years only
PLP 570 Techniques in Plant Pathology (3) – Fall
SOIL SCI 514 Environmental Biophysics (2) – Spring
SOIL SCI 515 Environmental Biophysics Lab (1) - Spring
SOIL SCI 531 Soil Microbiology (3) – Fall even years only
SOIL SCI 541 Soil-Plant Microbioal Interact (3) – Spring even years only
SOIL SCI 568 GIS Spatial Analysis (4) – Spring odd years only
STAT 520 Statistical Analysis Qual Data (3) – Fall even years only
STAT 565 Analy Microarray & Genom Data – Fall even years only
STAT 574 Linear & Nonlinear Mixed Models (3) - Fall

BACKGROUND COURSES NEEDED FOR CROP SCIENCE GRADUATE STUDENTS
BIOL 301 General Genetics Spring
CROP SCI//HORT 202 Crop Growth and Development Fall/Spring
CROP SCI 305 Ecology & Mgmt of Weeds (3) – Fall
CROP SCI 411 Crop Env Interactions (3) – Fall
CROP SCI 445 Plant Breeding (4) – Spring even years only
ENTOM 351 Ecol & Integrated Pest Mgt (3) – Spring
HORT 480 Plant Genomics and Biotechnology (3) – Fall even years only
MBIOS 303 Introductory Biochemistry (4) – Fall/Spring
MBIOS 413 General Biochemistry (3) Fall
PLP 429 – General Plant Pathology (3) - Fall
SOIL SCI 201 [BSCI] Soil: A Living System Fall/Spring
SOIL SCI 441 Soil Fertility Spring
SOIL SCI 443 [M] Soil Management for Sustainable and Organic Farming Systems Fall
STAT 212 Introduction to Statistical Methods Fall/Spring

Crop Science MS Course Requirements

Thesis Master's Degree

- 30 hours minimum of total credits
- 21 hours minimum of graded (A-F) coursework:
  - 15 hours minimum from graded (A-F) graduate level (500-level) courses
  - may include up to 6 hours of undergraduate 300-400 level graded (A-F) WSU/UI Coop courses taken during graduate career
  - **Required coursework:**
    - Crop Sci 506: Research Presentations, 2 credits (Spring only)
    - Crop Sci 512 Special Topics: Statewide Tour, 1 credit (Fall only)
- 4 hours minimum of 700-level credit in the major, 2 of which must be taken in the semester of the final exam and/or thesis completion
- Any course graded S./F may not be used as graded coursework.
- Courses for audit and courses graded Pass/Fail may not be used on the Program of Study.

Non-Thesis Master's Degree

- 30 hours minimum of total credits
- 26 hours minimum of graded (A-F) coursework:
    - 15 hours minimum from graded (A-F) graduate level (500-level) courses
    - may include up to 9 hours of undergraduate 300-400 level graded (A-F) WSU/UI Coop courses taken during graduate career
    - **Required coursework:**
        - Crop Sci 506: Research Presentations, 2 credits (Spring only)
        - Crop Sci 512 Special Topics: Statewide Tour, 1 credit (Fall only)
- 4 hours minimum of 702-level credit in the major, 2 of which must be taken in the semester of the final exam and/or thesis completion
- Any course graded S./F may not be used as graded coursework.
- Courses for audit and courses graded Pass/Fail may not be used on the Program of Study.

Crop Science PhD Course Requirements

- 72 hours minimum of total credits
- 15 hours minimum from graded (A-F) graduate level (500-level) courses
    - **Required coursework not included in the 15 hours minimum noted above:**
        - Crop Sci 506: Research Presentations, 2 credits (Spring only)
        - Crop Sci 512 Special Topics: Statewide Tour, 1 credit (Fall only)
        - Crop Sci 511 Science Writing Workshop, 2 credits (Spring only)
- May include up to 6 hours of undergraduate 300-400 level graded (A-F) WSU/UI Coop courses taken during graduate career
- 20 hours minimum of 800-level credit in the major, 2 of which must be taken in the semester of the preliminary exam, as well as final exam and/or thesis completion
- Any course graded S./F may not be used as graded coursework.
- Courses for audit and courses graded Pass/Fail may not be used on the Program of Study.

Crop Science PhD Teaching Experience Requirement

An educational delivery experience equal or equivalent to a semester teaching assistantship is required. Equivalent experience can include lecturing in a course multiple times, extension program delivery, course development or revision, and/or assistance with education courses.

Crop Science PhD Proposal and Preliminary Doctoral Examination

The PhD proposal and oral preliminary examination is an evaluation to determine if a student is qualified to be admitted into candidacy for the PhD degree. The proposal and preliminary exam assess knowledge of crop science, ability to think critically and independently, and ability to conduct independent research (form hypotheses, design experiments, collect and analyze data, put the research in context of the current state of knowledge, and draw conclusions).

PhD Proposal and PhD preliminary examination consist of three parts as described below: 1) a written proposal on the dissertation research; 2) defense of that proposal to the faculty advisory committee; and 3) an oral preliminary exam.

1. The PhD student must write a proposal on his or her research project. The proposal should evidence the student's understanding and critical evaluation of the research topic. The proposal must be an original document written by the student, but with input from the advisory committee, and cannot be taken from a previously written proposal. The research proposal should be initiated no later than the second semester into the PhD program and presented to the student's faculty advisory committee no later than the end of the third semester**. The proposal should follow the Dissertation Proposal Format (see appendix.).** Crops/Soils 511, offered in spring semester, is

a support course for proposal development and other scientific writing. Specific details of the format should be discussed with the major advisor and the faculty advisory committee. The proposal will not be graded.

2. The Ph.D. proposal presentation and defense is the first part of the Ph.D. preliminary exam; it is not scheduled with the WSU Graduate School.

   This presentation should cover the proposed research and be scheduled the day of the final proposal defense, immediately prior to the proposal defense. Recommended presentation length is 25 minutes with 5 minutes of questions. The proposal presentation is a public event. Students should also reach out with a personal invitation to individuals they would like to have attend and provide specific feedback on their seminar. All faculty and students, regardless of discipline, are encouraged to attend. Audience members may be allowed to ask questions, but such questioning should not unduly influence the proposal defense outcome.

   At the conclusion of the proposal defense presentation, a separate proposal defense will be held with only members of the advisory committee and CSS graduate faculty in attendance and asking examination questions. The examination portion of the proposal defense should not exceed two-and-one-half hours. If any advisory committee members, or graduate faculty intending to vote, must leave the room or the online session during the examination or balloting discussion, the examination or discussion must be recessed until the faculty member returns.

   Students are responsible to schedule the date/time of the proposal presentation and defense with their committee, and reserve rooms accordingly. Related ZOOM arrangements must be scheduled by the advisor. This will ensure that the advisor has full host ability to manage/secure the meeting. The student must prepare and arrange a department pdf announcement (flyer) for the proposal presentation and defense at least 10 working days in advance which includes all pertinent information and may also include a project summary. Send this to your Academic Coordinator (Deb Marsh) for distribution to the CSS list serves.

   The proposal is subject to the approval of the committee. Documentation of completion of the proposal defense requirement will be through the Crops/Soils graduate program assessment rubric (upon request to the Academic Coordinator, the Qualtrics link will be sent to the advisor to share with the committee). When a student satisfactorily passes the proposal defense, he/she will be qualified to take the oral preliminary examination.

3. The oral preliminary examination, the official Washington State University examination for advancement to PhD candidacy, must be scheduled with the Graduate School Preliminary Exam Scheduling Form. The oral examination should be scheduled in the fourth or fifth, non-summer semester of enrollment. The purpose of the oral preliminary exam is to allow faculty to have the opportunity to probe the depth of a student's knowledge of the whole field of Crop Science and the ability of the student to think critically and independently. The doctoral major advisor and faculty advisory committee will administer the preliminary doctoral exam.

All members of the student's faculty advisory committee must participate in all three parts described above, complete the assessment rubrics, and vote (for the oral proposal defense and preliminary exam). Any other members of the CSS graduate faculty may be present and may vote. Any faculty member who votes has to remain present for the entire duration of the exam. The examiners may pause the exam at any time to give a member time to leave the room and return. To pass the oral defense and the oral exam, the student has to receive a minimum of three-fourths passing votes from the voting faculty. Related ZOOM arrangements must be scheduled by the advisor. This will ensure that the advisor has full host ability to manage/secure the meeting.

A student who fails any of the three components described above will be given the opportunity to retake that part. A student who fails any component the second time is terminated from the graduate program. See the Graduate School website for policies.

Crop Science Final Oral Exam for M.S. thesis, M.S. non-thesis, and Ph.D.

After preliminary approval of the thesis/non-thesis project report/dissertation by the faculty advisory committee and department chair, and approval of the schedule by the faculty advisory committee, the final exam can be scheduled through the Graduate School (see the **Preparing to Graduate** section of this handbook).

The student will give their thesis/non-thesis/dissertation exit seminar. This seminar will be open to all faculty, students, and the public. If the defense date is more than two weeks after the seminar, the student should plan to give an additional short presentation to their committee prior to their defense.

The thesis/dissertation defense is an oral exam at which the student defends the background, approach, methods, interpretation, conclusions, etc., of the research. The M.S. non-thesis defense will focus on broad knowledge and less on project defense than would an exam for the M.S. thesis option. Faculty are encouraged to attend the exam and ask questions, but only members of the Faculty advisory committee thesis and CSS graduate faculty may vote. Any faculty member who votes has to remain present for the entire duration of the exam. The examiners may pause the exam at any time to give a member time to leave the room and return. To pass the oral defense, PhD students have to receive a minimum of three-fourths passing votes from the voting faculty, MS students need two-thirds passing votes up to 8 examiners (then three-fourths passing votes if more than 8 examiners).

Questions asked during the final exam are not limited to the thesis or dissertation research.

SOIL SCIENCE DEGREE REQUIREMENTS

Recommended Areas of Competency

To the extent possible, Soil Science graduate students should be knowledgeable in all five sub-disciplinary areas of Soils (chemistry, fertility, morphology, biology, and physics). However, because many students entering graduate school have received their BS and/or MS degrees from an area outside of Soil Science, it is sometimes not possible to take a graded course in each of these five areas as part of the graduate degree. Soil Science Faculty strongly recommend that a graded Soil Science course be taken in a minimum of three of the five sub-disciplinary areas in Soil Science. These courses can be obtained at any time during their educational career.

Special Soils Course Descriptions

Soils 502 – Advanced Topics

All graduate students in Soil Science are encouraged to enroll and to participate in this course. Sections of this course are designed to acquaint you with the literature in Soil Science. The course is organized on an informal basis by subject matter areas, with each area being the responsibility of a faculty member who specializes in that area. You may register and repeat this course for up to six credit hours, but not more than three credits per semester.

Soils 503 – Advanced Soil Analysis

Courses ranging from one to three credits are offered on specialized topics relating to instrumentation and soil analysis. Topics include site selection and characterization, flame emission and absorption, organic matter analysis, electronics, fluorescent antibody techniques, elemental analysis, microcomputer software, tracer techniques, N-15 mass spectrometry, and others. Students may develop an independent study course in consultation with their advisors and the graduate coordinator. The course should involve mastering the use of instruments or techniques, or developing new methodologies applied to research in soil science.

Soils 505 – Teaching Practicum

All Soil Science PhD degree candidates are <u>required</u> to enroll in Teaching Practicum (Soils 505) at least once prior to graduating. This course awards credit for serving as a Teaching Assistant (TA) in a course. Foreign TAs must pass an English Proficiency Exam, which tests communication skills in English, prior to engaging as a TA and taking the Practicum. The type of teaching experience obtained depends upon several factors, including the nature of the course, the capabilities of the student, and the needs of the instructor. Experience could include lecturing in a lecture, discussion or laboratory section, preparing and grading exams or homework, or organizing laboratory or discussion sessions.

Soil Science Master's Degree (MS)

The MS in Soils is awarded to graduate students for substantial scholarly achievement beyond the baccalaureate degree. To earn this degree, a student is expected to demonstrate in-depth knowledge of a basic subject matter area in Soil Science and research competence in the form of a thesis or competence in the application of soil science in the form of a special project (non-thesis option). For both options, the student must demonstrate skill in critical thinking, scholarship, and written and oral communication through course work, the seminar course, and the thesis or project final report and examination. Both thesis and non-thesis options require the student to form a committee, develop a program of study and meet other requirements and timelines established in the aforementioned Milestones table. Students in the non-thesis option will have lower priority for state-funded assistantships and will generally be expected to self-fund their program.

MS Soil Science Suggested Course Options	Title	Cr	Sem	Offered
CROP SCI 503	Advanced Cropping Systems	3	F	every year
STAT 512	Analysis of Variance of Designed Exp.	3	F, S, SS	every year
SOIL SCI 368	Intro to GIS	3	F	every year
SOIL SCI 502	Advanced Topics in Soils	1-3	F, S, SS	every year
SOIL SCI 503	Advanced Soil Analysis	1-3	F, S, SS	every year
SOIL SCI 505	Teaching Practicum	1	F, S	every year
SOIL SCI 513	Environmental Soil Physics	3	F	odd year
SOIL SCI 533	Vadose Zone Processes	2	F	even year
SOIL SCI 514	Environmental Biophysics	2	S	every year
SOIL SCI 515	Environmental Biophysics Laboratory	1	S	every year
UI COOP SOIL 526	Soil Mineralogy	3	SE	every year
SOIL SCI 531	Soil Microbiology	3	FE	even year
UI COOP SOIL 537	Soil Biochemistry	3	FO	every year
SOIL SCI 541	Soil-Plant-Microbial Interactions	3	F	odd year
SOIL SCI 547 (online)	Soil Fertility Management	3	F	even year
SOIL SCI 568	ArcGIS and Spatial Analysis	4	S	every year

Soil Science MS Course Requirements

Thesis Master's Degree

- 30 hours minimum of total credits
- 21 hours minimum of graded (A-F) coursework:
    - 15 hours minimum from graded (A-F) graduate level (500-level) courses
    - may include up to 6 hours of undergraduate 300-400 level graded (A-F) WSU/UI Coop courses taken during graduate career
    - **Required coursework:**
        - Soil Sci 506: Research Presentations, 2 credits (Spring only)
        - Soil Sci 502 Special Topics: Statewide Tour, 1 credit (Fall only)
- 4 hours minimum of 700-level credit in the major, 2 of which must be taken in the semester of the final exam and/or thesis completion
- Any course graded S./F may not be used as graded coursework.
- Courses for audit and courses graded Pass/Fail may not be used on the Program of Study.

Non-Thesis Master's Degree

- 30 hours minimum of total credits
- 26 hours minimum of graded (A-F) coursework:
    - 15 hours minimum from graded (A-F) graduate level (500-level) courses
    - may include up to 9 hours of undergraduate 300-400 level graded (A-F) WSU/UI Coop courses taken during graduate career
    - **Required coursework:**
        - Soil Sci 506: Research Presentations, 2 credits (Spring only)
        - Soil Sci 502 Special Topics: Statewide Tour, 1 credit (Fall only)
- 4 hours minimum of 702-level credit in the major, 2 of which must be taken in the semester of the final exam and/or thesis completion
- Any course graded S./F may not be used as graded coursework.
- Courses for audit and courses graded Pass/Fail may not be used on the Program of Study.

Soil Science PhD Course Requirements

- 72 hours minimum of total credits
- 15 hours minimum from graded (A-F) graduate level (500-level) courses
    - **Required coursework not included in the 15 hours minimum noted above:**
        - Soil Sci 506: Research Presentations, 2 credits (Spring only)
        - Soil Sci 502 Special Topics: Statewide Tour, 1 credit (Fall only)
        - Soil Sci 511 Science Writing Workshop, 2 credits (Spring only)
        - Soil Sci 505 Teaching Practicum, 1 credit (S/F)
- May include up to 6 hours of undergraduate 300-400 level graded (A-F) WSU/UI Coop courses taken during graduate career
- 20 hours minimum of 800-level credit in the major, 2 of which must be taken in the semester of the preliminary exam, as well as final exam and/or thesis completion
- Any course graded S./F may not be used as graded coursework.
- Courses for audit and courses graded Pass/Fail may not be used on the Program of Study.

Soil Science Recommended Coursework

Soil Classification & Genesis	Title	Cr	Sem	Offered
SOIL SCI 368	Intro to GIS	3	F	every year
SOIL SCI 374	Intro to Remote Sensing	3	S	every year
SOIL SCI 452	The Landscape of Soil	3	F	even year
SOIL SCI 508	Environmental Spatial Statistics	3	S	every year
SOIL SCI 513	Environmental Soil Physics	3	F	odd year
SOIL SCI 514	Environmental Biophysics	2	S	every year
SOIL SCI 515	Environmental Biophysics Laboratory	1	S	every year
UI COOP SOIL 526	Soil Mineralogy	3	S	even year
SOIL SCI 531	Soil Microbiology	3	S	odd year
SOIL SCI 541	Soil-Plant-Microbial Interactions	3	S	even year
UI COOP SOIL 557	Advanced Soil Genesis and Classification	3	F	odd year
SOIL SCI 568	ArcGIS and Spatial Analysis	4	S	every year
STAT 512	Analysis of Var. of Designed Exp.	3	S, F, SS	every year

Soil Chemistry	Title	Cr	Sem	Offered
BSYSE 558	Groundwater Flow and Contaminant Transport	4	F	every year
CH E 585	Interfacial Phenomena	3	S	every year
CHEM 501	Advanced Inorganic Chemistry	3	S	every year
E MIC 586	Special Projects in Electron Microscopy	V 2-3	F, S	every year
GEOL 579	Groundwater Geochemistry	3	S	odd year
UI COOP SOIL 422	Environmental Soil Chemistry	3	S	even year
SOIL SCI 502	Advanced Topics	V 2-4	F, S, SS	every year
SOIL SCI 503	Advanced Soil Analysis	V	F, S, SS	every year
SOIL SCI 513	Environmental Soil Physics	3	F	odd year
SOIL SCI 521	Physical Soil Chemistry	3	S	odd year
UI COOP SOIL 526	Soil Mineralogy	3	S	even year
SOIL SCI 531	Soil Microbiology	3	S	odd year
SOIL SCI 533	Vadose Zone Processes	2	F	even year
SOIL SCI 541	Soil-Plant-Microbial Interactions	3	S	even year
STAT 512	Analysis of Var. of Designed Exp.	3	S, F, SS	every year

Soil Fertility	Title	Cr	Sem	Offered
BIOL 513	Plant Metabolism	3	F	even years
BIOL 517	Stress Physiology of Plants	3	S	even years
BSYSE 558	Groundwater Flow and Contaminant Transport	4	F	every year
CROP SCI 503	Advanced Cropping Systems	3	F	every year
SOIL SCI 468	ArcGIS and Geospatial Analysis	4	S	every year
SOIL SCI 513	Environmental Soil Physics	3	F	odd year
SOIL SCI 514	Environmental Biophysics	2	S	every year
SOIL SCI 515	Environmental Biophysics Laboratory	1	S	every year
SOIL SCI 531	Soil Microbiology	3	S	odd year

SOIL SCI 541	Soil-Plant-Microbial Interactions	3	S	even year
SOIL SCI 547 (online)	Advance Soil Fertility Management	3	F	even year
STAT 512	Analysis of Variance of Designed Exp.	3	F, S, SS	every year

Soil Physics	**Title**	**Cr**	**Sem**	**Offered**
BSYSE 558	Groundwater Flow and Contaminant Transport	4	F	every year
C E 550	Hydroclimatology	3	F	every year
CE 315	Fluid Mechanics	3	F, S	every year
CH E 585	Interfacial Phenomena	3	S	every year
E MIC 586	Special Projects in Electron Microscopy	V 2-3	F, S	every year
MATH 548	Numerical Analysis	3	F, S, SS	every year
SOIL SCI 442	Soil Fertility Lab	1	S	every year
SOIL SCI 513	Environmental Soil Physics	3	F	odd year
SOIL SCI 514	Environmental Biophysics	2	S	every year
SOIL SCI 515	Environmental Biophysics Laboratory	1	S	every year
SOIL SCI 521	Physical Soil Chemistry	3	S	odd year
SOIL SCI 531	Soil Microbiology	3	S	odd year
SOIL SCI 533	Vadose Zone Processes	2	F	even year
STAT 512	Analysis of Var. of Designed Exp.	3	S, F, SS	every year

Soil Microbiology & Biochemistry	**Title**	**Cr**	**Sem**	**Offered**
BIOL (Bot) 563	Field Ecology	2	S	even year
BIOL 548	Evolutionary Ecology of Populations	3	S	odd year
BIOL 564	Molecular Ecology and Phylogeography	3	F	even year
CHEM 332	Physical Chemistry	3	S	every year
CHEM 345	Organic Chemistry I	4	F, S, SS	every year
E MIC 586	Special Projects in Electron Microscopy	V 2-3	F, S	every year
MBIOS 301	General Genetics	4	F, S, SS	every year
MBIOS 303	Introductory Biochemistry	4	F, S, SS	every year
MBIOS 426	Microbial Genetics	3	F	every year
MBIOS 442	General Virology	3	S	every year
MBIOS 501	Cell Biology	3	S	every year
MBIOS 513	General Biochemistry	3	F	every year
MBIOS 514	General Biochemistry	3	S	every year
MBIOS 550	Basic & Applied Microbial Physiology	3	S	every year
MBIOS 578	Molecular Biology Computer Techniques	3	F, S, SS	
SOIL SCI 513	Environmental Soil Physics	3	F, S, SS	odd year
SOIL SCI 514	Environmental Biophysics	2	S	every year
SOIL SCI 515	Environmental Biophysics Laboratory	1	S	every year
SOIL SCI 521	Physical Soil Chemistry	3	S	odd year
SOIL SCI 531	Soil Microbiology	3	S	odd year
UI COOP SOIl 537	Soil Biochemistry	3	F	odd year
SOIL SCI 541	Soil-Plant-Microbial Interactions	3	S	even year
STAT 512	Analysis of Variance of Designed Exp.	3	F, S, SS	every year

Soil Science PhD Proposal and PhD Preliminary Examination

The PhD proposal and oral preliminary examination is an evaluation to determine if a student is qualified to be admitted into candidacy for the PhD degree. The proposal and preliminary exam assess knowledge of crop science, ability to think critically and independently, and ability to conduct independent research (form hypotheses, design experiments, collect and analyze data, put the research in context of the current state of knowledge, and draw conclusions).

PhD Proposal and PhD preliminary examination consist of three parts as described below: 1) a written proposal on the dissertation research; 2) defense of that proposal to the faculty advisory committee; and 3) an oral preliminary exam.

1. The PhD student must write a proposal on his or her research project. The proposal should evidence the student's understanding and critical evaluation of the research topic. The proposal must be an original document written by the student, but with input from the advisory committee, and cannot be taken from a previously written proposal. The research proposal should be initiated no later than the second semester into the PhD program and presented to the student's faculty advisory committee no later than the end of the third semester. **The proposal should follow the Dissertation Proposal Format (see appendix.).** Crops/Soils 511, offered in spring semester, is a support course for proposal development and other scientific writing. Specific details of the format should be discussed with the major advisor and the faculty advisory committee. The proposal will not be graded.

2. The Ph.D. proposal presentation and defense is the first part of the Ph.D. preliminary exam; it is not scheduled with the WSU Graduate School.

   This presentation should cover the proposed research and be scheduled the day of the final proposal defense, immediately prior to the defense. Recommended presentation length is 25 minutes with 5 minutes of questions. The proposal presentation is a public event. All faculty and students, regardless of discipline, are encouraged to attend. Audience members may be allowed to ask questions, but such questioning should not unduly influence the proposal defense outcome.

   At the conclusion of the proposal defense presentation, a separate proposal defense will be held with only members of the advisory committee and CSS graduate faculty in attendance and asking examination questions. The examination portion of the proposal defense should not exceed two-and-one-half hours. If any advisory committee members, or graduate faculty intending to vote, must leave the room or the online session during the examination or balloting discussion, the examination or discussion must be recessed until the faculty member returns.

   Students are responsible to schedule the date/time of the proposal presentation and defense with their committee, and reserve rooms accordingly. Related ZOOM arrangements must be scheduled by the advisor. This will ensure that the advisor has full host ability to manage/secure the meeting. The student must prepare and arrange a department pdf announcement (flyer) for the proposal presentation and defense at least 10 working days in advance which includes all pertinent information and may also include a project summary. Send this to your Academic Coordinator (Deb Marsh) for distribution to the CSS list serves.

   The proposal is subject to the approval of the committee. Documentation of completion of the proposal defense requirement will be through the Crops/Soils graduate program assessment rubric (upon request to the Academic Coordinator, the Qualtrics link will be sent to the advisor to share with the committee). When a student satisfactorily passes the proposal defense, he/she will be qualified to take the oral preliminary examination.

3. The oral preliminary examination, the official Washington State University examination for advancement to PhD candidacy, must be scheduled with the Graduate School Preliminary Exam Scheduling Form. The oral examination should be scheduled in the fourth or fifth, non-summer semester of enrollment. The purpose of the oral preliminary exam is to allow faculty to have the opportunity to probe the depth of a student's knowledge of the whole field of Crop Science and the ability of the student to think critically and independently. The doctoral major advisor and faculty advisory committee will administer the preliminary doctoral exam. Related ZOOM arrangements must be scheduled by the advisor. This will ensure that the advisor has full host ability to manage/secure the meeting.

All members of the student's faculty advisory committee must participate in all three parts described above, complete the assessment rubrics (Qualtrics link will be sent to the advisor to share with the committee), and vote (for the oral proposal defense and preliminary exam). Any other members of the CSS graduate faculty may be present and may vote. Any faculty member who votes has to remain

present for the entire duration of the exam. The examiners may pause the exam at any time to give a member time to leave the room and return. To pass the oral defense and the oral exam, the student has to receive a minimum of three-fourths passing votes from the voting faculty.

A student who fails any of the three components described above will be given the opportunity to retake that part. A student who fails any component the second time is terminated from the graduate program. See the Graduate School website for policies.

Soil Science Final Oral Exam for M.S. thesis, M.S. non-thesis, and Ph.D.

After preliminary approval of the thesis/non-thesis project report/dissertation by the faculty advisory committee and department chair, and approval of the schedule by the faculty advisory committee, the final exam can be scheduled through the Graduate School (see the **Preparing to Graduate** section of this handbook).

The student will give their thesis/non-thesis/dissertation exit seminar. This seminar will be open to all faculty, students, and the public. If the defense date is more than two weeks after the seminar, the student should plan to give an additional short presentation to their committee prior to their defense.

The thesis/dissertation defense is an oral exam at which the student defends the background, approach, methods, interpretation, conclusions, etc., of the research. A M.S. non-thesis defense will focus on broad knowledge and less on project defense than would an exam for the M.S. thesis option. Faculty are encouraged to attend the exam and ask questions, but only members of the Faculty advisory committee thesis and CSS graduate faculty may vote. Any faculty member who votes has to remain present for the entire duration of the exam. The examiners may pause the exam at any time to give a member time to leave the room and return. To pass the oral defense, PhD students have to receive a minimum of three-fourths passing votes from the voting faculty, MS students need two-thirds passing votes up to 8 examiners (then three-fourths passing votes if more than 8 examiners).

Questions asked during the final exam are not limited to the thesis or dissertation research.

THESIS/DISSERTATION (AND PROPOSAL) GUIDELINES

Thesis/Dissertation Proposal

All students are expected to develop and carry out original, creative research projects. While the advisor and committee members serve as mentors, the student is expected to develop and demonstrate the ability to work independently; to design, conduct, and analyze experiments; and to prepare the work for publication in scientific journals. Doctoral students need to develop a dissertation proposal after consultation with their major advisor and faculty advisory committee. See the appendix for proposal format guidelines. This proposal forms the basis for the thesis/dissertation research.

Thesis or dissertation preparation involves synthesizing concepts by interpreting experimental and analytical data that are gathered for that purpose. It constitutes a major part of the creative scholarship in a master's or doctoral program. Experience in preparing and writing a research publication, as well as the peer-review process, are important goals of graduate programs.

General Thesis/Dissertation Format

All Doctoral programs and the Masters-Thesis option require that a candidate prepare a written document of their work (thesis or dissertation). The thesis or dissertation is a scholarly, original work that represents a significant contribution to the knowledge base of the chosen discipline. The chapters describing research results should be written as papers for publication. For the thesis or dissertation, the papers should clearly reflect the work of the student. This is especially necessary when thesis/dissertation chapters will be submitted for publication with multiple authors. If student is not first author, the paper cannot be used or must be revised to reflect only the student's original contribution. The chapters must also be paginated and formatted to give uniformity to the thesis or dissertation. Thesis and dissertation formatting requirements and templates are posted on the Graduate School's website.

Students are expected to publish thesis or dissertation research in an appropriate scientific journal. If the student has not submitted thesis or dissertation results for publication within a reasonable amount of time after passing the final exam, the thesis/dissertation advisor will have the option of publishing the student's thesis or dissertation results with appropriate attribution to the student.

How to Proceed

Formal guidelines for preparation of the thesis or dissertation are available from the Graduate School. However, the following steps and schedule are recommended:

1. Select a problem and review background literature to gain a comprehensive understanding of the problem and what others have done in this research area. Prepare and defend your research proposal, preferably by the end of the second semester after beginning work on a graduate degree. Use feedback from the proposal defense to refine and improve your research questions and experiments.

2. Complete and summarize a literature review in written form. Develop theories and hypotheses, conduct experimental work, and collect data. Begin this phase as quickly as practical, and complete at least one semester ahead of the completion date for the degree.

3. Analyze, summarize and tabulate data, apply theories, and develop the written manuscript. Begin as early as possible on sections for which you have information (literature review, methods) and follow through to prepare a complete, typed draft for submission to the thesis/dissertation advisor at end of semester prior to graduation. Select a style from the scientific journal you wish to follow. Research papers prepared by professionals may be revised as many as a dozen times before

submission to a journal for editorial review. Graduate students should plan to revise drafts several times before the manuscript is given to the thesis/dissertation advisor.

4. Comments from the thesis/dissertation advisor should be carefully considered and addressed while preparing the revised draft that is submitted to the graduate committee. This step in preparation of a thesis corresponds to the process involved in preparing a paper for a journal. The graduate committee should be allowed several weeks for the review process. See below for a suggested timeline. If problems surface involving interpretation or meaning of data, the committee may have to meet to resolve issues. Therefore, it is important to allow enough time for a thoughtful and thorough study of dissertation material.

Students on research appointments may continue to collect and analyze data, and write up results during the final semester or summer session. Research results generated after submission of the thesis or dissertation to the committee may not be included in the final product. If the advisor(s) consider it appropriate, the data collected during the final semester or summer session may be used in the final draft or may form the basis of future manuscripts submitted for publication in professional journals.

The faculty recommend that the student be in residence (i.e., on-campus or at an off-campus station) during the semester that the thesis or dissertation is prepared so that the full benefit of consultation with the thesis committee can be realized.

The following thesis draft schedule allows a reasonable amount of time for completion of each step involved in thesis review and revision. Since faculty members are usually involved with other reviews, as well as regular duties, the following guidelines are suggested. You will notice that a minimum of 13 to 20 weeks is required from the time you submit your initial draft of your thesis or dissertation to your advisor to the time of your final oral exam.

7-12 weeks	Submit multiple drafts to major thesis/dissertation advisor, and campus advisor if appropriate, and allow time for incorporation of the appropriate number of corrections and revisions. Allow 7 to 10 days for each revision by advisor(s) and allow sufficient time for discussion with them.
2 weeks	Submit a revised draft for review by members of your graduate advisory committee. Because of the greater number of reviewers, allow *at least* two weeks for return of this draft.
2 to 4 weeks	Revise and correct draft.
2 weeks	Submit a "final" draft to each committee member ***at least two weeks before your scheduling form is due.***

PREPARING TO GRADUATE:
Crop Science and Soil Science Degrees

Exit Seminar

All students are required to give an exit seminar, open to the public. The date and time are to be decided after consultation with the student's advisor. Sometimes this can fit into the regular seminar timeslot but often at other times or days – but separate from the scheduling of final exam. If the exit seminar is scheduled the same day as final exam, there should be at least 1 hour between events. The final exam scheduling form should not include the exit seminar start time. Announcement of the exit seminar is the responsibility of the student. Committee members should be present and students are welcome to invite other individuals too for feedback.

Final Exam

Students should consult the Graduate School's website early in the semester they expect to graduate to obtain information regarding policies, procedures and deadlines for thesis defense and graduation. Failure to meet the deadlines could require enrollment for an additional semester.

CSS requires students to submit an email 'Notice of Intent to Graduate' to their advisor and committee, and cc the Graduate Academic Coordinator (marshdj@wsu.edu). **The notice is due no later than the first week of the semester in which the student plans to graduate.** The notice should include a timeline consistent with the aforementioned schedule to show how draft submissions, reviews, required exit seminar, and final exam scheduling will be carried out in a timely and fair manner. This process does not override in any way the responsibility of the faculty advisory committee. Rather, it is meant to offer one more step in preparation by and for the student. Any faculty advisory committee member may deem that the thesis is not ready to be defended at any of the steps described in the process.

The student should arrange and present their required exit seminar.

The final draft of the thesis or dissertation should be presented to the faculty advisory committee members for review at least two weeks before your scheduling form is due. Members of the faculty advisory committee are responsible for checking the thesis or dissertation for style and format. They certify their approval that the thesis/dissertation is ready for defense when they sign the "final oral scheduling form". Faculty advisory committee members cannot sign off on a final exam schedule form if they have not seen and/or had ample time to review the final draft of the thesis/dissertation.

After preliminary approval of the thesis/non-thesis project report/dissertation by the faculty advisory committee and department chair, and approval of the schedule by the faculty advisory committee, the final exam can be scheduled through the Graduate School.

The student is responsible for preparing the final exam scheduling form, scheduling the room, gathering signatures and submitting the signed form to your Academic Coordinator no less than 10 working days in advance of the exam date. In addition to the PDF final draft uploaded to Proquest, also email a copy to your Academic Coordinator (marshdj@wsu.edu) to serve as the 'display' copy that is made available to the statewide faculty (read only) via secure Sharepoint. The abstract will also be shared with the departmental exam announcement..

The student will give thesis/non-thesis/dissertation exit seminar. This seminar will be open to all faculty, students, and the public. If the defense date is more than two weeks after the seminar, the student should plan to give an additional short presentation to their committee prior to their defense.

The thesis/dissertation defense is an oral exam at which the student defends the background, approach, methods, interpretation, conclusions, etc., of the research. A M.S. non-thesis defense will focus on broad knowledge and less on project defense than would an exam for the M.S. thesis option. Faculty are encouraged to attend the exam and ask questions, but only members of the Faculty advisory committee thesis and CSS graduate faculty may vote. Any faculty member who votes has to remain present for the entire duration of the exam. The examiners may pause the exam at any time to give a member time to leave the room and return. To pass the oral defense, PhD students have to receive a minimum of three-fourths passing votes from the voting faculty, MS students need two-thirds passing votes up to 8 examiners (then three-fourths passing votes if more than 8 examiners).

Questions asked during the final exam are not limited to the thesis or dissertation research.

Check List for Graduation

- Review, in advance, the Graduate School's Deadlines and Procedures for the Master's degree or Doctoral degree.
- Submit Notice of Intent to Graduate no later than first week of the final term to your advisor and committee members, and cc the Graduate Academic Coordinator (marshdj@wsu.edu).
- Set tentative exit seminar and defense date with faculty committee members and contact CSS office for room scheduling.
- Ensure all deadlines on timeline are met throughout final semester.
- Apply to graduate by the deadline (via myWSU). The Graduate School will audit your Program of Study to ensure all coursework has been completed, and this will be noted on your to-do list in myWSU. *The advising module in myWSU is not functional for graduate students.*
- Finish thesis or dissertation final draft; send final draft to committee members.
- Obtain committee approval of thesis or dissertation final draft, approval of defense date and time and committee signatures on final exam scheduling form. Your Academic Coordinator will obtain the Dept Chair signature in the next step.
- Exam scheduling forms are due no less than 10 working days in advance of the selected exam date; send your completed and signed form to your Academic Coordinator for upload to myWSU > Graduate School.
- Send a PDF of your draft thesis/dissertation to your Academic Coordinator at the same time you submit your scheduling form.
- Conduct final exam, submit final copy of thesis/dissertation and other required documents to Proquest/Graduate School within 5 working days of defense.
- Complete departmental exit requirements, including exit survey, post-grad information and effort certification, as well as exit interview and departure checklist. You will receive an email with links near the time of your exam.

Note: It is the sole responsibility of the student to ensure that all deadlines set forth by the Graduate School are met. Failure to follow the CSS Policies and Procedures or to meet the deadlines set forth by the Graduate School will result in a delayed graduation date.

ACADEMIC STUDENT EMPLOYMENT AND PROCEDURES

WSU/UAW Union Affiliation/Collective Bargaining Agreement

Unless otherwise noted, when employed as a Graduate Research, Teaching or Project Assistant, or a Graduate Summer Research or Teaching Assistant, or a Graduate Summer Work (PAP or hourly), these **WSU academic student employees (ASEs)** are represented and governed by a collective bargaining agreement as written or amended between Washington State University and the United Automobile, Aerospace, and Agricultural Implement Workers of America (UAW). Please reference this agreement for details on all ASE benefits, including, but not limited to, Vacation, Holidays, and Sick Leave. A copy of the representation for newly hired academic student employees is provided here.

ASE Offer Letter and Job Description

Offer letters will be provided for academic year appointments, and separate offers for summer employment. In brief, the offer letters are due 90 days in advance of the start date and the offer letters will be followed up with a job description due at least two weeks in advance of the start date, unless there are extenuating circumstances (including grant funding, term dates, etc).

The offer letter describes the terms of the appointment, and the job description provides additional details. Insofar as work schedules go, the supervisor assigns the work and sets the schedule per Article 6.9. Inasmuch as the typical half-time appointment requires 20 hrs/week on average for the term of appointment, work schedule flexibility must be approved by the supervisor and meet business needs. This can be documented/updated via email.

In most cases, the faculty member with whom the student will be working as a Research Assistant will also be the student's major advisor and will determine the appropriate duties. In some cases, the student will be assigned activities that may also relate to their graduate research project, while in other cases, the student may also work on projects that are unrelated to their graduate work.

Tentative Teaching Assistant assignments are considered on the basis of course and faculty needs, and graduate students' schedules, skills and interests. In some cases, these tentative assignments must be changed due to scheduling conflicts, unexpected changes in class enrollments, or other unanticipated factors.

Salary minimums are established by the WSU/UAW Contract based on educational experience and location per Article 35.

Summer Expectations

Students on academic year support generally also receive summer support. Standard practice is for graduate students in Crop and Soil Sciences to spend their summer session on their graduate research project(s) and supporting other research projects within their major advisor's program. Expectations for the summer session should be discussed between the student and major advisor.

Scope of Overlap Between ASE RA Duties and Academic Research/Training (link)

Research Assistant (RA) duties

As a 0.5 FTE Academic Student Employee (ASE), RAs are expected to devote an average of 20 hours per week to the duties outlined in their appointment letter, which may include tasks such as programming, data collection and analysis, lab maintenance, attending meetings, writing papers, conducting activities related to grant-funded project goals, and more, as defined by their supervisor.

At least two weeks prior to the commencement of each semester, RAs are to be given a job description (or changes to a job description for reappointment). The job description is to adhere to provisions outlined in the WSU/UAW Contract Article 11.4.

RA overlap with academic research and training

In many cases, the 20 hours per week of paid RA work will align with and contribute to the student's academic research and training. In this case, the RA appointment is intended to provide financial support for time spent on activities that fulfill the student's employment obligations and advance their academic progress. However, it is recognized that not all RA duties will directly relate to the student's academic research and training.

Academic research and training (outside of RA)

Students are expected to dedicate additional time beyond the 20 hours of weekly RA duties to make timely progress on their academic research and training (including but not limited to their thesis or dissertation). The amount of additional time required may vary depending on the requirements of their graduate program.

During the regular academic year, this research and training is required for their academic progress as measured by PREFIX 700 or 800 research credits each term. Whereas students are not typically enrolled in research credits during the summer, they are still expected to make progress on their academic research and training. Summer progress should be determined by the student's graduate program and advisory committee and should align with their overall academic goals and timeline. Although the exact number of hours may fluctuate, students should anticipate spending a substantial amount of time on their academic work outside of their RA duties to ensure satisfactory progress in their graduate program.

Separate assessment of academic performance and employment duties

The student's academic research performance will be assessed independently from their performance of assigned RA duties. Academic research performance is measured by PREFIX 700 or 800 research credits during the regular academic year and overall academic progress during the summer.

- Each year, the student's academic progress will be evaluated, at minimum, by their advisory committee based on factors such as academic milestones, quality of work, and overall progress toward completion of the thesis or dissertation.
- At least annually, the ASE's performance is to be assessed separately by their assistantship supervisor, as described in the WSU/UAW Contract Article 33.4.2. This assessment focuses on fulfilling assigned duties, quality of work, professionalism, and other relevant factors outlined in the appointment letter and job description.

Communication and oversight

Regular communication between the student, RA supervisor, major professor/advisor (if different than RA supervisor), and graduate program leadership is crucial to ensure an appropriate balance between employment duties and academic progress. Students are to raise any questions they have about distinguishing between their RA duties and their academic research and training (including but not limited to their thesis or dissertation) to their supervisor or program director. Supervisors and program directors are to periodically review the RA's responsibilities and adjust as needed to optimize the student's overall academic and professional development.

Breaks and leave

It is important to note that breaks in the academic calendar, such as finals week, the period directly following finals, the period directly before the start of a semester, and Spring Break, are not considered holidays unless they align with official University Holidays. RAs planning to take leave during these periods must seek advanced vacation approval from their supervisor. In case of illness, sick leave should be appropriately requested according to University guidelines. Failure to follow these guidelines may result in unscheduled absences and misunderstandings between the student and their supervisor as well as potential pay impacts.

Summary

Whereas an RA appointment at 50% FTE will support a student's academic research and training, often relating to their own independent research project, it is understood that some RA tasks may not directly align with the student's specific independent research topic. Likewise, to fulfill their academic obligations, students are expected to devote additional time to academic research and training beyond their RA duties and expectations. The student's academic research performance and employment duties are to be assessed separately each year to ensure a fair evaluation of both components. Open communication and regular check-ins between all parties are essential to support the students' success in their dual roles as researchers in training and as employees.

ASE Performance Evaluation

At least annually, the ASE's performance is to be assessed by their assistantship supervisor as described in the WSU/UAW Contract Article 33.4.2. This assessment focuses on fulfilling assigned duties, quality of work, professionalism, and other relevant factors outlined in the appointment letter and job description. This ASE performance evaluation is for employment purposes only and does not replace the required *Academic Evaluation of Students*. While ASE performance evaluations for assistantship employment and academic evaluations may be conducted at the same time, each type of evaluation must be retained separately at the academic unit level.

ASE Time Off

Thie ASE Paid Time Off guide describes time off for ASE employees, both Vacation time off, Sick leave, and also Short-Term Parental Leave.

Vacation time off requests are to be submitted to and approved by the supervisor prior to time off being taken. To request time off, ASEs are to provide written notice (i.e., email, text, IM) to their supervisors in advance of the requested time as soon as the need for time off is known. Supervisors are expected to respond in a timely manner. If an ASE is requesting vacation time off, they are to provide a work plan for any duties assigned and/or expected to be performed during their time off with their vacation request. Accurate time offs (sick, vacation, leave without pay) must be entered into Workday each pay period for which an ASE takes time off. See Workday Knowledge Base Employee Request and Correct Time Off for detailed instructions. ASEs are responsible for reviewing Workday notices to certify time offs submitted on their behalf

Sick leave time off may only be used for reasons described in Article 30.1.3. When ASEs need to be absent from work for sick purposes, they are to provide notice of the request to their supervisors as soon as the need is known.

Academic year leave balances expire May 15 and will be wiped by June 1. Fall to Spring leave balances will roll over when reappointed. Summer Assistantship leave balance are separate from academic year and will be wiped on Aug 15.

Vacation Time Off (WSU/UAW Contract, Article 28)	Sick Leave (WSU/UAW Contract, Article 30)
Salaried ASEs with 50% FTE on a 9-month appointment will receive 48-hours	**Salaried** ASEs with 50% FTE on a 9-month appointment will receive 36-hours
Salaried ASEs below 50% FTE or appointed to a lesser term (i.e. Summer, or late start) will have prorated vacation time off	**Salaried** ASEs below 50% FTE or appointed to a lesser term (i.e. Summer, or late start) will have prorated sick leave
Hourly ASEs **not eligible**	Hourly ASEs are eligible Accrual Rate: 1 hour of sick leave for every 40 hours worked
Summer PAP **not eligible**	Summer PAP **not eligible**
Unless otherwise approved, vacation time off must be used in four-hour increments during academic semester breaks or as otherwise mutually agreed upon by the ASE and their supervisor. Vacation time off requests are to be submitted to and approved by the supervisor prior to time off being taken.	Sick leave time off may only be used for reasons described in Article 30.1.3. When ASEs need to be absent from work for sick purposes, they are to provide notice of the request to their supervisors as soon as the need is known.

Required Trainings

Responsible Conduct of Research (RCR) Training: The Graduate School requires all graduate students on an assistantship to complete the web-based Responsible Conduct of Research Training (see https://orso.wsu.edu/citi-training-resources/). The current requirement is for the Collaborative Institutional Training Initiative RCR. Contact your graduate coordinator to determine which modules are appropriate for your course of study. When you complete the training, please notify your graduate program coordinator.

New Employee Required Trainings: Complete the required employee trainings outlined on the Human Resource Services Learning and Organizational Development website. You will have access to these trainings once your hire action is successfully completed in Workday. Be sure to complete these trainings within the first month of hire. Further questions regarding these additional training requirements may be directed to your supervisor or hrstraining@wsu.edu.

Required Attestations

Sexual Misconduct Statement (SMS): The Graduate School requires that, to comply with state of Washington law (RCW 28B.112), any student desiring to be considered for an assistantship must declare whether the student is the subject of any sustained findings of sexual misconduct in any current or former employment or is currently being investigated for, or have left a position during an investigation into, a violation of any sexual misconduct policy at the applicant's current or past employers. The SMS form will be sent to graduate students after they have accepted an offer of admission.

Residency Requirement and Tuition Waiver

The assistantship appointment exempts students from paying in-state tuition **if they are residing in Washington State** while enrolled at WSU. *Students are responsible to comply; in the event a waiver is removed, the student will be responsible for paying the full tuition charges.*

WSU will provide out-of-state tuition waivers for the first year of studies if you are not a resident of Washington State; however, an out-of-state tuition waiver cannot be guaranteed beyond one year. If you are not a resident of Washington State, you should begin the process immediately upon entrance to establish residency. Most required documents need to be in place for one year. Please review the Establishing Residency requirements **which must be completed within 30 days upon arrival** to ensure

a successful application. Students who have not established Washington State residency by the one-year limit will be required to pay out-of-state tuition, even if they have an assistantship.

International students are not eligible to become residents. For international F1/J1 students, the assistantship appointment will exempt them from paying the out-of-state and in-state tuition if residing in Washington State while enrolled at WSU. *Students are responsible to comply; in the event a waiver is removed, the student will be responsible for paying the full tuition charges.*

Payroll Deduction of Tuition and Mandatory Fees

All students on an assistantship are required to pay residual and mandatory fees (fees not covered by the tuition waiver) each semester of approximately $1,000. For details on how to arrange for automatic deduction of tuition and fees from your paychecks, please see Graduate Student Enrollment Procedure | Payroll Services | Washington State University. Mandatory fees for students may be waived for off-campus students (such as our students at the Research and Extension Centers).

Payroll Deduction– via Workday

There are residual tuition and other mandatory fees not covered by the tuition waiver. Although optional, most students choose to sign up for payroll deduction of these fees in Workday. In doing so, a credit will be applied to the student's account (to help avoid late fees) and the deduction will be divided and taken from 8 of the 9 paychecks for the semester. There is an $8 service charge for this service. There is an early deadline each semester to sign up for this service. Sign-up is required each term (as needed).
Note–Please avoid using the Bursar's payment plan except in exceptional cases, which carries a $50 service fee.

Payroll Tips for Non-U.S. Citizens

All international students are strongly encouraged to review WSU Payroll's tips and definitions for non-U.S. employees AND also complete a Tax Determination Questionnaire to help ensure your Workday tax elections are in alignment. Students should do this sooner than later in their first term. Questions can be directed to the WSU Payroll office, specifically Mr. Brandon Cross.

Payroll Dates

WSU employees are paid on a semimonthly lagged payroll system. Please visit the Payroll Services website for the WSU Paydays.

Graduate Student Health Insurance

WSU offers health insurance to eligible graduate student assistants, and for international students holding F1 and J1 visas. Complete information regarding the health plans is provided on the Cougar Health Services website. Graduate assistants and international students will be automatically registered for the proper health plan. You are strongly advised to review the Cougar Health Services website to learn more about your plan. Dependent insurance is available and but the cost is the responsibility of the student.

Students who do not qualify as a dependent on another person's insurance and/or who are not eligible for one of WSU's plans can also purchase a plan through the Washington Health Benefit Exchange. If you meet certain financial criteria, you may be eligible for Apple Health (Washington Medicaid), which is accepted by Cougar Health Services at Pullman.

Certification of Assistantship Duties

Tuition waivers associated with an assistantship appointment are contingent upon the following factors: 1) remaining enrolled full-time during the period of appointment; 2) maintaining a 3.0 cumulative GPA during the appointment (or approved exception to policy), and 3) meeting the service requirement of an average of 20 hours per week for a 0.5 FTE appointment as scheduled by your department/supervisor (based on hours required for partial FTE appointment). This certification is completed annually by way of the Graduate Student Annual Review form. For graduating students, this may alternatively be done by way of the Post-Graduate Information form (*in lieu* of the Annual Review form).

APPENDICES

Example of the Graduate Student Annual Review Form

DUE February 28, 2020. Once complete and fully signed, email a combined pdf (annual review and CV) to Deb Marsh (marshdj@wsu.edu) AND be sure both student/advisor are included in the message. This will ensure all parties have a copy. Please retain originals until degree requirements are completed.

Crop & Soil Sciences Graduate Student Annual Review: January 1 – December 31, 2019

Annual review of graduate students is required by the WSU Graduate School. The evaluation period for this annual review is Jan 1 (or starting date) to December 31, 2019. Each student is responsible for completing Sections A and B, and then forwarding it **electronically** with a curriculum vita (CV) to their advisor in advance of the review meeting. **The student is responsible for arranging the annual review meeting.** The student's advisor will complete Section C and review it with the student at the annual review meeting. Both parties will complete Sections D, and E (if applicable).

This form must be typed

Section A. Cumulative Record

Name:	
WSU ID#:	
Term Entered (i.e. Fall 2017):	
Degree Objective (MS or PhD):	
Degree Program:	
Advisor:	
Co-Advisor:	
Campus Advisor (if applicable):	
Other Committee Members:	
Number of committee meetings since last review:	
Date of most recent committee meeting:	
Program of Study approval date:	
Or program of study anticipated filing date:	
Cumulative GPA:	
Thesis/Dissertation subject or title:	
Thesis/Dissertation proposal approval date:	
Or thesis/dissertation proposal anticipated approval date:	
PhD proposal seminar date:	
PhD preliminary exam completion date:	
Or anticipated preliminary exam completion date:	
Anticipated term for exit seminar and final exam:	

Section B. Self Assessment

Performance, Skill Ratings	Excellent	Good	Average	Fair	Poor	NA
Academic Performance						
Research Performance						
Work Habits						
Technical Skills						
Rate of Progress						
Communication Skills						
Teaching Performance						
Professional Development						
Overall Rating						

Summarize your academic and research progress this past year. Please address the following items:

1. What academic/research goals did you propose to accomplish in your last review *(not applicable for first year students)*?
2. What have you accomplished this past year?
    a. Discuss your academic and research progress. If your accomplishments did not meet your goals, discuss why.
    b. Describe your publications to date. Please list published manuscripts and book chapters, manuscripts in preparation (and expected date of submission), abstracts (professional papers and posters presented).
    c. List professional activities such as awards/scholarships, meetings attended, abstracts/papers published, presentations given, and teaching experience.
    d. Discuss your departmental and professional service and development.
3. What are your greatest challenges and how will you overcome them?

Discuss your future directions and goals as follows:

1. Overall.
2. For the next review period.

Attach CV and forward with this form to your advisor for review.
The student is responsible for arranging the annual review meeting.

Section C. Advisor's Assessment

Performance, Skill Ratings	Excellent	Good	Average	Fair	Poor	NA
Academic Performance						
Research Performance						
Work Habits						
Technical Skills						
Rate of Progress						
Communication Skills						
Teaching Performance						
Professional Development						
Overall Rating						

Take this opportunity to review the student's CV and provide suggestions for improvement.

Please provide an assessment of your student's research progress and accomplishments for the current review period (or research potential for a first year student). Comment on the student's strengths and weaknesses and provide specific recommendations or requirements on areas that need improvement. Consider the student's understanding of the scientific literature, recent proposal defense (PhD), seminar performance, and other research benchmarks.

Outline specific conditions or expectations that must be fulfilled prior to the next review and discuss the student's probable success in completing their degree requirements in a timely manner. If the probability is not good, please indicate why.

Section D. Recommendations

Overall assessment is ____ satisfactory or ____ unsatisfactory*

If the evaluation is **unsatisfactory, enrollment should be ___ continued or___ discontinued*
*Conditions or recommendations for continued enrollment if evaluation is **unsatisfactory**:*

Before signing, discuss specific conditions to be fulfilled before next annual review and any differences in progress ratings and expectations.

Signature of Advisor: _____ Date: _____

Signature of Student: _____ Date: _____
My handwritten signature above acknowledges this evaluation has been discussed with me.

Comments on review by student may be attached.

Section E. Certification of Assistantship Duties

If the student served in an assistantship position during the past year, please have the student review and sign below, along with the student's faculty advisor or supervisor.

Student: The graduate assistantship position that you have held during this past year and the related tuition waivers were contingent upon factors as outlined in your offer letter. By signing below you certify you have met the following contingent factors for the preceding semester(s) during which you held an assistantship (check all that apply ___Spring 2019 ___Summer 2019 ___Fall 2019):

- I remained enrolled full time (at least 10 *[3 cr in summer]* credits as defined in Graduate School policy manual, chapter 9) during the period of the appointment.
- I maintained a 3.0 cumulative GPA during the period of the appointment (or approved exception to policy)
- I met the service requirement of an average of 20 hours per week for 0.5 FTE as scheduled by my department/supervisor (or based on hours required for partial FTE appointment).

Student Signature	Date	RA Advisor **or** TA Supervisor Signature	Date

WASHINGTON STATE UNIVERSITY
Department of Crop and Soil Sciences

Guidelines for Authorship on Manuscripts
Summarized February, 2010

From the Harvard Medical School Guidelines (referenced by the VP for Research/Graduate School; http://www.hms.harvard.edu/integrity/authorship.html):

- Everyone who is listed as an author should have made a substantial, direct, intellectual contribution to the work. For example (in the case of a research report) they should have contributed to the conception, design, analysis and/or interpretation of data. Honorary or guest authorship is not acceptable. Acquisition of funding and provision of technical services, patients, or materials, while they may be essential to the work, are not in themselves sufficient contributions to justify authorship.
- Everyone who has made substantial intellectual contributions to the work should be an author. Everyone who has made other substantial contributions should be acknowledged.
- When research is done by teams whose members are highly specialized, individual's contributions and responsibility may be limited to specific aspects of the work.
- All authors should participate in writing the manuscript by reviewing drafts and approving the final version.
- One author should take primary responsibility for the work as a whole even if he or she does not have an in-depth understanding of every part of the work.
- The main/first author should define authorship based on the above criteria.

From Michigan State University (http://rio.msu.edu/authorshipguidelines.htm):

Authorship - A person claiming authorship of a scholarly publication must have met the following criteria:

- Substantial participation in conception and design of the study, or in analysis and interpretation of data;
- Substantial participation in the drafting of the manuscript or in the substantive editing of the manuscript;
- Final approval of the version of the manuscript to be published;
- Ability to explain and defend the study in public or scholarly settings.

(Note: these criteria follow closely those recommended by several professional associations. See especially the International Committee of Medical Journal Editors, *Annals of Internal Medicine* 1988; 108: 258-65.)

Acknowledgment - Contributions that do not justify authorship should be acknowledged separately in the notes to the manuscript. These may include general supervision of a research group, assistance in obtaining funding, or technical support.

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"Honorary Authorship" - A claim of authorship by, or assignment of authorship to, persons who may have been associated in some way with a study but do not meet the four criteria in item 1 may constitute an unethical research practice.

Graduate Student Authorship - "Faculty should be especially aware of their responsibility to safeguard the rights of graduate students to publish the results of their research." (*MSU Research Handbook*, 1985, p. 16, section 4.3.1.)

Senior Author and Order of Authorship - The senior author is generally defined as the person who leads a study and makes a major contribution to the work. All the authors at the outset of a project should establish senior authorship, preferably in a written memorandum of understanding. This memorandum of understanding should reference the authors' agreement to abide by their departments' policy on authorship or this University default policy on authorship. At the outset of the study the Senior Author should discuss the outline of work and a tentative Order of Authorship with the study participants. As projects proceed, agreements regarding authorship may need to be changed. It is the responsibility of the senior author to assure that the contributions of study participants are properly recognized.

Disputes Over Authorship - Disagreements over authorship, e.g. who has a right to be an author or the order of authorship, should be resolved by the Senior Author in collegial consultation with the other authors. When this process cannot reach resolution, the Senior Author should arrange with his or her chairperson for arbitration by a knowledgeable and disinterested third party acceptable to all the authors. If the authors cannot agree on a mutually acceptable arbitrator, then the Vice President for Research and Graduate Studies shall appoint an arbitrator. During the arbitration process all the authors are expected to refrain from unilateral actions that may damage the authorship interests and rights of the other authors.

Accountability - Every author listed on a publication is presumed to have approved the final version of the manuscript. Each author is responsible for the integrity of the research being reported.

Plagiarism -The word *plagiarism* is derived from the Latin *plagiarius*, an abductor, and *plagiare*, to steal. The expropriation of another author's text, and the presentation of it as one's own, constitutes plagiarism. Plagiarism, in turn, constitutes misconduct in scholarship under University policies and procedures. Plagiarism in scholarly projects should be reported to one's chairperson, dean, or the University Intellectual Integrity Officer. (American Historical Association, *Statements on Standards*, 1993, p. 13)

Distribution -This policy should be widely distributed, especially to each new faculty, graduate student and research staff member in academic units.

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Rubric for Assessing Graduate Student Work in Crop and Soil Sciences

PROGRAM-LEVEL COMPETENCY TARGETS = 4.0 FOR M.S. STUDENTS AND 5.0 FOR PH.D. STUDENTS

1. KNOWLEDGE OF FIELD. Understands the breadth and depth of knowledge associated with their discipline.

6 - Mastering	5 - Effective	4 - Competent	3 - Developing	2 - Emerging	1 - Minimal	N/A
Clearly understands most or all of the concepts associated with the discipline as well as the challenges and embedded issues. Demonstrates accurate and nuanced use of disciplinary language, definitions, and terms appropriate to the audience the work is intended for. Demonstrates appropriate breadth AND depth of knowledge associated with the discipline.		Understands some of the key concepts associated with the discipline. May or may not describe embedded issues. Use of technical language, definitions and terms is generally accurate and appropriate for the audience the work is intended for. Demonstrates appropriate breadth of knowledge associated with the discipline but lacks depth (or visa versa).		Does not understand the key concepts, challenges, or embedded issues associated with the discipline; or does so minimally. Often misuses technical terms and concepts, and/or relies on overly general layperson's language. Demonstrates limited breadth and depth of knowledge associated with the discipline.		Unable to rate based on this work
Comments:						

2. SCIENTIFIC REASONING. Designs, conducts, analyzes and interprets research important to their discipline.

2a. Literature: Search, Selection, & Review.

6 - Mastering	5 - Effective	4 - Competent	3 - Developing	2 - Emerging	1 - Minimal	N/A
Uses appropriate, relevant, and high quality info sources to create a presentation that is current, well balanced and richly supported by the cited sources. Evaluates most or all sources for quality, perspectives, relevance, and currency. Identifies gaps in the literature and/or relevant gaps in their own knowledge or skills. Good knowledge of previous and current research in their discipline.		Uses a moderate number of respectable sources that, for the most part, cover the needed info. Some sources may be irrelevant or out of date, and/or key area(s) of the issue may not be addressed. Only minimally evaluates sources for quality, relevance and currency Shows some signs of evaluating info gaps in the literature or in their own knowledge or skills. Gaps in knowledge of previous and current research in their discipline.		Minimal or no evidence of search, selection, or source evaluation skills. No evaluation of info sources is present. Does not identify the info gaps or what they still need to know. Limited knowledge of previous or current research in their discipline.		Unable to rate based on this work
Comments:						

2b. Defining the Problem.

6 - Mastering	5 - Effective	4 - Competent	3 - Developing	2 - Emerging	1 - Minimal	N/A
Identifies a focused, unique, original problem that is challenging and well defined. Potential for significant contribution of the research to their discipline		Identifies a somewhat focused problem that is interesting but not particularly challenging or is simplistic. OR the problem is unsatisfactorily defined and characterized, with important omissions of key considerations. Limited potential for contribution of the research to their discipline or with more focus could prove to contribute significantly.		The problem, if identified, is confused or simplistic. Contribution of the research to their discipline is not clear.		Unable to rate based on this work
Comments:						

College of Agricultural, Human, and Natural Resource Sciences, Office of Assessment and Innovation, and the Sustainable Food & Agricultural Systems Education Project

2c. Methodology & Data Presentation.

6 - Mastering	5 - Effective	4 - Competent	3 - Developing	2 - Emerging	1 - Minimal	N/A
Approach and methodology are complete, appropriate and correct for the problem. Has knowledge of emerging methodologies in their discipline. Data collected and presented demonstrates a clear understanding of the info and its relationship with the problem. Data presented appropriately - graphs and/or tables are complete, accurate, relevant, and contain appropriate headings, descriptors, significant figures, etc. Use of statistics is appropriate and presented clearly and completely. Interpretations drawn from statistical presentations are accurate.		Approach and methodology are related to the problem but do not fully address the problems due to flaws or inappropriate approach. Has limited knowledge of emerging methodologies in their discipline. Data collected and presented adequately. Relationship of the data to the problem are not entirely clear. Data presented are generally appropriately - graphs and/or tables contain relevant headings, but some details may be missing or unclear, such as units, significant figures, etc. Statistical information is generally understood and interpreted correctly.		Poor/inappropriate methodology approaches demonstrated, or approach and methodology are unrelated to the problem. Has no knowledge of emerging methodologies in their discipline. Limited data collected or data/approach demonstrates little attention to or understanding of the problem Data presentation are incomplete, poorly labeled, confusing, or missing all together.		Unable to rate based on this work
Comments:						

2d. Data Analysis and Interpretation.

6 - Mastering	5 - Effective	4 - Competent	3 - Developing	2 - Emerging	1 - Minimal	N/A
Use and interpretation of info are accurate and thorough, including interpretation of data given in graphs and tables, as well as the overall results and conclusions given by each source. Logical and highly insightful inferences from the info presented. Excellent job in integrating literature and data in appropriate and creative ways. Analysis demonstrates firm understanding of data. Alternate interpretations of, or inferences from, data are discussed appropriately and in detail.		Accurately uses and correctly interprets most of the info obtained from sources, including data given in graphs and tables, as well as the overall results and conclusions given by each source. One or more minor points may be overlooked or misinterpreted. Generally makes logical inferences from the info presented, with only few or minor mistakes. Demonstrates a basic understanding of the data and some ability to connect literature and data to analyze evidence, but analysis is confusing in some spots or contains inaccuracies. Analysis generally reflects evidence reviewed, collected and presented. May provide brief, appropriate mention of alternative interpretations.		Little or no interpretation of data, instead is simply a restatement of facts and ideas found elsewhere. Misunderstands or misrepresents info given in their sources. Limited or no logical inferences from the info presented. Does not appear to understand the info.		Unable to rate based on this work
Comments:						

2e. Conclusions and Recommendations.

6 - Mastering	5 - Effective	4 - Competent	3 - Developing	2 - Emerging	1 - Minimal	N/A
Conclusions are accurate, appropriate, and clearly linked to problem and data presented. Conclusions and recommendations are balanced and qualified to account for uncertainties in the data or unpredictability of the system, and student's own biases.		Conclusions are reasonable but may not take into account all critical factors. In a limited way, students consider uncertainties or other limitations of the conclusions or evidence.		Conclusions are inaccurate and/or unreasonable, do not reflect the research and data presented, or are merely a simplistic summary not tied to the original problem. Conclusions and recommendations are biased and do not reflect the research and data, suggesting views were established before or in spite of the evidence.		Unable to rate based on this work
Comments:						

3. COMMUNICATION. Communicates effectively to a diverse group of people using appropriate traditional and emerging technological media.

6 - Mastering	5 - Effective	4 - Competent	3 - Developing	2 - Emerging	1 - Minimal	N/A
Captures and communicates the intended idea(s) accurately and clearly.		Captures and communicates the intended idea(s) accurately but parts are not clear.		Inadequately/inaccurately captures and communicates the intended idea(s) due to gaps and digressions. Little attention is paid to accuracy.		Unable to rate based on this work
Main points connect with the audience and are smoothly tied together.		Generally easy to identify main points and transitions are usually smooth.		Difficult to identify main points. Transitions may be rough.		
Compellingly conveys why the issue matters.		Background and context sufficient to indicate the issue is important.		Limited background info and context so not at all clear why issue matters.		
Visuals (graphs, tables, diagrams, etc) are clear, concise, and relevant.		Visuals (graphs, tables, diagrams, etc) generally support the written component, but some may be overly complex, simplistic, or redundant.		Not clear how the visuals (graphs, tables, diagrams, etc) add credibility to the topic.		
Polished, error-free, and engaging. Professional.		Contains errors, but errors do not distract from or misrepresent content and ideas.		Multiple errors in grammar, syntax, punctuation, etc., that obscure and/or misrepresents the content.		
Comments:						

4. ORIGINAL CONTRIBUTION. Demonstrates potential for original contribution to their discipline.

6 - Mastering	5 - Effective	4 - Competent	3 - Developing	2 - Emerging	1 - Minimal	N/A
Research demonstrates excellent potential for original contribution to their discipline. Research is unique, well organized, complete, and statistically sound.		Research demonstrates some potential for original contribution to their discipline. Research is unique but contains flaws in interpretation, organization, completeness and/or statistics.		Research contains serious flaws that would make it unpublishable. Not unique.		Unable to rate based on this work
Research prepares student for further productive research beyond graduate school.		Research prepares student for limited research beyond graduate school		Limited or no potential for student to do further research in this area.		
Comments:						

Version 9/20/2018

Rubric for Assessing Graduate Work in the Department of Crop and Soil Sciences

For use by committee

Student's name: _____ Date: _____ MS___ PhD___ Crops___ Soils___

Title: _____

Check one: Proposal seminar/defense _____ Prelim exam _____ Final seminar/defense _____

For each of the learning outcomes below, please choose the score which best corresponds to the overall level demonstrated in the student work using the attached rubric for guidance. (*6/5 = Mastering; 4/3 = Developing; 2/1 = Minimal; N/A = Unable to rate).* Please use whole numbers or increments of 0.5.

Learning Outcome	Score
1. Knowledge of Field. Demonstrates adequate breadth and depth of knowledge of the field in their area of research.	
2. Scientific Reasoning. Appropriately designs, conducts, analyzes, and interprets research effectively on important problems in their discipline.	
a. Literature: Search, Selection, and Review. Reviews the literature in a manner that demonstrates comprehensive knowledge of previous and current research in the field of study.	
b. Defining the Problem. Identifies a viable question within the field of study and effectively documents the contribution of the research to the area of study.	
c. Methodology and Data Collection. Designs and implements appropriate research experiments to test the hypothesis or the solve problem.	
d. Data Analysis and Interpretation. Analyzes and interprets research data appropriately. Demonstrates sufficient knowledge of appropriate concepts, theories, and emerging methodologies in their area of research.	
e. Conclusions and Recommendations. Presents conclusions and recommendations that are accurate, clearly linked to data presented, and take into account all critical factors.	
3. Communication. Communicates effectively to a diverse group of people using appropriate traditional and emerging technological media.	
4. Original Contribution. Demonstrates potential for original contribution to their discipline.	

Comments:

CSS Research Proposal Guidelines

REQUEST FOR PROPOSALS FOR GRADUATE PROGRAM STUDENT DISSERTATION PROPOSALS

These guidelines were compiled at the request of, and as an aid for, Ph.D. graduate students to develop their dissertation proposal as a component of their preliminary exam.

PURPOSE

The full dissertation proposal should present:

- The long term goals, objectives and scientific, significance of the proposed work.
- The suitability of the methods to be employed.
- The rationale for the research and benefits to society.
- The merits of the proposed project must be clearly stated.

PROPOSAL PAGE FORMATTING

- Number of pages: ~10-12 not including references cited, timeline, and facilities (items E, F and G below). Individual Graduate Programs have different page requirements but most have a maximum of 15 pages. Students should check with Graduate Coordinators in their program area for specifics.
- Visual materials, including charts, graphs, maps, photographs and other pictorial presentations are encouraged and should be included in the 15-page limitation.
- Font: Cambria, Courier New, Times New Roman or similar fonts: 11 points or larger.
- 10 point fonts are acceptable for figure captions, mathematical formulas and equations, table and diagram captions.
- Tables and figures can be embedded in text or listed at the end of the proposal at the discretion of the student's advisor
- No more than six lines of text within a vertical space of one inch.
- Margins in all directions must be at least an inch.
- Single column format.
- The proposal major sections and sub-sections should be delineated with headings and sub-headings.

PROPOSAL ELEMENTS AND ORGANIZATION

A. Cover Sheet

1) Student name
2) Committee members
3) Type of proposal (Dissertation, Second Non-Thesis)

B. Project Summary (Maximum 300 words, written in the third person, understandable by technically literate non-scientists)

1) Overview - need for research
2) Specific objectives of the research
3) Brief description of methods and expected results including experimental resources, design, and data analysis
4) Statement of intellectual merit, - potential of proposed research to advance knowledge
5) Statement of broader impacts of proposed acitivity- potential of the proposed research to benefit society.

C. Project Description

1) Introduction. The research problem and major objectives of the proposed project should be stated. The need for research should be supported with a description of the present state of knowledge in the field, work in progress in the laboratory in which the student is working, and work in progress elsewhere.

2) Specific Objectives. Include a bullet list or outline of major and specific objectives.
3) Preliminary work by objective:
    a. Ongoing or recently completed activities and pilot studies significant to the project. Concentrate on reporting results in this section.
    b. If the same experiments are to be repeated in the proposed work, it is ok to describe those details in the experimental plan section and refer the reader to those descriptions.
4) Experimental plan by objective. This section is the main part of the proposal and should occupy more than half the pages. For each objective, the experimental plan should include:
    a. Re-statement of the objective,
    b. A hypothesis for the proposed experiments within that objective. The hypothesis must be testable, falsifiable, parsimonious, precise, useful, and relevant
    c. A brief rationale for this hypothesis.
    d. Experimental methods to be used. The project activities may be based on previously established and/or innovative methods and approaches, and must be well justified. For each objective address:
        i. What will be done
        ii. Why this method was chosen
        iii. How the experiment will be conducted
        iv. Feasibility of achieving results with this method/experiment
        v. How the data will be collected and stored
        vi. How the data will be analyzed and interpreted including statistical methods
    e. Expected results by objective
    f. Potential limitations and problems. Include alternative methods to complete the objective.

D. The broader impacts of the proposed research. What are the benefits that will accrue if the project is successful?

E. Timeline for achieving research goals. Include in this timeline the milestones for completing course requirements and preliminary exams.

F. References cited. Each reference must include the names of all authors (in the same sequence in which they appear in the publication), the article and journal title, book title, volume number, page numbers, and year of publication. If the document is available electronically, the website address also should be identified and verified. The use of bibliographic software is encouraged. Please double check to make sure that this software has accurately formatted references in the same style for all references cited. References can be organized either alphabetically or in order of citation, depending on committee preference.

G. Facilities, equipment and other resources. This section of the proposal is used to assess the adequacy of the resources available to perform the effort proposed. List applicable equipment, laboratory space, greenhouse and field space, available to compete the work proposed.

FINAL COMMENTS AND ADDITIONAL RESOURCES

The dissertation proposal should be initiated during the second semester of the Ph.D. program. In addition to the graduate advisor, committee members and other students, grant writing support is available through

- The WSU Graduate and Professional Writing Center (Smith CUE 414, gpwc@wsu.edu),
- Crops/Soils 511: Science Writing Workshop. (2 credits, graded S/F, offered spring semester).

Meet with Advisor: CSS student-authored "Check-In" Guide

Prepared by a fellow graduate student…

A lack of communication is often the driving force behind many issues in student-faculty mentorships, and establishing good communication habits and detailing expectations for both parties early on in the process can head-off problems that may occur down the road. Please feel free to use this form as a guide for a discussion with your advisor(s) and remember to write down important aspects of this conversation for future reference.

What is your preferred method of communication? And how frequently should we communicate? Remember that your advisor has many other time-consuming responsibilities. It is your responsibility to check-in with them and ask questions if you have them.

Do you have an open door? When you have small questions or a quick message, is it ok for you to just stop by their office? Or do they prefer email? This may seem small, but it adds up and can be very annoying.

How many hours per week am I expected to be on campus? And what are the expected work hours? Some advisors do not have a preference as long as work is completed on time. However, others may expect you to be on campus eight hours a day, or a minimum number of days a week, or at specific times of day (especially in the summer). Not discussing this with your advisor could lead to misunderstandings about your productivity and work ethic.

What work am I expected to help with outside of my project? As previously stated, this is dependent on the advisor and the structure of their program, so it is important to ask to avoid misunderstandings in the future.

What are your policies for requesting time-off? This is an important question to address early. Make sure you know how far in advance your advisor would like to know. There might be busy times of the year when vacation time is unrealistic.

What are some checkpoints for my work? Can we make a general timeline for my degree? What are my short-term and long-term goals? It is a good idea to review and record your advisor's expectations for each year of your degree. It's also good to form a plan for each project that you have. Write these down so that you and your advisor can keep track of your progress. For a guide of graduate school deadlines, consult the Graduate Student Handbook (http://css.wsu.edu/graduate-studies/handbook/) you do not want to miss these dates!

Can we form my program of study? And do you have any suggestions for who should be on my committee? Both of these are graduate school requirements with deadlines not long after you arrive, so start talking about them early! Getting a plan together for your program of study will also help make sure that you are taking the right classes and not wasting your time!

What are your expectations regarding professional service, attending conferences and attending seminars/workshops? You may want to be involved in student organizations or leadership, which is recommended! But you may want to discuss additional involvement/education with your advisor. At the very least, it is always good to be on the same page and for you advisor to know about your other involvements.

When I would like you to review or edit material, how far in advance should I send it? And what is your system for file sharing? Avoid unnecessary stress by finding out your advisor's preferences early on. The last thing you want is to miss a deadline because you didn't have enough time to edit and receive feedback.

How to Run a Committee Meeting

How to run a graduate committee meeting:

Congratulations on starting graduate school and forming your graduate committee. Besides your coursework, research, and having a life, it is also your job to manage your committee. You can think of your committee as the "board of directors" who provide advice, expertise, and usually funding; but YOU are the CEO (and main employee) who must manage the company and the board to attain success.

1) Timing: Grad committees should meet 2-6 times per year.

2) Meeting information needs to be circulated to everyone prior to the meeting.
   Make sure to include:
   a) location / date / time (You need to schedule a time that is free for everyone for at least 1 hr, and reserve a room through the main office)
   b) meeting agenda which includes:
      i) Past: Review what you've been doing for the past months since your last meeting. Also briefly overview the entire project.
      ii) Present: What you're up to this month, and any data you have so far.
      iii) Future: Plans for the next month, 6 months, and general timeline until graduation.
   c) Some background information should be distributed, but don't assume your committee members will all have read it. Be prepared to review this information verbally in the meeting.

3) Arrive on time

4) Be well-prepared.
   a) Bring enough copies of pertinent information for the agenda items.
   b) While not required, a few light snacks and/or drinks do help people pay attention and feel comfortable.

5) Follow the agenda.

6) Be concise and to the point

7) Participate in a constructive manner and ask others to do the same. If someone is being negative, ask "What is a better way to do this?" to create a positive course of action.

8) Decisions made by the group must be documented.

9) Make a list of action items. At the end of the meeting, read this list to the committee and vow to follow-up on the completion of all action items.

Each person and each project is unique. You must gain the information, tools, and support you need for your project and for yourself over the course of your graduate work. Your advisor and committee are the primary sources for technical support. You may also need other resources for technical or personal support. These resources are available. If you're not getting what you need in order to successfully develop your project and yourself, ask around and look for the right resources.

Basic steps in the thesis process

1. Select topic, thesis advisor and thesis committee.
2. Present a research question and prepare a 1-2 page outline identify analytical approach, data resources, and available professional and academic literature.
3. Get approval of research question, approach and outline from your thesis advisor and from the committee if required by your advisor.
4. Set up a regular meeting schedule with your advisor.
5. Submit drafts of each section or chapter as it is completed in order to get feedback from your thesis advisor (and thesis committee if they wish). Do not attempt to draft the entire thesis before showing it to your advisor. It is far better to present pieces of the paper along the way so that you know you are making progress, and your advisor can give you encouragement and feedback.
6. Entire draft should be submitted to the thesis advisor and committee for feedback prior to making revisions and scheduling the defense.
7. A revised thesis should be prepared based on feedback from thesis advisor and committee prior to scheduling defense of the finished thesis.
8. Schedule and hold defense.
9. Make final revisions and gather signatures of the committee. First get signatures from your committee, the SUAPP director and CHEP dean. Then, make three copies to submit to the Office of Graduate Studies. Specific instructions on this are found on the Office of Graduate Studies web page "Step by Step Guide to Graduation."
10. Prepare a PDF copy of your thesis.

http://www.sppa.udel.edu/content/thesis-steps