

GRADUATE STUDENT HANDBOOK

DEPARTMENT OF HORTICULTURE

OREGON STATE UNIVERSITY

CORVALLIS, OR

Revised September 2015



Table of Contents

1. WELCOME	6
2. IMPORTANT PEOPLE AND SOURCES OF INFORMATION	7
2.1 Your Major Advisor.....	7
2.2 Departmental Graduate Program Coordinator	7
2.3 Graduate Program Assistant.....	7
2.4 Office Specialist	7
2.5 Department Manager and Assistant to the Department Head	8
2.6 IT and Computer Support Group	8
2.7 Fellow Graduate Students.	8
2.8 The Graduate School.....	9
2.9 The Horticulture Department Website	9
2.10 The Horticulture Graduate Faculty	9
2.11 The International Programs Office.....	9
3. ORIENTATION EVENTS	10
3.1 Orientation Course: Hort 511.....	10
3.2 General Orientation for all New Graduate Students	10
3.3 Orientation and Training for New Graduate Teaching Assistants (GTAs).....	10
3.4 International Student Orientation and Document Check	10
3.5 University Day	11
4. TEN THINGS TO DO WHEN YOU FIRST ARRIVE.....	11
4.1 Check your admission status and degree.....	11
4.2 Obtain your student identification (ID) card.....	11
4.3 Get keys and a mailbox.	11
4.4 Get desk space.....	12
4.5 Get a building use permit	12
4.6 Get connected.....	12
4.7 Set up your payroll.	13
4.8 Register for classes.....	13
4.9. Watch this.....	14

4.10. Do something fun.....	14
5. GRADUATE ASSISTANTSHIPS	14
5.1 Graduate Research Assistantships (GRA).....	14
5.2 Graduate Teaching Assistantships (GTA).....	15
5.3 Stipends and Remissions.....	15
5.4 Health Insurance.....	15
5.5 Coalition of Graduate Employees	15
6. SUMMER ENROLLMENT AND EMPLOYMENT	16
7. CULTIVATING THE RELATIONSHIP WITH YOUR MAJOR ADVISOR	16
7.1 Research Expectations	17
7.2 Authorship, Intellectual Property, and Data Management	17
7.3 Assistantship Expectations.....	18
7.4 Being Part of a Team.....	18
7.5 A Schedule of Communication	19
7.6 Completing your Degree Program	19
8. RESPONSIBILITIES.....	20
8.1 Student Responsibilities	20
8.2 Major Advisor Responsibilities.....	20
8.3 Department Responsibilities	21
9. DEGREE LEARNING OUTCOMES	21
9.1 Master of Science (MS)	21
9.2 Doctor of Philosophy (PhD).....	22
10. GRADUATE OPTIONS.....	24
11. KEEPING ON TRACK: PLANNING AND SCHEDULING TOOLS.....	24
11.1 Checklists and Flowcharts.....	25
11.2 Deadlines and Milestones.....	25
11.3 Evaluation of Progress	26
12. DEGREE CREDIT REQUIREMENTS.....	27
12.1 Master of Science (MS)	27
12.2 Doctor of Philosophy (PhD).....	28

13. MAJOR COMPONENTS OF YOUR ACADEMIC PROGRAM.....	28
13.1 Graduate Committee	29
13.2 Committee Meetings	30
13.3 Thesis Research Outline.....	32
13.4 Program of Study	32
13.5 Required Courses in Horticulture.....	33
13.6 Blanket Courses	36
13.7 Teaching Experience.....	37
13.8 Departmental Seminar.....	38
13.9 Responsible Conduct of Research.....	38
13.10 Thesis or dissertation.....	40
14. EXAMINATION REQUIREMENTS	40
14.1 Written Preliminary Exams.....	40
14.2 MS Exam Requirements	41
14.3 PhD Exam Requirements	42
15. PREPARING AND SUBMITTING YOUR THESIS	44
16. FILING SCHEDULE, GRADUATION AND COMMENCEMENT	44
17. LEAVE OF ABSENCE	45
18. SCHOLARSHIPS AND AWARDS	46
18.1 Travel Awards.....	46
18.2 Department Administered Scholarships for Continuing Students	46
18.3 ARCO-Swallow Graduate Research Fellowships.....	47
18.4 Awards Administered by the Graduate School	47
18.5 External Scholarships.....	47
19. POLICIES, PROCEDURES AND REGULATIONS.....	48
19.1 Use of State Vehicles	48
19.2 Laboratory Policy.....	48
19.3 Safety	49
19.4 Telephone use.....	50
19.5 Copy Machine Use.....	50

19.6 Poster Printing Policy and Procedure.....50

19.7 Computing and IT Support..... 52

19.8 Travel Procedure 52

20. RESEARCH SUPPORT FACILITIES..... 54

 20.1 On-campus 54

 20.2 Off-Campus..... 57

21. LIFE BALANCE 58

APPENDIX I. MASTER OF SCIENCE CHECKLIST..... 60

APPENDIX II. MASTER’S DEGREE FLOWCHART 62

APPENDIX III. DOCTORAL CHECKLIST 63

APPENDIX IV. PhD DEGREE FLOWCHART 65

APPENDIX V. HORTICULTURE GRADUATE STUDENT ANNUAL REVIEW FORM..... 66

1. WELCOME

Welcome to the Department of Horticulture at Oregon State University! Everyone in the Horticulture community (the faculty, staff, and your fellow graduate students) is pleased to welcome you as a new colleague, and we look forward to productive and exciting research and study with you. Horticulture faculty and graduate students contribute to research, teaching, and Extension programs in collaboration with people who share a passion for managing plants for human use and enjoyment.

Most of you are beginning your professional and scientific careers. Your graduate experience is a unique opportunity to explore new ideas, ask innovative questions, and make significant contributions to your field of study and to society as a whole. You will learn scientific principles and techniques, communicate your work to peers and the general public, provide peer review, and become confident professionals. Hard work lies ahead, but the more time and energy you invest, the greater the rewards will be in developing yourself and your career path.

This handbook is designed to answer some of the questions that commonly arise with graduate studies, and it will be an important resource as you proceed toward completion of your degree program. This handbook was developed to describe Horticulture-specific degree requirements in addition to general University and Graduate School Policies regarding graduate students; be sure to refer to those additional policies.

2. IMPORTANT PEOPLE AND SOURCES OF INFORMATION

2.1 Your Major Advisor

The most important person in successfully navigating graduate school (besides yourself of course) is your Major Advisor. You will work with them to assemble a graduate committee, develop a program of study, outline and execute research project(s), and negotiate your duties as a graduate research assistant (GRA) or graduate teaching assistant (GTA). Therefore, it is important to carefully cultivate this relationship. Some guidelines for how to do this are provided in section 7.

2.2 Departmental Graduate Program Coordinator

John Lambrinos

(541) 737-3484

lambrinj@hort.oregonstate.edu

A faculty member in the Horticulture Department is assigned to manage and coordinate the graduate program. The faculty member assigned to this position may shift over time, but this person is available to address your questions about grad school, policies in the Horticulture Department, or any other components of graduate study that cannot be addressed through interaction with your Major Advisor. This person is also available to receive comments or suggestions about ways that the Department can improve the graduate program. Also, feel free to talk with them about things you don't feel comfortable talking with your Major Advisor about or simply if you just want to get a different perspective.

Keep in mind that the Graduate School (see below) is the main administrator of your official graduate enrollment and progress towards your degree. While the Graduate Coordinator can certainly help you negotiate Graduate School bureaucracy, such as understanding the requirements for assembling a committee or a program of study, it is often better to get much of that bureaucratic information directly from the source.

2.3 Graduate Program Assistant

Caroline Charlton

(541) 737-5477

caroline.charlton@oregonstate.edu

The Graduate Program Assistant can help you with many of the day-to-day logistic issues that you may encounter such as enrollment, getting your student ID set up, finding office space, signing out meeting spaces, and announcing your defense date.

2.4 Office Specialist

Lee Ann Julson

(541) 737-5480

leeann.julson@oregonstate.edu

The office specialist can help you with getting your keys, setting up purchasing and travel requests, and getting reimbursed for expenses.

2.5 Department Manager and Assistant to the Department Head

Nancy Bremner

(541) 737-5475

nancy.bremner@oregonstate.edu

The department manager helps set up your assistantship, and ensures that you get paid (including helping you set up direct deposit). So you should arrange a meeting with the manager soon after your arrival on campus.

2.6 IT and Computer Support Group

Roots IT Support Group: <http://support.roots.oregonstate.edu/>
541-737-2470

The Roots Computing Group provides infrastructure and support for the computing needs of the Department of Horticulture as well as other departments in the College of Agricultural Sciences. The ROOTS IT staff can provide you with a range of IT and computer support ranging from advice on a computer purchase to setting up a remote connection for your thesis defense. In addition to their main webpage, you may wish to check out:

Their information page for new users.

<http://support.roots.oregonstate.edu/content/new-user-information>

Their FAQ's

<http://support.roots.oregonstate.edu/content/faqs-0>

2.7 Fellow Graduate Students.

Horticulture Graduate Council Chair:

Kim Shearer-Lattier (kim.shearer-lattier@oregonstate.edu)

There is usually no better place to get information and support than from your own cohort of fellow students. The Horticulture Graduate Student Council is the formal organization of Horticulture graduate students. The Council has quarterly meetings that are an opportunity to meet and network with your fellow students and to discuss successful points of the improvement within the graduate program. The council also can facilitate connecting incoming students with other current student mentors. To facilitate camaraderie the council also plans a number of social events throughout the

year.

2.8 The Graduate School

Main website: http://oregonstate.edu/dept/grad_school/

Resource page for new students: <http://gradschool.oregonstate.edu/progress/newly-admitted>

Guide to success: http://oregonstate.edu/dept/grad_school/success.php

The graduate school officiates your program. It is the source and destination of all the documents and forms that you will need to file as you progress toward completion of your degree program. They also set the scheduled mileposts for your degree. You will become very familiar with the Graduate School and their website during your time here. The links above provide access to main portals of information. This page provides specific contact information:

<http://gradschool.oregonstate.edu/contact>

2.9 The Horticulture Department Website

General website: <http://horticulture.oregonstate.edu/>

Graduate student pages: <http://horticulture.oregonstate.edu/student/graduate-students>

If you haven't already done so, you should look at our departmental website, particularly the graduate student pages.

2.10 The Horticulture Graduate Faculty

<http://horticulture.oregonstate.edu/content/graduate-faculty-approved-direct-students>

Only Horticulture faculty who are also members of the graduate faculty can advise or serve on student committees. Joining the graduate faculty is a formal process. It is possible that some faculty members who are not currently part of the graduate faculty may be eligible to join and might have an interest in doing so if presented with an opportunity. If you think a faculty member would be a good person to serve on your committee but they are not listed as part of the graduate faculty, you should have a conversation with them directly.

2.11 The International Programs Office

General website: <http://oregonstate.edu/international/atosu/students>

Information for new students: <http://oregonstate.edu/international/atosu/students/new>

The International Programs Office provides a wide variety of services and assistance for international students, including information about immigration regulations and support services. If you are an international student, this should be your first stop upon arriving on campus.

3. ORIENTATION EVENTS

3.1 Orientation Course: Hort 511

<http://catalog.oregonstate.edu/CourseDetail.aspx?subjectcode=HORT&coursenumber=511>

Your official welcome and orientation to our department will be held as part of the first week of class in Hort 511: Research and Educational Perspectives in Horticulture. All Horticulture graduate students must take this course. If fall term is your first term you should enroll in this course. If you arrive in a later term, plan to enroll in the following fall. During the first few weeks of class, we will orient you to some of the details of our department and of navigating your graduate career.

3.2 General Orientation for all New Graduate Students

This orientation is sponsored by the Graduate School during the fall term. Check the [Graduate School Website](#) for scheduling and registration information.

3.3 Orientation and Training for New Graduate Teaching Assistants (GTAs)

This is sponsored by the Graduate School each fall term. If you will be a GTA during the coming academic year, or if you have an interest in teaching, you should attend this training. Check the [Graduate School Website](#) for scheduling and registration information.

3.4 International Student Orientation and Document Check

<http://oregonstate.edu/international/atosu/students/new/orientation>

International students are required to attend a mandatory orientation program (see link above for details). This program is designed to provide you with valuable information and facilitate your transition to OSU. By participating in the International Student Orientation, you will gain essential information about the following:

- immigration rules and regulations that affect your visa status
- student health services and health insurance requirements at OSU
- academic life at OSU and how to register for classes
- campus and community resources
- opportunities to meet other new international and domestic students at OSU

All newly-admitted international students are required to attend orientation and the immigration document check-in. If you do not attend both, International Student Advising and Services will place a hold on your registration. If you are unable to attend one or both of these sessions, contact International Student Advising and Services at 541-737-6310 or email isas.advisor@oregonstate.edu. To cover the cost of orientation, all students will be charged an orientation fee of \$35 (winter and spring terms) or \$50 (fall term). This fee will be automatically charged to your OSU student account.

3.5 University Day

<http://oregonstate.edu/events/universityday/>

This exciting event is a celebration of OSU and a kick off to the new school year. Visit the expo to learn more about other departments across campus and resources. There is also usually a free lunch!

4. TEN THINGS TO DO WHEN YOU FIRST ARRIVE

Also see the Graduate School's resource guide:

<http://gradschool.oregonstate.edu/success/guide>

And their page for new students here: <http://gradschool.oregonstate.edu/success/newly-admitted>

4.1 Check your admission status and degree.

Graduate students may be admitted as regular, conditional, provisional, or special (non-degree). Refer to the [OSU Graduate Catalog](#) for definitions of student status. Be certain that you understand your admission status. A student admitted under the special category may be considered for admission as a regular graduate student. See the recent Graduate Catalog for regulations concerning this reclassification.

You may be admitted into either the Master of Science (MS) or Doctor of Philosophy (PhD) programs. You may also enter as part of the Peace Corps Master's International Program (see the [Horticulture Department Graduate Student Webpage](#)). Confirm that your admission documents correspond with your desired degree.

4.2 Obtain your student identification (ID) card.

<http://fa.oregonstate.edu/business-affairs/idcenter>

Review the instructions at the webpage above.

4.3 Get keys and a mailbox.

See the Office Specialist for help in getting all of these things.

Keys

Check with your Major Advisor on what keys you will need, then obtain the appropriate key request cards from the horticulture office. Requests for greenhouse keys are handled in the office of the Greenhouse Operations (East Greenhouse). Take the signed key request cards to the Key Shop (located on 15th Street, south of the Administrative Services Building) to obtain the keys. A deposit is required for each departmental key. Upon completing your degree program, all keys need to be returned, and the deposit is refunded to you at that time.

Mailboxes

All graduate students who are in residence are assigned a mailbox. The mailboxes are located in the horticulture office (Room 4007). United States and campus mail is delivered and picked up twice daily.

4.4 Get desk space.

See the graduate program assistant for help in finding desk space.

There are cubicle style graduate student offices in two common rooms on the 4th floor of ALS. Our goal is to accommodate every student who wishes space in those rooms. Check with your major advisor before deciding on desk space. Many faculty prefer that you have a desk within their lab group, and the space offered by your major advisor may be preferable. There may be periods of time when we cannot accommodate everyone who wishes space in the two common rooms. In those cases we prioritize access to the common space in the following order: 1) students with an off campus major advisor (e.g. courtesy faculty, faculty at an experimental station); 2) students with no other ALS desk or office space available (i.e. in their major advisor's allotted lab/office space); 3) first year students.

Desk and office assignments are at the discretion of the department, and we may periodically make re-assignments. Notify the graduate program assistant if your circumstances change. If you initially had a desk assignment in a common room but now occupy a desk in your major advisor's lab, be courteous and let us know so that we can free up the space for another student. Alternatively, if you subsequently desire space in the common room for whatever reason, please come talk with us.

4.5 Get a building use permit

If you expect to be in buildings after working hours you are required to have an After-Hours Work Permit. This authorizes you to study or work in the areas listed on the permit. See the office specialist.

4.6 Get connected.

Computing and IT support in the department is coordinated through the Roots IT Support Group. Their website provides a wealth of information and the contact information for folks who can provide assistance in a wide range of IT needs: <http://support.roots.oregonstate.edu/>

In addition, general IT support across campus is coordinated through OSU online services: <http://oregonstate.edu/main/online-services>

When you first applied to graduate school at OSU you were given an ONID account. This is your portal to a wide range of online services, including registering for classes, viewing transcripts, and checking your employment status. You have an email address associated with this account. You

can also get a horticulture specific address that you can link with your ONID account. The Department Manager (see section 2.5) can help you with this.

If you are arriving with your own laptop, you should bring it to the Roots IT Support Group to get it set up for use in the Horticulture network. See also computing and IT support under Policies, Procedures and Regulations below.

4.7 Set up your payroll.

If you are appointed to a graduate assistantship or graduate fellowship, see the Department Manager to fill out the appropriate forms. Do this *as soon as possible* to avoid a delay in receiving your first paycheck. Bring your Social Security card and photo ID with you when meeting with the Department Manager. You will be asked to fill out forms regarding withholding a portion of your salary for tax purposes. Seek advice on taxes from your fellow students, payroll personnel, and tax booklets available at the library and <http://www.irs.gov/>

Depending on the nature of your appointment you may be required to undergo a Criminal History Check (CHC) and/or Motor Vehicle History (MVH) check.

4.8 Register for classes

Catalog and Schedule of Classes: <http://catalog.oregonstate.edu/>

Eventually you, your Major Advisor, and your graduate committee will develop a comprehensive program of study (see section 13.4), but until then you have to enroll in classes your first term. You should talk with your Major Advisor to design an initial study plan. You should also consult the current Schedule of Classes for information and detailed instructions on registration. Asking a veteran graduate student for help with registration procedures can be very helpful.

Full time status for graduate students is 9 credits per term. However, students on assistantships (0.20 to 0.49 FTE) must register for a minimum of 12 credits each term. These credits do not all have to be regular coursework, and in fact taking few regular classes (e.g. those with lectures, labs, assignments, etc.) during your first term can be a good strategy while you adjust to graduate school life and begin your research. One of your primary tasks in graduate school is to produce a thesis or dissertation. Consequently, there are specifically designated thesis credits that you can enroll in to give you course credit for the time that you are engaged in this core task. These credits are designated Hort 503 for MS students and Hort 603 for PhD students. You must enroll in the credits that are specifically assigned to your Major Advisor. If you have questions or don't see your major advisor's credits listed in the schedule, talk to the Graduate Program Assistant. You can use thesis credits to bring the total number of credits you are enrolled in up to the required credit load (12). Note that although you can enroll in an unlimited number of thesis credits, MS students can only include a maximum of 12 credits in their official program of study. Do **not** register for Hort 501/601--- "Research", unless specifically instructed to do so by your Major Advisor. Hort 501/601 is a graded course, but Hort

503/603 is not (see section 13.6 for a description of the use of research credits).

Be sure to register for the correct classes and to note the various registration deadlines listed on the OSU [Academic Calendar](#) since there are fees associated with various late registration changes.

4.9. Watch this.

https://media.oregonstate.edu/media/t/0_nr3ae5dh

Anita Azarenko, Associate Dean in the Graduate School, provides 6+1 steps to graduate school success.

4.10. Do something fun.

Starting something new is always stressful and disorienting; make sure to take a break from the stress. See the life balance section at the end of this handbook for some ideas.

5. GRADUATE ASSISTANTSHIPS

See also this description from the Graduate School:

http://oregonstate.edu/dept/grad_school/current/assistantships.html

5.1 Graduate Research Assistantships (GRA)

GRAs are part-time (0.20 to 0.49 Full Time Equivalent [FTE]) appointments that typically assist faculty in conducting research projects. There are **no** automatically recurring GRA positions in the department. Research project leaders or the department may create GRA positions each year as funds permit and program priorities dictate. Such appointments are for terms of one year or less and are subject to renewal each year contingent upon work performance, academic performance, and availability of funds. GRA renewals are considered each spring and are normally made effective October 1. Major Advisors evaluate students based on coursework, progress on thesis research, and other contributions to the major professor's research program/project.

Whenever possible, assuming satisfactory performance and adequate budgetary support, the department will renew appointments of GRAs who have not completed their graduate study unless such appointments were for a fixed-term of one year or less. Advisors will provide termination notices at least one quarter in advance whenever possible. Prior to the beginning of the appointment, advisors will inform students about financial support for the coming fiscal year.

GRAs on 0.49 FTE appointments are expected to provide an average of 20 hours of service per week for the assistantship. This means that up to an average of 20 hours /week should be spent on non-thesis work. Since GRAs ordinarily are doing research under their appointment as part of their thesis, separating work for which they are paid and work for their thesis may not always be easy.

Interpretation and implementation of this University policy varies with each Major Advisor. This is an important subject to discuss with your Major Advisor (see section 7). GRAs at other FTE levels are expected to provide proportional levels of service.

5.2 Graduate Teaching Assistantships (GTA)

GTAs are part-time (0.20 to 0.49 Full Time Equivalent [FTE]) appointments that typically assist faculty in designing and delivering undergraduate courses. Many of the GTA appointments in our department are associated with online Ecampus courses. As a GTA, you need to master the course content and gain the ability to communicate ideas clearly (a skill that is central to success in your graduate studies and professional life). For many students planning a career in academia, a TA position is an excellent training ground for issues of pedagogy, lesson planning, and classroom culture. As with GRAs, there are **no** automatically recurring GTA positions in the department. Course instructors or the department may create GTA positions each year as funds permit and program priorities dictate. GTA appointments are typically for a term, although you may be offered multiple GTA appointments within a year or over your graduate tenure.

5.3 Stipends and Remissions

Assistantships provide a monthly stipend. The amount of these stipends depends upon the fractional appointment, usually from (0.20 to 0.49 FTE). Stipends are tied to a base rate established by the University. However, the specific stipend amount is determined by the Major Advisor. The decision is based on the experience and qualifications of the student and available funds. At the start of each academic year, the Department Manager will present you with an offer letter that outlines your appointment terms including the stipend amount.

Assistantships at appointments of 0.20 FTE or greater receive a tuition remission as well as a subsidy to cover a portion of student fees. If this is your first term, OSU will also remit the matriculation fee and also the International Orientation Fee for international students.

5.4 Health Insurance

<http://studenthealth.oregonstate.edu/graduate-assistant>

All students who have graduate assistantships of an FTE of 0.20 or above are required to enroll in a health insurance policy administered through the Student Health Service. OSU will pay 85 percent of the premium cost for Employee-only coverage while you are employed. Dependents can be added for an additional cost. See the link above for current details.

5.5 Coalition of Graduate Employees

<http://cge6069.org/>

The Coalition of Graduate Employees (CGE) is the collective voice of the graduate student employees of Oregon State University. The CGE is a labor union with the exclusive right to negotiate

with OSU on behalf of its Graduate Research and Teaching Assistants. The contracts CGE earns through collective bargaining determine the salary, working conditions, health coverage, and other rights and benefits of employment for the individuals they represent. Membership in CGE is voluntary, although depending on your status, you may be required to contribute what are called “fare-share” fees whether you are a member or not. The details are nuanced and continually a topic of negotiation between the CGE and the University. See the CGE link above for more information.

6. SUMMER ENROLLMENT AND EMPLOYMENT

Students **do not** typically enroll in credits during the summer. One reason is that there are simply few graduate summer classes, and research work loads are typically high. There are potential exceptions that you may be interested in. For example, the writing program regularly offers a thesis writing workshop during the summer. However, if you enroll in summer courses you will be responsible for tuition and fees. **There are no tuition or fee remissions available during the summer and there is typically no mechanism to pay your tuition or fees directly from grant or project funds held by your Major Advisor. Have a conversation with your Major Advisor or the graduate Program Coordinator before enrolling in any summer credits.**

Similarly, there are typically no research or teaching assistantships offered in the summer. However, many students are employed during the summer to continue assisting in the research projects they are involved in. This is a common source of summer employment for our students. In these cases students are employed on an hourly basis **at rates comparable to their school year assistantship** during the summer. Talk with your Major Advisor about opportunities for summer employment.

7. CULTIVATING THE RELATIONSHIP WITH YOUR MAJOR ADVISOR

Your interaction with your Major Advisor will significantly influence your graduate school experience. Ideally, it should be a mutually enriching relationship that not only results in you graduating, but also maximizes the rewards and benefits you get from your time here. Your Major Advisor can become one of the most significant people in your professional career. Likewise, the professionals they train are often the most significant legacy and impact a professor has during their professional career. Cultivating the relationship with your Major Advisor should therefore be one of your top priorities in graduate school.

That does not mean that you have to be best friends or even like your major advisor (and vice versa). What it does mean is that both of you need to develop open, honest, and frequent lines of communication. Below is a guide to topics that you should use to open a dialog with your Major Advisor. Many of these topics often become sources of conflict because they are assumed to be understood (when they in fact are not) or mutual expectations and responsibilities are not made

explicit.

The types and form of graduate-mentor relationships are as diverse and varied as the biological systems we study. Therefore, this guide does not offer many specific guidelines. The answers to these topics should be a discussion between you and your Major Advisor. Also, how this conversation takes place is also a negotiation. Many students and advisors find it valuable to write down specific expectations, responsibilities, and timelines. These documents can act as a sort of contract between you and your advisor, or serve as a reference document to guide your progress or to refer to in case questions arise. On the other hand, you and your advisor may prefer to cover this information verbally. If this is the case, it is still useful to write down questions or topics that you would like to cover during your next conversation with your advisor and also to take notes during your conversations.

You will write a holistic development plan as an assignment in HORT 511. This is primarily your own personal planning document, but discussing it with your advisor can be a good way to start a dialog. In addition, there is a formal annual review of your progress that you and your advisor are required to complete (see section 12.1). This will be useful in helping formulate expectations and desired outcomes.

7.1 Research Expectations

One of the main things you, your Major Advisor, and your committee will interact on is your research. Much of this conversation will revolve around how to best approach the science, and this is one of the main ways that you learn how to do scientific research. However, there are some practicalities to think about as well. How much leeway do you have in designing your own research plan? How does the research you do for your thesis relate to the research you do as part of your research assistantship? Are you expected to contribute to research activities outside of your thesis or assistantship (remember, this is related to your GRA FTE)?

7.2 Authorship, Intellectual Property, and Data Management

Authorship is an important aspect of research expectations. Research is increasingly collaborative, even when done as part of a MS or PhD thesis. While there are broad guidelines for determining authorship (e.g. <http://hms.harvard.edu/content/authorship-guidelines>), specifics vary from field to field and even within sub-disciplines of horticulture. You should have a conversation with your Major Advisor about how authorship will be assigned. Does your Major Advisor expect to be coauthor on the papers related to your thesis or dissertation? How about authorship on the work you do as part of your assistantship? It is increasingly common to acknowledge the contributions that others have provided to your thesis chapters. Often, these folks will be subsequent coauthors on any publications derived from the thesis. See the OSU Thesis Guide for some examples: <http://gradschool.oregonstate.edu/progress/thesis-guide>

The data you produce as part of your graduate work is valuable in its own right, even independent of

its inclusion in a scientific article. What is your right to these data now and into the future, and how will these data be shared? Many funding agencies require that data produced under grants be made publically available. Indeed, there is a growing trend to make nearly all scientific data “open source”. For instance, see: <http://www.nceas.ucsb.edu/datapolicy> On the other hand, your work may be funded in part or whole by private companies that can place restrictions on how and when you can communicate results. For instance a funding source may place an embargo on publishing work so that they have first access to the information. Also, your work may involve intellectual property that has commercialization potential. There are a number of complex legal and patent related issues that can complicate how and when you can communicate your results. These are all issues that you should have a conversation with your advisor about. See also *being part of a team* below.

Finally there is the slightly more mundane but no less important issue of how to store and backup data. Many granting agencies require that detailed data management plans be included as part of proposals. Data management plans include the physical aspects of storing data in ways that minimize the chance for disaster. YOU DO NOT want to lose data because of an accident or negligence. But data management plans should also help prevent the more subtle and pernicious ways of losing data such as forgetting what those cryptic column headings in an excel spreadsheet mean, not including units, not providing good descriptions of what the data are or how they were collected, or even forgetting where you put the data. You can be surprised how inscrutable and opaque data can look (or how hard it is to find) after only a few weeks or months of inattention. Creating detailed metadata that describe the *what, where, how, and when* of data is in many ways just as important as collecting the data in the first place. It is also critically important when you share data among colleagues or archive data in publicly accessible repositories. In fact, another role of the data management plan is to outline the specific manner in which data will be shared and archived. You should have a discussion with your advisor about what their general data management strategy is as well as any specific data management plans for your project and work.

7.3 Assistantship Expectations

For those with 0.49 FTE appointments, nearly half of your time will be devoted to your assistantship. What does this mean exactly? What does it mean if your assistantship has a lower FTE? What are your specific expectations and job description? Does your advisor expect you to keep regular hours in the lab? If so what are they? Are there periods of time (such as harvest season) when you may have to put in more hours? Also, see “Research Expectations” above.

7.4 Being Part of a Team

As a graduate student, you now represent the State of Oregon, OSU, the Horticulture Department, your lab group, and your advisor. This requires you to be ethical and professional at all times, but you should also consider that your actions and activities now reflect on a larger group, not just yourself. Therefore, your Major Advisor may require review of any work (e.g. talks, publications) before it is shown to peers or the public. In addition, being part of a team involves obligations and responsibilities that are not specifically tied to your assistantship or research. For instance, it is a

common expectation that all lab members take part in mentoring and training undergraduate and new graduate students in research techniques and protocols. It is good to discuss with your Major Advisor what these broader expectations are. Other examples include attending regular lab meetings, occasionally helping out on other student's projects, contributing to keeping lab space clean and tidy.

7.5 A Schedule of Communication

Keep in mind that your Major Advisor is your direct and most frequent contact in graduate school. They are your supervisor and are meant to be there for you. You should never feel like you cannot or should not "waste" their time. However, determine limits of communication expectations early on in your degree program. Does your Major Advisor expect to hear weekly updates on your progress? Or do they only want to hear from you if you have a specific question or problem? What are your own expectations and desires for communication? Incompatible non-expressed expectations are a common source of tension between students and advisors. Avoid this by having a conversation with your Major Advisor about when and how you both would like to keep each other informed. You and your advisor may never be completely aligned, but talking about this issue will hopefully allow you to reach an accommodation that satisfies both of your needs and personalities.

7.6 Completing your Degree Program

Communication becomes particularly important when you are beginning to analyze your data and beginning to write your thesis or dissertation. This can be a fun, intense and stressful time, but good communication can go a long way toward alleviating much of that stress and fostering a period of productive collaboration between you and your advisor. One important item to explicitly develop is a realistic schedule for writing, revising and defending your thesis or dissertation. It is easy to underestimate how much time this will take. In addition to producing early drafts, you will need to leave time to get meaningful feedback from your Major Advisor and other committee members and to edit and revise your initial drafts. You will also need to coordinate your writing schedule with the scheduling requirements for your defense set by the Graduate School. Your schedule may also be influenced by associated issues such as the availability of funding. Early and frequent communication with your Major Advisor and the rest of your committee about this schedule is essential. It is advised to develop a general timeline for your program at your first committee meeting and to periodically revise and enhance the schedule as you progress toward your degree.

The majority of your interactions with your Major Advisor over the duration of your degree program will involve discussions on how best to analyze your results and to communicate those results to your peers and the general public through your thesis or dissertation and associated publications and other products. You should talk with your Major Advisor about how each of you would like the mechanics of this critical interaction to work. Does your advisor expect you to consult with them about every single analysis or figure you produce? Would they rather see a more polished selection of analyses? Would they like to see a more fully formed product such as a results section before providing feedback? What are your expectations and desires? Whatever you settle on, remember to keep up a regular flow of information, feedback, and interaction. Having limited or no

communication about data analysis, results or review prior to your thesis dissertation is unacceptable. Popping your dissertation on your advisors desk for the first time two weeks before you want to defend is an invitation to disaster.

8. RESPONSIBILITIES

In addition to negotiating the nuances of the relationship with your advisor described above, there are several broad expectations that govern students, advisors, and supporting administration of the Horticulture Graduate Program.

8.1 Student Responsibilities

- Assume the major responsibility for your graduate program and initiate each step involved in obtaining the degree.
- Students are expected to demonstrate honesty in all aspects of their academic work.
- File a Graduate Program Checklist (see Appendices) with your Major Advisor and update this each term.
- Meet regularly with your Major Advisor to discuss progress or difficulties in research and course work.
- Contact the members of your Graduate Committee to schedule time and place of committee meetings.
- Submit appropriate Graduate School forms as required (see Graduate Program Checklist).
- If experiencing serious difficulties with your Major Advisor, discuss the matter with the Department Head or Graduate Program Coordinator.
- Willingly take part in your advisor's research, teaching, and Extension programs.
- Maintain a GPA of at least 3.0 but strive for excellence in both course work and research.
- Be familiar and comply with requirements and regulations of the Graduate School and department.
- Attend and participate in department seminars.
- Write your thesis, preferably in journal article format. Submit manuscripts for publication *before* leaving OSU if at all possible.
- Return departmental keys upon completion of your degree program.
- Maintain a tidy/clean office/lab space, and ensure that all of your area is left clean and organized before leaving OSU.
- Ensure that your research data has been archived and backed up with your Major Advisor.

8.2 Major Advisor Responsibilities

- Responsibly to advise and guide students in their graduate program development, course work, and research.
- Instruct new students on departmental regulations and research facilities; introduce them to other graduate students, staff, and faculty members; and assist them in filling out the Graduate

Program Checklist.

- Be particularly alert to guidance of beginning students and specifically encourage short-term research challenges to promote student interest, involvement, and development of research expertise and philosophy.
- Provide budgetary support for supplies, services, and equipment needed for thesis research.
- Help advisees develop course study programs that are consistent with their needs and career goals and requirements of the department and Graduate School.
- Keep informed of advisee's progress and difficulties in research and course work.
- Attend and participate in department seminars and assist advisees in seminar preparation and practice.
- Assist in organizing and editing the thesis and see that it is in good form before it is given to other committee members.
- Encourage students to participate in horticulture and other departmental seminars and in regional, national, and international scientific meetings. Assist them in preparing their oral presentations and posters.
- Carefully edit manuscripts co-authored with students prior to submission for departmental review.
- See that advisees function as an integral part of your research, teaching, or Extension effort.
- Inform students if their performance is not satisfactory and terminate advising responsibilities if necessary.
- Conduct an annual review of all GRAs and GTAs.

8.3 Department Responsibilities

- Provide office and thesis research space, facilities, and educational experiences to graduate students insofar as resources and opportunities permit.
- Encourage students to attend and present research at professional meetings by providing transportation and/or in deferring costs of such participation as resources and university policies permit.
- See that the graduate policy and departmental standards are maintained.
- Assist in the solution of any major problems that arise during the student's tenure at OSU.
- Seek graduate student and Major Advisor input on issues of concern.
- Administer annual review process for all graduate students.

9. DEGREE LEARNING OUTCOMES

9.1 Master of Science (MS)

Through successful participation and completion of an MS in Horticulture, you will gain an advanced understanding of horticultural sciences and its relationship to other disciplines. You will be sufficiently trained through disciplinary coursework and research experience to provide horticulture

expertise. This will provide you with the breadth of knowledge to be able to communicate with professionals from the broad range of specialties involved in horticultural systems management and research.

Outcome 1: Scholarship

You will have the ability to conduct research that extends knowledge in the field of horticulture. This will be demonstrated through mastery and application of critical thinking in the design and conduct of research, and application of standard and innovative theory and methods in both coursework and an individual thesis research project.

Outcome 2: Knowledge

You will be able to demonstrate:

- In-depth disciplinary knowledge and capacity to apply that knowledge to horticultural systems issues at multiple scales and levels of biological organization.
- Demonstrate skill in integrating horticultural systems concepts across multiple disciplines.
- The ability to employ technical knowledge and leadership skills to a horticultural research problem.
- Ability to perform basic analyses in horticulture and associated sciences.
- Ability to perform other basic tasks required of a professional horticultural scientist.
- Understand key linkages and interactions between horticulture and other biological and earth science processes. These outcomes will be accomplished through successful completion of the coursework required for the degree and a thesis research project.

Outcome 3: Communication

You will have the ability to communicate professionally and with the public about horticulture research and resources by gaining skills and experience in communicating in both formal and informal venues with learners, practitioners, and community members. You will present a public thesis seminar and public non-thesis seminar.

Outcome 4: Ethics and Diversity

You will be committed to diversity and high ethical standards in scholarship, teaching, and service by participating in research methods courses, professional development courses, and seminars, workshops, or other activities focused on diversity and ethics. Of course, sound ethics should be employed by you in all that you do while working within your degree program here at OSU.

9.2 Doctor of Philosophy (PhD)

Through successful participation and completion of a Doctoral degree in Horticulture, you will gain an advanced understanding of horticulture and the interaction with related disciplines and conduct original research that advances the field of horticulture. You will be trained through disciplinary coursework and research experience to provide horticultural expertise and will have the breadth of

knowledge to be able to communicate with professionals from the broad range of specialties involved in horticultural systems management and research.

Outcome 1: Scholarship

You will have the ability to conduct original research that extends knowledge in the field of horticulture. This will be demonstrated through mastery and application of critical thinking in the design and conduct of original research and application of standard and innovative theory and methods in both coursework and an individual thesis research project.

Outcome 2: Knowledge

You will be able to demonstrate:

- In-depth disciplinary knowledge and capacity to apply that knowledge to horticultural systems issues at multiple scales and levels of biological organization.
- Skill in integrating horticultural systems concepts across multiple disciplines.
- Original and innovative contributions to the understanding of horticultural systems.
- The ability to employ technical knowledge and leadership skills to a horticulture research problem.
- Ability to perform basic analyses in horticulture.
- Ability to perform other basic tasks required of a professional horticultural researcher.
- Understand key linkages and interactions between horticulture and other biological and earth science processes.
- Ability to make original contributions to the understanding of horticultural systems.
- Ability to understand teaching pedagogy for the classroom or Extension.

These outcomes will be accomplished through successful completion of the coursework required for the degree, a dissertation research project, and your teaching practicum.

Outcome 3: Communication

You will have the ability to communicate professionally with both peers and the public about horticulture research and horticultural resources by gaining skills and experience in communicating in both formal and informal venues with learners, practitioners and community members. This will be demonstrated through presentation of a thesis, a special non-thesis seminar and a teaching assignment.

Outcome 4: Ethics and Diversity

You will have a commitment to diversity and high ethical standards in scholarship, teaching and service. You can develop your skills in this area by participation and training in research methods courses, professional development courses, seminars, workshops, or other activities focused on diversity and ethics.

10. GRADUATE OPTIONS

Horticulture graduate students can declare options in:

Plant Breeding and Genetics (PBG)

<http://catalog.oregonstate.edu/OptionDetail.aspx?code=1210&majorid=31>

and

Entomology (ENT)

<http://catalog.oregonstate.edu/OptionDetail.aspx?code=5333&majorid=31>

In general, options require an additional 12 credits of option specific coursework and may also require a research emphasis in the field. Consult with the respective program coordinators for current requirements, particularly as these may change.

Follow these steps to declare an option:

- Talk to your advisor
- Contact the respective program coordinators to inform them of your intention to declare an option and to confirm option requirements.
- Inform the Graduate Program Assistant (Caroline Charlton) that you are declaring an option.
- Prepare a program of study form (or a change to program study form) indicating courses used to fulfill the option requirements. Note: courses listed in the option section of the form can also be used to fulfill other degree requirements such as total credits.
- Your committee is responsible for confirming that you meet the option requirements at the time of your defense.

11. KEEPING ON TRACK: PLANNING AND SCHEDULING TOOLS

The requirements and steps described in the following sections can seem daunting. Relax. While they will be difficult, there are a number of tools to help you plan, keep things straight, and help you stay on track toward completing your degree.

The best aggregator of these tools is the Graduate School's academic progress page:

<http://gradschool.oregonstate.edu/progress>

11.1 Checklists and Flowcharts

Appendixes I-IV contain Horticulture specific checklists, and general flowcharts for the MS and PhD degrees.

11.2 Deadlines and Milestones

See the Graduate School's page of academic deadlines:

<http://gradschool.oregonstate.edu/progress/deadlines>

MS Degree Deadlines

Important: All master's degree requirements must be met within 7 years.

Before completing 18 credits of coursework:

Develop a [Program of Study](#) *with your program*. This is your plan for completing your degree. Speak with your advisor, department chair, or departmental graduate coordinator for guidance on completing this requirement.

At least 15 weeks before your Final Oral Examination:

- Submit your approved [program of study](#) to the Graduate School
- Select a [Graduate Council Representative](#) (if required) for the Final Oral Examination

At least 2 weeks before your Final Oral Examination:

- Submit a [diploma application](#) *except for spring, see below for commencement deadlines
- Use online form to schedule your [final oral examination](#).
- Distribute a defensible copy of your thesis to your committee.
- Deliver or [email pretext pages](#) of your thesis to the graduate school.

Upload the final copy of your thesis (if required for your degree) to [ScholarsArchive](#) within 6 weeks after your Exam or before the first day of the following term, *whichever comes first*, to avoid [having to register for a minimum of three graduate credits](#) the next term.

PhD Degree Deadlines

Before completing 2 terms (if you already have a master's degree) OR 5 terms (if you do not):

- Select program committee members, which must include a [Graduate Council Representative](#)

- Meet with your program committee to create a [Program of Study](#). (Take to the meeting, the Doctoral Program Checklist, all transcripts, list of your eligible transfer credits, your program curriculum, an initial draft of your [Program of Study](#).)

Preliminary Oral Exam

- At least 6 weeks before your Preliminary Oral Exam submit your signed [program of study](#) to the Graduate School.
- At least 2 weeks before your Preliminary Oral Exam schedule your Oral Preliminary Exam by submitting the [online Exam Scheduling Form](#) (after your program of study has been approved by the Graduate School).

Final Oral Defense of Dissertation

- At least 2 weeks before your Final Oral Defense of Dissertation:
 - Submit a [diploma application](#) *except for spring, see below for commencement deadlines
 - Schedule your Exam by submitting the [online Exam Scheduling Form](#) to the Graduate School
 - Deliver or [email pretext pages](#) of your thesis to the graduate school.
 - Give dissertation to your whole committee

Thesis Submission

A final and corrected copy of your thesis or dissertation must be uploaded to [ScholarsArchive](#) within 6 weeks after your Exam or before the first day of the following term, *whichever comes first*, to avoid having to register for a minimum of three graduate credits the next term.

11.3 Evaluation of Progress

Once per year, you and your Major Advisor are required to evaluate your performance and progress towards your degree. This is a formal process that is in addition to the regular lines of communication that you should develop with your Major Advisor (see section 7). The evaluation process and record should point out strengths, successes, and areas of improvement. It offers a more formal method to receive feedback and constructive criticism and is not meant to illicit significant stress on behalf of the student, but rather offer suggestions for advancing you as a scientist and professional. This is also a great opportunity to have a comprehensive and reflective conversation with your Major Advisor about your program and develop opportunities and activities to enhance your program for the coming year.

You and your Major Advisor can choose the best time to conduct the yearly evaluation, but it must be completed before the end of the fall term. The evaluation should include a face-to-face meeting and follow the guidelines described in the *Horticulture Graduate Student Annual Review Form* (Appendix IV). After the evaluation, your Major Advisor must complete the form and provide a copy to the Grad Program Assistant and the Department Head by **the last day of the fall term** each year. After it is reviewed the evaluation form will be deposited in your graduate file. It is the

responsibility of your Major Advisor to make an appointment with you and to complete the evaluation by the deadline each year.

12. DEGREE CREDIT REQUIREMENTS

In addition to the Horticulture (and option) specific course requirements described below, be sure to note the general degree and credit requirements for all graduate programs:

<http://catalog.oregonstate.edu/ChapterDetail.aspx?key=38>

All graduate programs of study must consist of a minimum of 50% graduate stand-alone courses. The remaining credits may be the 500 component of 400/500 slash courses.

Also, all programs require training in the responsible conduct of research (see above).

12.1 Master of Science (MS)

See the graduate catalog for the formal list of requirements:

<http://catalog.oregonstate.edu/ChapterDetail.aspx?key=39>

- A minimum of 45 graduate credits is required. If a minor field is identified, approximately two-thirds of work (30 credits) must be in the major and one-third (15 credits) in the minor field. Major courses may be selected from those in Horticulture as well as from those offered by many other departments.
- 6 to 12 thesis credits (HORT 503)
- A maximum of 15 credits of graduate work completed at another accredited institution, or in the Division of Continuing Education of the Oregon University System, may be transferred, provided that the following: 1) the work fits into a logical program for the degree, 2) the transfer is approved by the student's committee and by the Graduate School, and 3) grades of A or B have been earned. Credit granted for work completed at another institution is tentative until validated by work in residence. Credit for out-of-state Extension courses, correspondence courses, institute courses, certain distance education courses, and such are not acceptable.
- No more than 9 credits of blanket-numbered courses, **excluding thesis (Hort 503)**, may be applied toward the minimum 45-credit MS degree.
- A program of study for the degree **must be filed** in the Graduate School **before the completion of 18 hours of graduate course work**, usually before the end of the second term. The appropriate form is available from the Graduate School website:
http://oregonstate.edu/dept/grad_school/forms.php
- All work for a MS degree must be completed within seven years, including transferred credits, course work, thesis, and all examinations.

12.2 Doctor of Philosophy (PhD)

See the graduate catalog for the formal list of requirements:

<http://catalog.oregonstate.edu/ChapterDetail.aspx?key=40>

- There is no rigid credit requirement, but the equivalent of at least three years of full-time work beyond the baccalaureate is required. Three years of graduate work roughly translates into: 3 years x 3 terms per year x 12 credits per term = 108 hours.
- A minimum of 36 credits completed in residence at Oregon State University, and at least three terms of full-time graduate academic work (at least 9 credits per term) completed on campus or at an off-campus site approved by the Graduate School. The latter requirement of three terms of full-time enrollment does not have to take place in consecutive terms.
- At least 36 thesis credits (Hort 603).
- No more than 15 blanket-numbered credits, excluding thesis, may be applied toward the minimum 108-credit doctoral program.
- If a minor is declared, it must consist of at least 18 credits (15 credits for an integrated minor).
- A program of study must be filed by the end of one calendar year of enrollment as a PhD student for those who hold an MS degree and by the end of the fifth quarter for those who do not hold a MS degree. The final plan of study must be submitted to the Graduate School six weeks before the student's oral preliminary examination.
- Students who wish to include courses previously taken outside of OSU within their programs of study must submit a [Transfer Credit Request form](#) before the end of their first year of study. Graduate courses to be transferred to a doctoral degree program can be courses that were used to satisfy the graduate course requirements for a graduate certificate or a master's degree (or equivalent). Selected 700-level courses that have been deemed equivalent to graduate-level learning may be used on doctoral programs of study upon approval of the student's graduate committee. There is no limit on transfer credit toward the doctoral degree as long as the doctoral residence requirement is satisfied. See the Graduate Catalog for a complete description of rules and procedures regarding transfer credits.

13. MAJOR COMPONENTS OF YOUR ACADEMIC PROGRAM

You must include each of the following as part of a portfolio of work that form the academic core of your MS or PhD degree. The following list includes Horticulture specific requirements and guidelines, as well as Graduate School requirements. In addition, there are rules governing the courses and credits that can be used toward your degree (SECTION 12) as well as examination requirements associated with each degree (SECTION 14). These can all be a bit confusing and difficult to digest at first. Take your time and stay calm. Don't try to digest everything all at once. Also, take a look at the planning tools provided in Section 11. Those tools will be very helpful in organizing and planning your degree program. Ask lots of questions.

Your advisor and fellow graduate students are the best people to ask, but don't hesitate to ask the program coordinator or the Graduate School.

13.1 Graduate Committee

See the Graduate School's graduate committee page:

<http://gradschool.oregonstate.edu/progress/graduate-committee>

The Graduate Committee is the formal body that directly guides, mentors, and evaluates your graduate school experience. You and your Major Advisor should put some careful thought into its composition. Your Graduate Committee should include members who can provide you experience and expertise in areas related to your research or other career goals such as teaching and Extension.

If you declare a minor (you are not required to do so), at least one of your committee members must represent the minor field.

Even if you do not declare a minor field, at least one faculty member on your committee must come from the broader graduate faculty at large. This person generally should not be a member of the Horticulture faculty, although they often have interests or skills that align with your program.

You are required to have a Graduate Council Representative (GCR) on your committee. This person represents the graduate school, and it is their job to monitor the oral and thesis defense to ensure that a thorough examination occurred and that the student was treated fairly during the examinations. You can use an online tool on this page (<http://gradschool.oregonstate.edu/progress/graduate-committee>) to help identify a GCR. You should consult with your Major Advisor before deciding which professor to ask. Individuals on the list are not obliged to be on your committee and may decline to participate due to other commitments. You also are not obligated to accept any graduate representative on the list. The graduate representative is not required to read your thesis or participate in questioning the candidate. However, many graduate representatives do read the thesis and ask questions during the defense examination.

Table 1. Minimum composition of Graduate Committees. See also:

<http://gradschool.oregonstate.edu/progress/graduate-committee>

Degree	Total members	Major	Minor	Graduate faculty at large	Graduate School Representative
MS (thesis with minor)	4	2	1	0	1
MS (thesis without minor)	4	2	0	1	1
PhD (with minor)	5	2	1	1	1
PhD (without minor)	5	3	0	1	1

Table 1 summarizes the minimum committee composition for different degree options in Horticulture. As noted above, you may find it useful to include the equivalent of a “minor field” faculty member on your committee even if you do not formally declare a minor. Also, additional faculty may be included on the Graduate Committee.

For both MS and PhD students, the committee must be formed before the program of study is submitted to the Graduate School (see below for more information on program of study).

13.2 Committee Meetings

See the Graduate School’s Exams and Meetings page:

<http://gradschool.oregonstate.edu/progress/exams-and-meetings>

Preliminary and informal meetings

During your first term you will have a number of informal meetings with your Major Advisor to start the process of developing your academic program and to identify potential members of your graduate committee. These early meetings do not need to include your official committee members, although it can often be beneficial to include committee members as early as possible. After your committee is constituted (see Graduate Committee below), it is still useful to have periodic committee meetings outside of the required formal meetings described below. You can use these meetings and to help solve problems or issues that have arisen.

Required formal program meetings

Both MS and PhD students in Horticulture are required to have a formal program meeting. Note that the Graduate School does not require this meeting for MS students, but it is a Horticulture requirement. Table 2 summarizes the different reporting requirements and formalities for MS and PhD students. In addition to the program meeting, your committee will formally meet to administer the required exams associated with your program (See section 14)

Table 2. Requirements for the formal program meeting.

Degree	Timing	Schedule with Graduate school?	Graduate Council Representative (GCR) present?	Program of study
MS	Before completing 18 hours of graduate course work.	No	Not required, but recommended	Signed by all committee members (including GCR ^{###}) and department head.
PhD	Before completing 2 terms (if you already have a master's degree) or 5 terms (if you do not)	No	Required	Signed by all committee members and department head. ^{***}

^{###}GCR is not required to be present at the program meeting.

^{***}In addition the Doctoral Students need to print the [Doctoral Program Meeting Checklist](#) and take it to his/her meeting. The Graduate Council Representative will complete and sign this form and return it to the Graduate School with the signed Program of Study.

The program meeting provides the graduate committee members an opportunity for early input into your course work and research. The meeting should point out course, research, and career options and assist you and your Major Advisor in developing a plan for your graduate career. The following is an outline for an effective program meeting:

1. Introduction. Introduce yourself to the committee. Tell them about your academic background and what your career goals are.
2. Discussion of research proposal or plan. Get feedback on your planned research. Ideally, this meeting is a great opportunity to get detailed feedback on your research proposal (See section 13.3). You might discuss preliminary data or get feedback on the planned experimental design. Depending on the timing of the meeting you may not have a detailed research proposal complete yet. In that case, use the meeting to get feedback and help in writing a more detailed proposal.

3. Discussion of program. Get feedback on your planned program of study. It is often helpful to provide the following to committee members before the meeting:

- List of prior courses taken
- A tentative list of courses to be taken in proposed program.
- A tentative timetable for the graduate study planned (use checklist).
- A brief statement of student's professional goals and objectives.

13.3 Thesis Research Outline

The central part of the MS and PhD degree is the active engagement in a research study. You will devote a considerable amount of planning, effort, and time into implementing your research project and communicating the results in various forms. Therefore, you should work with your Major Advisor and committee to develop a written outline and plan for your proposed research. The exact form and extent of this plan can vary. For instance, your Major Advisor might require that you write your plan in the form of a detailed research proposal such as the type you would submit to a granting agency like the USDA, or they might request that you write a brief 3 to 4 page outline that includes a brief literature review.

In whatever form, the plan will help you and your committee to critically analyze your research at an early stage when potential pitfalls or errors can be corrected. The plan is a very good way to facilitate meaningful discussion and obtain feedback on your research from your Graduate Committee. As such, it is helpful to be as specific and detailed as possible in your plan. Remember, this is a *plan*. Things will likely change, first as a result of the feedback you get from your committee and other peers, and later as a result of the unforeseen circumstances that undoubtedly challenge any research project. Part of research involves active planning and reconfiguration as necessary.

The plan will also help you and your committee think explicitly about how your research fits into the rest of your graduate program. For instance, maybe you shouldn't take statistics, biochemistry, and soil physics during the spring term when you will also be establishing your research plots.

13.4 Program of Study

See the Graduate School's program of study information page:

<http://gradschool.oregonstate.edu/progress/program-study>

The program of study is the list of classes you have taken and plan to take to fulfill the requirements of your degree. You will invest some time in developing it in collaboration with your Major Advisor and Graduate Committee. Your fellow students are also a valuable source for advice about

classes and the intricacies of the regulations governing the program of study. All MS students should complete and file their program of study before the completion of 18 hours, usually in the second term of residence. At the very latest, you need to submit an approved program of study at least 15 weeks before your Final Oral Examination. All PhD students should complete and file their program of study before completing two terms (if you already have a master's degree) or five terms (if you do not). At the very latest, you need to submit an approved program of study at least six weeks before your Preliminary Oral Exam.

The Graduate School will review your program to make sure it conforms to the general rules and regulations for your degree. You will have to file a revised program of study and obtain all the appropriate signatures each time your program changes. A common strategy for minimizing this inconvenience is to construct a program of study that meets the minimum requirements for graduation. You are not limited to your program of study and can take as much additional coursework (including thesis and blanket courses) as you and your Graduate Committee see fit. You do not have to list these additional classes on your official program of study.

The program of study for PhD students must be approved by the full Graduate Committee at a formal meeting (See program meeting above). The program of study for MS students only requires approval by the Major Advisor. However, Horticulture MS students should include their full committees in the development of the program. All study programs must be approved and signed by the Department Head.

The composition of your program of study is governed by a number of rules and regulations. Program of study forms that include a summary of these rules are available from the graduate school: http://oregonstate.edu/dept/grad_school/forms.php#program
See also Section 13.4

Your program of study must also include training on the responsible conduct of research (RCR). See below for information on how to meet this requirement.

You may wish to declare a minor, but this is not required. You can declare an integrative minor that represent supporting courses from two or more departments. Other minors are more formal and prescriptive. **These have specific course or program requirements. Always confirm minor requirements with the respective program.** Also, keep in mind that your program of study will likely include a significant number of classes outside of those offered in the Horticulture Department whether you declare a minor or not.

13.5 Required Courses in Horticulture

In addition to the general credit requirements for programs of study established by the Graduate School (Section 12), the Horticulture Graduate Program requires that you include the following

courses as part of your plan of study:

1. **HORT 511 (2 credits). Research and Education Perspectives in Horticulture**

This course is taught by the horticulture faculty to highlight the research, education, and Extension programs in the department. The first week of the course also serves as the departmental orientation for entering graduate students. You should preferably take this course during your first year at OSU.

2. **ENT/HORT 518, PBG/HORT 519, or HORT 520 (2 credits per course). Current Topics in Entomology, Plant Breeding and Genetics, and Horticultural Systems**

This group of sister courses is designed to present current topics in horticulture and the related fields of entomology, plant breeding and genetics through a critical analysis of the scientific literature. The courses also are a venue for you to practice synthesizing information and presenting research findings to peers, both of which are central learning objectives of the graduate program. Instructors for the course rotate among the graduate faculty, and individual instructors choose a specific topic or theme for the term that they teach. MS students are required to take a minimum of 4 credits from the series; PhD students are required to take a minimum of 6 credits. You are expected to take the one current topics course related to your area of emphasis. Thereafter, you can mix and match courses or repeat them as needed to meet the minimum unit requirements. You are encouraged to participate in at least one of the courses during each year in residence.

3. **HORT 507. Horticulture Graduate Seminar (variable credits)**

This course serves as an opportunity to gain experience giving a formal scientific presentation in front of an audience. It is also an opportunity to obtain feedback from your peers on your presentation style and skills. All MS and PhD candidates are required to present at least one Graduate Seminar (Hort 507) during their time in residence. In addition, PBG option MS or PhD students must give an additional seminar under the PBG 507/607 class designation. These seminars will be organized by the cross-department PBG faculty.

Seminar Format

The HORT 507 seminar requirement is distinct from your thesis or dissertation defense seminar. We therefore suggest that your 507 seminar be on a topic that is not a preliminary version of your defense seminar. One good choice of topic is a critical analysis of a broad subject that is either generally related to your thesis research or that is simply of interest to you. Another option is to present results of a side project you are currently involved in or are thinking about pursuing for a PhD or postdoc. You may choose to present preliminary data from your thesis research, but this should be done as part of a presentation that takes a broader take on your thesis topic or explores a related aspect of your thesis. You should avoid simply providing early results of your thesis work or providing a preliminary version of your thesis seminar.

You may present a seminar as early as your third academic term in residence but no later than one term prior to your thesis defense. You must list HORT 507 on your study program, register in the quarter that you present your seminar, and give timely notice to the seminar chair who will schedule your seminar. See *Departmental Seminar* below for options on scheduling your seminar.

Your Major Advisor is expected to assist in the preparation and rehearsal of your seminar presentation. Be sure to let them know when you are working on this seminar and schedule preparation meetings. If that is not possible, the Seminar Chair should be contacted for advice.

Guidelines for your Hort 507 Seminar Presentation

- a) Begin development of the seminar several weeks in advance of the scheduled presentation.
- b) Work closely with your Major Advisor in the development of the seminar. One or more "dry runs" with your Major Advisor or fellow students several days before the seminar presentation is strongly suggested.
- c) Provide a brief written biographical sketch to the person introducing you to the seminar audience.
- d) Prepare a brief abstract and list of literature citations and distribute it electronically to graduate students, staff, and faculty.
- e) You should be in the best position to answer many of the comments and questions raised during the discussion period, but if necessary feel free to call on members of the audience to enter into the discussion.
- f) The presentation of the seminar should take about 35 to 40 minutes, with the remaining time in the hour devoted to questions.

Peer feedback

In addition to presenting your seminar, another requirement of Hort 507 is to attend the full seminar series and to provide feedback to other seminar presenters. The seminar chair may arrange additional opportunities or venues for providing this feedback.

Option course requirements

Check with program coordinators to confirm current option requirements.

Plant Breeding and Genetics

In addition to the general Horticulture course requirements, those with a PBG option are required to include 12 credits from the following list in their program of study:

1. BOT/MCB 575. Comparative Genomics (4)
2. CROP 590. Experimental Design in Agriculture (4)
3. PBG 507. Seminar (1-2)
4. PBG 519. Current Topics in Plant Breeding and Genetics (2)
5. PBG/HORT/CSS 530. Plant Genetics (3)

6. PBG/HORT/MCB 541. Plant Tissue Culture (4)
7. PBG/HORT/CSS 550. Plant Breeding (4)
8. PBG/MCB/CSS 620. DNA Fingerprinting (1)
9. PBG/MCB/CSS 621. Genetic Mapping (1)
10. PBG/MCB/CSS 622. Mapping Quantitative Trait Loci (1)
11. PBG 650. Advanced Plant Breeding and Quantitative Genetics (3)

Entomology

In addition to the general Horticulture course requirements, those with an ENT option are required to include 12 credits from the following list in their program of study:

Select one course from the following:

- ENT 520. Insect Ecology (3)
- Z 540. Insect Physiology (3)
- Z 475. Insect Biodiversity Survey (3)

Select six additional credits from the following:

- ENT 507. Seminar (Maximum 1 credit)
- ENT 518. Current Topics in Entomology (Maximum 2 credits)
- ENT 520. Insect Ecology (3)
- ENT 540. Issues in Insect Toxicology (3)
- ENT 599. Special Topics (Maximum 3 credits)
- Z 540. Insect Physiology (3)
- Z 475. Insect Biodiversity Survey (3)

Select three credits from the following:

- ENT 501 Research (Maximum 3 credits)
- ENT 503 Thesis (Maximum 3 credits)

13.6 Blanket Courses

See the “Course Numbers” section of the Graduate Catalog:

<http://catalog.oregonstate.edu/ChapterDetail.aspx?key=38#Section1807>

Blanket-numbered courses have a zero middle digit, and serve the purpose of providing you course credit for the many activities that are part of your program but don't fit neatly into a traditional course structure. You can repeat these courses up to the maximum totals described for each degree program of study. Blanket courses in Horticulture include the following:

- **Thesis** (HORT 503 for MS students or HORT 603 for PhD students). These credits are used to reflect your effort in conducting your thesis or dissertation research and writing. You will likely make liberal use of these credits since research and writing will take up a considerable

amount of your effort. Note that there is a limit to the number of thesis credits that can appear on the official MS programs of study filed with the graduate school. However, you should feel free to use thesis credits to ensure that you are taking a full credit load. It is not uncommon for students to take as many as 16 credits of thesis during terms when they are writing their thesis or during intensive periods of data collection. When enrolling in HORT 503/603, you should enroll using the course registration number specific to your Major Advisor. If you do not see this number when enrolling, ask the Graduate Program Assistant for assistance.

- **Research** (HORT 501). These credits are used for research projects that are not related to your thesis research. **DO NOT CONFUSE THESE WITH THESIS CREDITS.** Data obtained from such research should not be incorporated into the thesis. It is less likely that you will need to enroll in HORT 501, but an example might be doing a project in a lab in order to gain experience with a technique or an approach or doing a project as part of a non-thesis degree. Note that in contrast to thesis credits, research credits are **GRADED**.
- **Reading and Conference** (HORT 505). These credits are used for special coursework not given under a formal course number. A number of different types of courses can fall under this category. For one, it can be a way to teach a class to only a few students or for a faculty to have you read the body of literature on a certain topic and to have a regular discussion about it (its namesake purpose!). As such, sometimes these reading and conference courses are not widely advertised beyond a professor's lab group. They often arise because students suggest a topic to their Major Advisor. Faculty will also use 505 credits to offer new or experimental courses on a trial basis before going through the formal course approval process. Since these courses are not regularly scheduled, they are often advertised on relatively short notice....e.g. a term or two before they are scheduled.
- **Seminar** (HORT 507). See required courses above.
- **Teaching Practicum** (HORT 509). This is used to reflect effort in activities related to teaching. This is a requirement for PhD students, so they must list 509 credits on their programs of study to indicate completion of the teaching experience requirement.

13.7 Teaching Experience

The department requires all PhD candidates to include teaching experience in their program. Your Graduate Committee has wide discretion in designing the most appropriate form of teaching experience given your background and career goals. Potential teaching experiences include assisting in an undergraduate course (either as part of a paid teaching assistantship or as an unpaid practicum) or assisting in the presentation of an Extension program, field day, or other event. Ideally, the teaching experience should include some direct contact with students such as preparing and presenting one or more lectures or Extension programs or being available for questions during

labs and recitations.

To receive course credit for your teaching activities, you should enroll in HORT 509 Practicum during your teaching experience.

<http://catalog.oregonstate.edu/CourseDetail.aspx?subjectcode=HORT&coursernumber=509>

Your committee, Major Advisor, or the supervisor of your teaching experience will determine an appropriate amount of HORT 509 credits and the number of credits that should be included on your official program of study. Typically, assisting in an assigned undergraduate course equates to four credits of HORT 509.

There is no departmental teaching requirement for MS candidates, but interested students are encouraged to work with their Major Advisor and Graduate Committee to develop teaching experiences that will complement their career objectives.

13.8 Departmental Seminar

One of the main functions of academia is to serve as a community for sharing ideas, fostering critical thinking, and catalyzing innovation. The departmental seminar is a time-honored and formal way of accomplishing this goal. You should make the seminar an integral part of your professional consciousness, and make an effort to attend all the seminars. Faculty have the same expectation. You are also required to give at least one talk as part of the departmental seminar during your time at OSU.

Departmental seminars are organized in the fall, winter, and spring academic terms with each term having a slightly different organization and focus. In fall, the seminar is organized by Horticulture faculty on topics broadly related to horticultural science. In winter, the seminar is organized jointly across several programs on topics related to the Plant Sciences. In spring, the seminar is organized jointly by graduate students. The student organized seminar in the spring consists mostly of student presentations and can be an ideal venue for fulfilling your HORT 507 requirement. In addition, students who take the lead in organizing the spring seminar can enroll in teaching practicum (HORT 509) credits. Fall is another option for scheduling HORT 507. Winter is problematic because of the joint nature of its organization. Inform the Graduate Program Advisor if you would like to schedule HORT 507 during winter term for program scheduling reasons.

13.9 Responsible Conduct of Research

Science plays a central and invaluable role in our society. Because of this, scientists have a solemn responsibility to conduct research ethically and with the highest degree of integrity. While we may all consider ourselves to be honest and responsible (at least most of the time!), we often don't think about what this means explicitly in the context of our research. In general, there are nine broad areas where ethical issues and questions arise:

- Mentoring

- Data management
- Research misconduct
- Human participants
- Animal subjects
- Authorship and allocation of credit
- Intellectual property
- Conflicts of interest
- Collaborative science

This is a diverse and complex list of areas where conflicts may arise. You will develop responsible research plans, make complex decisions, or be faced with an ethical dilemma regarding many of these topics during your scientific career. Because of this, the Graduate School requires that you include training in the responsible conduct of research as part of your program. Your Major Advisor and Graduate Committee have discretion in choosing the form of this training that best meets your current research activities and career goals. Several options include the following:

- Participate in the Department of Horticulture Ethical Training Seminar. This seminar is organized by graduate students and participating faculty. Confer with the Horticulture Graduate Student Council for details on scheduling and topics in a given year. Previously, the seminar has been organized as a reading and associated two hour discussion of *On Being a Scientist: A Guide to Responsible Conduct in Research* published by the National Academies Press http://www.nap.edu/catalog.php?record_id=12192. Also note the video and podcast options on that website.
- Enroll in GRAD 520: Responsible Conduct of Research <http://catalog.oregonstate.edu/CourseDetail.aspx?subjectcode=IST&coursernumber=520>. The course covers the nine broad areas listed above and provides training in ethical decision making.
- Complete the University of Miami's CITI RCR web-based ethics module that can be found at the "Responsible Conduct of Research" link: <http://oregonstate.edu/research/ori/responsible-conduct-research>. If you are using or will use human subjects in your research, you should complete the training module on ethical use of human subjects. Note that you are required by the OSU Institutional Review Board to take this course or a similar course offered by NIH if you are participating in a research project that uses human subjects: <http://oregonstate.edu/research/irb/online-ethics-training-educational-requirement> In our department, the use of human subjects in research most often comes in the form surveys and food sensory trials. If you are not using human subjects, you should complete at least one module on the CITI site.
- Organize a lab meeting or a broader departmental seminar around one or more of the nine primary topics of ethics of research (above).

13.10 Thesis or dissertation

This is probably the **second** most important part of your program (see below for the most important part). At its core, scientific research involves the application of the scientific method to generate information, the synthesis and analysis of that information, and the vetting of that synthesis and analysis by peers. The MS and PhD programs are designed to give you practical training and experience in each of these elements, culminating in the publication of the thesis or dissertation. See section 15 for information on the more mundane details of formatting and submitting your thesis).

The most important part is publishing. The work that you do in graduate school will have the biggest impact and contribute the most lasting legacy if it is peer-reviewed and made widely available for others to use, interpret, and evaluate...i.e. published in the peer reviewed scientific literature. Make publishing your work an explicit goal and part of your thesis planning. We encourage students to write MS and PhD theses in the form of one or more scientific journal articles that are formatted for a target journal. You might complete a publishable part of your work before you finish the overall thesis. Don't hesitate to submit work as soon as it is ready; you don't need to wait to publish until the full thesis is complete.

14. EXAMINATION REQUIREMENTS

The graduate program consists of the following formal exams. See the Graduate School's webpage that details these exams, their timing, and instructions for scheduling.

<http://gradschool.oregonstate.edu/progress/required-examinations>

Note that some exams require formal scheduling with the graduate school. See this page for details on scheduling: <http://gradschool.oregonstate.edu/progress/exams-and-meetings>

14.1 Written Preliminary Exams

The Department of Horticulture does not require a written preliminary examination as part of the MS or PhD degrees. However, your Major Advisor and Graduate Committee can require you to take a written examination. The Major Advisor will prepare and grade the examination, with the assistance of departmental graduate faculty or the student's Graduate Committee. The preliminary examination can take the form of preparing a written research proposal for your thesis. Your Major Advisor can require that your proposal meet their approval before continuing your program of study.

14.2 MS Exam Requirements

Final Oral

The oral exam consists of two parts:

1. A public lecture where you present the results of your thesis. The lecture is typically scheduled for 50 minutes, including time for questions. Work with the Graduate Program Assistant to schedule a room and to advertise this public portion of your exam. You should do this at least one week before your defense. Your family, friends, faculty, and fellow students will likely be very interested in attending, and a defense can be a festive celebration of your pending accomplishment in addition to being part of a formal exam. Obviously, you should work closely with your Major Advisor to develop your presentation, but don't forget to seek feedback and input from other faculty as well such as your fellow students. Also remember that your audience here is a general academic audience who are far less engaged and versed in the minutiae related to your project than you are. For example, while your talk should be a scientific research seminar, you may need to explain some field-specific terms and concepts that you would not normally do for an audience of your direct field-specific peers.
2. Examination by your Graduate Committee. After your public presentation, you will be examined by your committee in a closed session. You will want to schedule a smaller conference room for this meeting. Normally, two hours is sufficient for this part of the examination, but longer periods are not unheard of. Your committee will question you about your thesis and topics related to your coursework.

At the conclusion of the examination, you will be excused, and your committee will evaluate your performance and vote on the outcome. The officiant for this portion of the examination is the Graduate Representative, who will also submit a report on the final oral exam to the Graduate School. If you do not pass the oral examination, the committee must make one of the following recommendations:

- 1 The student's work toward the MS degree should be terminated.
- 2 The student should be allowed a re-examination but not before a specified date.

By unanimous agreement of the committee, the final oral exam may be recessed for **no more than two weeks**. Basis for recessing include illness of the student or other difficulties of a personal nature on the part of the student. In no event shall an oral examination be recessed for further revision of thesis content; in such a case, re-examination is required.

You must have registered for, or completed, all course work and thesis hours in your program before taking the final oral exam. See Table 1 for the prescribed minimum composition of your committee. You must contact members of your committee (**including the Graduate Council Representative**) to arrange the date, time and place, then schedule the exam with the Graduate School using the [Exam Scheduling Form](#) **not less than one week before the examination**. It is your responsibility to contact the members of your committee and schedule the time and place for the examination. The

Graduate School does **not** send notices to the committee members. The Graduate School must be notified of the examination and receive the pre-text pages of your thesis at least one week before the final exam. You should provide a near final *defendable* version of your thesis called the *Examination Copy* to all members of the committee, including the Graduate Council Representative, **at least two weeks** before the examination.

After the examination, Graduate Committee members and the Major Advisor often have corrections/suggestions for revision of the examination copy of the thesis. Students are responsible for making required edits for the final library copy. A corrected final version of the thesis must be filed with the Graduate School office within six weeks of the final oral examination. Further delay may result in re-examination. The Graduate School only requires an electronic copy of your completed thesis. You can have up to two personal copies printed at no charge from the [Student Multi-media Services](#) in the Valley Library. See the thesis guide for detailed instructions and requirements for submitting the thesis:
http://oregonstate.edu/dept/grad_school/current/thesis.html

14.3 PhD Exam Requirements

Oral Preliminary

The oral preliminary exam is a comprehensive exam administered by your Graduate Committee to determine whether you should advance to candidacy for the doctoral degree. The exam is normally taken near the completion of coursework but before the majority of research or thesis writing has been completed. The purpose of the exam is to ensure that you have a broad mastery of your major or minor fields and to assess your capability for research. Your major advisor and committee have latitude in designing the specifics of your exam, but the largest part of the exam should involve your committee asking you questions related to your field of study. What “related to your field of study” means is open to interpretation, and there is a vibrant folklore surrounding questions people have been asked on their oral exams. It is wise to talk with your individual committee members before the exam to get a sense of what specific areas they will focus on and whether they have suggestions for specific material that you should review for the exam. The oral exam can also cover your proposed research topic. If this is the case, your Major Advisor may suggest that you distribute your research proposal or a summary of any preliminary data that you may have before the exam. Indeed, an oral exam can be a valuable opportunity to get interactive feedback on your project from your whole committee.

You must contact members of your committee (**including the Graduate Council Representative**) to arrange the date, time and place, then schedule the exam with the Graduate School using the [Exam Scheduling Form](#) **not less than one week before the examination**. The Graduate School does **not** send notices of the examination to the committee members; **this is your responsibility**.

Normally, two hours is sufficient for the preliminary examination, but on occasion longer periods of time may be needed to examine the student adequately. The examination is administered by the

student's Major Advisor. At the end of the exam, the student is excused and the Graduate Council Representative chairs the discussion of the student's performance, voting by the committee, and filing the exam report with the Graduate School. If more than one negative vote is recorded by the committee, the student will have failed the examination. This may result in a recommendation by the committee to either terminate the student's work for the PhD or allow a re-examination after a specified date. The Graduate School allows no more than two re-examinations. The preliminary examination may be recessed for no more than two weeks by unanimous agreement of the committee. The basis for recessing includes illness or other difficulties of a personal nature on the part of the student. The preliminary examination shall not be recessed for substantive preparation or review; in such cases, re-examination is required.

Final Oral

After completion, or while concurrently registered for all work required by the program, the student must pass a final doctoral examination. The student is examined primarily on the thesis and related material.

At least one complete academic term must elapse between the oral preliminary exam and final oral examination. The final oral must be taken within five years after the preliminary exam.

The final oral examination committee consists of the same members as for the preliminary exam, although substitutions may be made if approved by the department and the Graduate School. You must contact members of your committee to arrange the date, time and place, then schedule the exam with the Graduate School using the [Exam Scheduling Form](#) **not less than two weeks before the examination**. Submit one examination copy of the pretext pages of the [thesis](#) to the Graduate School at the time you schedule.

Distribute examination copies of your thesis to all committee members, including the Graduate Council Representative, sufficiently early to permit thorough review prior to your exam date, but at least two weeks in advance of the exam. Please note that the Graduate School does **not** notify committee members about the pending examination; **this is the student's responsibility**.

The oral exam consists of two parts:

1. A public lecture where you present the results of your thesis. The lecture is typically scheduled for 50 minutes, including time for questions. Work with the Graduate Program Assistant to schedule a room and to advertise this public portion of your exam. See description under MS final oral exam above for more information.
2. Examination by your Graduate Committee. After your public presentation, you will be examined by your committee in a closed session. You will want to schedule a smaller conference room for this

meeting. Normally, two hours is sufficient for this part of the examination, but longer periods are not unheard of. You will be expected to defend your thesis and show satisfactory knowledge of your field. At the conclusion of the examination, the candidate is excused, and the Graduate Council Representative chairs the discussion of the student's performance and vote of the committee and also files an exam report with the Graduate School.

15. PREPARING AND SUBMITTING YOUR THESIS

See the Graduate School's resource guide for details on the preparation and formatting of the thesis: <http://gradschool.oregonstate.edu/success/thesis-guide>

After your final oral examination, your Graduate Committee often has corrections and suggestions for revision of your thesis. Completing these revisions can be a condition for completion of the degree. Students are responsible for making required edits for the final library copy. A corrected final version of the thesis must be filed within six weeks of the final oral examination. Further delay may result in re-examination.

You are only required to deposit an electronic copy of your completed thesis in Scholars Archive. You are not required to deposit a copy with the Horticulture Department, although your advisor might like a printed copy.

You can have up to two personal copies printed at no charge from [Student Multi-media Services](#). They also provide options for printing additional copies with a variety of bindings for a fee. <http://is.oregonstate.edu/academic-technology/sms/graduate-students/printing/thesis-printing>

There are other options for printing bound copies of your thesis, both in town (e.g. B&J Bookbinding) and online (e.g. <http://thesisondemand.com/>).

You are responsible for the costs involved in preparation of the thesis.

16. FILING SCHEDULE, GRADUATION AND COMMENCEMENT

See the Graduate School's final steps page for an overview of graduation and commencement procedures: <http://gradschool.oregonstate.edu/progress/final-steps>

See this page for important deadlines associated with graduation and commencement: <http://gradschool.oregonstate.edu/progress/deadlines>

See this page for specific details on commencement:

<http://gradschool.oregonstate.edu/progress/commencement>

Remember that you must be registered for a minimum of three graduate credits until all degree requirements are completed. To avoid registering for the term following your defense, submit the final corrected and signed thesis or dissertation to the Graduate School **before the first day of the term following the term in which you defend**. For details on this policy see "[Continuous Enrollment - Minimum Registration](#)" in the Graduate Catalog.

17. LEAVE OF ABSENCE

See the description of leave options and requirements in the graduate catalog:
<http://catalog.oregonstate.edu/ChapterDetail.aspx?key=38#Section1804>

Life circumstances may force you to take a break from your graduate program. There are a range of leave options available that will help you stay on track toward completing your degree. You can also use some forms of leave as a strategic part of your program, such as to conduct extended research at a remote field site. Do not hesitate to explore and to use your leave options. Discuss circumstances and plans with your advisor first and confirm eligibility and requirements with the Graduate School:

The following leave options have different conditions and characteristics. Many can be used interchangeably for a given circumstance or in combination. Consult with your major advisor and the Graduate School to develop an appropriate leave plan.

- a. Regular. Regular Leave of Absence is granted in cases where the student demonstrates good cause (e.g. illness, temporary departure from the University for employment, family issues, financial need, personal circumstances). The student must indicate reason for on-leave status.
- b. Planned. Planned Leave of Absence is granted to students for whom the design of their academic program is such that the offering of courses and/or the conduct of research/scholarly work are not on a continuous term-to-term basis. Planned Leave of Absence is set by the program with the approval of the Graduate School. (For a current list of Planned Leaves, consult the Graduate School at 737-4881.) Planned Leave of Absence includes students enrolled in summer-only programs and graduate students in other programs that have been pre-approved by the Graduate School for Planned Leave of Absence. Summer-only students and other students who qualify for Planned Leave of Absence must a) be in good standing, b) submit the Intent to Resume Graduate Status Form indicating *each term* for which leave is requested, and c)

complete all degree requirements within the time limits established in the *Graduate Catalog*. Requests for multiple terms of Leave may be submitted at one time.

- c. **Family Medical Leave.** Details can be found at:
http://oregonstate.edu/dept/grad_school/docs/Graduate-Student-Family-and-Medical-Leave-Policy.pdf

18. SCHOLARSHIPS AND AWARDS

18.1 Travel Awards

Attending and presenting at professional meetings are important aspects of academic life. To encourage your participation, the Department will reimburse you up to \$300 towards the costs of attending a meeting (costs = transportation, lodging, registration, etc.) and up to \$350 if you are presenting a paper or poster. The award funds are limited to one trip per calendar year.

Any additional trip costs are either borne by you or by your major professor. You should follow Departmental travel procedures (see below). In your pre-approval request, indicate that you are also requesting a travel award and specify the type and purpose.

In addition, the Graduate School also offers competitive travel awards. Information on their program can be found here: http://oregonstate.edu/dept/grad_school/travel.php.

We can only submit one nomination from the department per award period. So if you are interested in applying, please contact the Graduate Program Coordinator with the requested information TWO WEEKS before the Graduate School deadlines for each term

18.2 Department Administered Scholarships for Continuing Students

The Department of Horticulture administers several scholarships that are available for continuing graduate students in our program. Each scholarship was funded by a different donor and each has slightly different criteria. These scholarships and their specific requirements are listed below. The award amounts vary for each award based on the wishes of the donors and the balances in the endowments during any given year. Awards are given annually. The Graduate Program Coordinator will call for award nominations (with specific instructions) usually during the winter term.

- **Jay Frank Schmidt Scholarship.** (graduate or undergraduate). A scholarship with a preference for students studying ornamental or nursery plants. Based on financial need and academic achievement. Oregon resident.
- **Donald Voorhies Memorial Scholarship** (graduate or undergraduate). Awarded annually to students in viticulture.

- **Tex Frazier Memorial Scholarship** (graduate or undergraduate). Awarded students in vegetable breeding.
- **George L. Crookham Memorial Scholarship** (graduate or undergraduate). Awarded to students in plant breeding.
- **Ernest L. Bergman Fellowship** (graduate). Awarded to students with an interest in mineral nutrition or vegetable production.
- **Charlotte & Willis Duruz Scholarship** (graduate or undergraduate). Awarded to students in horticulture.
- **Gilman C. Keasey Memorial Fellowship** (graduate). Awarded to students in horticulture, with a preference given to students studying flowering bulbs.
- **A.E. Thompson Scholarship** (graduate). Awarded to students in the plant sciences.
- **Arthur T. & Lula M. Matthews Scholarship** (graduate or undergraduate). Awarded to students in horticulture.
- **Cecil & Mary Compton Scholarship** (graduate) Awarded annually to students in small fruits research. Applicants must be U.S. citizens. Funds come directly from the Oregon Garden Club.

18.3 ARCO-Swallow Graduate Research Fellowships

The Department of Horticulture offers ARCO-Swallow Fellowships to recruit outstanding applicants. This fellowship increases the base research assistant stipend of students by \$3,000 per year over the course of the student's graduate career. Applications are open to all students with an offer to enroll in the MS or PhD program **or with less than one year residency in the program**. Applications are submitted jointly by the student and his or her Major Advisor. The availability of awards any given year depends on the endowment balance and the number of existing students on ARCO-Swallow fellowships, but typically one new award is available each year. The Grad Program Coordinator will call for ARCO-Swallow nominations (with specific instructions) usually during the winter term.

18.4 Awards Administered by the Graduate School

The graduate school administers several fellowships and scholarships that can be found here:

http://oregonstate.edu/dept/grad_school/fellowships.php

You cannot apply to these scholarships directly, but instead must be nominated by the Department for them. Awards have varied winter term submission deadlines. The Graduate Program Coordinator will call for nomination requests early during the winter term.

18.5 External Scholarships

There are a number of scholarships available from external sources. The Graduate School has compiled a list of some of these here:

http://oregonstate.edu/dept/grad_school/externalfellowships.php

19. POLICIES, PROCEDURES AND REGULATIONS

19.1 Use of State Vehicles

OSU maintains a fleet of state vehicles for use for official business. See <http://motorpool.oregonstate.edu/> for information on reserving a vehicle, rates, and regulations.

Graduate students must request permission to drive a state vehicle. The request must be signed by the Department Manager or Department Head and submitted to Transportation Services at least three working days before the time of travel. Drivers must have a valid U.S. driver's license. International driver's licenses are **not** acceptable. Drivers are encouraged to enroll in the SAIF driver class. Drivers are responsible for following all university and state regulations pertaining to use and operation of state vehicles.

Under no conditions should state vehicles be used for personal purposes. In rare cases, a spouse may accompany a staff member in a state car, but **only** after receiving permission from the Department Head. Under no situation should children or pets be transported in a state vehicle.

19.2 Laboratory Policy

1. The department has an open lab and facilities policy. Authorized departmental personnel are provided with keys to appropriate areas. Key requests are authorized by the Major Advisor and approved by the Department Manager or Department Head.
2. There is a designated faculty supervisor for all rooms, labs, greenhouse sections, and special facilities.
3. Supervisors are responsible for coordinating and supervising the use of facilities for which they have been assigned responsibility and for accommodating the needs of our total program and personnel insofar as possible. They are responsible for developing facilities and space use policies and for the basic maintenance of the facilities and equipment. They are not responsible for providing expendable supplies and chemicals, for the costs of such supplies used by others, or for repair costs resulting from unauthorized or negligent use of equipment.
4. It is the responsibility of persons wishing to use facilities, space, or equipment to clear their requests with the appropriate supervisor and to respect and comply with the use policies. Specifically, they should provide their own expendable supplies or arrange with the supervisor to borrow and replace expendables or some other mutually agreeable trade-off. Graduate students and technicians should consult with their project leader or Major Advisor about cost commitments. They must comply with check-out list policies, clean-up and glassware washing policies, equipment operation training requirements, and with times assigned for use of facilities which require scheduling because of heavy use.

5. Except for equipment purchased on certain types of active federal grants, all departmental facilities and equipment are the property of the University and the Department—not of individual project leaders or supervisors. In scheduling use; however, the program of the responsible supervisor normally has priority over other departmental or cooperating department programs.
6. Individuals who do not respect or comply with established procedures and policies may be denied use of facilities. Use denial recommendations are made by facilities supervisors and subject to approval by the Department Head.

19.3 Safety

Potential dangers exist in most labs, university research farms, greenhouses and remote field sites. You should familiarize yourself with the safety procedures and regulations of each work environment. If you will be working at any University Research and Experiment Station properties, research farms, or greenhouses you are required to take initial safety training before beginning work as well as periodic refresher courses. Contact the appropriate greenhouse, farm or experimental station staff for information on the timing and availability of these courses.

In general, you should be cognizant of safety regulations associated with the use and disposal of toxic, flammable, explosive, corrosive, carcinogenic or radioactive materials and with the operation of heavy or otherwise potentially dangerous equipment. Material Safety Data Sheets (MSDS) are available in laboratories for all hazardous compounds. **It is the responsibility of the user to become familiar with the information.** Materials which may pose a health hazard should be used in a fume hood. Become familiar with safety devices such as eye washers, showers, fire extinguishers, first aid kits, etc. Wear protective clothing such as closed shoes, safety glasses, and lab coats. Disposal of unused/unwanted chemicals and waste materials must be done in accordance with university regulations and state and federal law. Chemical disposal has become very expensive monetarily and environmentally. It is to everyone's benefit if the minimum amount of chemical is purchased and used in experiments. **Remember, your work is not complete until you have cleaned up after yourself!**

Working alone in environments such as a laboratory, greenhouse, or remote field location is unwise. This is especially the case when outside of regular work hours. Never engage in potentially risky tasks such as the manipulation of hazardous chemicals or the operation of heavy equipment alone. Even if you are not engaged in a specifically risky task, make an effort to have a friend or colleague work with you or check in periodically. Lock laboratories when leaving them after hours or when unattended. Any equipment intended to run overnight should be tagged, "Let Run" with your name, address, and telephone number.

Immediately alert your immediate supervisor, Major Advisor or the OSU office of Environmental Health and Safety if you have safety concerns: <http://oregonstate.edu/ehs/>

19.4 Telephone use

Phones are located in most graduate offices. Since there is only one phone in each graduate office, please be courteous and limit conversation time. Long distance calls should be made only with approval of a student's Major Advisor and charged, by using the appropriate code, to their account. Notices of phone calls to graduate students received in the main office are placed in the student's mailbox. Do not place calls from phones in the main office.

19.5 Copy Machine Use

The Department of Horticulture has one copy machine that is available for faculty and students to use for copying related to teaching, research, and Extension projects. First priority use of the copy machine in the office is by office staff. Please act responsibly and with consideration for others in matters concerning the copy machines. For example, it is common courtesy that persons copying a large amount of material yield to requests from those wishing to make just a few copies.

There are assigned access codes for the copy machine in the main office. See the Office Specialist if you do not have an access code. Personal copying can be done on the reading room copier at a charge of five cents per page for single sided copies. Personal copying is not allowed when using a faculty member access code. If you need help determining whether a copy job is personal or otherwise, check with the office staff.

The number of copies made on each code is recorded by the copier and reviewed monthly. The copy machine we have is designed to do low volume copying. Large copy jobs or multiple copies of documents (over 100 pages) should be sent to *Printing Services* (<http://printmail.oregonstate.edu/>). We are billed for each individual copy on the department copier at a fixed rate. However, at Printing Services, the costs go down as the number of copies increases. Therefore, when preparing materials for meetings, programs, large classes, etc. please utilize Printing Services.

Since publicly-owned resources are for official use only, the following guidelines will apply to the use of the copy machines by graduate students:

- That portion of a graduate student's activities that contribute directly to the teaching, Extension, and research programs of the Department (or University) are of an official nature. This includes preparation of materials for class by a Teaching Assistant, reproducing abstracts for distribution to seminar participants, preparation of manuscripts for publication (even though they may be included as a part of a student's thesis), etc.
- Not included are duplicating materials as a part of a class assignment, copying thesis material not being submitted for publication in a journal (i.e. for distribution to committee members), copying journal articles, etc. for the student's files with little or no use to the university, etc.

19.6 Poster Printing Policy and Procedure

When preparing posters for academic presentations, be sure to follow the current policies. They are

outlined in detail at the IT Website (<http://support.roots.oregonstate.edu/content/printing-posters>)

Printing Posters

Once your poster is completed save it as a PDF Document and place a COPY of it in:

P: \Posters to Plot

OR

if necessary, follow these instructions to manually map the following network share:

\\silo.biossys.oregonstate.edu\posters_to_plot

Please send all requests for poster printing to roots.support@oregonstate.edu. If you are using Outlook, you can type in roots.support and select the contact from the global address list.

Please include the name of the file, the final print size of the poster, and your contact information in your email.

Please submit your poster well in advance of when you need it. The IT services will not guarantee a one-day turnaround. Extra time is necessary in case prints need to be altered. Please plan to submit a minimum of 3 days in advance of the day needed. At the very least, please send an email to Roots Support a week or more in advance to be sure someone will be available to plot your poster, and that the plotter is operational.

Quick Tips for Posters

The plotter paper is on a roll that is either 42 or 36 inches wide, so one dimension of your poster should be one of those two sizes.

The plotter will not print all of the way to the edge of the paper, so be sure to leave a margin between the edge of your paper and where you want the poster content to begin. A one inch margin is recommended.

Save your finished poster as a PDF document so that embed fonts and images aren't lost.

Printing Costs

Each lab is entitled to two free prints per year. Additional prints or prints for non-Roots groups will incur a charge to offset the cost of consumables.

\$7.00/sq. ft glossy

\$6.50/sq. ft draft prints

Other Poster Printing Options

If you do need to go elsewhere, OSU Printing and Mailing Services (<http://printmail.oregonstate.edu/>) can plot posters. Contact them for more information.

Students can plot a limited number of free posters at the Student Multimedia Presentation Center. Contact them for more information.

Also, the College of Forestry provides poster printing for a fee. Contact them for more information.

19.7 Computing and IT Support

Computer and IT support is coordinated through the Roots IT Support Group: <http://support.roots.oregonstate.edu/>

You should familiarize yourself with the useful and important information for new users summarized here: <http://support.roots.oregonstate.edu/content/new-user-information>

As a Horticulture-based Roots user, you have access to the following network file shares.

- **Z Drive** → This is your home directory i.e. personal space that only you can access. This share has a quota of 15 GB and is backed up nightly for a period of 60 days.
- **T Drive** → This is the departmental share directory. It is used as a place for labs to share files between fellow lab users as well as housing a general share that's used to share files between any user within the department.

The graduate student computer room is ALS 4026A. Use of University computers and networks is for university business purposes only and adherence to university policies is required. Personal websites developed by students and placed on the department's website must be approved by the Department Head.

19.8 Travel Procedure

All out-of-state travel must be pre-authorized as well as travel for which you will be requesting for a professional meeting travel award.

The following order must be taken for travel:

1. Get pre-approval for travel from your Major Advisor or PI and the Department Head. The email template for this pre-approval is below. (If you are traveling to a foreign country on grant funds then OPPA must also approve the trip (form).
2. Azumano or Teel's are the contract travel agencies. You are no longer required to get a quote from the contract agency before purchasing a ticket online. If you use one of the below

contract agencies, once you decide on a ticket, have the travel agency send the itinerary to the office specialist for “authorization to purchase.” If you are driving instead of flying, then you MUST get a quote from one of the travel agencies to justify that driving is cheaper.

- HUT Shuttle to PDX can be booked at the same time as your airline ticket through the travel agency.
- Rental cars can be booked at the same time as your airline ticket for transportation to PDX or at your destination through the travel agency.

AZUMANO CORVALLIS
200 SW Fourth Avenue, Suite 102
Corvallis, OR 97333
(541) 757-9792
(800) 334-2929
FAX (541) 758-1631
khansen@azumano.com

Teel's Travel Planners
728 NW Kings Blvd
Corvallis, OR 97330
(541) 758-0808
travel@travel-planners.com

3. Conference registrations and abstract submission fees can be put on the department credit card through the office specialist. Be sure to get the payment forms up and ready to enter the credit card info, and then give the office specialist a call (541-737-5480), and they will come to your computer and enter the credit card number.
4. Hotels and shuttles at your destination need to be covered by you (put on your own credit card) until reimbursement.
5. The Department approves reimbursement for per diem meals, so you do not need to keep all meal receipts, taxi fares, etc. Note that depending on the source and amount of funding per diem for meals and incidentals may not be covered or they may be covered at a lower rate than the prescribed OSU maximums. Be sure to consult your major advisor or the entity providing travel funds before planning travel and submitting reimbursement requests.
6. If you will be gone 5 days or more, you are entitled to a travel advance. Go to this link for the form: <https://oscar.oregonstate.edu/Resources/SubNav.aspx?NavPage=13&submenu=T13>

Pre-approval travel email template:

Please submit your pre-approvals for travel via email to the PI of the grant, Major Advisor, then the Departmental Chair with a "cc" to the office specialist (Lee Ann, leeann.julson@oregonstate.edu) providing the following information:

Subject line: pre-approval for travel
Traveler's name

Destination
Date of departure
Date of return
Index
Activity code (if applicable)
Reason for travel
Estimated cost of trip, include:
Transportation
Registration fees
Meals
Lodging
Other
Total

The Department Head will then pre-approve your travel using the "reply all" feature (note: if you remembered to put Lee Ann in the "cc" then you won't have to forward the pre-approval to her).

If you have any questions, please ask Lee Ann.

20. RESEARCH SUPPORT FACILITIES

20.1 On-campus

As a graduate student, you have direct access to a number of shared facilities (<http://oregonstate.edu/research/shared/facilities.htm>). Much of the equipment and some of the services offered by these facilities are available at no charge for graduate student use or for a small fee to cover expendable supplies. However, the majority of services are fee-based, albeit at a discounted rate to the OSU community. The campus facilities most commonly used by our students and program include:

Agricultural and Life Sciences Building (ALS)

The department's main office, teaching and laboratory facilities are located in the Agricultural and Life Sciences Building (ALS). Departmental research space includes laboratories that are well-equipped with up-to-date laboratory equipment and computers. The building also houses the following departmentally managed shared use facilities: cold rooms, environmental growth chambers, and a research tissue culture facility.

Greenhouses

<http://agsci.oregonstate.edu/greenhouse/>

There are two major greenhouse complexes on campus that are available for teaching and research.

They are the College of Ag Science East (located immediately west of Cordley Hall) and West Greenhouses (about 1 block west of 30th Street between Orchard Avenue and Campus Way). The total combined growing space of these two units is approximately 100,000 sq. ft. of glass greenhouse.

All new users (graduate students, faculty, and staff) are required to complete an initial orientation and safety training **before starting work in the greenhouse**. Contact greenhouse staff to arrange this orientation and training.

Greenhouse space is allocated on a long-term basis to a primary user who is assigned space through their respective department. These project leaders/primary users can make short-term space assignments to so-called secondary users. Users are responsible to the Manager to coordinate the use and any modification of the facilities.

Research Farms

The department faculty primarily use three research farms, including the Smith Farm (90 acres), the Lewis-Brown Farm (115 acres), and Woodhall III Vineyard (14 acres). Plantings and field laboratories at these locations are used in field plot research work. Graduate students need to provide written requests to use these farms for research purposes, and the requests must be approved by the Major Advisor and College of Agricultural Sciences Farm Committee. These written requests must be made in advance and include materials, methods, and timing.

Oak Creek Center for Urban Horticulture

<http://horticulture.oregonstate.edu/group/oak-creek-center-urban-horticulture>

This primarily teaching-oriented facility is located on the southwest corner of main campus. It is a learning laboratory for sustainable horticultural practices in both rural and peri-urban landscapes. Current classes, demonstrations, and projects that use the site include organic farming, permaculture, landscape construction, ornamental and green roof plant evaluations, entomology, ecological restoration, therapeutic horticulture, and art.

Center for Genome Research and Biocomputing (CGRB)

3021 Agriculture and Life Sciences Building

<http://www.cgrb.oregonstate.edu/>

The CGRB provide services, technical expertise, collaborative functions and share-use equipment for molecular bioscience research at Oregon State University. The Core Labs are a fully staffed facility that serves as a focal point for acquisition and development of new instrumentation and technologies. A professional staff of six provides service in four areas:

- *Genomics* – DNA sequencing, high throughput sequencing (Illumina & 454), genotyping and fragment analysis
- *Functional Genomics* – NimbleGen and Affymetrix GeneChip microarray services for analysis of global gene expression patterns in all types of organisms
- *Biocomputing and Bioinformatics* – advanced computational resources for data mining, data analysis and database development

- *Imaging and Image Analysis* – a confocal laser scanning microscope facility for high resolution analysis of wide variety of specimens

In addition, the CGRB provides shared instrumentation, including real-time PCR, scanners, robotics and computational facilities for use by walk-in users.

Central Analytical Laboratory

3079 Agriculture and Life Sciences Building

<http://cropandsoil.oregonstate.edu/content/central-analytical-laboratory-cal>

The Central Analytical Laboratory (CAL) in the Department of Crop and Soil Science provides fee-based analytical services to OSU scientists and cooperating investigators. The CAL also serves as an important resource for Oregon students and Extension clientele seeking information and advice about plant, soil, and water analysis.

The OSU Herbarium

2082 Cordley Hall

<http://oregonstate.edu/dept/botany/herbarium/>

The herbarium is the world's most comprehensive collection of Oregon plants and fungi, with over 400,000 preserved specimens. Some identification services are provided, and voucher specimens are accepted from OSU research projects.

The Oregon State Arthropod Collection

3029 Cordley Hall

<http://osac.science.oregonstate.edu/home>

This is a research collection of nearly 3 million preserved insect specimens. Begun in the 1870's as a reference tool for early entomology classes at OSU, the collection is now amongst the largest of university-owned insect collections in the country and the largest insect collection in the Pacific Northwest.

Research Office

A312 Kerr Administration Building

<http://oregonstate.edu/research/>

Students and faculty can obtain information about grants, fellowships, etc., from the Research Office. The Research Office regularly notifies via e-mail and provides pertinent information to OSU research faculty about upcoming grant and fellowship opportunities.

Statistics Consulting Services

44 Kidder

<http://www.stat.oregonstate.edu/consulting/scs>

The Statistical Consulting Laboratory in the Department of Statistics offers consultation and advice to University researchers engaged in:

- The design of studies and experiments (including proposal preparation)
- The statistical and graphical analysis of data

- The appropriate choice, application and presentation of statistical methods

Researchers are encouraged to interact with a consultant as early as possible in a study, preferably at the planning stage.

For graduate students at OSU, the [Statistics Student Consulting Service](#) provides free statistical *advice* on University-related research projects. Faculty at OSU may also submit consulting requests to the Statistics Student Consulting Service, or they may directly contact the manager of the Statistical Consulting Lab, Cliff Pereira (541-737-1984).

Fee-based consulting can be arranged.

20.2 Off-Campus

A wealth of off campus facilities and resources are available to graduate students in the program. Some of the most valuable resources these facilities offer is the range of ecotypic and horticultural variation they encompass. These resources include:

Branch Experiment Stations

There are four branch experiment stations in Oregon that are devoted primarily to horticultural research.

Branch experiment stations in Oregon that engage in horticultural research are listed below.

1. [Central Oregon Agricultural Research Center](#): Located in central Oregon at the Madras site (850 NW Dogwood, Madras, OR 97741) and the Powell Butte site (8215 SW 126, Powell Butte, OR 97753). Research is conducted on potatoes, mint, and sugar beets.
2. [Hermiston Agricultural Research and Extension Center](#): Located on Hinkle Road (P.O. Box 105, Hermiston). Research is conducted on fruits and vegetables.
3. [Mid-Columbia Agricultural Research and Extension Center](#): Located in the famous Hood River Valley at 3005 Experiment Station Drive, Hood River. Research emphasis is on the culture and management and fruit quality of pears, apples, and cherries.
4. [North Willamette Research and Extension Center](#): Located near Interstate 5, south of Portland (15210 NE Miley Road, Aurora). Research is carried out on small fruits, vegetables, and ornamentals.
5. [Southern Oregon Research and Extension Center](#): Located at 569 Hanley Road, Central Point. Research is currently conducted on pears and wine grapes.
6. [Malheur Agricultural Experiment Station](#): Located midway between Ontario, Vale, and Nyssa (595 Onion Avenue, Ontario). Research is conducted on row crops, small grains, and alfalfa.
7. [Klamath Agricultural Experiment Station](#): Located on 86 acres of mineral soil 3 miles south of Klamath Falls and 20 miles north of the California border (6941 Washburn Way, Klamath Falls). Research concentrates on potatoes, cereals, forages, and sugar beets.

Graduate students are encouraged to visit these locations to view the research plots and learn about the applied research needs of the horticultural industry in these areas.

National Clonal Germplasm Repository, Corvallis

http://www.ars.usda.gov/main/site_main.htm?modecode=53-58-15-00

This US Department of Agriculture, Agricultural Research Service facility, which is part of the National Plant Germplasm System, is located adjacent to the Lewis Brown research farm on Peoria Road, Corvallis, OR. This unit is concerned with the collection, maintenance, evaluation, and distribution of selected clonally propagated crops: pear, hazelnut (filbert), hardy kiwifruit, strawberry, blueberry, cranberry, raspberry, blackberry, gooseberry, currant, hop, mint, and other minor specialty crops. Plants are maintained in the field and/or in large insect proof screen houses and in greenhouses. The facility houses four scientists. Kim Hummer is the Research Leader/Small Fruit Curator. Barbara Reed is the Plant Physiologist in charge of *in vitro* culture and cryopreservation. Joseph Postman is the Plant Pathologist/Pear Curator. Nahla Bassil is the Molecular Geneticist in charge of DNA marker technology.

USDA- ARS-Horticultural Crops Research Laboratory.

http://ars.usda.gov/main/site_main.htm?modecode=53-58-10-00

This US Department of Agriculture, Agricultural Research Service facility is located on the west end of campus, next to the Greenhouse West facilities. Personnel associated with this well-equipped facility have expertise in the following areas: photosynthesis, water relations, flowering, foliar and soil borne diseases, mycorrhizae, soil chemistry, and plant breeding.

USEPA –Western Ecology Division (Corvallis Environmental Research Laboratory).

<http://www.epa.gov/wed/>

This EPA research facility has three organizational sections, namely, (a) air pollution effects, (b) terrestrial/pesticides, and (c) hazardous waste/water. Research areas of special concern to plant scientists include air pollution effects on plants, uptake and effects of pesticides on plants, and acid rain effects on crop plants. This is a well-equipped facility. Of particular interest is a unique system to study the uptake and translocation of chemicals by whole plants. The plant's aerial and root environments are continuously assessed and controlled and transpiration and photosynthesis monitored.

21. LIFE BALANCE

Horticultural research can be so engaging and fulfilling that it is easy to devote nearly all of your time to it. However, you should make an effort to engage in some of the other activities and opportunities that Oregon and Oregon State University have to offer. Attend one of the free [weekly lunchtime concerts in the MU](#) or one of the numerous [other events, lectures, exhibitions, that are continuously taking place on campus](#); work out at the [Dixon Recreation Center](#); take up a hobby at the [OSU Craft Center](#); join a [sports club](#); see some of [Oregon's natural beauty](#); [volunteer](#),...

The various demands of graduate school can also cause stress, anxiety, as well as more serious and debilitating mental illness. The University offers a number of resources to help. A good place to start is Counseling and Psychological Services (CAPS) <http://oregonstate.edu/counsel/>

One important service that CAPS offers is after-hours crisis counseling. **To access a counselor anytime call their main number: 541-737-2131.**

CAPS is also home to the Mind Spa, a unique sanctuary where you can soothe your mind, body, and spirit. <http://oregonstate.edu/counsel/mind-spa>

APPENDIX I. MASTER OF SCIENCE CHECKLIST

See the *Graduate Student Guide to Success* for additional information
<http://gradschool.oregonstate.edu/success>

Name: _____

Term and Year of Enrollment: _____

Graduate Advisor: _____

Typical timing	Milestone	Term or Date completed
Year 1	1. Complete HORT 511 (2 credits). Research and Education Perspectives in Horticulture.	_____
	2. Choose committee members and declare option or minor (if desired).	_____
	3. Develop thesis research plan.	_____
	4. Schedule Program Committee meeting before the completion of 18 hours of graduate course work.	_____
	5. Plan to complete at least four credits of Hort 518, Hort 519, or Hort 520. A typical schedule is to take at least one of the courses per year of residence.	_____
	6. Submit approved study program to the Graduate School before the completion of 18 hours of graduate course work, and at least 15 weeks before your Final Oral Examination.*	_____
	7. Complete Responsible Conduct of Research training.	_____
	8. Present in departmental seminar series (HORT 507) before the end of the sixth term of residence.	_____
Year 2	9. Select a Graduate Council Representative for your committee at least 15 weeks before your Final Oral Examination.	_____
	10. Schedule the final defense with the Graduate School at least two weeks before the desired date.	_____

11. Distribute examination copies of your thesis to your committee (including the Graduate Council Representative) and file thesis pretext pages with the Graduate School at least two weeks before the final defense.

12. Provide one corrected, unbound copy and one electronic copy with approval signatures and two abstracts of the thesis to the Graduate School within 6 weeks after your Exam or before the first day of the following term, *whichever comes first*, to avoid having to register for a minimum of three graduate credits the next term.

13. Schedule exit interview with Department Chair

*See above and Graduate School Program of study forms to ensure all program of study requirements are met.

Flow Chart for Master's Degree Completion

Admission

Registration

All degree requirements must be met within 7 years, regardless of requested leave of absences. Continuous enrollment required unless leave of absence requested.

Discuss your goals and expectations with your department's graduate student adviser.

Take courses. Determine eligibility of **transfer credits**, if any.
***Continuous enrollment required*

Before completing 18 credits of coursework:
Develop a **Program of Study*** with your program.
**This is your plan for completing your degree. Your adviser, department chair or departmental graduate coordinator will help you.*

Take courses and work on research, thesis, project or portfolio.

At least 15 weeks before your final oral examination:
(1) Submit your approved **Program of Study** to the Graduate School and
(2) Select a **Graduate Council Representative** (if required) for the final exam.

At least 2 weeks before your final oral examination:
(1) Use online form to schedule your **final oral examination**,
(2) submit a **diploma application** (EXCEPT for SPRING Term completion, when you must submit by FIRST week of Spring Term).
If your master's degree requires a thesis:
(3) Distribute a defensible copy of your **thesis** to your committee, and
(4) Bring in or **email** pre-text pages of your thesis to the Graduate School.

Final Examination

Pass Final Examination

No

Yes

If your master's degree requires a thesis, **upload** final thesis to ScholarsArchive and relevant paperwork to the Graduate School within 6 weeks of your defense date.
You must be **registered for 3 graduate credits** when you submit your thesis to the Graduate School.

Academic Unit Graduate Degree Requirements

Review the graduate degree requirements of your academic unit (college, school, department or program) with your adviser, the program director/chair or the graduate program director.

NOTE: A dashed line connected to a university requirement indicates your department or program may have additional requirements. Check with your academic unit for its specific rules and requirements.

NOTE: Check the Graduate Catalog for **full details on deadlines**.

Graduation

APPENDIX III. DOCTORAL CHECKLIST

See the *Graduate Student Guide to Success* for additional information
<http://gradschool.oregonstate.edu/success>

Name: _____

Term and Year of Enrollment: _____

Graduate Advisor: _____

Typical timing	Activity	Term or Date completed
Year 1	1. Complete HORT 511 (2 credits). Research and Education Perspectives in Horticulture.	_____
	2. Choose committee members (including Graduate Council Representative) and declare option or minor (if desired).	_____
	3. Develop dissertation research plan.	_____
	4. Schedule Program Committee meeting before completing 2 terms (if you already have a master's degree) or 5 terms (if you do not).	_____
	5. Plan to complete at least six credits of Hort 518, Hort 519, or Hort 520. A typical schedule is to take at least one of the courses per year of residence.	_____
	6. Submit approved study program to the Graduate School by the end of the first year in the program and at least 6 weeks before your Preliminary Oral Exam.*	_____
Year 2	7. Present in departmental seminar series (HORT 507) before the end of the sixth term of residence.	_____
	8. Complete Responsible Conduct of Research training.	_____
	9. Schedule with Graduate School (and successfully complete) the oral preliminary examination.	_____

Years
3-5

10. Complete teaching experience.

11. Schedule the final defense and submit one examination copy of the pretext pages of the thesis to the Graduate School at least **two weeks** before the desired date.

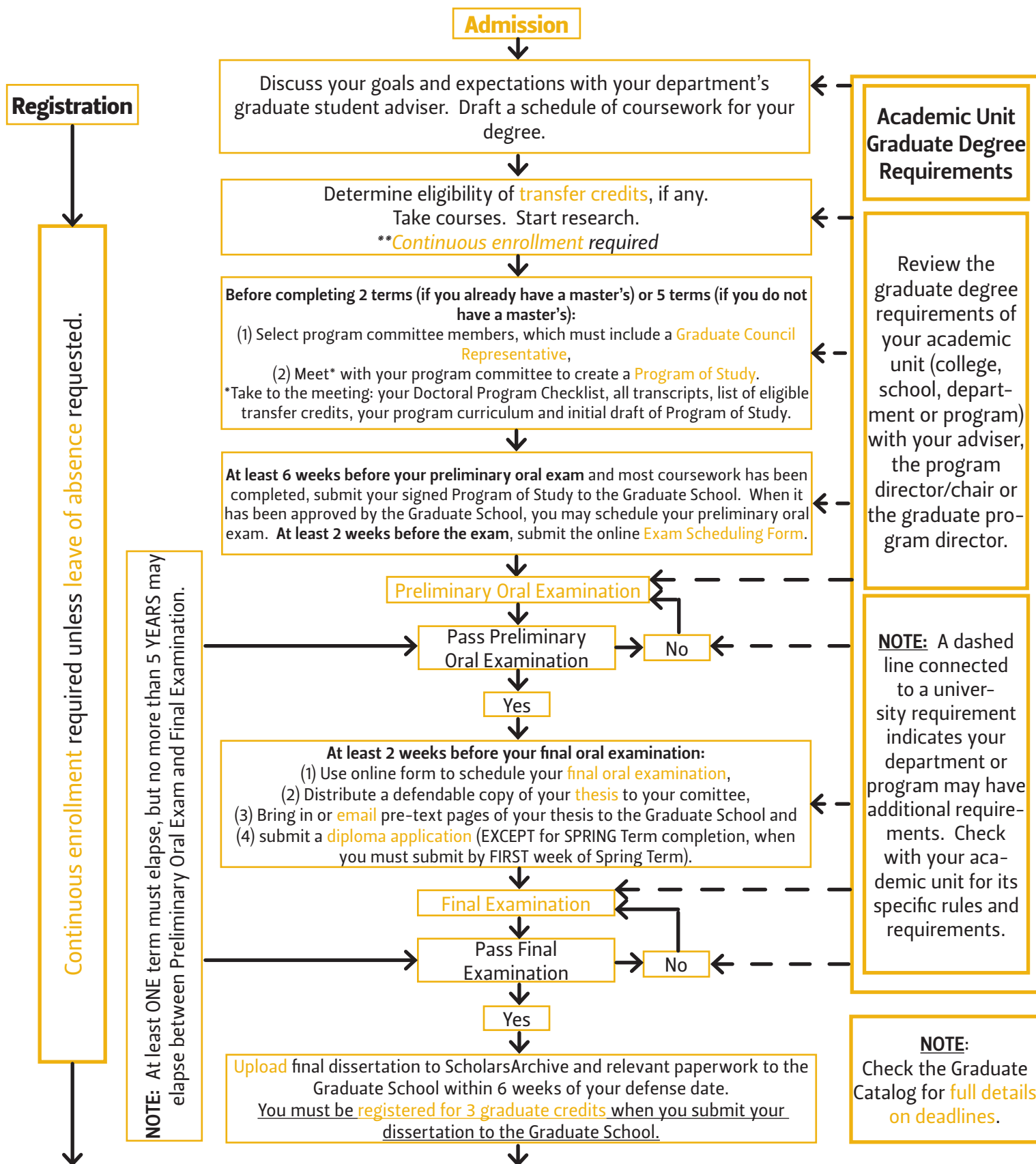
12. Distribute examination copies of your thesis to all committee members, including the Graduate Council Representative, sufficiently early to permit thorough review prior to your exam date.

13. Provide one corrected, unbound copy and one electronic copy with approval signatures and two abstracts of the thesis to the Graduate School within 6 weeks after your Exam or before the first day of the following term, *whichever comes first*, to avoid having to register for a minimum of three graduate credits the next term.

14. Schedule exit interview with the Department Chair.

*See above and Graduate School Program of study forms to ensure all program of study requirements are met.

Flow Chart for Ph.D. Completion



APPENDIX V. HORTICULTURE GRADUATE STUDENT ANNUAL REVIEW FORM

Date _____
Program Year _____

Name: _____ Degree: _____

Program Start Date: _____ Expected Completion Date: _____

Academic Program

Review progress and future schedule. Summarize here or attach checklist.

Thesis or Project

Progress made:

Goals for upcoming year:

Graduate Student's Endorsement:

I have completed an annual review with my major professor and understand that I have the right to discuss this evaluation with the department head. Furthermore, I understand that I can attach any comments, explanations and rebuttals to this review.

Graduate Student Signature _____ Date _____

Major Professor's Endorsement:

This certifies that I completed an annual review with this graduate student.

Major Professor Signature _____ Date _____

