Graduate Student Handbook

Dept. of Crop and Soil Sciences

Washington State University

WASHINGTON STATE UNIVERSITY

World Class. Face to Face.

2009-2010

This handbook is to be used in addition to any policies and procedures set forth by the Graduate School

Introduction

Welcome to the Department of Crop and Soil Sciences (CSS) at Washington State University! We are proud to offer world-class M.S. and Ph.D. graduate programs in a broad array of areas including crop genetics and breeding, environmental soil science, soil geomorphology and geographical information systems, turfgrass management, crop and weed ecology and management, precision agriculture, sustainable agriculture and organic farming, and soil conservation/soil quality. 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.

This handbook will acquaint you with Graduate School and CSS guidelines and policies. 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 keep the copy to refer to throughout your program here.

We have a long-standing commitment to financially supporting our CSS 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 our 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 full attention and effort to succeed. Employment in addition to an assistantship is not permitted. Students generally devote half of their time to class studies and half to their 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 graduate research.

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 around the U.S. and world. Your time here will be filled with personal and professional growth, 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.

Richard T. Koenig
Chair, Department of Crop and Soil Sciences
August 2009

Statement of Ethics

The faculty and staff of Crop and Soil Sciences are committed to the basic values of:

Accountability	*Honesty*
Integrity	*Passion*
Positive Attitude	*Quality*
Respect	*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 investigation and professional comportment, 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 their 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

Table of Contents

Faculty and Staff Resources

Department of Crop and Soil Sciences

PO Box 646420 / 201 Johnson Hall
Pullman, WA 99164-6420
509-335-3475 ph / 509-335-8674 fax

Department Chair:

Dr. Richard Koenig, 201 Johnson Hall, 335-3471, richk@wsu.edu

The Chair has final approval of all appointments and is the person to contact if a student/advisor or student/faculty conflict arises.

Crops Graduate Coordinators:

Dr. Kim Campbell, 379 Johnson Hall, 335-0582, kgcamp@wsu.edu
Dr. Ian Burke, 171 Johnson Hall, 3352858, icburke@wsu.edu

Soils Graduate Coordinator:

Dr. Jim Harsh, 249 Johnson Hall, 335-3650, harsh@wsu.edu

The graduate coordinators handle academic requirement questions, make TA/RA assignments, assign desk space, and coordinate preliminary exams.

Academic Coordinator:

Deb Marsh, 205 Johnson Hall, 335-2615

The academic coordinator does the initial student orientation, handles all student paperwork, including assistantship forms, coursework, and programs of study, and student office assignments. The Coordinator also helps with scheduling final exams. Please direct all questions about academic regulations and policies to her. When you first arrive on campus it is important to check in with the Coordinator.

Crop and Soil Sciences Administrative Support:

Mary Kate Alexander	General secretarial support
John Brabb	Fiscal Management for Faculty Members
Jolene Wetterau	Budget Reconciliation
Debra Marsh	Departmental Web and Media Support, Extension Support
Dori Emerson	Travel and Purchasing
Katrina Shelton	All personnel appointments (new hires, renewals, change in status, etc..) for the faculty, administrative professional, civil service, graduate students and temporary employment. Processing of Visa's and leave reports for the department.

Farm and Greenhouse Managers:

Dan Dreesmann	Manager of Greenhouses/Growth Chambers, Assigns Space and Greenhouse Keys. Plant Center G-3, 335-5824, dreesmann@wsu.edu
Peggy Collier	Assist with Greenhouse Operations
Ryan Davis	Manager of Spillman, Cook, and Plant Pathology Farms
Bruce Sauer	Manager of Lind Research Station

Crop and Soil Science Graduate Student Handbook Supplement for WSU-Puyallup Research & Extension Center

7612 Pioneer Way East
Puyallup, WA 98371-4998
253-445-4500 ph / 253-445-4569 fax

Center Director:

Mr. John Newkirk, Administration Building, 253-445-4568, jnewkirk@wsu.edu
The person to contact if a student/advisor or student/faculty conflict arises

Office Personnel:

Mickey Bean	Administrative Assistant to the Director, Conference Room Scheduling, Travel, and Receptionist Backup
Andy Jackson	Receptionist and Time/Leave Reports
Dianne Bartle	Accounts Payable and Time-slip
Anna Stutler	Purchasing Agent, Mail and Packages
Heather Schriver	Communications Specialist and Support for Director
Diane Ritthaler	Clerical Support and Mailroom
Marcia Senter	Faculty Clerical Support and Mailroom Backup
Susan Calhoun	Time-slips and Accounts Payable Backup
Carla Ferguson	Time-slips and Accounts Payable Backup

Other Key Personnel:

Vernene Scheurer	Computer and statistical support
Gail Clowers	Farm Manager

Crop and Soil Science Faculty at Puyallup:

Craig Cogger	Soil Science
Shiou Kuo	Soil Science, Emeritus
Eric Miltner	Crop Science
Gwen Stahnke	Crop Science

Housing:

Puyallup has a small (4 room) student dormitory house from which rooms may be rented at a nominal cost. However, the house does not allow children or pets. There is also a 1-bedroom guest cottage, where married students and children are allowed. All housing is on a first come first serve basis. Other housing (such as room, apartment, and house rentals) is available in Puyallup. Contact your major advisor for help in finding housing.

Offices and Desks:

Office and desk space is limited so you may either be in a graduate student office or have desk space in a lab. Your major advisor will request space for you from the Space Committee Chair.

Keys:

To obtain keys for Kalkus Hall, your office, labs, greenhouses, etc., see Marc Anderson. Security is the responsibility of everyone, so please assume responsibility for locking your office and lab doors after regular hours. For weekend and "after hours" use of Kalkus Hall, please make certain that the doors have fully closed and are securely locked after you use them. Training in operation of security system is required in order to gain after hours access.

Staff Assistance:

Limited staff assistance is available; consult with your advisor for specifics.

Copy Machine Use:

The copy machine is in the mailroom. Your advisor will have a copy code. 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.

Research Supplies:

Determination of appropriate purchase will be made between the student and advisor.

Crop and Soil Science Graduate Student Handbook Supplement for WSU-Prosser Irrigated Agriculture Research & Extension Center

24106 N Bunn Road
Prosser, WA 99350-8694
509-786-2226 ph / 509-786-9370 fax

Interim Director:

Dr. Robert G. Stevens, 509-786-9231, stevensr@wsu.edu

The person to contact if a student/advisor or student/faculty conflict arises.

IAREC Office Personnel:

Sharon Taff	Assistant to the Director
Stephanie Brock	Administrative Manager
Nancy Smith	Receptionist, Conference Room Space, Travel and Leave Reports
June Trimble	Extension Secretary and Department Web and Media Support

Other Key Personnel:

Guy Reisenauer	Computer and Statistical Support
Mark Saams	Agriculture and Maintenance Manager
Nolan Murray	Farm Manager

Crop and Soil Science Faculty at IAREC:

Joan Davenport	Soil Science
Steve Fransen	Forage Crop Agronomist
An Hang	Alternative Crop Agronomist
Steve Kenny	Hop Genetics/Breeding
Bob Parker	Weed Science
Bob Stevens	Soil Science

Housing:

Prosser has a small (11 room) student dormitory from which rooms may be rented at a nominal cost. However, the dorm does not allow children or pets. Other housing (such as room, apartment, and house rentals) is available in Prosser. Contact your major advisor for help in finding housing.

Offices and Desks:

Office and desk space is limited so you may either be in a graduate student office or have desk space in a lab. Your major advisor will request space for you from the Space Committee Chair.

Keys:

To obtain keys for Hamilton Hall, your office, labs, greenhouses, etc., see Bill Juezler. Security is the responsibility of everyone, so please assume responsibility for locking your office and lab doors after regular hours. For weekend and "after hours" use of Hamilton Hall, please make certain that the doors have fully closed and are securely locked after you use them.

Staff Assistance:

Limited staff assistance is available; consult with your advisor for specifics.

Copy Machine Use:

The copy machine is in the mailroom. Your advisor will have a copy code. 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.

Research Supplies:

Determination of appropriate purchase will be made between the student and advisor. Consumable purchases may be made with a program's P-card. For larger purchases (e.g., equipment) or purchases that cannot be made with a P-card, Bill Juezler is the purchasing agent and will help you with your purchase

Crop and Soil Science Graduate Student Handbook Supplement for WSU- Mt. Vernon Northwest Washington Research & Extension Center

16650 State Route 536
Mount Vernon, WA 98273
360-848-6120 ph / 360-848-6159 fax
nwrec@wsu.edu

Director:

Dr. Stephen Jones 360-416-5210 joness@wsu.edu

NWREC Office Personnel:

Jeanne Burritt	Administrative Manager, jburritt@wsu.edu 360-848-6123
Kate Gleissner	IT Technician, kgleissner@wsu.edu 360-848-6120
Jamie Anderson	Fiscal Technician, ashleyb@wsu.edu 360-416-5205
Olson Heritage Farmhouse	360-424-2040

Crop and Soil Science Faculty at NWREC:

Dr. Tim Miller	Weed Science
Dr. Stephen Jones	Breeding and Sustainable Agriculture

Other Faculty at NWREC:

Dr. Lindsey du Toit	Plant Pathology- Vegetable Seed Crops
Mr. Gary Moulton	Horticulture- Fruit
Dr. Tom Walters	Horticulture- Small Fruit

Housing:

Mt. Vernon has a farmhouse that was recently beautifully renovated with funds gifted from the Osberg family of Seattle. There are five dormitory rooms plus living/dining room, laundry, 2 bathrooms, and kitchen common spaces. One bathroom and bedroom meet ADA requirements. Students are charged $10 per night to stay at the house and there are no extra charges for utilities, other than cable television.

Offices and Desks:

Each student has office space, including desk space, computer and printer access. Lab, geenhouse, and field space are also available as needed. Arrangements for lab, greenhouse and field spaces are made through the student's major advisor.

Staff Assistance:

Limited staff assistance is available. Consult with your major advisor for specifics

Copy Machine Use:

Consult with your major advisor regarding the availability of copy machines and fax machines. 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.

Research Supplies:

Determination of appropriate purchases will be made between the student and advisor.

Upcoming Improvements:

WSU is currently building a new $8 million facility at NWREC. The design includes a graduate student office with space for 7 students. It will have a T1 line for electronic connections, and will have a small conference room so that graduate students can attend meetings and seminars via video conferencing. The new building will also have a public auditorium and demonstration kitchen. New laboratory and greenhouse facilities are also coming to improve research in plant pathology, horticulture, and weed science.

Words from Stephen Jones, Director:

Located halfway between Seattle and Vancouver BC, the Skagit Valley is one of the most beautiful and diverse agricultural regions in the country. Graduate students housed at the Mount Vernon Research and Extension Center have access to full laboratory facilities, greenhouses, and research farms. Eight main research programs focus on 32 different crops ranging from tulips to wheat to organic grapes and potatoes. Students here are exposed to the complex farming and political systems that make up a strong and historical agricultural community. Grower and community support to see agriculture continue in the region is illustrated by the over $2M in local donations to help improve our research capabilities."

Crop and Soil Science Graduate Student Handbook Supplement for WSU- Wenatchee Tree Fruit Research and Extension Center

1100 N. Western Avenue
Wenatchee, WA 98801
509-663-8181

Center Director:

Jay F. Brunner, 509-663-8181 ext. 238, jfb@wsu.edu
The person to talk to if a student/advisor or student/faculty conflict arises.

Office Personnel:

Kevin Larsen	Finance/Budget Manager, saray@wsu.edu, 509-663-8181 x 221
Darla Ewald	Administrative Assistant, dewald@wsu.edu, 509-663-8181 x 250
Bette Brattain	Editor-Research Publications, brattain@wsu.edu, 509-663-8181
Christina Mayer	Office Assistant
Craig Root	Environmental Health and Safety
Angela Schaub	Environmental Health & Safety

Crop and Soil Science Faculty at Wenatchee:

Frank Peryea	Soil Science, Emeritus
David Granatstein	Center for Sustaining Agriculture and Natural Resources

Housing:

Wenatchee has a farmhouse and three mobile homes which are shared and usually occupied by graduate students. Other housing is available in Wenatchee. Contact your major advisor for help in finding housing.

Offices and Desks:

Desk space is at a premium, but space is usually found for new graduate students. Speak with your major advisor about desk assignments.

Keys:

To obtain keys speak with your major advisor or the office personnel.

Staff Assistance:

Limited staff assistance is available. Consult with your major advisor for specifics.

Copy Machine and Fax Use:

Most requests for copy machine use and faxing are accommodated. Speak with the office personnel for specifics on the location of copy machine, fax machine, and copy code numbers.

Research Supplies:

Determination of appropriate purchase will be made between the student and advisor.

Student Services and Facilities

Campus Student and Hourly Employment Office
141 French Administration; (509) 335-1969
http://www.hrs.wsu.edu/

Career Services
Lighty 180; (509) 335-2546
www.careers.wsu.edu/

Center for Advising and Career Development
Lighty 190; (509) 335-6000
http://www.salc.wsu.edu/

Center for Human Rights
French Administration 225; (509) 335-8288
www.chr.wsu.edu/

Child Care
(509) 335-8847
www.childrenscenter.wsu.edu/

Counseling and Testing Services
Lighty 280; (509) 335-4511
www.counsel.wsu.edu/

Disability Resource Center
Administration Annex, Room 205; (509) 335-1566
www.drc.wsu.edu/

Human Resource Services
139 French Administration Building; (509) 335-4521
www.hrs.wsu.edu/

Gender Identity/Expression & Sexual Orientation Center
Smith Gym 303; (509) 335-6388
www.thecenter.wsu.edu/

Graduate and Professional Student Association
Administrative Annex, 203; (509) 335-9545
www.wsu.edu/~gpsa/

Health and Wellness Services
(509) 335-3575
http://www.hws.wsu.edu/

Housing Services
McCartan Office Suite, Streit-Perham Hall;
(509) 335-4577
www.livingat.wsu.edu/hdrl/

Intensive American Language Center (IALC)
McAllister Hall, Room 116; (509) 335-6675
www.ialc.wsu.edu

International Center
Compton Union L46 (509) 335-4223
http://www.ip.wsu.edu/intlcenter/index.html

International Programs
Office of International Students and Scholars
Bryan 108; (509) 335-4508
http://www.ip.wsu.edu/oiss/

Multicultural Student Services
Compton Union Building, 409;
(509) 335-7852
www.mss.wsu.edu/

Office of Student Affairs
Lighty 360; (509) 335-4531
http://www.studentaffairs.wsu.edu/

Ombudsman's Office
Wilson Hall 2; (509) 335-1195
www.wsu.edu/~ombuds/

Parking, Vehicle, and Driver Licensing
Parking & Transportation Bldg.; (509) 335-PARK
http://www.wsu.edu/parking/

Psychology Clinic
Johnson Tower 233; (509) 335-3587
www.wsu.edu/psychology/psychologyclinic/

Speech and Hearing Clinic
Daggy Hall 133; (509) 335-1509
http://www.libarts.wsu.edu/speechhearing/clinic/

Student Legal Services/Housing Commission
(509) 335-9539

University Recreation
(509)335-8732
http://www.urec.wsu.edu/urec/index.jsp/

Women's Resource Center
Wilson Hall 8; (509) 335-6849
www.women.wsu.edu

Women's Transit Program
(509) 335-6830
www.women.wsu.edu/Transit/

Veterans Affairs
French Administration, Room 345, 509-335-1875
http://www.va.wsu.edu/

Calendar of Events

August	Summer Session Ends All Fall Assistantships Begin on August 16 (Students on Teaching Assistantships need to contact course instructors to begin preparations) New International Student Orientation Fall Orientation Classes Begin
September	Labor Day Holiday – University Closed GPSA Nominations/Elections CSS Graduate Student Representative(s) Nominations/Elections
October	Last date to apply for a graduate degree for December Graduates*
November	Veterans Day Holiday – University Closed Last date to schedule a final oral examination for an advanced degree* Thanksgiving Break for Classes- 1 week Thanksgiving Day and Friday-- University Closed
December	Last date to take a final oral examination for an advanced degree* Thesis/Dissertation due to Graduate School and Department for December Graduates* Final Examinations for courses TA Course Evaluations December Commencement Fall Assistantships End on December 31
January	All Spring Assistantships Begin on January 1 (Students on Teaching Assistantships need to contact course instructors to begin preparations) New International Student Orientation Spring Orientation Martin Luther King, Jr. Day Holiday – University Closed
February	President's Day Holiday – Class Holiday, University Open
March	Last date to apply for a graduate degree for May Graduates* Spring Break for Classes
April	Last date to schedule a final oral examination for an advanced degree* TA Course Evaluations Annual Graduate Student Evaluations
May	Last date to take a final oral examination for an advanced degree* Thesis/Dissertation due to Graduate School and Department for May Graduates* Final Examinations for courses May Commencement Statewide Tour Field Trip for Crops 512/Soils 502 Spring Assistantships End on May 15 Summer Session Begins

* See Graduate School website, http://www.gradsch.wsu.edu/ for the specific date.

Note: This list provides a general overview of important events within the Department of Crop and Soil Sciences. List is subject to change. Refer to Graduate School Policies and Procedures for a list of Graduate School events and deadlines

Policies and Procedures

Policies and Procedures

Appointments:

Upon arrival in Pullman, students appointed to assistantships (TA or RA) should contact the Academic Coordinator to complete required forms such as an I-9 and W-4. Be sure to bring your Social Security card and driver's license (or birth certificate). Foreign students will need to present a valid passport and a proper visa; other personal data may be needed to complete the appointment. The University requires that TA's (whose native language is not English) pass an English proficiency exam prior to beginning their TA duties. International Students must attend New International Student Orientation through the Office of International Students and Scholars.

Fall assistantships are from August 16th-December 31st and spring assistantships are from January 1st-May 15th. Your first paycheck will arrive at your home, if you do not have direct deposit, on September 10th or January 25th.

Assistantships are considered to be taxable income in the state of Washington and Federal tax will be deducted from your paycheck. There is no Washington State income tax. If you are on an assistantship, you will receive tuition and health insurance waivers, but you will be responsible for fees such as service activity and building fees. WSU pays health insurance fees for you, but not your dependents. Dependent health insurance information can be obtained by visiting the Benefit Services website at http://www.wsu.edu/benefits/index.html

Graduate students **must reside in the state of Washington** to qualify for any tuition or residency waivers. Graduate School policy sets time limits for teaching and research assistant positions: two years (4 academic year semesters) for master's candidates, four years (8 academic year semesters) for doctoral candidates without a Master's degree, and six years for doctoral candidates without a Master's. Students must maintain a 3.0 Grade point average to be eligible for assistantships. Residency waivers are not up to departmental discretion, and the Graduate School will only grant out of state tuition waivers to domestic students for two semesters. Once a student has resided in the State of Washington for 12 months, they must apply for residency with the Graduate School. *International students with certain visas are granted out of state waivers for the duration of their studies at WSU, since they are ineligible for residency.* Because of constant changes in residency requirements, students are encouraged to consult their advisor or the Graduate School for current policy (see appendix VI for a requirement checklist).

Graduate students on appointments enter into an agreement with the University that both parties are expected to honor. All RA and TA positions are for Fall and/or Spring semesters. Summer hourly appointments are for one to three months at a rate that is equivalent to the normal RA appointment rate. University policy requires graduate appointees to work 20 hours per week in addition to their coursework and to **be at work each workday, including periods when the University is not in session (e.g., Spring and Thanksgiving Break), with the exception of legal holidays.** Dropping below 20 hours per week can jeopardize non-resident tuition waivers. Department policy,

however, permits exceptions for students to work less than half-time while taking heavy course loads, but full-time during summers and other periods with light academic responsibilities. Research Assistant responsibilities may include research assigned by the student's advisor as well as thesis or dissertation research. Most Teaching Assistants should expect to spend up to 20 hours per week on TA duties. Work schedules must be arranged with the thesis or dissertation advisor and/or TA supervisors. Graduate students do not earn sick leave or annual leave. Therefore, all leave and absences during normal work hours must also be arranged with a student's major advisor and, if applicable, campus advisor. Students making satisfactory progress can expect funding for 2 to 2.5 years for a M.S. degree. Students working towards a Ph.D. can expect funding for 2 to 3 years beyond the M.S. or 4 years beyond the B.S.

Students who want to withdraw from the appointment should always submit a letter of resignation to the Department Chairman. For details on resignation, contact the Academic Coordinator, Johnson Hall Room 205.

On-campus students on hourly appointments should see Katrina Shelton, Johnson Hall 207w, as well as the Academic coordinator before the first day of work.

Copy Machine Use:

The copy machine in Johnson 291D 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 CSS 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 are located at Copy Centers, French Administration Building, and at all libraries on campus.

Courses at the University of Idaho:

Register for WSU course(s) taught at UI via myWSU along with your other courses. Be sure to contact the Academic Coordinator and let them know what UI course(s) you have enrolled in. The end of the semesters at UI and WSU do not coincide. Therefore after the WSU grade submission deadline, you will not receive a grade for the UI course(s) on your initial grade report. The Academic Coordinator will work with the UI departments to get your final grades and they will be added to your student record as soon as it is received and processed from UI.

Many UI courses are not cross-listed in the WSU course catalog; the University of Idaho catalogue http://www.students.uidaho.edu/catalogs should be consulted and course schedules must be verified with the instructor.

Evaluations:

The Graduate School requires an annual review of each graduate student (see Appendix III). In CSS, this review includes academic performance, research accomplishments and presentations, and, when applicable, performance as a TA. These reviews are completed by the thesis or dissertation advisor and discussed with the student and their thesis or dissertation committee. Teaching Assistants are also evaluated at the end of the semester

by their students (see Appendix IV & V). If the student's progress is unsatisfactory, the thesis or dissertation committee will be consulted to determine if graduate student status should be continued. The Department Chair will notify the student in writing of the committee's recommendation and forward a copy of the report to the Graduate School.

Graduate Student Representatives:

In addition to your advisor and the Graduate Coordinator, you also will be represented by at least one, but no more than two, graduate students. The graduate student representative acts as a liaison with the faculty and attends all faculty meetings except those involving personal matters. He/she will communicate your suggestions to the faculty and will serve as your advocate. Departmental committees with graduate student positions include the Computer, Graduate Studies, Safety and Space Committees, and Search committees. These representatives are elected by the graduate students and are the representatives for one academic year.

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 CSS program has at least one representative to the GPSA Senate (the governing body for GPSA) who is elected each fall. Many of the important advisory committees within the university itself have voting positions for graduate students. Students are encouraged to become involved in positions of interest. To contact the GPSA, you may visit http://www.gpsa.wsu.edu/ go to 308 Compton Union Building, or call (509) 335-9545.

Greenhouses and Growth Chambers:

The College operates a greenhouse facility 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 Dan Dreesmann (dreesmann@wsu.edu) or go to the homepage, http://pgf.arc.wsu.edu/index.html. Greenhouse policies and regulations can be found there, 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 crew.

Grievances:

If grievances arise, the student should discuss the problem with their thesis advisor and the Graduate Coordinator(s). If additional consultation is needed, please consult the Department Chair, or as a final resort, the WSU Ombudsman. The WSU Ombudsman Office is in Wilson Hall, Room 2 and may be contacted by visiting http://www.wsu.edu/~ombuds/ or by calling (509) 335-1195.

Health Insurance:

Students on a graduate student assistantship are provided health insurance at no charge. Dependent/Spouse coverage is not automatically provided, but is available for a fee. For complete information regarding coverage, please visit the Health and Wellness Services website at http://www.hws.wsu.edu/Student_Info/Insurance.htm. Once your assistantship has ended you are not eligible for COBRA.

Housing:

Arrangements for housing should be made prior to arriving at WSU since accommodations are limited. University apartment reservations for single students and families may be obtained at Housing Reservations in Streit-Perham. Call (509) 335-4577 to make residence hall reservations. For off-campus housing, contact the Pullman Chamber of Commerce at (509) 334-3565 or www.pullmanchamber.com, local real estate agencies, or local newspapers (Moscow-Pullman Daily News). You can also visit www.pullman.com which has links to rental websites.

Keys and Card Access:

To obtain keys for Johnson Hall, PBS I, your office, labs, greenhouses, etc., see the Office Staff in Johnson 291D. There is no initial charge for the keys, however, in the event that they are lost or you leave the University without returning them a $3.00 replacement fee per key will be charged, or a bill will be sent to you. If the keys are not returned your transcripts will 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 the thesis or dissertation advisor.

Offices and Desks:

The Department of Crop and Soil Sciences will provide office space and desks for students on regular appointments. Office space is limited and you may have to wait for an opening. Contact the Academic Coordinator for a desk and space assignment.

Paychecks:

Paychecks are mailed or direct deposited on the tenth and twenty-fifth of the month. Paychecks cannot be forwarded, so make sure that all address changes are dealt with immediately. Address changes can be done through WSU's home page www.wsu.edu by using the myWSU system. We highly recommend that all TA/RA's sign up for automatic payroll deposit. This can be done at the Payroll Office (room 236 French Administration).

Staff Assistance:

Graduate students may request secretarial assistance only in limited situations. Administrative Assistants will not type personal letters, class reports or similar materials for students. Typing of your thesis or dissertation is considered personal work. You may request assistance with mailing or sending fed-ex packages if they are clearly related to faculty led research work. All requests for staff assistance should be coordinated with your thesis/dissertation advisor.

Research Supplies:

No student purchases can be made without approval from their advisor. Most research supervisors maintain "blanket" purchase orders at WSU facilities (Central Stores, Chemical Stores, Surplus Stores, Technical Stores, etc.) and service centers (Physical Plant, Technical Services, etc.). To purchase supplies, an authorization number must be obtained from your supervisor. If unforeseen needs arise in the field, contact your advisor and/or the main office for authorization of an emergency purchase order. You will not receive reimbursement for items purchased from outside vendors without advance authorization.

Travel:

For liability and reimbursement purposes, all students must complete a Travel Authority form for any trip they take that is outside of Pullman (or any other station for off-campus students). These forms are available from Dori Emerson or on the CSS Website http://css.wsu.edu/resources/business/index.htm. At least 21 working days before a trip, this form must be submitted, signed by the department chair and initialed by your advisor. In some circumstances, travel advances may be obtained by submitting a request at least four weeks before the trip. If you need reimbursement, you must complete a Travel Expense Voucher within one week of your return.

You are strongly urged to attend professional meetings; however, the department often does not have funds to pay travel expenses of students on appointment. Advisors may use grant or project monies to pay partial travel expenses for graduate students attending meetings. The Graduate School does disburse some grant-in-aid travel funds, which can be used for travel to professional meetings. Application forms for student travel grants may be obtained from the Graduate School, French Administration Building, Room 324 or http://www.gradsch.wsu.edu/. The Crop and Soil Sciences Department also has the O.A. Vogel Washington State Crop Improvement Association Travel and Education Grant, as well as the Harry E. Goldsworthy Fund that can be used for travel. Check with the Academic Coordinator about the availability of these departmental awards. It is advisable to apply for a travel grant if you are presenting a quality paper at a professional meeting. In addition, space may be available in University vehicles or some faculty members may share travel expenses.

The department owns several vehicles available for department business. They are intended only to provide low-cost transportation to local sites and businesses. Vehicles are checked out in the main office, and specific policies are available at the front desk.

Master's Degree:

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. The thesis should be formatted in a style that is consistent throughout. 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. All thesis committee members must attend the thesis defense and vote. Other faculty members may attend and ask questions. All members of the Faculty are allowed to vote. Forms to apply for a degree, schedule exams, etc. may be found on the Graduate School website at, http://www.gradsch.wsu.edu/. For specific guidelines see the Crops or Soils sections of this handbook.

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.** Students in this option are required to take considerably more coursework than is required of students in the thesis option. Students in the non-thesis option must complete a paper or project in lieu of the thesis. The final oral exam will focus more on broad knowledge and less on project defense than would an exam for the thesis option. Forms to apply for a degree, schedule exams, etc. may be found on the Graduate School website at, http://www.gradsch.wsu.edu/. For specific guidelines see the Crops or Soils sections of this handbook.

Doctor of Philosophy Degree:

The degree of Doctor of Philosophy (Ph.D.) is awarded in recognition of excellence in scholarship and for an original contribution to the advancement of science. The degree is awarded for originality and creative scholarship rather than for an accumulation of academic credits. Forms to apply for a degree, schedule exams, etc. may be found on the Graduate School website at, http://www.gradsch.wsu.edu/.

The Ph.D. 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 and most of the academic program is completed. The preliminary exam should be completed no later than the fourth semester into the Ph.D. degree program. After passing the preliminary examination the candidate concentrates on research and preparation of the dissertation. During the latter period the candidate demonstrates his/her ability to do original research. The final oral examination should reflect that students have developed into mature scientists, which includes the ability to conceive 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.

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 research. The major advisor assists in selection of the thesis committee and development of a program of study and thesis or dissertation research proposal. The major advisor monitors the

student's academic and professional growth, reviews program changes, and arranges for graduate student support.

If the major advisor is located at a Research Station, a *campus advisor* must be identified who will support the academic development of the student while that student is on campus. If the student is conducting their project at least partly on campus, then in an ideal situation the campus advisor will be a co-investigator on the student's research with the major advisor. Although the major advisor is responsible for advising the student on experimental design and manipulation and interpretation of data, and for reviewing initial drafts of theses/dissertations and papers, the student will be integrated into the campus advisor's research program. The campus advisor will also provide *monetary* support for these research activities. For those students whose research program focus is off-campus, the campus advisor will serve on the student's committee, answer day-to-day questions while the student is in Pullman and will invite the student to research group meetings, journal clubs, and similar activities.

Committee:

All students have a thesis or dissertation advisory committee. The students must meet with their committee at least twice per academic year. The minimum number of committee members is three, including the advisor. Crop and Soil Sciences allows non-tenure WSU faculty (research, clinical, adjunct, or affiliate) who are participating as graduate faculty within a program to serve on, co-chair, or chair a committee with approval from the Graduate Coordinator and Department Chair. The committee chair ensures that the student is making satisfactory progress towards a degree. The chair and the major thesis/dissertation advisor are not always the same person. For the M.S. degree, at least one additional member of the committee must be a permanent WSU tenure-track faculty member. For the Ph.D. committee, at least two additional members must be permanent WSU tenure-track faculty members. An additional fourth committee member who holds the highest appropriate degree and shows special knowledge important to the program, but who is not a member of the faculty, may be approved via a request by the Department Chair to the Dean of the Graduate School. If a minor is declared, one member of the committee must be from the graduate faculty of the minor program. This person may fill the requirement of one of the WSU permanent tenure-track faculty members on the committee. The 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 Ph.D. students, elect to have four or five faculty on their 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. See the sections for the Crops Program and Soils Program for specific requirements. Committee members often participate in the annual student evaluation. The respective Graduate Coordinator must approve each committee.

The Graduate School policy and procedures, deadlines, guidelines, Committee Membership and Program of Study forms, and final exam scheduling form may be found by visiting, http://www.gradsch.wsu.edu. Some important dates, e.g., the last date to schedule a final oral, apply for a degree, thesis due at the graduate school, etc., are

announced each semester. Additinally, see the Graduation section of this handbook for CSS policy and procedures toward graduation.

Milestones to Meet in for Successful Completion of the Graduate Degree:

Milestone	M.S. Degree	Ph.D. Degree
Committee identified and agrees to serve	End of first semester	End of first 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)	Early in second semester
Thesis/Dissertation proposal defended to committee (in the Crops degree this is part of the preliminary examination for Ph.D. students, see below)	End of second semester	End of second semester. Crops Students enroll in Crops511
Course-work completed	End of 4th Semester	End of 4th Semester
Oral Preliminary Exam scheduled (Ph.D. students). Scheduling form submitted to Academic Coordinator.	N/A	End of 4th or early 5th Semester. Scheduling Form must be submitted 12 work-days prior to exam. See Graduate School deadlines for length of time necessary between completion of preliminary examination and final examination.
Oral Preliminary Exam completed (Ph.D. students)	N/A	End of 4th or early 5th Semester,
Crops/Soils 510 seminars completed (see below)	Once,	Twice, first one during first year. Second can be final dissertation seminar.
Statewide tour Special Topics completed	During first year	During first or second year
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.
Schedule for graduation form approved by committee.	During first month of semester in which student expects to graduate.	During first month of semester in which student expects to graduate.
Intent to graduate form submitted to graduate school	During first month of semester in which student expects to graduate.	During first month of semester in which student expects to graduate.
Alert CSS academic coordinator and Crops or Soils graduate coordinator of intent to graduate.	During first month of semester in which student expects to graduate.	During first month 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 Examination request form submitted to Academic Coordinator and Department Chair for approval.	Scheduling Form must be submitted 12 work-days prior to exam.	Scheduling Form must be submitted 12 work-days prior to exam.
Final draft of Thesis/Dissertation submitted to Committee	Minimum 10 work-days prior to exam.	Minimum 10 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, eight to nine semesters after beginning study.	If on RA/TA, 8 -16 semesters after beginning study (depending on whether student begins with BS or MS).

Program of Study:

Graduate School Course Requirements for a Non-Thesis Master's Degree

- 30 hours minimum of total credit
- 26 hours minimum of graded course work, which consists of:
  - 17 hours minimum of graded course work at the 500-level
  - 4 hours minimum of 702 and/or graded course work at the 500-level
  - 9 hours maximum of non-graduate graded course work credit (300-400 level only)

Graduate School Course Requirements for a Thesis Master's Degree

- 30 hours minimum of total credit
- 21 hours minimum of graded course work, which consists of:
  - 15 hours minimum of graded course work at the 500-level
  - 4 hours minimum of 700-level credit in major
  - 6 hours maximum of non-graduate graded course work (300-400 level only)

Summary of Doctoral Program of Study Requirements

- 72 hours minimum total credits
- 15 hours minimum from graded graduate-level (500-level) courses
- 20 hours minimum 800-level research credits
- 9 hours maximum of non-graduate courses
- courses for audit may not be used for the program of study

All students should become familiar with the Graduate School course requirements as outlined on the Graduate School website at http://www.gradsch.wsu.edu/. Copies of the forms for submitting programs are in Appendix I and II. The program of study is planned by the student in concert with the advisor and thesis committee and submitted to the Crop or Soils faculty for approval. Prior to submitting the Program of Study for review by the Crops or Soils Faculty, a copy must be given to the Academic Coordinator and respective faculty graduate coordinator in order to ensure an appropriate committee has been formed.

The program is then forwarded to the faculty for review and approval, then the department chair, and, finally, the Graduate School. Once the program has been approved and submitted to the Graduate School, the program becomes official. Students are required to take all courses listed on the program of study. Students may choose to take courses not on the official program. Ideally, the program of study is approved during the first semester, and it must be approved by the end of the second semester. A flexible number of credits are allowed for research and thesis (700 or 800 level) each semester. Students are required to register for Crops or Soils 700, 702 (Research Projects for Non-Thesis Majors) or 800 to bring their credit load up to the maximum allowed, 18 credits each semester. Courses for audit may not be used for the program of study. Any course listed on the student's Program of Study in which a grade of "C-"or below is earned must be repeated but not on a pass/fail basis. All courses on the program of study

must be listed in the official WSU Course Catalog. Courses taught at University of Idaho that are not listed in the WSU course catalog can be added to the program of study using the independent study, special topics option, with committee approval.

Seminar:

General Requirements:

All students and faculty are expected to attend/participate in the departmental seminar. During their last semester, all Crops and Soils graduate students are required to present a final seminar on their research. This defense seminar is often presented immediately before the final oral exam.

Crops Student Seminar Requirements:

MS students are required to take one credit of Crops 510 during their study at WSU, which is accessible via WECN for off campus students. PhD students are required to take two credits of Crops 510, of which one credit must be taken during their first year of study at WSU. The second credit for Crops510 may be for the dissertation seminar presented in the final semester during the Crops seminar time (Monday, 3pm) and student must enroll and attend course. The dissertation seminar may also be given in addition to the second credit of Crops510.

Soils Students Seminar Requirements:

All Soils students are required to take Soils 501 during their final semester, which is accessible via WECN for off campus students. Ph.D. students are required to take two credits of Soils 501, one credit must be taken during their first year of study with the subject being their research proposal. The second credit for Soils 501 will be for the dissertation seminar presented in the final semester.

Graduate Students in other degree programs advised by CSS faculty:

It is highly recommended that students who are in other degree programs (such as Molecular Plant Sciences), with major advisors who are CSS faculty, and who are housed in the CSS department, take one credit of Crops 510 or Soils 501.

Special Topics, Washington State Tour:

All students are required to enroll in one credit of a the Statewide Tour Special Topics course (CropS 512 or SoilS 502) during their graduate student career at WSU. The course may be repeated up to 3 credits. The course will consist of a statewide tour and the following assignments:

1. After the trip, students must submit a group paper of their impression of Washington's agriculture, industry, and environment.

2. During the fall semester after the trip, students give a group seminar on what they experienced and learned.

Preliminary examinations:

The criteria for these examinations are different in the Crops and Soils majors, please see those sections, below.

Thesis or Dissertation Processing:

All students should develop a thesis or dissertation proposal after consultation with their advisor and committee. This proposal forms the basis for the thesis/dissertation research. 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.

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.

The general thesis or dissertation format required by the department is one with three sections: a literature review, several chapters describing methodology, research results, and a chapter with the overall conclusion. The chapters describing research results should be written as papers for publication. For the thesis or dissertation, the papers should be modified to 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. They must also be paginated and formatted to give uniformity to the thesis or dissertation. Thesis or dissertation formatting requirements for the Graduate School can be found on their website, http://www.gradsch.wsu.edu/.

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.

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 – prepare and defend research proposal, preferably by the end of the second semester after beginning work for a graduate degree.

2. Complete and summarize literature review in written form and develop theories, 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. Summarize and tabulate data, analyze data, apply theories, and develop a written presentation -begin as early as possible on a tentative basis and follow up by preparing a complete, typed draft for submission to the thesis/dissertation advisor at end of semester prior to graduation. Select a style from a scientific journal you wish to follow. Research papers prepared by professionals may be rewritten as many as a dozen times before submission to a journal for editorial review. Graduate students should plan to rewrite several drafts 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 at several weeks for the review process. See above for a suggested timeline. If problems surface involving interpretation of 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. The revised draft of this document becomes the "final draft" as outlined in the following section on activity and comments.

Students on research appointments may continue to collect and analyze data, write, etc., during the final semester or summer session. Research results generated after submission of the thesis or dissertation to the committee will not automatically be accepted as essential material. If the advisor(s) consider it appropriate, the data collected during the final semester or summer session may be used in the final draft.

The Faculty recommends 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 schedule allows a reasonable amount of time for completion of each step and for details of post-thesis approval and for the preparation of a manuscript for publication. Since faculty members are usually involved with other reviews, as well as regular duties, the following guidelines are suggested:

<u>Number of Weeks to Allow for Thesis/Dissertation Activity and Comments</u>

2 to 6 weeks	Submit 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 your graduate 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. This is a critical time because you will be getting comments on the draft from your committee for the first time.
2 weeks	Resubmit the draft to the committee or to selected committee members. All technical aspects of the thesis or dissertation should be worked out at this point. Don't present any surprises to the committee at your final exam.
2 weeks	Submit a "final" draft to each committee member and to the department chair *at least* 10 days prior to scheduling your final exam. Submit a "final oral scheduling form" and copy of your thesis or dissertation to the Graduate School.

The student is required by the Graduate School to give an approved copy of the thesis or dissertation to the department chair and to deposit the thesis or dissertation abstract in the Fischer Agriculture Library at least 10 days prior to the oral examination.

Concluding Comments: Normally, a minimum of 12 to 16 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.

Please see Appendix VIII- "Academic Integrity Standards and Procedures".

Plagiarism and misconduct in research will NOT be tolerated. Students failing to follow guidelines dictated by the Office of Student Conduct may face dismissal from Washington State University. If you are not sure what constitutes plagiarism, consult the WSU Plagiarism Information site:
http://www.wsulibs.wsu.edu/plagiarism/main.html

Final Oral Exam and Thesis/Dissertation Binding:

The final exam has two parts: a seminar and a defense. The seminar is usually presented before the defense and is a public presentation highlighting the research results and major accomplishments, as previously described. In Crops, the seminar may be taken as a credit of Crops 510, in Soils, it should be taken as a credit of Soils 501. After preliminary approval of the thesis/dissertation by the committee and department chair, and approval of the schedule by the committee (for completing degree requirements see the Graduation section of this handbook), the final exam can be scheduled through the Graduate School. The defense is an oral exam at which the student defends the approach, methods, conclusions, background, etc., of the research. Faculty are encouraged to attend the exam and ask questions, but only members of the thesis or dissertation committee and the graduate faculty may vote. Questions asked during the final exam do not have to

relate to the thesis or dissertation research. The student is responsible for obtaining signatures on the necessary forms and for securing the required number of copies of the thesis or dissertation. **It is also the student's responsibility to comply with the CSS Department Policies and Procedure for graduation found in 'Graduation' section of this handbook.**

Members of the thesis or dissertation committee are responsible for checking the thesis or dissertation for style and format. They certify their approval when they sign the "final oral scheduling form". Committee members cannot sign off on a final exam schedule form if they have not had ample time to review the final draft of the thesis/dissertation. A copy of your thesis/disssertation with the title page and scheduling form signed by your major advisor must be given to both your committee and the department chair for approval.

The completed Dissertation Acceptance/Final Examination Scheduling form must be submitted to the Graduate School at least 10 (ten) working days in advance of the examination date. It is necessary to present an electronic or paper draft copy of the dissertation that is complete in format at the time of scheduling. The examination must be scheduled at least four months, but less than three years, after satisfactory completion of the preliminary examination.

The Graduate School requirements for the dissertation are as follows:

After passing the final examination, an electronic copy of the corrected dissertation/thesis must be submitted following the Graduate School's guidelines for digital submission within five working days of the final oral examination. Students should use the Final Dissertation/Thesis Acceptance Checklist when preparing the electronic copy for submission.

In addition, the following must be submitted to the Dissertation/Thesis Acceptance clerk in the Graduate School within five working days of the final oral dissertation:

- All students must submit a 100% cotton fiber paper copy of the title page, abstract page, and signature page signed in black ink by all committee members.
- All students must submit a completed Hold Harmless/Copyright Acknowledgement (http://www.gradsch.wsu.edu/current-students/forms/Copyright.pdf) form.
- All doctoral candidates must submit an extra copy of the title page and abstract on standard white paper (not 100% cotton).
- Doctoral candidates have the option of submitting a copyright request for their dissertation when submitting it for publication.
- All doctoral candidates should submit a completed and signed Survey of Earned Doctorates http://www.gradsch.wsu.edu/current-students/forms/SED08-09_fill.pdf (strongly recommended).

When the thesis or dissertation is completed and accepted, the department pays for the hardcover binding of two copies of your thesis, one for the Department's thesis and dissertation library in Johnson 202 and one for the Chair of your Committee. It is the student's responsibility to request a purchase order from the main office. The hardcover binding for the thesis is to be a burgundy color. Put the title, name and date on the front cover and put name and date on the spine.

Continuation for Another Degree:

To continue for another degree you should contact the Academic Coordinator. The following forms/cards may be picked up from the Graduate School:

- 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.

Exit:

Before departure from CSS, students must leave a forwarding address with the Academic Programs Coordinator, schedule an exit interview with the Department Chair, return all keys to the main office, and consult with the advisor about cleaning up samples, chemicals, etc., from the student's research and office space.

Graduation:

Students must go the Graduate School (French Administration 324) or visit their website, http://www.gradsch.wsu.edu/, early in the semester during which they expect to graduate and obtain information regarding procedures and deadlines for thesis defense and graduation. Failure to meet the deadlines could require enrollment for an additional semester.

Additionally, for a graduate student to graduate they must first alert the Academic Coordinator and the appropriate graduate coordinator Crops or Soils, **during the first week of the semester in which they plan to graduate**. The student and professor should be prepared to present, in writing, an official timeline of how the process leading up to the thesis defense will be carried out in a timely and fair manner. The timeline should include committee meetings, draft editing schedules, official graduate school deadlines and other pertinent dates and procedures.

In addition, **prior** to the formal scheduling of the defense a draft thesis with front page signed by the faculty advisor must be presented with the final exam scheduling form to the department chair for approval to move forward with the scheduling process. **The department chair will not sign the scheduling form without this thesis copy**. The decision on whether to approve will happen within two working days. This process does not override in any way the responsibility of the thesis committee. Rather, it is meant to offer one more step of preparation by and for the student. Any thesis committee member

may deem that the thesis is not ready to be defended at any of the normal steps in the process.

Students who do not complete the steps listed above will not be allowed to conduct their defense until the following semester, NO EXCEPTIONS.

Intent to Graduate Notice should include the following:

1. Student's Name:
2. Major Advisor (Major Advisor signature must be included):
3. Committee Members (Committee member signatures must be included):
4. Dissertation Title:
5. Date of Prelim Examination:
6. Status of Thesis/Dissertation:
7. Expected Date for delivery of Thesis/Dissertation Final Draft to Committee:
8. Expected Date for Thesis/Dissertation Seminar:
9. Expected Date for Thesis/Dissertation Defense:

Check List for Graduation:

- 1st week of semester intending to graduate- submit written intent to graduate and timeline to Academic Coordinator
- Ensure all deadlines on timeline are met throughout final semester**,** students intending to graduate who determine that graduation during that semester is not possible, should immediately contact the Academic Coordinator with an updated intent to graduate and revised timeline.
- Submit Application for Degree to the graduate school (see Graduate School Website for specific deadlines)
- After final committee approval of thesis draft, approve defense date and time and obtain committee signatures on final exam scheduling form, contact Academic Coordinator to schedule a room for defense
- Submit final exam scheduling form with all committee signatures to Department Chair along with a draft of thesis/dissertation containing your major advisor's signature on the cover page, once signed submit original form to the Graduate School Programs office (see Graduate School website for specific deadlines and procedures) and submit a copy of the signed scheduling form to the Academic Coordinator
- Conduct final exam, and turn in final copy of thesis/dissertation to Graduate School within 5 working days of defense

It is the sole responsibility of the student to ensure that all deadlines set forth by the Graduate School are met. Dates and deadlines can be found for each semester on the Graduate School website at http://gradsch.wsu.edu Failure to follow the CSS Policies and Procedures or to meet the deadlines set forth by the Graduate School will result of delay in graduation date.

Jobs:

In addition to searching jobs through the Societies, and various online job sites, information on positions available for M.S. and Ph.D. candidates are posted on a job board in the hallway across from the magazine rack. Ask the Academic Coordinator for assistance if you can't locate the job listings.

Crop Science

Crop Science Graduate Student
Academic Requirements and Policies

Incoming Graduate Students:

The advisor, thesis committee, and Graduate Coordinator 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, they may be asked to make up those deficiencies by taking or auditing courses or by doing extra reading.

Courses listed below are subject to change. Your thesis Committee has the sole responsibility and flexibility to develop the program of study with you (generally during the second semester). *The Crops Faculty must approve your program and may require additional coursework.* It is your responsibility to have appropriate forms typed, proofread, and signed by your Committee and Department Chair for final approval by the Graduate School. You can request revisions in your program should the need arise. Your Committee, the Graduate Coordinator and the Department Chair, must approve all revisions. The Crops Faculty must approve all major revisions. Revisions must be sent to the Graduate School on approved forms that are available at http://www.gradsch.wsu.edu/

Recommended Areas of Competence (or equivalencies)		**Credits**	**Sem**	**Offered**
Soils 201	Soil Science: A Living System	3	F	every year
Crops 202	Crop Growth and Development	4	S	every year
Stat 212	Introductory Statistics	4	F, S	every year
Chem 240	Elementary Organic Chemistry	4	F, S	every year
Biol 320	Introductory Plant Physiology	3	F	every year
Crops 411	Environmental Crop Physiology	3	S	every year
Stat 412	Biometry	3	F, S	every year
Pl P 429	General Plant Pathology	3	F	every year
Soils 441	Soil Fertility	3	S	every year
Crops 444/445	Plant Breeding I & II	2/2	S	every year

Master's Degree:

A suggested guideline for progress toward the M.S. degree is included below.

MS Core Course Requirements		**Credits**	**Sem**	**Offered**
CropS 510	Seminar	1	F, S	every year
CropS 512	Special Topics, State Tour	1	F, S	every year
CropS 700	Master's Research (Thesis Option)	4	F, S	every year
CropS 702	Master's Special Problems (Non-Thesis Option)	4	F, S	every year

MS Suggested Course Options		Credits	Sem	Offered
MBioS 303	Introductory Biochemistry	4	F, S	every year
Stat 412	Biometry	3	F, S	every year
CropS 444/445	Plant Breeding I & II	2/2	S	every year
CropS 503	Advanced Cropping Systems	3	F	every year
Stat 512	Analysis of Variance of Designed Experiments	3	F, S	every year
Stat 519	Applied Multivariate Analysis	3	S	every year
CropS 546	Plant Breeding (UI PlSc 546)	3		
CropS 547	Biometrics for Plant Scientists (UI PlSc 547)	3	S	odd years

Doctor of Philosophy Degree:

A suggested guideline for progress toward the Ph.D. degree is included below.

PhD Core Course Requirements		Credits	Sem	Offered
CropS 510	Seminar	2	F, S	every year
CropS 511	Research Proposal Development	2	F, S	every year
CropS 512	Special Topics	1	F, S	every year
CropS 512	Special Topics, State Tour	1	F, S	every year
CropS 800	Doctoral Research	20	F, S	every year

Breeding/Genetics Suggested Course Options		Credits	Sem	Offered
CropS 504	Plant Transmission Genetics (UI PlSc 507)	3	S	odd years
CropS 505	Adv. Classical and Mol. Breeding	3	F	odd years
CropS 512	Special Topics, History of Genetics	1-2	S	odd years
MBioS 513	General Biochemistry	3	F	every year
or 514	General Biochemistry	3	S	every year
Biol 519	Introduction to Population Genetics	3	F	even years
Biol 520	Conservation Genetics	2		
CropS 520	Plant Cytogenetic Techniques (UI PlSc 520)	3	S	odd years
MBioS 520	Eukaryotic Molecular Genetics	2	F	every year
Biol 521	Quantitative Genetics	2	F	every year
Biol 522	Molecular Population Genetics and Evolution	2		
Pl P 525	Field Plant Pathology and Mycology	1	S	odd–alt yrs
MBioS 530	Plant Molecular Genetics	3	S	even years
Pl P 534	Fungal Genetics	4	S	odd–alt yrs
Pl P 535	Molecular Genetics of Plant & Pathogen Inter.	2	S	every year
Math/Biol 563	Mathematical Genetics (UI)	3	S	every year

Physiology Suggested Course Options		Credits	Sem	Offered
MBioS 513	General Biochemistry	3	F	every year
MBioS 514	General Biochemistry	3	S	every year
Biol 518	Photosynthesis, Photorespiration, Plant Product.	3	S	odd years

Production/Management Suggested Course Options		Credits	Sem	Offered
CropS 503	Advanced Cropping Systems	3	F	every year
SoilS 413	Introduction to Soil Physics	3	F	every year
CropS 513	Biology of Weeds	3	F	even years
CropS 539	Herbicide Fate and Mode of Action (UI PlSc 539)	4		
CropS 557	Herbicides, Toxicology and Mode of Action	1	F	odd years
Biol 562	Community Ecology	3	F	

Turf Management Suggested Course Options		Credits	Sem	Offered
CropS 539	Herbicide Fate & Mode of Action (UI PlSc 539)	4	S	odd years
CropS 546	Plant Breeding (UI PlSc 546)	3		
CropS 556	Insecticides: Toxicology and Mode of Action	1	F	odd years
CropS 557	Herbicides, Toxicology and Mode of Action	1	F	odd years
Crops 558	Pesticides Topics	1	F	odd years
SoilS 547	Advance Soil Fertility Management	3	S	every year
Biol 562	Community Ecology	3	F	
Biol 517	Stress Physiology of Plants	3	S	even years
Biol 548	Evolutionary Ecology of Populations	3		
IPM 552	Pesticides and the Environment	2	S	even years
Pl P 521	General Mycology	4	F	every year
Pl P 529	General Plant Pathology	3	F	every year
Stat 412	Biometry	3	F, S	every year
Stat 512	Analysis of Variance of Designed Experiments	3	F, S	every year

Preliminary Doctoral Examination:

The preliminary exam is an exam to determine if a student is qualified to be admitted into candidacy for the PhD degree. The exam assesses 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, draw conclusions). Ph.D. preliminary examinations in Crops consist of two parts, Crops 511 (Research Proposal Development), and an oral exam. Crops 511 should be taken during the second semester and the oral exam should be taken during the fourth semester (you will be sent a reminder by the Academic Coordinator). This permits appraisal of the student's ability and background before a major amount of time has been invested in a Ph.D. program.

Crops 511, a 2-credit course is to be taken during student's second semester and consists of the following:

1. The student will develop a 15-page (minimum) research proposal on his/her dissertation topic. The graduate coordinator will meet with all students enrolled in Crops511 at least twice at the beginning of each semester to review recommended proposal formats. The draft proposal will be reviewed by the major advisor. After revisions, the proposal will be distributed to members of the committee, as well as the graduate coordinator, 3 weeks prior to the oral presentation. This proposal must be a unique document prepared

by the student that demonstrates his/her understanding of the objectives of this research, as well as the strategies and procedures that will be used to address these objectives. A copy of the proposal also will be available in the main office for faculty review.

2. The student will prepare and deliver an oral presentation related to the proposal, which will be open to faculty, staff and students.

3. Following the presentation, the student will participate in a 1 to 2 hour question and answer session with committee members and interested faculty. Suggestions offered up by faculty outside of the student's committee should be taken into consideration, however, these suggestions should not be deemed as mandatory points that must be changed.

4. A satisfactory grade for the course will be assigned to the student based on the average of grades issued by the committee members and participating faculty (grade options: A through C, where "A" indicates that the student demonstrated an excellent understanding of the topic and C indicates that the student failed to successfully demonstrate an understanding of the topic). If a satisfactory grade is received, the students will pass this stage of the process and will be qualified to take the oral prelims. If the student receives an unsatisfactory/fail grade, students will have a 3-4 month period to revise the proposal and prepare another presentation. If the student fails on the second attempt, he/she will not be allowed to continue their graduate training program in Crop Science.

The oral preliminary examination must be scheduled with the Graduate School using a "Preliminary Exam Scheduling Form" found at http://www.gradsch.wsu.edu/. The oral should be scheduled in the fourth semester. All committee members must attend and vote. Other members of faculty may attend and members of the graduate faculty in the department may also vote. The purpose of the oral 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.

A student who fails the prelim exam will be given the opportunity to retake the exam. See the graduate school website for policies. A student who fails the prelim exam the second time is terminated from the graduate program.

Soil Science

Soils Graduate Student
Academic Requirements and Policies

Reviews:

Members of the Faculty in Soils have adopted a firm policy calling for a formal advisory-review of students' programs on a regular basis. As soon as the graduate student committee has been established the members are expected to meet at least twice a year to assist in program and research planning, to carefully review the student's progress and to give advice as needed.

Academic Programs:

To the extent possible, Soils 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 B.S. degrees from an area outside of Soils, it is sometimes impractical and often very time consuming to take a graded course in each of these areas for the M.S. degree. For this reason, the Soils Faculty requires that a graded Soils course be taken in a minimum of three of the five sub-disciplinary areas in Soils. Additional Soils and other courses to make up deficiencies can be taken as P/F as determined by the M.S. thesis committee and Soil Faculty. (It is generally expected that all deficiencies will be taken for a letter grade, but recognize that in special cases, it may make sense to take one as P/F, if agreed to by the thesis committee and Soils Faculty.)

It is recommended that students enter the program with established competence in soil science and supporting subjects. Minimum degree of competence includes introductory soil science (Soils 201), organic chemistry (Chem 345), statistics (Stat 412), soil analysis (Soils 442 or 503) and at least two courses in upper level soil science (Soils 421, 411, 451, 431, 441, 415). Deficiencies should be made up in the first one or two semesters following admission and should be done at the student's expense.

Although your thesis Committee has the sole responsibility and flexibility to develop the program of study with you (generally during the second semester), *the Soils Faculty must approve your program and may require additional coursework*. It is your responsibility to have appropriate forms typed, proofread, and signed by your Committee and Department Chair for final approval by the Graduate School. You can request revisions in your program should the need arise. Your Committee, the Graduate Coordinator and the Department Chair, must approve all revisions. The Soils Faculty must approve all major revisions. Revisions must be sent to the Graduate School on approved forms that are available at http://www.gradsch.wsu.edu/

Special Soils Course Descriptions:

Soils 502 – Advanced Topics

All graduate students in Soils are encouraged to enroll and to participate in this course. Sections of this course are designed to acquaint you with the literature in Soils. 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. One Soils 502 course is required of all soils graduates—the State Tour course.

Soils 503 – Advanced Soil Analysis

Courses ranging from one to three credits are offered on specialized topics relating to instrumentation and to 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 Ph.D. degree candidates are <u>required</u> by department policy to enroll in Teaching Practicum (Soils 505) prior to graduating. This course offers credit for experience in Teaching Assistant (TA) duties obtained in a soils course. Foreign TAs must pass an English Proficiency Exam, which tests communication skills in English prior to engaging in Practicum. The type of 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 discussion or laboratory section, preparing and grading exams or homework, or helping set-up laboratory or discussion sessions.

Master's Degree:

The M.S. in Soils is awarded to graduate students for substantial scholarly achievement beyond the baccalaureate. 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. The M.S. degree in Soils at WSU includes both the thesis and non-thesis options. The students' advisory committee will develop an appropriate program of study that must be approved by the Soils Faculty. In addition to competence in selected areas of soil science, students may be required to obtain competencies in core technical areas including, but not limited to, mathematics, statistics, natural sciences, and computer sciences. Further guidance on the non-thesis option is given below. A suggested guideline for progress toward the M.S. degree is included on the following page. In

addition to the Graduate School requirements shown below Soil Science MS students must take the following courses:

MS Core Course Requirements		Credits	Sem	Offered
SoilS 501	Seminar	1	F, S	every year
SoilS 502	Special Topics, State Tour	1	F, S	every year

Non-thesis Masters Degree:

The non-thesis M.S. student in soil science will be required to complete 30 hours minimum of total credits of which 26 hours must be graded course work (17 hours minimum at the 500-level and 9 hours maximum 300-400 level) and four hours 702 credit in the major and/or graded course work at the 500-level. Graded course work will include 6 credits in plant and soil biology (agronomy, horticulture, forestry, crop protection, plant ecology, biology, microbiology, plant physiology), 15 credits in soil science (soil chemistry, soil physics, soil biology, soil fertility, pedology, environmental biophysics), and 5 credits in other professional core courses (e.g., statistics, sustainable agriculture, colloid science, hydrology). The student must demonstrate skill in critical thinking, scholarship, and written and oral communication through course work, the seminar course, and the final report and examination. The non-thesis option requires the student to form a committee and develop the program of study during the first semester of enrollment. Students in this option will have lowest priority for state-funded assistantships and will generally be expected to be self-funding.

MS Suggested 500 Course Options		Credits	Sem	Offered
CropS 503	Advanced Cropping Systems	1	F	every year
Stat 512	Analysis of Variance of Designed Experiments	3	F, S	every year
SoilS 502	Advanced Topics in Soils	1-3	F, S	every year
SoilS 503	Advanced Soil Analysis	1-3	S	every year
SoilS 504	Research Presentation Techniques	1		
SoilS 505	Teaching Practicum	1	F, S	every year
SoilS 514	Environmental Biophysics	2	S	every year
SoilS 515	Environmental Biophysics Laboratory	1	S	every year
SoilS 526	Soil Mineralogy (UI SoilS 526)	2	S	every year
SoilS 531	Advanced Soil Biochemistry and Microbiology	2	S	every year
SoilS 537	Soil Biochemistry (UI SoilS 537)	3	F	every year
SoilS 541	Soil-Plant-Microbial Interactions	3		
SoilS 547	Soil Fertility Management (UI SoilS 547)	3	F, S	every year
SoilS 557	Advanced Soil Genesis and Classification	3		
SoilS 574	Remote Sensing and Geospatial Analysis	3	S	even years

Doctor of Philosophy Degree:

All students pursuing a Ph.D. are required to have taken an undergraduate course (400 level) in each of the major areas: soil chemistry, soil physics, soil fertility-management,

soil genesis, morphology-classification, and soil microbiology-biochemistry. In addition, a graduate (500 level) course must be taken in two of the five Soils areas.

An Interdisciplinary Soils Ph.D. is defined as: expertise in Soils enhanced by another academic discipline (for example, plant physiology, agricultural economics, civil engineering or colloid chemistry). A representative from the outside discipline must serve on the Doctoral Committee. In the program of study the student may substitute one 400/500 level course in another academic discipline for a required 400/500 level course in Soils. The interdisciplinary program must be approved at the same time the program of study is approved. Also refer to Preliminary Doctoral Examination for guidelines specific to the Interdisciplinary Soils Ph.D.

In addition to the Graduate School requirements shown below, Soil Science Ph.D. candidates must take the following courses:

PhD Core Course Requirement		**Credits**	**Sem**	**Offered**
SoilS 501	Seminar	1	F, S	every year
SoilS 502	Special Topics, State Tour	1	F, S	every year
SoilS 505	Teaching Practicum	1	F, S	every year

Suggested Courses for Specific Areas of Interest:

Soil Classification & Genesis Suggested Course Options		**Credits**	**Sem**	**Offered**
SoilS 514	Environmental Biophysics	2	S	every year
SoilS 515	Environmental Biophysics Laboratory	1	S	every year
SoilS 526	Soil Mineralogy (UI SoilS 526)	2		
SoilS 531	Advanced Soil Biochemistry and Microbiology	2		
OR				
SoilS 541	Soil-Plant-Microbial Interactions	3		
SoilS 551	Advanced Pedology	3		
OR				
SoilS 557	Advanced Soil Genesis & Classif. (UI SoilS 557)	3		

Soil Chemistry Suggested Course Options		**Credits**	**Sem**	**Offered**
SoilS 502	Advanced Topics	V	F, S	every year
SoilS 503	Advanced Soil Analysis	V	F, S	every year
SoilS 526	Soil Mineralogy (UI SoilS 526)	2		
E Mic 586	Special Projects in Electron Microscopy	3	F, S	every year
SoilS 531	Advanced Soil Biochemistry and Microbiology	2	S	every year
Ch E 525	Interfacial Phenomena	3	S	odd years
Chem 501	Advanced Inorganic Chemistry	3	F	even years
SoilS 541	Soil-Plant-Microbial Interactions	3	S	every year
Chem 582	Environmental Chemistry II	3		
SoilS 517	Fate Environmental Contaminants (ES/RP 517)	3		
Geol 579	Groundwater Geochemistry	3	S	odd years
Ch E 525	Interfacial Phenomena	3	S	odd years

Soil Fertility Suggested Course Options		Credits	Sem	Offered
SoilS 468	ArcGIS and Geospatial Analysis	4	F	every year
SoilS 514	Environmental Biophysics	2	S	every year
SoilS 515	Environmental Biophysics Laboratory	1	S	every year
SoilS 517	Fate Environmental Contaminants (ES/RP 517)	3		
SoilS 531	Advanced Soil Biochemistry and Microbiology	2	S	every year
SoilS 541	Soil-Plant-Microbial Interactions	3	S	every year
SoilS 547	Advance Soil Fertility Management	3	S	every year
CropS 503	Advanced Cropping Systems	3	F	every year
Stat 512	Analysis of Variance of Designed Experiments	3	F, S	every year
Biol 513	Plant Metabolism	3		
Biol 517	Stress Physiology of Plants	3	S	even years

Soil Physics Suggested Course Options		Credits	Sem	Offered
SoilS 442	Soil Analysis	3	F	every year
SoilS 513	Models for Vadose Zone Transport	2		
SoilS 514	Environmental Biophysics	2	S	every year
SoilS 515	Environmental Biophysics Laboratory	1	S	every year
SoilS 531	Advanced Soil Biochemistry and Microbiology	2	S	every year
Ch E 525	Interfacial Phenomena	3	S	odd years
Math 548	Numerical Analysis	3	F, S	every year
E Mic 586	Special Projects in Electron Microscopy	3	F, S	every year
BsysE 515	Groundwater Contamination	3		every year
BSysE 550	Advanced Hydrology	3		every year
CE 315	Fluid Mechanics	3	F, S	every year

Soil Microbiology & Biochemistry Suggested Courses		Credits	Sem	Offered
SoilS 514	Environmental Biophysics	2	S	every year
SoilS 515	Environmental Biophysics Laboratory	1	S	every year
SoilS 521	Environmental Soil Chemistry	3	S	every year
SoilS 531	Advanced Soil Biochemistry and Microbiology	2	S	every year
SoilS 541	Soil-Plant-Microbial Interactions	3	S	every year
Stat 512	Analysis of Variance of Designed Experiments	3	F, S	every year
MBIOS 301	General Genetics	4	S	every year
MBIOS 303	Introductory Biochemistry	4	S	every year
MBIOS 426	Microbial Genetics	3	F	every year
MBIOS 442	General Virology	3	S	every year
MBIOS 506	Molecular Techniques in Microbiology	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	1-4		
Chem 332	Physical Chemistry	3	S	every year
Chem 340	Organic Chemistry I	3	S	every year
Biol 548	Evolutionary Ecology of Populations	3	S	every year

Biol (Bot) 563	Field Ecology	2	S	every year
Biol 564	Molecular Ecology and Phylogeography	3		
EMIC 587	Special Problems Electronic Microscopy	1	S	every year

Preliminary Doctoral Examination:

The preliminary examinations are designed to evaluate the suitability of the student to become a candidate for the Ph.D. in Soil Science. It is also an opportunity for the student and his/her committee to re-evaluate the appropriateness of remaining coursework, either to correct academic weaknesses or enhance scholarly interests that may surface during these examinations. The exams evaluate the candidate's disciplinary knowledge as well as his/her ability to think creatively, analyze, synthesize, evaluate knowledge and information, and apply that information to establishing new hypotheses for creative research and problem solving. The doctoral committee and chair will coordinate the preliminary doctoral exams. Students should become familiar with the purpose and scope of preliminary examinations well in advance of the time the examination is scheduled.

The preliminary doctoral examinations in Soils, to be completed by the end of the fourth semester, consist of a written evaluation and an oral exam. The options for these requirements are:

1. **Written Evaluation**

a. Traditional Written Exam

As the best preparation for the oral exam the faculty encourages the traditional written exam. The committee will solicit questions from the faculty in four of the five sub-discipline areas in Soils (chemistry, fertility, morphology, biology, and physics), which must include one area of major emphasis. For the Interdisciplinary Soils Ph.D. three areas of Soils (including one major area) and the identified non-Soils discipline will be tested. The thesis committee will determine the format for the written exam. Generally the time allotted for completing the questions are three hours for each non-major area and six hours for the major area. A passing grade for each discipline in the exam must be a B or higher.

b. Research proposal

In some cases the student and doctoral committee may decide that a proposal is the best option for meeting the written portion of the exam. The proposal should evidence the student's breadth and depth of knowledge of Soil Science. The proposal may fall within the area of the student's dissertation, but it must be an original document written solely by the student. The committee will be responsible for seeing that the document is not taken from a previously written proposal. The committee chair should not revise the document before the whole committee reviews it. The research proposal portion should be initiated no later than the second semester into the Ph.D. program. The entire committee will mentor the proposal development. The committee and any appropriate Soils

faculty will evaluate the final proposal. The format should be appropriate for submission to a major funding agency such as USDA-AFRI or NSF. A passing grade for the research proposal will be a B or higher from all reviewers.

The results of the written or research proposal portion of the exam will be available to all CSS faculty for review prior to the oral exam.

2. **Oral Exam**
Ph.D. graduate students must take 400 and/or 500 level courses in all five sub-disciplines of Soil Science and will be expected to defend these areas at the 400 level in the oral preliminary exam. For the Interdisciplinary Soils Ph.D. four areas of Soils and the non-Soils discipline must be defended. A passing grade for the oral exam must be a B or higher in each discipline.

The oral portion of the preliminary exam must be completed within five weeks after successfully completing the written portion of the preliminary exam. If this time schedule is not followed, students must retake both the written and oral exams.

Alternatives and exceptions to the above guidelines must be submitted to the Soils Faculty by the student's advisor for approval no later than the end of the student's second semester of graduate study.

Guidelines for Scheduling the Preliminary Doctoral Examinations:

The student with approval from his/her advisor and committee is responsible for scheduling the preliminary examination with the graduate school. Do not delay, as delaying the preliminary examination can, if the student is unsuccessful, reduce alternative options for a career.

1. Graduate students should set a tentative date for the preliminary examination at the time they develop an academic program. This is normally during the second semester of study for the Ph.D.

2. Graduate students preparation should be consistent with the requirements in the Graduate School policy and procedures – “that a substantial portion of the required coursework has been completed".

3. If the written evaluation is graded below a B level, the student is given a second opportunity. The re-examination must be in the form of the traditional exam, followed within five weeks by the oral exam. If the written exam is passed but the oral exam is unsuccessful, the oral exam may be repeated. In either case there must be at least one month before re-examination but less than three months.

4. Alternatives and exceptions to the above guidelines must be submitted to the Soils Faculty by the student's advisor for approval no later than the end of the student's second semester of graduate study.

Appendix I

Program for Master's Degree

This form can be found at http://www.gradsch.wsu.edu/forms/ProgMast.pdf

==========

The Graduate School ID# _____

PROGRAM FOR MASTER'S DEGREE

NAME _____ E-Mail _____

LOCAL ADDRESS _____ TELEPHONE _____

DEGREE SOUGHT: **Thesis Option** **Non-Thesis Option**

☐ M.A. _____ (Major) ☐ M.A. _____ (Major)

☐ M.S. _____ (Major) ☐ M.S. _____ (Major)

☐ M.Arch.	☐ M.Acc.	☐ M.H.P.A.	☐ M.R.P.
☐ M.F.A	☐ M.B.A.	☐ M.I.T.	☐ M.T.M.
☐ M.H.P.A	☐ Ed.M.	☐ M.Nurs.	
☐ M.Nurs.	☐ M.Eng.Mgt	☐ M.P.A.	
☐ M.R.P.			

Thesis Topic or General Area _____

_____

Members of the Master's Committee: (print/type name) **Signatures**

_____ (Chair) _____ (Chair)

_____ _____

_____ _____

_____ _____

_____ _____

Unless notified otherwise by the Graduate School, the above faculty members will be appointed to the master's committee.

Program Recommended: Chair, Major Department _____ Date _____

Program Approved: Dean, Graduate School _____ Date _____

(OFFICE USE ONLY) Program subject to completion by end of _____ (date)

09/2004

Student Name: _____
(First, Middle, Last)

List graded coursework only

Course Prefix & Number	Complete Catalog Title	# of Credits	Grade	Sem/Qtr/Year in Chronological Order	WSU Instructor or name of other Institution

SUBTOTAL GRADED COURSEWORK _____

Additional Work – Special Projects or Independent Study (600), Informal Seminars, S/F Graded Course s:

SUBTOTAL ADDITIONAL WORK _____

Master's Research, Thesis, and/or Examination (700) or
Master's Special Problems, Directed Study, and/or Examination (702)

SUBTOTAL RESEARCH OR SPECIAL PROBLEMS _____

TOTAL CREDIT HOURS _____

List courses department would like shown but cannot count on program:

Appendix II

Program for Doctoral Degree

This form can be found at http://www.gradsch.wsu.edu/forms/ProgPhd.pdf

==========

The Graduate School
PROGRAM FOR DOCTORAL DEGREE

ID # _____ DATE _____

NAME _____ E-Mail _____

LOCAL ADDRESS _____ TELEPHONE _____

By-Passing Master's Degree? ☐ Yes ☐ No

DEGREE SOUGHT:

☐ Ph.D. Major _____
☐ Ed.D.
☐ Aud.D..
☐ D. Des.

Dissertation Subject _____

_____

Doctoral Committee Recommended: (If a minor is chosen, the minor field must be represented on the Committee)

Print/type name	Print/type name	Signatures
_____ (Chair)	_____ (Department)	_____ (Chair)
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Unless notified otherwise by the Graduate School, the above faculty members will be appointed to the doctoral committee.

Program Recommended: Chair, Major Department _____ Date_____

Program Recommended: Chair, Minor Department(s) _____ Date_____

Program Approved: Dean, Graduate School _____ Date_____

Summary of Previous Education

College/University Attended	Period	Degrees and Dates Awarded
_____	_____	_____
_____	_____	_____
_____	_____	_____

(OFFICE USE ONLY)

Preliminary Examination Passed _____ (date)

Program subject to completion by end of _____ (date)

10/2004

Doctoral Program for ______________________________
(Name)

Course Prefix & Number	Complete Catalog Title	Credit	Grade	Sem/Qtr/Year Chronological Order	WSU Instructor or other Institution

I. CORE PROGRAM:

Transfer Courses:

SUBTOTAL CORE PROGRAM (34 hours minimum for Ph.D.)
(42 hours minimum for Ed.D.) ______________

II. RESEARCH AND ADDITIONAL STUDIES:

600 Special Projects or Independent Study ______________

800 Doctoral Research, Thesis and/or Examination ______________

Other: (Additional graded or S/F courses taken at WSU) ______________

SUBTOTAL RESEARCH AND ADDITIONAL WORK ______________

TOTAL CREDIT HOURS: (72 hours minimum) ______________

Appendix III

Annual Graduate Student Evaluation

==========

DEPARTMENT OF CROP & SOIL SCIENCES
ANNUAL GRADUATE STUDENT EVALUATION
(Mandatory at the End of Spring Semester, Optional at the End of Fall Semester)

Student _____ Date _____

MS or PhD?

Year & Term Student Began Studies: _____

Has program of study been approved? YES/NO If no, should submit by _____

Has preliminary examination been passed? YES/NO If no, should schedule for _____

Thesis committee met with the student _____ times during the past year.

1. Performance and Skill Ratings:

1 = Excellent 2 = Good 3 = Average 4 = Fair 5 = Unsatisfactory*

Academic Performance	1	2	3	4	5	
Research Performance	1	2	3	4	5	
Work Habits	1	2	3	4	5	
Technical Skills	1	2	3	4	5	
Rate of Progress	1	2	3	4	5	
Communication Skills	1	2	3	4	5	
Teaching Performance	1	2	3	4	5	N/A
Overall Rating	1	2	3	4	5	

* If unsatisfactory, the CSS Chair will meet with the thesis or dissertation committee to develop formal written recommendations.

2. Progress since last review:

3. Explanation for performance ratings:

4. Recommendations for improvements:

5. Probable success in completing degree requirements in a timely manner:

6. Enrollment should be continued _____ discontinued _____

Student Comments:

Signatures:

Student _____ Date: _____

Major Advisor _____ Date: _____

Campus Advisor _____ Date: _____
(If major advisor is off-campus, the campus advisor must also sign. It is the advisor major advisor's responsibility to ensure that the campus advisor signs.)

Graduate Coordinator _____ Date: _____

Student and the Major Advisor will receive a letter from the Department Chair indicating satisfactory or unsatisfactory progress along with a copy of this form

.

Appendix IV

Teaching Assistant Evaluations for Courses Without Labs

==========

TEACHING ASSISTANT EVALUATION FOR COURSES WITHOUT LABS

TA's Name: _____

Course #: _____

5=Excellent 4=Above Average 3=Average 2=Below Average 1=Failure N/A=Not Applicable

TA’s organization/planning/preparedness for class _____

TA’s effectiveness in presenting material clearly/logically _____

TA’s knowledge of the subject material _____

Degree to which TA appeared to enjoy teaching and was enthusiastic about the subject material _____

Degree to which TA made use of examples and illustrations _____

Degree to which TA was receptive to student's questions and comments _____

Willingness of TA to be available outside of class _____

TA’s ability/fairness in grading exercises/exams _____

Your overall rating of the TA _____

Comments on the TA:

Appendix V

Teaching Assistant Evaluations for Courses With Labs

==========

TEACHING ASSISTANT EVALUATION FOR COURSES WITH LABS

TA's Name: _____

Course #: _____ Lab Section #: _____

5=Excellent 4=Above Average 3=Average 2=Below Average 1=Failure N/A=Not Applicable

Degree to which exams covered laboratory exercises _____

TA's explanation of lab objectives/grading procedures _____

TA's organization/planning/preparedness for class _____

TA's effectiveness in presenting material clearly/logically _____

TA's knowledge of the subject material _____

Degree to which TA appeared to enjoy teaching and was enthusiastic about the subject material _____

Degree to which TA made use of examples and illustrations _____

Degree to which TA was receptive to student's questions and comments _____

Willingness of TA to be available outside of class _____

Your overall rating of the TA _____

Your overall rating of the lab _____

COMMENTS:

1) *Comments on the Lab:*

2) *Comments on the TA:*

Appendix VI

Residency Application Checklist

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In order to establish residency, students must reside, and establish ties, in Washington State. Students must comply with requirements posted by the Admissions Office and Graduate School. Requirements are posted on the admissions website at: http://www.wsu.edu/future-students/admission/residency.html. Requirements may change, so students should only use the following checklist as an informational guide.

- Obtain a Washington State Drivers License or Washington ID Card
  (This should be done as soon as you arrive in Pullman. You must have one for a full 12 months prior to applying for residency)
- Establish a Bank Account in Washington
- Register to Vote in Washington
- Register Your Vehicle in Washington
  (If you own or drive a vehicle)
- Maintain Records of Lease Agreements, Rent and Utility Bills, and Pay Stubs
- Fill out an Application for Residency
  (Found online at http://www.wsu.edu/NIS/images/resqufrm.pdf , or in Lighty 360)

Appendix VII

International Student Information

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International students should remain in contact with the International Programs Office, and the Office of International Students and Scholars, both prior to starting their studies at Washington State University and throughout the duration of their studies. This will help to ensure that all deadlines, procedures, and policies with regard to international student status are met.

International Programs
IP Administration Office, Bryan 206; Phone: 509-335-2541
http://www.ip.wsu.edu/

The Office of International Students and Scholars
Bryan Hall 108; Phone: 509-335-4508; Fax 509-335-2373
http://www.ip.wsu.edu/oiss/index.html

Appendix VIII

Academic Integrity Standards and Procedures

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From the Office of Student Conduct

(http://www.conduct.wsu.edu/academicIntegrity.asp)

Part III: Academic Integrity Standards and Procedures

Academic Dishonesty

Washington Administrative Code (WAC) 504-25-015

1. A student organization's assistance in, or encouragement of, academic dishonesty as defined in subsection 2 of this section is prohibited. Part III of this chapter provides procedures for dealing with academic dishonesty by individual students. Part II of this chapter provides procedures for dealing with assisting in or encouragement of academic dishonesty by student organizations.

2. **Academic dishonesty includes cheating, plagiarism, and fabrication in the process of completing academic work.** The University expects that student organizations will accept these standards and that their members will conduct themselves as responsible members of the academic community. These standards should be interpreted by students as general notice of prohibited conduct. They should be read broadly, and are not designed to define misconduct in exhaustive forms.

Definitions:

WAC 504-25-310

1. **Academic Dishonesty.** Academic dishonesty includes cheating, falsification, fabrication, multiple submission, plagiarism, abuse of academic materials, complicity, or misconduct in research, all of which are defined below.

2. **Cheating.** Cheating is the intentional use of, or attempt to use, unauthorized material, information, or study aids in any academic activity to gain advantage. Cheating includes, but is not limited to, communicating improperly with others, especially other students, during tests or the preparation of assignments for classes; copying from books, notes, or other sources during a test when this is not permitted; copying from another student's work (reports, laboratory work, computer programs, files, etc.); making improper use of calculators or other devices during a test; illegitimately procuring or using copies of current examinations; allowing a substitute to take an examination or write a paper for oneself.

3. **Falsification.** Falsification is the intentional and unauthorized alteration of information in the course of an academic activity. Falsification includes, but is not limited to, altering the record of data, experimental procedures, or results; falsely describing the source of information (e.g., reproducing a quotation from a book review as if it had

been obtained from the book itself); altering academic records; altering a returned examination paper and then seeking a higher grade based on the result.

4. **Fabrication.** Fabrication is the intentional invention or counterfeiting of information in the course of an academic activity without proper authorization. Fabrication includes, but is not limited to, counterfeiting data, research results, information, or procedures with inadequate foundation in fact; counterfeiting a record of internship or practicum experiences; submitting a false excuse for absence or tardiness.

5. **Multiple Submission**. Multiple submission includes, but is not limited to, submitting the same paper or oral report for credit in two courses without the responsible instructor's permission; making minor revisions in a paper or report for which credit has already been received and submitting it again as a new piece of work.

6. **Plagiarism. Plagiarism is knowingly representing the work of another as one's own, without proper acknowledgment of the source. The only exceptions to the requirement that sources be acknowledged occur when the information, ideas, etc., are common knowledge. Plagiarism includes, but is not limited to, submitting as one's own work the work of a "ghost writer" or work obtained from a commercial writing service; quoting directly or paraphrasing closely from a source without giving proper credit; using figures, graphs, charts, or other such material without identifying the sources.**

7. **Abuse of Academic Materials**. Abuse of academic materials occurs when a student intentionally or knowingly destroys, steals, mutilates, or otherwise makes inaccessible library or other academic resource material that does not belong to him or her. Abuse of academic materials includes, but is not limited to, stealing, destroying, or mutilating library materials; stealing or intentionally destroying another student's notes or laboratory data; hiding resource materials so others may not use them; destroying computer programs or files needed in others' academic work; copying computer software in ways that violate the terms of the licensing agreement that comes with the software.

8. **Complicity in Academic Dishonesty**. A student is guilty of complicity in academic dishonesty if he or she intentionally or knowingly helps or attempts to help another or others to commit an act of academic dishonesty of any of the types defined herein. Complicity in academic dishonesty includes, but is not limited to, knowingly allowing another to copy from one's paper during an examination or test; distributing test questions before the time scheduled for the test; collaborating on academic projects when students are expected to work independently; taking a test for another student; or signing a false name on a piece of academic work.

9. **Misconduct in Research. Graduate and undergraduate students on research appointments for the University are responsible for compliance with the University's Policy and Procedural Guidelines for Misconduct in Research and Scholarship found in the Faculty Manual. Misconduct in research is treated as academic dishonesty.**

Appendix IX

Responsible Conduct of Research Training

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"Responsible Conduct of Research Education – Mandatory" is required of all graduate students at WSU

This is a Web based training located at myResearch.wsu.edu. Students are encouraged to take this training as soon as possible after they arrive at WSU.

For graduate students on assistantships, please note the following procedures:

- The "Responsible Conduct of Research Education – Mandatory" training is an employment requirement effective since 8/16/2006. Students will not be eligible for an assistantship until after the training is completed; however, a grace period of one semester will be allowed.

- When you complete the training, please forward the completion acknowledgement to the Academic Coordinator.

- Effective Fall 2006, students who have not completed the training will receive a grace period of one semester to take the training. If a Personnel Action Form (PAF) is received for the second semester without the training completed, the PAF will not be approved, and **the student will not be eligible for employment.**

- Should a student complete the training late in the 2nd semester, and the assistantship PAF is processed late, the student will be responsible for paying all late fees applied to the student's account before the waiver(s) are applied to the student account.

FAQ:

1) Q: How long will this training take? A: The training takes approximately 20 minutes.

2) Q: Do I need to complete all three modules? A: For the Responsible Conduct of Research Education, the graduate student should only take one module, "Responsible Conduct of Research Education – Mandatory".

3) Q: I am not involved in any research in my department. Why must I take this training? A: All graduate students should receive research training which apply to all areas of the program of study, including instruction, research, and all other processes through to the thesis/dissertation process and graduation.