



AUBURN

HORTICULTURE

Auburn University
Department of Horticulture
Graduate Handbook

Revised June 2018

Getting Started!

So now you've been accepted, what do you need to do first?

Newly Admitted (4-6 weeks prior to the start of your first term):

- Offer letter. Respond to your offer letter. Confirm the acceptance of your offer with the department's Graduate Program Officer (GPO) and your major advisor.
- Background Check. Your offer letter has information regarding the process of completing a background check. This is required of all incoming graduate students.
- Employment paperwork. See the administrative assistant in the main office (101 Funchess Hall). You will need to complete tax forms, an AU personal data form, an AU Personal Information Graduate Student Form, and an I-9 (federal) form. Be sure to take proper identification. This information is needed to generate your personnel access form (PAF) so that you can be paid if you are on assistantship.

On Campus (1-2 weeks prior to the start of your first term):

- Classes. After discussing course work with your major professor, register for classes.
- Student ID. Have your student ID made in the AU Student Center or Office of Information Technology (OIT). Once again, be sure to have proper identification.
- Parking. Register your vehicle with the campus parking services located in the parking deck on Lem Morrison Drive (<http://www.auburn.edu/administration/parking/>) if you [plan to park on campus](#). You will need a PAF and proper identification.
- Keys. Check with your major professor to determine which building keys you will need. Your major advisor must send an email to a departmental administrative assistant and copy the department chair to request the needed keys and request card access to the building.
- Photo. Have your photo taken for the Horticulture bulletin board.
- Handbook. READ this handbook. It has some pretty useful info. Turn in the signature page within the first two weeks of the semester to the GPO.

DISCLAIMER:

As all policies are subject to change, ALWAYS consult with the Graduate School (<http://graduate.auburn.edu>) and the University Bulletin (<http://bulletin.auburn.edu>). Many of your questions may be answered using the Graduate School website and you will find calendars and checklists that help you plan and stay on track.

It is expected that you work diligently in pursuing your degree. It is also expected that you get to know the faculty, staff, and fellow graduate students. They can all be very helpful and **provide advice and assistance in getting you settled into the department.**

Table of Contents

I.	Graduate Program Description	6
	A. Degree Programs.....	6
II.	Admission Policy.....	7
	A. Requirements and Procedures	7
III.	Advisory Committee.....	8
	A. Defined.....	8
	B. Student Responsibilities.....	9
	C. Role of Major Professor.....	10
IV.	Curriculum.....	11
	A. Registration.....	11
	B. Research and Thesis/Dissertation (HORT 7990/8990) Policy.....	11
	C. Credit Load.....	12
	D. Residency Requirements	12
	E. Plan of Study	12
	F. Courses.....	13
	1. Required Courses for M.S. and M.Ag. Programs	13
	2. Required Courses for Ph.D. Program.....	14
	3. Grade Point Average.....	14
	4. Incompletes	15
	5. Time Limits.....	15
V.	Graduate Student Information	15
	A. Academic Information.....	15
	1. Research Proposals.....	15
	2. Progress Report.....	15
	3. Seminars.....	16
	4. Exams.....	16
	a) M.S. and M.Ag. Programs.....	16
	b) Ph.D. Program.....	17
	5. Thesis and Dissertation Preparation and Submission.....	19
	6. Presentations and Publications.....	20
	7. Graduation Requirements.....	21
	8. Deadlines	21
	9. Forms	21
	B. General Student Information.....	21
	1. Research Associates.....	21
	2. International Students.....	21
	3. Insurance	22

4. Professional and Honor Societies.....	23
5. Graduate Student Council.....	23
6. Vehicle Registration.....	23
7. Ag Roundup.....	23
VI. Assistantships	23
A. Graduate Assistant Responsibilities.....	23
B. Funding Levels.....	24
C. FICA and Medicare	24
D. Background Checks.....	25
VII. Departmental Policies and Procedures	25
A. Purchases	25
B. Keys.....	26
C. Desk and Office Assignments.....	26
D. Telephone	26
E. Fax.....	26
F. Mail and Deliveries	26
VIII. Equipment and Support Services	27
A. Office	27
B. Support Services	27
C. Horticulture Facilities	28
1. Paterson Greenhouse Complex.....	28
2. Plant Science Research Center.....	28
D. Library.....	29
E. Other Services	30
1. Plant Disease Diagnostic Lab.....	30
2. Soil, Forage and Water Testing Laboratory.....	31
3. Biological and Electron Microscopy Imaging Facility	32
4. Genomics and Sequencing.....	32
IX. Travel.....	32
A. Departmental Vehicles.....	32
1. Unfortunate Circumstances Involving University Vehicles.....	32
B. Travel Reimbursement Policies	33
1. General Information.....	33
2. Same Day Travel Reimbursement.....	33
3. In-State Overnight Travel.....	33
4. Out-of-State Overnight Travel.....	34
5. Mileage or Vehicle Costs.....	34
6. International Travel.....	34

7. Airfare	34
C. Graduate School Research and Travel Fellowships	34
1. Purpose and Scope of Awards.....	34
2. Extent of Awards.....	35
3. Regulations.....	35
4. Review Periods and Deadlines.....	35
5. Application Procedure.....	35
6. Administration of Funds.....	35
X. AAES Research Substations and Fields.....	35
XI. Appendix	35
A. Approval and Assessment Forms	
1. Research Proposal Approval Form.....	36
2. Research Proposal Scoring Rubric.....	37
3. Seminar Evaluation Form.....	38
4. Progress Report Form.....	39
5. Thesis/Dissertation Scoring Rubric.....	40
6. Final Oral Exam.....	41
7. Teaching Assistant Evaluation.....	42
B. Checklists and Timelines	
1. M.S. Checklist.....	43
2. M.Ag. Checklist.....	44
3. Ph.D. Checklist.....	45
C. Student Learning Outcomes & Curriculum Map MS/MAg..	46
D. Student Learning Outcomes & Curriculum Map PhD.....	49
E. Signature Page	52

I. Graduate Program Description

A. Degree Programs

Graduate study in horticulture includes the Master of Science (M.S.), Master of Agriculture (M.Ag.), and Doctor of Philosophy (Ph.D.) degrees. Graduates are prepared for careers in teaching, research, business, public horticulture, or Cooperative Extension. Graduate programs are available to students with undergraduate and or graduate degrees in horticulture and to those from other areas seeking opportunities in horticulture-related careers. Applicants from related areas will be required to correct any undergraduate course deficiencies.

The M.S. requires a minimum of 30 credit hours of graduate work, including at least 21 credit hours in the major field of study, and 1 credit hour of research & thesis (HORT 7990) per semester (up to 6 hours). A thesis based on research completed by the student is required.

The M.Ag. requires successful completion of 32 credit hours, 21 of which must be in agricultural sciences. Additional courses may be required for individual students as determined by the major professor and the advisory committee. Students in this option must complete a research or special project and pass a comprehensive oral exam covering course work and the project.

For the Ph.D., the Graduate School requires a minimum of 30 semester hours of graded (e.g. A, B, C) graduate course work (6000-level or above) beyond the B.S. degree, plus at least 30 semester hours of additional graduate course work that may include un-graded courses, and must include at least 10 hours of HORT 8990 (60 hours total). The advisory committee may require additional course work. Upon completion of all course work, Ph.D. students are required to take a general written examination administered by his/her committee. Students must pass all parts of the written examination before scheduling the required Ph.D. preliminary oral examination. After satisfactory completion of the oral prelim exam, the student advances to candidacy. The Ph.D. student will conduct independent research and prepare a dissertation with the guidance and direction of his or her advisory committee. After completion of the dissertation, the student must pass a final oral examination defending the dissertation.

Several minors are available for horticulture graduate students. Auburn University's Department of Horticulture and School of Forestry and Wildlife Sciences offer a minor in Urban Forestry. An Interdisciplinary minor in Environmental Studies administered by the Crop, Soil and Environmental Sciences Department is also an option, as are minors in Ecology and Biochemistry and Cell/ Molecular Biology.

II. Admission Policy

A. Requirements and Procedures

- An absolute requirement for admission is a faculty member willing to serve as the applicant's major professor. No student will be accepted regardless of qualifications if there is no faculty member willing or able to serve as the major professor.
- Apply for admission through the Graduate School website (graduate.auburn.edu). When you select the "Apply Online" button, you will be given instructions for the process. See General Admission Requirements and Tips for Applying on the Graduate School's Prospective Students website (graduate.auburn.edu/prospective-students/).
- All applicants must have a B.S. degree or equivalent from an accredited college or university and meet specific departmental academic standards. For the M.S. and Ph.D. programs, the B.S. degree should be in Horticulture or a related field. Applicants from related areas will be required to correct any undergraduate course deficiencies. The Graduate School requires one official transcript of all undergraduate and any graduate credits from each school previously attended. If an Auburn University transcript, the Graduate School will acquire the transcript for you.
- GRE test scores, GPA, letters of intent and references, as well as other support material, will be considered in evaluating applicants. A GRE Analytical Writing Score of 3.0 or above is recommended. For applicants scoring less than 3.0 on the essay portion of the GRE, ENGL 3040 Technical Writing will be considered a deficiency course. The GRE test scores and GPA are applied to a formula to determine sufficiency.
- The Graduate School must receive all documents at least 45 days for domestic or 120 days for international students before the first class of the term for which you are seeking admission, and the Horticulture Department must make a positive recommendation to the Graduate School 30 days for domestic or 90 days for international students before the first class.
- Three letters of reference are required for all applicants. These may be uploaded by the reference within the ApplyYourself program (Graduate School) or sent directly to the Department of Horticulture, Graduate Program Officer (GPO), Dr. Carolyn Robinson. Letters are not required of students who have completed a B.S. through the Auburn University Department of Horticulture.
- International students must score at least 550 on the paper Test of English as a Foreign Language (TOEFL pBT), 213 on the computer TOEFL (cBT), 79 on the

internet TOEFL (iBT), or 6.5 Overall Band Score on the International English Language Testing System (IELTS) to be considered for admission. On the iBT, students must score a minimum of 16 on the four component parts of the iBT (reading, listening, speaking, and writing). International applicants must also demonstrate full financial sponsorship if accepted into a graduate program, proof of a comprehensive medical insurance plan, and submit an Official Statement Of Financing for International Students Form. (Please see the following website for help - graduate.auburn.edu/prospective-students/international-instructions/ .)

III. Advisory Committee

A. Defined

A prospective graduate student discusses with the GPO his or her areas of interest, funding opportunities and responsibilities, and the selection of a major professor (must be a member of the Graduate Faculty in Horticulture). When a student selects a potential major professor, it is the student's responsibility to determine if the faculty member is willing and able to be the major professor. When a student and faculty member have come to an agreement, an offer letter will be generated for acceptance. With the assistance of the major professor, students should establish their graduate committee in their first semester.

The advisory committee for the M.S. or M.Ag. student will be composed of at least three faculty members, including the major professor, and may include members from outside the department. Two must be members of the Auburn University graduate faculty including the major professor.

The advisory committee for the Ph.D. student should consist of at least four members of the Auburn University Graduate Faculty, including the major professor, and may include members from outside the department. A majority of the Auburn University committee members, including the major professor, must be members of the Graduate Faculty at level 2.

There is no maximum number of members of the committee. Bear in mind that more members means more opinions and schedules to coordinate, but a well-rounded committee is desirable. Think about who can bring expertise to the committee that will benefit the research objectives.

The major professor assists the student with devising a plan of study and research project proposal.

However, **the student is responsible** for all paperwork, required signatures, and meeting deadlines.

It is recommended that committee meetings occur at the following times:

- During the first semester to finalize the plan of study and discuss the research project

(M.S., M.Ag. and Ph.D.)

- During the second semester to approve the finalized research project proposal (M.S. and Ph.D.)
- During 3rd semester for progress report (M.S.)
- During 5th semester for progress report (Ph.D.)
- Oral prelim (Ph.D.)
- Final defense (M.S. and Ph.D.)

Committee meetings should occur when any changes to the research project proposal are made. It is the student's responsibility to organize these meetings.

A committee member may be deleted only with the written permission from that member.

B. Student Responsibilities

The graduate student is expected to read and follow the guidelines in the University Bulletin and in this Department of Horticulture Graduate Student Handbook. Policies and deadlines are subject to change; always refer to the Graduate School website and the University Bulletin.

Some required forms and reports regarding the student's program must be approved by the major professor, the advisory committee, the Department Head, and or the Dean of the Graduate School. It is the student's responsibility to ascertain which signatures must be obtained.

Graduate students have the following responsibilities:

- To make a commitment to his or her graduate program, which is required for the successful completion of his or her degree. Graduate study often requires more time than is generally expected. You must learn to manage your time wisely.
- To be familiar with the information presented in the University Bulletin and to know and observe all regulations and procedures relating to the program he or she is pursuing. In no case will a regulation be waived or an exception granted because a student pleads ignorance of, or contends that he or she was not informed of, the regulations or procedures. A student planning to graduate should be familiar with the dates for application for graduation and other pertinent deadlines.
- To satisfy the requirements of the University Bulletin in force at the time the student is admitted to and begins course work in a degree program. The student may, with the consent of his or her major professor, graduate under a subsequent Bulletin, provided the student complies with all requirements of the later Bulletin.
- To follow all policies and meet all requirements and deadlines.

- To perform project-related work, regardless of funding status, as defined by the major professor.
- To ensure security, maintenance, and care of the project and department equipment and facilities.
- To set an appropriate schedule to maintain progress.
- To call and conduct meetings of his or her advisory committee, reserve the room, and provide committee members with the time, location, and purpose of the meeting.
- To inform the advisory committee of the status of the program and research at regular intervals.
- To ensure that his or her research and writing is original.
- To properly summarize and interpret his or her research.
- To perform his or her own research-related work.
- To accept final responsibility for his or her research.

The student determines the QUALITY of the work. A major professor cannot be held responsible for poor work or lack of student responsibility. The student is also responsible for managing all department and Graduate School deadlines.

C. Role of Major Professor

The major professor has the following responsibilities:

- To provide competent advice on course work, research, and employment opportunities when requested.
- To define the amount of time a student should devote to non-thesis related project work.
- To provide the student the opportunity to be imaginative and innovative in the pursuit of his or her degree program.
- To provide an atmosphere that will encourage successful completion of the graduate program.
- To provide supplies, equipment, and labor within the limits of available funding.

- To stay abreast of the student's research and its progress.
- To provide assistance in the form of critical review of the initial project proposal, seminars, manuscripts, presentations, and the thesis or dissertation.

IV. Curriculum

A. Registration

Registration is the process by which students sign up for courses offered the next semester. New graduate students **MUST** have an official letter of admission to preregister. Continuing students must register during the registration period for graduate students in the semester preceding the one for which they are registering. Failure to do so will result with a late fee (\$50.00). Students can register for both Summer and Fall semesters during the Spring registration period. New students or students returning after a period of not being enrolled may register during the final registration period, one day before the first day of classes.

Students expecting credit toward a graduate degree must be registered with the Graduate School, and no student is considered a candidate for a degree unless properly registered. The student must also be registered in the semester of graduation and in any other semester in which staff or facilities of Auburn University are used for work on a thesis or dissertation, or for taking oral exams.

A word of caution: YOU are responsible for registering and taking the classes required for your program. Please check your registration times (Time ticket) under the Academics tab of AU Access. Some students have had to add an extra semester with associated expenses to meet the stated requirements for graduation. For crucial courses taught only once per year or classes that often have space availability problems, note the time that registration opens for graduate students and be the first on-line.

B. Research and Thesis/Dissertation (HORT 7990/8990) Policy

M.S. students may count 6 hours of HORT 7990 toward a degree. Ph.D. students may count 10 hours of HORT 8990 toward their degree.

Horticulture graduate students are required to take a minimum of 1 hour of HORT 7990/8990 each term. Also, know that you must be signed up for 1 hour of HORT 7990/8990 during your graduating term. Be aware that some graduate students (international, those on certain types of financial aid) may have to register for more than the minimum number of hours required by Horticulture to maintain their full-time status.

Students who need HORT 7990/8990 hours to maintain full-time status should consult

with their major professor. International students, if not full-time, must complete forms stating why.

C. Credit Load

A graduate student may carry a maximum course load of 16 hours per semester (14 in the 10 week summer term). This includes undergraduate courses, but does not include HORT 7990 or HORT 8990. Graduate students must carry 9 hours per semester to be a full time student or enroll in GRAD 7AA0/8AA0 with concurrent enrollment for a minimum of 1 hour of HORT 7990/8990 to be classified as full-time students. Enrollment in GRAD 7AA0/8AA0 requires the completion of a certification available at the Graduate School or on the Web at graduate.auburn.edu. Students should be aware that certain benefits, such as student loan deferments, require full time registration (10 or more credits). Students on assistantships need not be registered for 9 or more credit hours.

D. Residency Requirements

The residence requirement refers only to academic residency; it has nothing to do with residency for fee purposes. Resident, on-campus study is the foundation for research-based graduate degree programs at Auburn University. Any graduate student enrolled in a degree program culminating in a thesis or dissertation must directly engage in research with the major professor, must have access to the research tools needed for the research activity, must be immersed in the culture of graduate education, must engage in the professional activities of the discipline, and must complete the research activity in a reasonable period of time. Graduation requires the major professor to certify compliance with these requirements.

E. Plan of Study

A graduate student's plan of study is a list of classes the graduate student is expected to complete for his or her graduate degree. Each student's plan of study is developed by the student and the major professor with approval by the advisory committee. The plan of study should be developed with the student's future academia and or career goals in mind.

Graduate students must complete a plan of study through DegreeWorks before the end of their second semester. There are complete instructions on the Graduate School's website under Current Students, "Plan of study in DegreeWorks." Students must submit an email to the graduate school (per online instructions) and it will then be sent to the committee from the Graduate School.

The following is a list of requirements and suggestions that should be considered when developing a plan of study.

- M.S. - 30 hours are required, six of which may be research and thesis hours (HORT 7990). Please see Section F. Courses for specific required courses.

- M.Ag. - 32 semester credit hours are required. Non-thesis graduate students who complete a special project must register for 7980 Project in semesters when working on the project. Non-thesis students requiring only a final examination register for GRAD 7000 in the semester when the exam is taken. Credit hours for HORT 7990 cannot be counted toward graduation requirements for non-thesis degree programs. Please see Section F. Courses for specific required courses.
- Ph.D. - The Graduate School requires a minimum of 30 semester hours of graded (e.g. A, B, C) graduate course work (6000-level and above) beyond the B.S. degree, and at least 30 semester hours of additional graduate course work which may include un-graded courses, HORT 7990 and 8990. Although there is no limit to the number of hours a doctoral student can transfer, at least 18 hours must be completed as a graduate student at Auburn University. All doctoral students must complete a minimum of 10 hours of HORT 8990. A maximum of 4 hours of HORT 7990 from a completed M.S. program may be counted.

Changes to an existing plan of study must be approved by the student's advisory committee and the Graduate School through DegreeWorks. It is suggested that the student turn in only the required hours on his or her plan of study. Extra classes can be taken if time allows. If a minor is desired, their requirements should be explored and discussed with the major professor before developing a plan of study.

F. Courses

The student's plan of study should be individually tailored by the student, the major professor, and the advisory committee to meet the student's career goals and research needs. Your major professor may select a number of courses for you that would be in your best interest. For example, all masters students should take at least one statistics course and one methods course. Doctoral students should take at least two additional statistics courses. These courses are offered by several departments. Your major professor will have the best suggestions for specific courses that meet these criteria.

1. Required Courses for M.S. and M.Ag. Programs

- a) Master of Science - 30 hour total
 - HORT 7950 Seminar (2 seminars required) (2)
 - HORT 7990 Research and Thesis (4-6)
 - Select a minimum of 6 Credits in Horticulture @ 6000-8999 (6)
 - Select 16-18 Credits in @ 6000-8999 (16-18)
- b) Master of Agriculture 32 hour total
 - HORT 7950 Seminar (1 seminar required) (1)
 - Select a minimum of 13 Credits in Horticulture @ 6000-8999 (13)
 - Select 18 Credits in @ 6000-8999 (18)

For remaining courses, please speak with your major professor and see the University Bulletin and Course Schedules for options in Horticulture, Botany, Plant Pathology, Entomology, Crop Soil and Environmental Sciences, Forestry, etc. All coursework plans must be discussed and planned with your major professor.

2. Required Courses for Ph.D. Program

(30 hour total beyond a master degree)

-HORT 7950 Seminar (3 seminars required) (3)

-HORT 8990 Research and Dissertation (10)

-Select a minimum of 7 Credits in Horticulture @ 6000-8999 (7)

-Select 10 Credits in @ 6000-8999 (10)

For remaining courses, please speak with your major professor and see the University Bulletin and Course Schedules for options in Horticulture, Botany, Plant Pathology, Entomology, Crop Soil and Environmental Sciences, Forestry, etc. All coursework plans must be discussed and planned with your major professor.

3. Grade Point Average

Graduate students must maintain a grade point average of 3.0. If a student's cumulative graduate grade point average (CGGPA) falls below 3.0, the student will be placed on academic probation. If the CGGPA remains below 3.0 after the next nine credit hours of graduate enrollment, (both graded and ungraded) or two consecutive terms, the student will be placed on academic suspension. The student may be readmitted only after completion of a remediation plan recommended by the academic unit and approved by the Dean of the Graduate School. Course work taken as part of the remediation plan must be completed within two consecutive semesters and may count toward both the student's degree and CGGPA with the recommendation of the department head and the approval of the graduate dean. Graduate-level courses in which grades below C were earned may not be repeated during the remediation period. Once approved by the graduate dean, remediation plans may not be amended or extended beyond the original deadline. If a student fails to complete the remediation plan as approved or if the student earns a grade of C or below while completing the remediation plan, the student will be dismissed from the Graduate School and the designation ACADEMIC DISMISSAL will be placed on the student's official record.

4. Incompletes

A grade of "incomplete" must be removed within the following 6 months or it will be recorded permanently as an F and the course will have to be repeated. This applies regardless of the student's enrollment status. A student not enrolled during the following 6 months is not exempt from this rule. No student may graduate until "incomplete" and "no record" grades are removed, and the removal must be completed at least 3 weeks before the date of graduation, regardless of whether the course is included on the Plan of Study.

5. Time Limits

For M.S. and M.Ag. students, all work must be completed within five (5) calendar years. For Ph.D. students, all additional requirements must be completed within 4 years of successful completion of the general exam.

V. Graduate Student Information

A. Academic Information

1. Research Proposals

Graduate students working toward a M.S. or Ph.D. in Horticulture are required to complete a research proposal and submit to the GPO an approval form signed and dated by all committee members before presenting their first seminar. A first seminar is typically presented before the end of a student's second term. The research proposal serves as a means of communicating a student's intent to his or her committee, addresses a requirement of HORT 7010 Experimental Methods in Horticulture for a literature review, and provides a framework from which one's thesis or dissertation may be developed. The research proposal should, at a minimum, include an introduction, a review of the literature, justification, potential significance of the work, and intended methods and procedures and data analysis.

The Research Proposal Form is located at the end of this document or on the Department of Horticulture web site - <http://hort.auburn.edu/programs-of-study/graduate/graduate-forms/>.

2. Progress Report

Students must present a written progress report to their advisory committee by the end of the 3rd semester for an M.S. student or 5th semester for a Ph.D. student. There is a progress report form on page 40.

This report must include the following:

- Explanation for deviations from research project proposal and/or plan of study
- Problems encountered with the research and possible solutions
- Accomplishments to date and what still needs to be done
- Status of course work
- Estimated completion date

3. Seminars

Seminars are presented during each semester (including summer) on Fridays at 9am. Seminar schedules are emailed to all faculty and graduate students at the beginning of each semester. All graduate students are required to attend all seminars unless there are class or travel conflicts.

M.S. and **Ph.D.** students present their first seminar during their second semester. This seminar is a presentation of a literature review and research plans. If the first seminar is not completed by the established deadline, the student's assistantship will be suspended until the seminar has been completed.

M.S. and **Ph.D.** students present a second seminar, in which the student reports on research accomplishments. For M.S. students, it should be presented near the end of the student's program. For Ph.D. students, it should be presented during the second year of work.

M.Ag. students present one seminar that is a literature review and project review towards the end of their program.

For **Ph.D.** students, a third seminar is required. This seminar covers research accomplishments over the entire program.

Students should send an e-mail to the Horticulture faculty and graduate students inviting them to each seminar exam 1 week prior to the seminar dates, and make available a seminar evaluation form to all attendees. The form is included in the Appendices of this document as well as online at hort.auburn.edu/programs-of-study/graduate/.

Guidelines for seminar presentations will be provided by the instructor of record for HORT 7950 when the student registers for the course.

4. Examinations

a) **M.S. and M.Ag. Programs**

1. Final Oral Exam

All candidates under a thesis and non-thesis options must pass a comprehensive final examination covering the major and minor subjects, as well as the research and thesis (M.S.) or project and paper (M.Ag.). This exam is usually scheduled after completion of courses and research. It is generally a 2-hour oral examination. Members of the Graduate Faculty not on the advisory committee may attend any oral examination as visitors. Visitors may participate in the oral examination of the student, but do not have a vote concerning the student's successful completion of the exam. Students should send an e-mail to the Horticulture faculty inviting them to the oral exam 1 week prior to the exam date.

Students should submit their thesis or project paper to the advisory committee at least 2-3 weeks prior to the date of the final oral exam to give the committee adequate time to review the thesis or paper. Failure to do so may result in delaying the oral exam date as well as graduation.

When scheduling the final oral exam, please be aware of the deadlines for Form 8 (M.Ag.) and Form 9 (M.S.). The Graduate School calendar is posted on their web site (graduate.auburn.edu/current-students/graduate-school-calendar/) and includes deadlines for examination forms, dates for format checks and theses and dissertation uploads, as well as other scheduling aids.

Successful completion of the oral exam requires the unanimous support of all members of the advisory committee. If a student fails the examination, one reexamination may be given on recommendation of the advisory committee and by approval the Dean of the Graduate School. Further examinations will be allowed only under exceptional circumstances and with the approval of the Graduate Council.

b) Ph.D. Program

1. General Exam ("Prelim")

A general examination, often called the preliminary examination is required of all applicants for the Ph.D. degree. It consists of written and oral testing by the student's advisory committee in the student's major and minor. The written portion of the examination does not require approval in advance by the Graduate School. The oral portion, however, does require such approval. Arrangements for the oral examination must be made by application to the Graduate School at least 1 week in advance of the examination.

The primary purpose of the general examination is to assess the student's understanding of the broad body of knowledge in a field of study. The examination also affords the advisory committee an opportunity to review the student's proposed research and understanding of research methods and literature in the chosen field. If the general examination reveals deficiencies in any of these areas, the advisory committee may recommend remedial work, re-examination, or discontinuation of doctoral study.

The general oral examination should be conducted immediately after the successful completion of the written examination and well before the final examination. At least one complete semester (preferably more than one) must intervene between the general oral and final examinations. The two examinations thus cannot be taken either in the same semester or in consecutive semesters.

Successful completion of the oral examination requires unanimous support of the student's advisory committee. If the general oral examination is failed, a re-examination may be given on recommendation of the committee and approval by the Dean of the

Graduate School. Further examinations require exceptional circumstances and approval by the Graduate Council.

The student becomes a candidate for the Ph.D. degree upon successful completion of the general examination, and has four calendar years thereafter to complete all additional requirements. If unable to complete the requirements on time, the student may petition the Dean of the Graduate School for an extension. Otherwise, the student will revert to the status of an applicant.

2. Final Exam

After the first draft of the dissertation has been completed and approved by the student's advisory committee, it is submitted to the Graduate School. A University Reader (a member of the graduate faculty [Level 1 or 2] who serves to represent the university's graduate faculty and the Graduate School) will be appointed to review the dissertation. However, the student's advisory committee may request appointment of the University Reader at any time rather than waiting until after the dissertation is submitted. When the Graduate School has approved the dissertation, the student may apply for the final examination on a form obtained from the Graduate School. This application must be filed with the Graduate School at least 1 week in advance.

The final oral examination is administered by the student's advisory committee and University Reader. The examination includes the major and minor fields and a defense of the dissertation. Members of the Graduate Faculty not on the advisory committee may attend any oral examination as visitors. Visitors may participate in the oral examination of the student, but do not have a vote concerning the student's successful completion of the exam.

Students should send an e-mail to the Horticulture faculty inviting them to the oral exam 1 week prior to the exam date.

Successful completion of the exam requires unanimous support of all members of the committee. If a student fails the exam, a reexamination may be given on recommendation of the advisory committee and approval by the Dean of the Graduate School. Further examination requires exceptional circumstances and approval of the Graduate Council.

In addition to successful completion of all examinations, final copies of the dissertation must be submitted to the Graduate School before the degree is conferred.

5. Thesis and Dissertation Preparation and Submission

A thesis is required of all candidates for the M.S. degree, and a dissertation is required of all candidates for the Ph.D. degree. It shall constitute an original contribution to knowledge. The student conducts the research and prepares the thesis or dissertation under the direction of the major professor.

The Graduate School website has a Thesis and Dissertation Guide that contains information about requirements for theses and dissertations. It is available at graduate.auburn.edu/current-students/electronic-thesis-dissertation-guide/. The Graduate School only accepts theses and dissertations prepared according to the Guide. Please note that the directions for a thesis are slightly different from those of a dissertation. Follow the Thesis and Dissertation Guide for your specific degree.

A format check should be obtained at the Thesis and Dissertation Office in the Graduate School by submitting the thesis electronically (email to thesis@auburn.edu) to the Thesis and Dissertation Office (in a single file, in PDF format). The Graduate School Calendar lists the deadlines for format checks as well as for acceptance of final copies of theses and dissertations each semester. "Final copies" means that the thesis or dissertation is perfected and ready for publishing. If final copies are found to need corrections, the student's graduation may be delayed. Auburn University reserves the right to make copies of the thesis, but the student retains all publication rights. All theses will be published electronically through AUETD (Auburn University Electronic Theses & Dissertations database).

If the student intends to copyright the thesis through the Graduate School, the Thesis/Dissertation Copyright Registration form must be filled out and signed. Students who choose this option will have a \$55 charge placed on their student Bursar bill.

6. Presentations and Publications

a) Presentations

Graduate students are encouraged to present the results of their research at various conferences and student competitions. Presentations of papers or posters will vary depending on the requirements of the student's major professor, availability of funds, and acceptance of work by the conference editorial committee if applicable. Annual conferences that are frequently attended by presenters from this department include The Southern Nursery Association (SNA) Research Conference, The American Society for Horticultural Science (ASHS) Annual Meeting, the ASHS Southern Region Annual Meeting, International Plant Propagator's Southern Region Meeting, and others, depending on the student's area of specialization.

Other presentations may be made depending on the nature of a student's work and the opportunities available. Graduate students are advised to

consult with their major professor concerning appropriate forums for presentation of research results. Each graduate student is expected to present the results of his or her research. These presentations broaden the extent of the student's horticultural knowledge in general, provide training in developing presentations, develop self-confidence in speaking before groups, and promote the achievements of the students and the Department of Horticulture at Auburn University.

b) Publications

Contribution to the scientific literature is the ultimate application of the graduate student's research endeavors, and all M.S. and Ph.D. students are required to submit results of their work to appropriate journals for publication. The major professor is responsible for providing directions as to which journal the work is most suited. The following is a partial list of journals to which the Horticulture Department frequently submits manuscripts:

The Journal of the American Society for Horticultural Science
HortScience
HortTechnology
The Journal of Environmental Horticulture
Scientia Horticulturae
Arboriculture & Urban Forestry
Journal of the American Pomological Society

Additionally, a number of other journals may be appropriate for publication of students' research, depending on the area of specialization. Students should consult their major professor for further details.

7. Graduation Requirements

To graduate in a given semester, you **MUST**:

1. Apply for Graduation at least one term before you plan to graduate. Fill out the Grad Application in AU Access on My Academics. This will prompt a credit check and additional instructions for registration for the graduating semester.
2. You must register for classes no later than the fifth class day of the semester.
3. If you are completing or defending your thesis or dissertation, you must register for at least one hour of HORT 7990 or 8990.
4. Finally, please remember all deadlines for your examinations, required forms and thesis and dissertation submittal.
graduate.auburn.edu/current-students/graduate-school-calendar/

8. Deadlines

Students are solely responsible for meeting all departmental and Graduate School deadlines. Situations beyond the student's control that may cause a student to miss a deadline must be presented to the Department Head prior to the deadline.

Deadlines apply to all students. However, some appointments and/or some research programs may require different deadlines. In these situations, it is the major professor's responsibility to amend the deadlines for approval by the Department Head. Requests for extensions to any deadline should be submitted as early as possible, but no later than 2 weeks prior to the deadline. The request must contain brief reasons for the changes, new deadline dates, and signatures of the student and major professor.

9. Forms

Most forms required during your time as a graduate student are available on various University websites. Forms specific to Horticulture are available online (hort.auburn.edu/programs-of-study/graduate/) and are included in the Appendices of this handbook. These include various assessment forms used by the department. Travel request and reimbursement forms are found online in AU Access. All forms required by the Graduate School are found on the Graduate School website.

B. General Student Information

1. Research Associates

All graduate student policies also apply to nontraditional graduate students including research associates, even if they do not have an assistantship.

2. International Student Policies

All graduate student policies apply to international students even if they do not have an assistantship.

All international students are responsible for keeping their visa current, or maintaining their status with the INS. If your visa expires and you have an assistantship, your assistantship is automatically terminated. When the visa is returned to current status with INS, the assistantship can be reinstated, but there will be no back pay for the time the visa was not valid.

In addition, any international student who is out of status with INS will not be allowed to use any facilities within Funchess Hall, including offices, phones, or computers without special permission. Special permission will only be considered for situations beyond the student's control.

For any help with international student issues, please contact the Office of International Programs - www.auburn.edu/academic/international/ or 844-5001.

3. Insurance

All graduate assistants with assignments of 10 hours (0.25 FTE) or greater for the full semester in the fall and/or spring semesters, who meet the minimum monthly stipend established by the Office of the Provost, and are in good academic standing are required to have health insurance coverage.

If one has equivalent/greater prior coverage and can so demonstrate, that person may choose to opt out of the University plan. **Those who wish to opt out must complete the required form by September 5th for the fall and February 16th for the spring.** Waiver applications are accepted for two months following the waiver deadline, but are subject to prorated insurance costs. Example if you turn in your waiver in March for a spring waiver you are susceptible to paying for January and February's insurance. Graduate assistants will be automatically enrolled in the Auburn University Graduate Student Group Health Plan (GSGHP). The 2017-18 premium is \$1,930, which will be billed in two installments of \$973 for fall and \$957 for spring/summer.

International graduate students and dependents in F or J immigration status will continue to be covered and billed similarly under the Mandatory International Student and Scholar Health Plan – check with the Office of International Programs (insurance@auburn.edu) for details.

Those graduate students who do not qualify for the automatic enrollment may opt-in to the program. They must complete a request form and submit it to the Graduate School. For further information on optional enrollment, please visit the [Detailed Enrollment Information](#) page (available from graduate.aubun.edu/graduate-student-health-insurance-program/).

To find out more about the GSGHP or to get enrolled, please contact Sarah Nobles at 334-844-4506 or by email at insurance@auburn.edu.

4. Professional and Honor Societies

The following is a partial list of professional and honor societies in which a graduate student may seek membership. See your major professor for more information.

- Alabama Fruit and Vegetable Growers Association (AFVGA)
- American Pomological Society
- American Society of Horticultural Science (ASHS)
- Southern Region ASHS

- Gamma Sigma Delta Honor Society
- Sigma Xi
- Southern Nursery Association (SNA)
- Southern Region-ASHS (SR-ASHS)

5. Graduate Student Council

The graduate student council (GSC) is open to all graduate students and promotes graduate education, research, and student welfare. The department has two GSC representatives who keep you aware of pertinent graduate student concerns and issues.

6. Vehicle Registration

a) Automobiles & Motorcycles

To park on campus, you must register your vehicle online with the Auburn University Parking Services through AU Access.

Parking rules are strictly enforced, so follow them to avoid fines.

b) Bicycles

Bicycles also must be registered on campus. Registration of bicycles is free.

7. Ag Roundup

Ag Roundup is a major event held by the College of Agriculture every year as part of homecoming festivities. The Department of Horticulture usually provides fresh fruits and vegetables and “traditional” collard greens and sweet potato chips are cooked and served by graduate students. Your assistance in preparing and serving the vegetables IS paramount to the success of this event. Thank you!

VI. Assistantships

A. Graduate Assistant Responsibilities

Graduate assistantships are awarded to help students support themselves while earning graduate degrees and to help the university fulfill its responsibilities in teaching and research. Once an assistantship is awarded, the student must make satisfactory progress toward completing degree requirements and must satisfactorily perform his or her assigned duties to be reappointed. Assignments are often made for students to assist in laboratory or classroom teaching.

Assistantships can range from .25 FTE (10 hours per week) to .33 FTE (13.2 hours per week) to .50 FTE (20 hours per week). This assignment is under the head or major professor’s direction and does not include time for the student’s research project. The student and his or her major professor will together decide the specifics for meeting this requirement. Graduate assistants are not considered permanent or full-time employees by the University, and therefore, do not earn annual leave or sick leave. However, since assistantships are awarded for the purpose of accomplishing teaching or research, it is desirable to establish some understanding regarding the amount of time students may be away from campus during periods they are being paid. **Graduate assistants are expected to be on duty during the breaks between semesters.**

With the exceptions of university holidays, the student should request permission to be on 'leave' from his or her major professor, and it is the major professor's responsibility, along with the student's, to see that this 'leave' policy is not abused.

The major professor and other faculty need to know the whereabouts of graduate students and how to get in touch with them when needed. At the beginning of each semester, the graduate student should provide their major professors with their schedules. It is also important that the student provide a phone number where they can be reached when away from the department.

Guidelines for Graduate Tuition Fellowships can be found online at graduate.auburn.edu/current-students/guidelines-graduate-assistantships/.

B. Funding Levels

Funding levels will vary from student to student. The university has minimum and maximum amounts that graduate students may be paid. There are also differences between the masters and doctoral student levels. These amounts are mainly based on the amount and availability of funding sources. Be aware that there are other funding possibilities available through the University and other sources that may result in higher levels of funding. There are also graduate level scholarships available that you may explore.

C. FICA and Medicare

All graduate assistants registered for at least one hour are exempt from FICA and Medicare (Section 218 of the Social Security Act).

D. Background Checks

Effective January 1, 2014, all new graduate student employees (including hourly paid) must have an approved consumer report and/or investigative consumer report (background check) as a condition for appointment. The information contained in these reports may be used to deny an individual employment or continued employment with Auburn University. The background report and its contents are deemed private and confidential and shall be disclosed only for the purposes described in "Procedures for Securing Background Reports for Graduate Students Before Hiring" to those University employees who have a need to know, or as otherwise required or permitted by law.

Specific directions for completing a Background Check will be provided to incoming graduate students in their offer letter.

VII. Departmental Policies and Procedures

A. Purchases

Most members of the faculty and technical support personnel have been issued a Visa Purchasing card. Graduate students are allowed to obtain a purchasing card, but that is at the discretion of your major professor. If it is deemed necessary, your major professor should email the lead administrative assistant to request the card. Contact her or him to obtain proper forms and paperwork.

This card should be used to make purchases from local and out-of-town vendors. If an item is needed for research or instruction and your major professor has given you permission to purchase it, use the Visa card to make the purchase in the same manner as you would a credit card. If you do not have a purchasing card, check with your major professor, and he or she will assist you in getting the items you need.

Never allow tax to be added to your purchases within the state. If tax is added, you will either have to get a refund or pay the tax from your personal funds. If you are out of state, tax will be added and covered.

You will be given a receipt for the item when purchased. Small receipts should be taped to a letter sized sheet of paper. Write your name and the account number or the project name to be charged on the paper, and place the receipt in the mailbox of the department bookkeeper in Funchess 103. If you lose a receipt, you will need to get another copy of it. If another receipt cannot be retrieved, you will be responsible for the entire amount of the purchase.

Single purchases are not to exceed \$1,000. If you have an order for more than \$1,000, you will need to submit a purchase order request to the bookkeeper and she or he will send a purchase requisition to the Purchasing Department. Make sure to inform the vendor that this purchase is tax-exempt. The card sleeve has the state and federal tax numbers listed.

The latest rules for Purchasing Cards can be found on the Procurement and Payment Services website (www.auburn.edu/administration/business-finance/pps/index.html). You can also check with the department bookkeeper before making any purchases if you are unsure about what to do.

B. Keys

The process for obtaining keys is initiated by your major professor. An email needs to be sent to Ms. Bernice Barnette and copied to the Department Head requesting the specific keys needed. This email should also request card access to Funchess Hall. Once the keys are ready for pickup, the individual will receive an email and will have to pick up their own keys from Access Control. Upon completion, the student is responsible for returning the keys back to Access Control. Access Control will generate a receipt for your

records. A copy of this document must be shown to your major professor in order to have your ETD (Electronic Thesis/Dissertation Final Approval) form signed. Without a signed ETD form, you will not graduate.

C. Desk & Office Assignments

Each graduate student is assigned a desk in one of the graduate offices by the Graduate Program Officer.

D. Telephone

To make an on-campus call, dial 4 + the last four numbers. For local off-campus calls, dial 9 + number. Graduate students must obtain their major professor's permission to place long distance calls. To make a long distance call, dial *76 + access code (obtain from your supervisor) + 9 + 1 + area code + number. The call will be billed to the project account. This access code is also needed for making long distance fax transmissions. All long-distance calls must be work related.

E. Fax

Students may use the department's fax machine in 103 Funchess when it pertains to research and with their major professor's permission. Long distance telephone call regulations also apply for long distance fax transmissions. The fax number is (334) 844-3131.

F. Mail & Deliveries

Individual mailboxes for incoming mail are provided in 103 Funchess. The mailboxes are assigned by the administrative assistant. Place outgoing campus and departmental mail in the baskets in room 103 for pick up. Personal mail is not accepted for delivery, even if it is stamped.

Mail, including campus mail, is picked up and distributed once per day. Large packages are delivered to the front office. The administrative assistant will inform you of any deliveries for you. No cash-on-delivery packages will be accepted.

Large packages to be shipped must have a packing slip that includes a street address attached to the package. UPS and FedEx provide overnight and international delivery. Overnight and international packing slips can be obtained from the administrative assistant. Place boxes in the front office (Funchess 103) for pick up.

VIII. Equipment and Support Services

A. Office

1. Photocopier

A photocopier is available for use by graduate students located in Funchess 103. Each student will be provided a user access code by their major professor.

2. Computers & Printers

Some major professors make a computer available to their students. In addition, walk-in access to the machines in the Office of Information technology (OIT) computing labs is provided free of charge to faculty, employees, and students. The computing labs are available 24 hours a day during the semester (with the exception of the RBD Library lab, which is open whenever the library is open). The labs may be closed for special campus events or on home football game weekends, and some labs may be reserved for instructional use part of the day. For a listing of labs and a schedule of reservations and notices announcing special closings please visit www.auburn.edu/oit/labs/. Computer labs in close proximity to Funchess Hall include 206 Comer Hall, RBD Library, 105 Rouse Life Sciences, and 254 Parker Hall.

There is a graduate student printer located in Funchess 108. The printer can be accessed from computers in 108 as well as your personal computers or laptops brought on campus.

B. Support Services

Agricultural Land & Resource Management (ALRM) provides the following services upon request:

- Assistance in acquisition of equipment
- Construction, modification, repairs, and maintenance of facilities
- Repairs and maintenance of electronic equipment
- Transportation of heavy equipment
- Allocation of land for field research
- Assistance in minor building alterations, painting, and other renovations

For ALRM services, complete a work order online at aaes.auburn.edu/alrm/.

C. Horticulture Facilities

1. Paterson Greenhouse Complex

The Paterson Greenhouse Complex, located at 450 Duncan Drive, is available for conducting research experiments. The 8-acre facility is comprised of 87,120 square feet of outdoor irrigated nursery, 22,500 square feet of greenhouse space, a retractable-roof house, 4 shade houses, a soil mixing/potting building, offices, pesticide storage, walk-in cooler, as well as a classroom facility.

Specific Equipment Available at Paterson Greenhouse Complex:

- Soil or substrate mixer -The soil or substrate mixer at the greenhouse complex is available for use by all graduate students. It is frequently used; therefore it is a good idea to reserve it ahead of time with the greenhouse manager (Heath

Hoffman).

- Four-wheelers - The four-wheelers are available for use at the greenhouse complex. Special permission must be obtained from the Department Head or greenhouse manager to use them elsewhere. The four-wheelers are not legal on the road and must be transported using one of the trailers available at the greenhouses complex. You must see Greenhouse Manager to schedule use.
- Hand tools - Shovels and various hand tools are available at the greenhouse complex for use on site and may be checked out through the greenhouse manager. Many major professors have their own personal tools as well.
- Power equipment - Equipment such as weed-eaters and lawn mowers are available at the greenhouse complex for use at the complex only. Special permission must be obtained to use them elsewhere.
- Walk-in refrigerated cooler.
- Heavy Equipment- Assistance with projects that require equipment such as tractors, loaders, etc. can be obtained from Ag Land & resource Management (aaes.auburn.edu/alm/). Your major professor must complete an online work order to schedule work by Ag Land & Resource Management.

2. Plant Science Research Center (PSRC)

The Plant Science Research Center is located at 75 Woodfield Drive, Auburn, AL. The primary purpose of the Center is to provide greenhouse space and supporting facilities and services to research scientists of the Alabama Agricultural Experiment Station.

The PSRC contains 12,800 square feet of greenhouse space divided into 12 zones equipped with Wadsworth EnviroStep controllers. The greenhouse area is divided into twelve 30-x36-foot zones, each equipped with individual temperature, air circulation, and shade controls.

- Four of the zones are equipped with high intensity auxiliary lighting. Each of eight zones is equipped with two 3-x 24-foot tables and three 5-x 30-foot benches.
- One zone is equipped with two 3-x24-foot benches and four 5-x30-foot benches with moveable tops.
- Two zones are equipped with two 4-x24-foot benches and three 4-x30-foot benches with heavy duty casters for portability.
- One zone is dedicated for organic production and has been certified organic since 2005.

Growing conditions are computer controlled utilizing StepSaver data acquisition software. Data logs of cultural conditions are available for our research scientists by request. The software provides off-site control and monitoring of growing conditions by

the PSRC management staff.

The outdoor nursery area currently consists of 400 square feet under shade and 150 square feet of open space. The 20,000 square feet headhouse contains four laboratories, six growth chambers, a germination chamber, a walk-in cooler, and a conference room for small group meetings.

There is no permanent assignment of space. Specific areas and type of greenhouse and laboratory space will be assigned to project leaders for the duration of an experiment. At the end of an experiment, the project leader will vacate the space and remove all containers, plant material, supplies, and equipment from both the greenhouse and laboratory. An extension of time may be obtained by submitting a written request at least 1 month before the original termination date.

Space assignments are made on the basis of an approved outline. The outline, signed by the project leader and Department Head, should be submitted to the PSRC Director. Project leaders are encouraged to confer with the Director before preparing an outline. Space requests for teaching and extension should follow the same procedures as for research. The outline should follow the format of those now used for research on AAES substations according to guidelines given in the AAES Handbook for Project Leaders. There is a sample outline available in the main office.

D. Library

The Ralph Brown Draughon (RBD) Library is designed to serve the study, teaching, and research needs of Auburn students, faculty, and staff.

Subject-specialist librarians are located on the 2nd floor at the Main Reference Desk. Their services are available during regular operating hours and can be contacted by appointment or e-mail for help in using the library. The Circulation Desk is located on the 1st floor at the parking deck entrance. There is an Information Desk on the 2nd floor, and a Service Desk located on the 1st floor for help in using micro- formats and government publications. There is also a Digital Resource Lab for assisting users with digital media, providing access to media hardware and software, together with on- site technical expertise. The Special Collections and Archives Department on the ground floor houses 10,000 cubic feet of archival and manuscript materials. Special Collections and Archives have a reference desk for help in using the collections.

Computer workstations for accessing the internet and the Libraries' collections are located on every floor of the library. There is also an OIT computer lab on the 3rd floor and an Internet Café located on the ground floor. In addition, there are wireless computers available that can be checked out from the Circulation Desk on the 1st floor with a valid student, faculty or staff ID. Individual study carrels are located throughout the building.

Library photocopiers are located on each of the five floors. Group study rooms

accommodating four to six persons are located on 3rd and 4th floors of the library and are available on a first-come, first-served basis. Services for users with disabilities are available on an as-needed basis. Contact the 2nd floor Main Reference Desk at 844-1737 for more information.

Be aware that library hours change during semester breaks, for holidays, and for finals.

Visit the RBD Library online for hours of operation and other information:
www.lib.auburn.edu .

E. Other Services

1. Plant Diagnostic Laboratory

Plant Diagnostic Lab (offices.aces.edu/plantlabauburn/)

The Plant Diagnostic Lab, located at ALFA Agricultural Services and Research Building 961 South Donahue Dr. on the Auburn University campus, can help you identify and treat plant problems.

The Plant Diagnostic Lab provides three major services:

- Plant samples are examined for disease, insect, nutrient, cultural, and herbicide problems.
- Soil samples are analyzed for plant parasitic nematodes.
- Insect samples are identified.

In addition to the above, plant and fungal identifications are also made. After samples are examined, tested, analyzed, and/or identified, Extension Specialists respond with the diagnosis or identification and control recommendation(s). Samples received at the Plant Diagnostic Lab may be examined by plant pathologists, nematologists, entomologists, agronomists, horticulturists, or weed scientists, depending upon the sample. Responses are sent by phone, e-mail, fax, or letter. Generally, our responses are made within 1 week from the time of sample receipt. Some tests and or analyses require more time. Before sending samples to the lab, consult our publications for more information on the lab and for directions on collecting, packaging and mailing plant, soil, and insect samples ([ANR-0450](#) and [ANR-0114](#)) Also, examine and download our [plant \(ANR-0089\)](#), [soil nematode \(ANR-00F7\)](#), and or [insect](#) forms as appropriate. Fill out the form for your sample with as much information as possible. When inadequate samples are sent with inadequate information, diagnoses and analyses and recommendations cannot be made.

Sample service charges are as follows:

- Plant Problem and Disease Diagnosis: \$10 - \$30, depending upon tests or analyses required.
 - Homeowner sample charges are usually \$10 - \$15

- Commercial sample charges are usually \$20 - \$25
- Molecular analysis (with client consultation) \$30
- Insect Identification: \$5 - \$20, depending upon work
- Soil Nematode Analysis: \$10

* Charges are not made on plant and fungal identifications.

2. Soil, Forage and Water Testing Laboratory

Soil, Forage and Water Testing Lab (www.aces.edu/anr/soillab/)

The Soil, Forage and Water Testing Lab is located at the ALFA Agricultural Services and Research Building 961 S. Donahue Dr. on the Auburn University campus.

Soil, Forage and Water Testing Lab provides the following major services:

- Routine Soil Analysis
- Soil Quality & Soil Health
- Special Soil Analysis
- Water Analysis
- Plant (Forage & Feed) Analysis

All descriptions, forms, and information can be found at the preceding website.

3. Biological and Electron Microscopy Imaging Facility

The BEMIF is equipped with a Zeiss DSM940 Scanning Electron Microscope (SEM) with X-Ray Spectrometry and a Zeiss EM 10 Transmission Electron Microscope (TEM). Equipment available for cytological and histological studies include an autotechnicon, an imbedding machine, and a microtome. It is located in Room 37 of the Rouse Life Science Building. For information, contact the director at (334) 844-1640.

4. Genomics and Sequencing

Auburn University Genomics & Sequencing Laboratory (GSL) uses the ABI 3100 Genetic Analyzer for sequencing and the analysis of fluorescent-labeled DNA fragments.

IX. Travel

A. Departmental Vehicles

Auburn University requires every person who drives a state vehicle to have an Alabama driver's license, wear a seat belt, and be certified by the university. Driver Safety Training is required and offered online. Contact the Risk Management and Safety office at 844-4870 or audrive@auburn.edu for more information.

Only state vehicles with "Service Vehicle" designation are allowed to park in the lots at Funchess, Comer or Upchurch. General state vehicles are not allowed in these lots. The department's state vehicles are typically parked at the Paterson Greenhouse Complex.

State vehicles can be parked in the loading zone at Funchess but only when you are loading or unloading material. Time in this zone should be 15 minutes or less.

There is a vehicle sign-out book and keys in Funchess 101 or 103 depending on the type of vehicle required. You must sign out a vehicle, indicating how long it will be used and where you are going. Please write legibly. Mileage should always be logged in each time the individual vehicle is used. Post out mileage when you get the vehicle and post in mileage when you return. Subtract to get actual mileage. An account number should also be listed on the mileage book. It is the responsibility of the driver to return the vehicle with the gas tank at least half full, to clean out any trash, and to promptly return the keys to the proper location in Funchess 101 or 103. The glove compartment should contain a map, important phone numbers, and an insurance card. The university carries only liability insurance on all vehicles.

1. Unfortunate Circumstances Involving University Vehicles

You must have passed the Driver Safety Training class before a departmental vehicle can be driven. See administrative assistant in main office for more information.

a) Speeding

The University does not pay speeding tickets. It is your responsibility to pay your fines. It would also be a good idea to inform the department's bookkeeper in case any questions arise. Just remember to keep your speed within the limit.

b) Accidents

Do exactly what you would do with your own vehicle. The police should be called and a report prepared. Inside the glove compartment should be an insurance card that will be needed. If someone is hurt, call an ambulance. Notify the administrative assistant on your return to the University, and an accident report will be filled out for the University insurance company.

c) Breakdowns

Call the main office (334-844-4862) and let them know. They will find someone to pick you up and help make arrangements to either get it fixed or hauled back. After hours, contact your major professor.

d) Lock-outs

If you are in-town and lock the keys in the vehicle, then call the main office (844-4862) or your major advisor, they should have access to an extra set of keys. If you are out of town, often the police can help you retrieve them. Other times, it will be necessary to call a locksmith, and you will be held responsible for the bill.

B. Travel Reimbursement Policies

1. General Information

Official travel should be arranged so that the best interest of Auburn University

will be served at the lowest cost. State law prohibits advanced payment for travel expenses. All travel is reimbursed through eTravel Vouchers on AU Access. All eTravel Vouchers should be submitted within 30 days of travel.

Graduate students cannot be reimbursed for any travel that is solely for the purpose of their graduate research. All official travel must be pre-approved by the student's major professor.

Please visit the following website for the current Auburn University Travel Policies <https://sites.auburn.edu/admin/universypolicies/Policies/TravelPolicies.pdf>

2. Same Day Travel Reimbursement

When an overnight stay is not included, the reimbursement rate for meals is:

- \$11.25 for trips of 6-12 hours
- \$30 for trips over 12 hours in length.

3. In-state Overnight Travel

If you travel overnight within the state on official business and seek lodging, you must claim per diem as required by state law. The per diem covers lodging, meals, and tips. No receipts are required. The reimbursement rate will be \$75 per day.

4. Out of State Overnight Travel

For overnight trips out of state, you will be reimbursed for actual expenses up to \$34 per day (meals and tips) without receipts. If actual expenses exceed \$34 per day, you can be reimbursed up to \$60 per day with itemized receipts for the entire \$60. You must submit original receipts for airline, train, or bus tickets, gas, lodging, registration, and parking in order to be reimbursed. If in doubt about whether or not to save a receipt, save it. Lodging is reimbursed at the actual single room rate, and an itemized receipt is required.

5. Mileage or Vehicle Costs

If a personal vehicle is used for travel, the current state mileage rate is 53.5¢ per mile (effective 1/1/17). That covers all vehicular costs, including tolls, repairs, and fuel. Mileage totals will be calculated from Google Maps or Mapquest. Please include a pdf of the directions and mileage totals with your eTravel Voucher.

If a state vehicle is used, follow the previous policies listed (document all travel in the log books and include an account number for the charges). Your university visa should be used for fuel charges.

6. International Travel

Before you travel you must complete a Request for Authority to Travel (RAT50) form on AU Access. After you return you can then complete an eTravel Voucher and record the actual expenses from your trip. Submit the form and the original receipts for anything recorded on the eTravel Vouchers. Receipts should include a conversion from

the foreign currency to the US\$.

Travelers will be reimbursed for actual lodging expenses up to the current maximum federal rate allowable in each city of foreign travel (receipts are required). In addition, travelers will be reimbursed for actual expenses for meals and incidentals (M&IE) up to the current federal rate. No receipts are required for M&IE reimbursements. Please refer to the Travel Policies document referred to in the General Information.

7. Airfare

Reimbursement for air travel will be made for the actual cost of the lowest logical airfare to and from the business work site and return, based on the travel dates necessary to conduct University business. A receipt is required.

C. Graduate School Research and Travel Fellowships

1. Purpose and Scope of Awards

The intent of Graduate Travel Fellowship is to provide partial support for students presenting research results at professional meetings (SNA, ASHS, etc.). First priority is given to those students presenting results of thesis or dissertation research. Lower priority is given to students presenting research that is unrelated to their thesis or dissertation. Limited funds prohibit support for field work or meetings (e.g., conferences, workshops, etc.) where student research results are not being presented.

2. Extent of Awards

Submission of an application does not guarantee that an award will be granted. Individual travel awards will range from a minimum of \$50 to a maximum of \$500 for M.S. students and \$1000 for Ph.D. students. Award amounts will be based on distance of travel from Auburn and availability of travel award funds. Additional criteria that may be considered include rank destination of the meeting and availability of funds from other sources.

3. Regulations

An M.S. student is eligible to receive a maximum of \$500 in total awards and a Ph.D. student is eligible to receive up to \$1000 in Graduate Travel Awards. Hence, students working toward both M.S. and Ph.D. degrees are eligible for a maximum of \$1,500 in total Graduate Travel Awards. Students who have already received the maximum amount should not apply.

Individuals may submit only one application per review period.

4. Review Periods and Deadlines

The applications must be submitted 1 month before travel for consideration by the Graduate Fellowship Committee. This deadline is subject to change, so contacting Graduate School directly is advised.

5. Application Procedure

Request for Research and Travel Fellowship forms are on the Graduate School website - graduate.auburn.edu/current-students/awards-and-grants/graduate-research-and-travel-fellowships/. To be considered, applications must be received by the appropriate deadlines listed on the website. This application is not a Request for Authority to Travel (RAT). Applicants must still submit a RAT through their departmental office.

6. Administration of Funds

Awards are made in the form of reimbursement for travel and related expenses. Awards cannot be distributed in advance of travel. Those who receive awards will be sent instructions regarding reimbursement at the time of award notification.

X. AAES Research Substations and Fields

Research by graduate students is frequently conducted at one or more of the research stations that comprise the Alabama Agricultural Experiment Station (AAES). For more information on the AAES, follow this link - aaes.auburn.edu .

XI. Appendix

A. Approval and Assessment Forms

- Research Proposal Approval Form p. 36
- Research Proposal Scoring Rubric p. 37
- Seminar Evaluation Form p. 38
- Progress Report Form p. 39
- Thesis/Dissertation Scoring Rubric p. 40
- Final Oral Exam p. 41
- Teaching Assistant Evaluation p. 42

B. Checklists and Timelines

- M.S. Checklist p. 43
- M.Ag. Checklist p. 44
- Ph.D. Checklist p. 45

C. Student Learning Outcomes and Curriculum Map M.S./M.Ag. p. 46

D. Student Learning Outcomes and Curriculum Map Ph.D. p. 49

D. Signature Page p. 52

**Department of Horticulture
RESEARCH PROPOSAL
APPROVAL FORM**

Research Project Title

Name

Degree

Committee Members' Signatures

_____	Date: _____

**Department of Horticulture
RESEARCH PROPOSAL
SCORING RUBRIC**

To be completed by graduate student

Student Name:

Degree (MS/PHD):

Research Project Title:

Advisor:

Date:

To be completed by graduate committee members

Please rate using the scale 1= unacceptable, 2= poor, 3= fair, 4= good, 5= excellent

Literature Review	1	2	3	4	5
Objectives	1	2	3	4	5
Methodology	1	2	3	4	5
Organization	1	2	3	4	5
Scientific Merit	1	2	3	4	5
Writing Quality	1	2	3	4	5
Overall Quality	1	2	3	4	5

Please provide additional comments that could help improve the quality of the proposal.

Department of Horticulture SEMINAR EVALUATION FORM

To be completed by speaker

Speaker Name:

Degree: _____ M.S. _____ Ph.D.

Seminar Topic:

Seminar: _____ 1st _____ 2nd _____ 3rd

Advisor:

Date:

To be completed by reviewer

Classification (check all that apply):

_____ Faculty _____ Staff _____ Grad Student _____ Undergrad Student _____ Other

Please rate using the scale 1= unacceptable, 2 = poor, 3 = fair, 4 = good, 5 = excellent.

1. Content

Thoroughness of research	1	2	3	4	5
Literature review	1	2	3	4	5
Organization	1	2	3	4	5

2. Visual Aids

Appropriateness	1	2	3	4	5
Quality	1	2	3	4	5
Creativeness	1	2	3	4	5

3. Presentation

Knowledge of subject	1	2	3	4	5
Delivery manner	1	2	3	4	5
Ability to keep within time constraints	1	2	3	4	5
Ability to answer questions	1	2	3	4	5

4. Overall Presentation

1	2	3	4	5
---	---	---	---	---

Additional comments, concerns, or suggestions for the speaker to help improve their presentation skills or seminar content. PLEASE INCLUDE AT LEAST ONE CONSTRUCTIVE CRITICISM.

**Department of Horticulture
THESIS/DISSERTATION
SCORING RUBRIC**

To be completed by graduate student

Student Name:

Degree (MS/PHD):

Research Project Title:

Date:

To be completed by graduate committee members

Please rate using the scale 1= unacceptable, 2 = poor, 3 = fair, 4 = good, 5 = excellent.

Literature review	1	2	3	4	5
Introduction	1	2	3	4	5
Methodology	1	2	3	4	5
Results	1	2	3	4	5
Discussion	1	2	3	4	5
Scientific Quality	1	2	3	4	5
Writing Quality	1	2	3	4	5
Overall Quality	1	2	3	4	5

Please provide additional comments that could help improve the quality of the thesis/dissertation.

**Department of Horticulture
FINAL ORAL EXAM
SCORING RUBRIC**

To be completed by graduate student

Student Name:

Degree (MS/PHD):

Research Project Title:

Date:

To be completed by graduate committee members

Please rate using the scale 1= unacceptable, 2 = poor, 3 = fair, 4 = good, 5 = excellent.

Thoroughness of research	1	2	3	4	5
Objectives	1	2	3	4	5
Oral communication skill	1	2	3	4	5
Knowledge of subject	1	2	3	4	5
Ability to think critically	1	2	3	4	5
Ability to answer questions	1	2	3	4	5
Overall Performance	1	2	3	4	5

Please provide additional comments that could be helpful to the student.

**Department of Horticulture
TEACHING ASSISTANT EVALUATION**

To be completed by graduate student

Student Name:

Course:

Date:

To be completed by students enrolled in the course

Please rate using the scale 1= unacceptable, 2 = poor, 3 = fair, 4 = good, 5 = excellent
(Leave blank if the statement does not apply.)

Information explained clearly	1	2	3	4	5
Had a good presentation/lecture style	1	2	3	4	5
Well-prepared	1	2	3	4	5
Showed interest in students	1	2	3	4	5
Provided helpful comments	1	2	3	4	5
Availability outside class	1	2	3	4	5
Overall Rating	1	2	3	4	5

Please provide additional comments regarding strengths and weaknesses that could help improve the quality of the graduate student's teaching.

Strengths:

Weaknesses:

Department of Horticulture M.Ag. Student Checklist

Student: _____

Major Professor: _____

Departmental Documents	Semester Required	Date to Complete	Completed?
Employment Paperwork	Prior to 1st		
Research Proposal Rubric	2nd		
Seminar 1 Evaluation Rubric	2nd		
Progress Report Form	By end of 3rd		
Teaching Assistant Eval/s (if applicable)	Any/all		
Final Oral Exam Evaluation Rubric	Last		

Graduate School Documents	Semester Required	Date to Complete	Completed?
Please see the official Graduate School Checklist for all suggestions!			
Select graduate committee*	1st/2nd		
Plan of Study*	1st/2nd		
Graduation Application*	One term before graduating term		
Report of Master's Final Exam	Last		

*Online submissions

**Department of Horticulture
M.S. Student Checklist**

Student: _____

Major Professor: _____

Departmental Documents	Semester Required	Date to Complete	Completed?
Employment Paperwork	Prior to 1st		
Research Proposal Rubric	2nd		
Seminar 1 Evaluation Rubric	2nd		
Progress Report Form	By end of 3rd		
Teaching Assistant Eval/s (if applicable)	Any/all		
Seminar 2 Evaluation Rubric	5th or 6th		
Thesis Evaluation Rubric	Last		
Final Oral Defense Evaluation Rubric	Last		

Graduate School Documents	Semester Required	Date to Complete	Completed?
Please see the official Graduate School Checklist for all suggestions!			
Select graduate committee*	1st/2nd		
Plan of Study*	1st/2nd		
Graduation Application*	One term before graduating term		
Report of MS Thesis Final Exam	Last		
ETD Final Approval Form	Last		

*Online submissions

Department of Horticulture Ph.D. Student Checklist

Student: _____

Major Professor: _____

Departmental Documents	Semester Required	Date to Complete	Completed?
Employment Paperwork	Prior to 1st		
Research Proposal Rubric	2nd		
Seminar 1 Evaluation Rubric	2nd		
Progress Report Form	By end of 5th		
Teaching Assistant Eval/s (if applicable)	Any/all		
Seminar 2 Evaluation Rubric	5th or 6th		
Seminar 3 Evaluation Rubric	8th or 9th		
Dissertation Evaluation Rubric	Last		
Final Oral Defense Evaluation Rubric	Last		

Graduate School Documents	Semester Required	Date to Complete	Completed?
----------------------------------	-------------------	------------------	------------

Please see the official Graduate School Checklist for all suggestions!

Select graduate committee*	1st/2nd		
Plan of Study*	1st/2nd		
Application for General Oral Exam	Entire term between general and final oral exams		
Graduation Application*	One term before graduating term		
First Submission Approval Form	Last		
Report of Final Oral Exam	Last		
ET/DD Final Approval Form	Last		
Survey of Earned Doctorates	Last		

*Online submissions

Department of Horticulture
Student Learning Outcomes and Curriculum Map
M.S./M.Ag.

Students graduating with a M.S. or M. Ag. in Horticulture will:

- 1- Effectively communicate research plans and results to a broad audience in written and oral formats.
- 2- Create a research proposal and conduct and successfully defend scientific research in Horticulture that is pertinent and applicable to the field.
- 3- Demonstrate effective teaching skills through at least a portion of an undergraduate course in Horticulture.

Curriculum Map for Horticulture (M.S./M.Ag.)
1 = introduced 2 = reinforced 3 = emphasized

Learning Outcome			
Course	Communication	Research	Teaching
HORT 6110 TREE FRUIT CULTURE (2) LEC. 2. Pr. HORT 3000 . Manipulation of growth and development of tree fruit crops by cultural methods. Departmental approval. Summer, odd years.	3	3	
HORT 6120 SMALL FRUIT AND PECAN CULTURE (3) LEC. 2. LAB. 2. Pr. BIOL 3100 and BIOL 3101. Principles and practices involved in the production and marketing of small fruits and pecans. Departmental approval. Spring, even years.	3	3	
HORT 6130 SUSTAINABLE VEGETABLE CROP PRODUCTION (3) LEC. 2. LAB. 2. Pr. HORT 3000 . Advanced course in best management practices and quality of vegetable crops. Departmental approval. Spring.	2		
HORT 6140 POST-HARVEST BIOLOGY AND TECHNOLOGY (3) LEC. 2. LAB. 2. Pr. (PLPA 3000 or PLPA 3003) and HORT 3000 . Physiological changes occurring in fruits, vegetables and other horticultural products after harvest. Spring.	2	3	1
HORT 6150 RETAIL GARDEN CENTER MANAGEMENT (3) LEC. 2. LAB. 3. Pr. HORT 3210 or HORT 3220 . Departmental approval. Topics included: financing, location, design, stocking, selling, personnel management, advertising, and maintaining plants. Graduate students will evaluate garden centers and provide feedback for improvement.	2		

HORT 6210 LANDSCAPE BIDDING, INSTALLATION AND MAINTENANCE (4) LEC. 3. LAB. 3. Pr. (CSES 2040 or CSES 2043) and (PLPA 3000 or PLPA 3003) or (AGRN 2040 or AGRN 2043). Principles and practices of the bidding, installation and maintenance of commercial and residential landscapes. Spring.	2		
HORT 6220 GREENHOUSE MANAGEMENT SCIENCE (4) LEC. 3. LAB. 2. Pr. HORT 3000 and CHEM 1030 and HORT 2240 and (CSES 2040 or CSES 2043) or (AGRN 2040 or AGRN 2043). Management, culture and economics of commercial greenhouse production. Fall.		2	
HORT 6230 NURSERY MANAGEMENT (4) LEC. 3. LAB. 4. Pr. HORT 2240 and HORT 3000 . Factors affecting plant production. Environmental issues related to facilities design and pesticide and nutrient management. Departmental approval. Fall.	2	1	
HORT 6240 PUBLIC GARDEN MANAGEMENT (3) LEC. 1. LAB. 2. Understanding personnel structure and responsibilities; plant care and management; and the educational, entertainment, and conservation missions of public gardens.	3	1	
HORT 6280 ADVANCED LANDSCAPE DESIGN (3) LEC. 5. Pr. HORT 4270 . Departmental approval. Continuation of HORT 4270 with an emphasis on design projects.			
HORT 6910 HORTICULTURE PRACTICUM (4) LEC. 1. LAB. 6. Practical application of a broad range of horticultural subject-matter knowledge and skills. May count either HORT 5910 or HORT 6910 . Course may be repeated for a maximum of 8 credit hours.	3		2
HORT 7010 EXPERIMENTAL METHODS IN HORTICULTURE (4) LEC. 2. LAB. 3. Principles and methodologies of horticultural research, experimental design, preparation of project and grant proposals, and development of publication skills. Departmental approval. Fall.	3	3	
HORT 7040 ADVANCED GROWTH AND DEVELOPMENT OF HORTICULTURAL PLANTS (3) LEC. 3. Pr. (HORT 3000 or BIOL 3100) and BIOL 3101. Plant growth and development from seed germination, through maturity and senescence. Summer, even years.	3	3	
HORT 7050 NUTRITIONAL REQUIREMENTS OF HORTICULTURAL PLANTS (3) LEC. 3. LAB. 2. Pr. HORT 3000 . Nutritional requirements of horticulture crops and factors affecting these requirements. Departmental approval. Summer, odd years.	2	3	
HORT 7070 PLANT BIOTECHNOLOGY (4) LEC. 2. LAB. 3. Pr. BIOL 3000 or BIOL 3003 . Plant biotechnology, including plant tissue culture technologies and genetic transformation and applications to horticultural crop improvement. Departmental approval. (Not currently offered)			
HORT 7080 ENVIRONMENTAL PLANT STRESS (3) LEC. 4. Pr. HORT 3000 . Departmental approval. Mechanisms related to adaptation of plants to environmental stresses. (Not currently offered)			

HORT 7840 GRADUATE STUDY/TRAVEL IN HORTICULTURE (1-4) LEC. Departmental approval. Programmed activities to enhance national/international awareness and enable students to understand horticultural practices in diverse areas. Course may be repeated for a maximum of 8 credit hours.	1		
HORT 7850 URBAN FORESTRY SEMINAR (1) LEC. 3. SU. Presentation and discussion of research, scientific papers and issues related to urban forestry establishment, care and planning. Credit will not be given for HORT 7850 and FORY 7850 .			
HORT 7920 GRADUATE INTERNSHIP (1-4) INT. Departmental approval. Supervised professional experience in horticulture	1		
HORT 7950 SEMINAR (1) SEM. SU. Graduate students are required to attend all seminars. Course may be repeated with change in topics.	3	3	
HORT 7960 SPECIAL PROBLEMS (1-3) IND. 3. Conferences, problems and assigned readings in horticulture. Course may be repeated for a maximum of 6 credit hours.*			
HORT 7970 SPECIAL TOPICS IN HORTICULTURE (1-3) LEC. Principles, methods and techniques involved in gaining an understanding of different horticultural disciplines. Course may be repeated for a maximum of 3 credit hours.*			
HORT 7990 RESEARCH AND THESIS (1-10) MST. Course may be repeated with change in topics.		3	

*Dependent on project

Department of Horticulture

Student Learning Outcomes and Curriculum Map

Ph.D.

Students graduating with a Ph.D. in Horticulture will:

- 1- Create one or more extramural grant proposals exhibiting proficiency in writing and administration of the submission process.
- 2- Independently develop and execute a research program and publish results. Skills that will be enriched include responsibility, initiative, problem solving skills, and effectiveness in verbal and written communication.
- 3- Develop professional development and networking skills including leadership skills and collegiality that will prepare the student for future faculty and professional positions.

Curriculum Map for Horticulture (Ph.D.)

1 = introduced 2 = reinforced 3 = emphasized

Learning Outcome			
Course	Grant Proposals	Independent Research	Professional Development
HORT 6110 TREE FRUIT CULTURE (2) LEC. 2. Pr. HORT 3000 . Manipulation of growth and development of tree fruit crops by cultural methods. Departmental approval. Summer, odd years.			
HORT 6120 SMALL FRUIT AND PECAN CULTURE (3) LEC. 2. LAB. 2. Pr. BIOL 3100 and BIOL 3101. Principles and practices involved in the production and marketing of small fruits and pecans. Departmental approval. Spring, even years.			
HORT 6130 SUSTAINABLE VEGETABLE CROP PRODUCTION (3) LEC. 2. LAB. 2. Pr. HORT 3000 . Advanced course in best management practices and quality of vegetable crops. Departmental approval. Spring.			
HORT 6140 POST-HARVEST BIOLOGY AND TECHNOLOGY (3) LEC. 2. LAB. 2. Pr. (PLPA 3000 or PLPA 3003) and HORT 3000 . Physiological changes occurring in fruits, vegetables and other horticultural products after harvest. Spring.		2	
HORT 6150 RETAIL GARDEN CENTER MANAGEMENT (3) LEC. 2. LAB. 3. Pr. HORT 3210 or HORT 3220 . Departmental approval. Topics included: financing, location, design, stocking, selling, personnel management, advertising, and maintaining plants.			

Graduate students will evaluate garden centers and provide feedback for improvement.			
HORT 6210 LANDSCAPE BIDDING, INSTALLATION AND MAINTENANCE (4) LEC. 3. LAB. 3. Pr. (CSES 2040 or CSES 2043) and (PLPA 3000 or PLPA 3003) or (AGRN 2040 or AGRN 2043). Principles and practices of the bidding, installation and maintenance of commercial and residential landscapes. Spring.			
HORT 6220 GREENHOUSE MANAGEMENT SCIENCE (4) LEC. 3. LAB. 2. Pr. HORT 3000 and CHEM 1030 and HORT 2240 and (CSES 2040 or CSES 2043) or (AGRN 2040 or AGRN 2043). Management, culture and economics of commercial greenhouse production. Fall.			
HORT 6230 NURSERY MANAGEMENT (4) LEC. 3. LAB. 4. Pr. HORT 2240 and HORT 3000 . Factors affecting plant production. Environmental issues related to facilities design and pesticide and nutrient management. Departmental approval. Fall.		3	2
HORT 6240 PUBLIC GARDEN MANAGEMENT (3) LEC. 1. LAB. 2. Understanding personnel structure and responsibilities; plant care and management; and the educational, entertainment, and conservation missions of public gardens.			3
HORT 6280 ADVANCED LANDSCAPE DESIGN (3) LEC. 5. Pr. HORT 4270 . Departmental approval. Continuation of HORT 4270 with an emphasis on design projects.			
HORT 6910 HORTICULTURE PRACTICUM (4) LEC. 1. LAB. 6. Practical application of a broad range of horticultural subject-matter knowledge and skills. May count either HORT 5910 or HORT 6910 . Course may be repeated for a maximum of 8 credit hours.			3
HORT 7010 EXPERIMENTAL METHODS IN HORTICULTURE (4) LEC. 2. LAB. 3. Principles and methodologies of horticultural research, experimental design, preparation of project and grant proposals, and development of publication skills. Departmental approval. Fall.	3	3	1
HORT 7040 ADVANCED GROWTH AND DEVELOPMENT OF HORTICULTURAL PLANTS (3) LEC. 3. Pr. (HORT 3000 or BIOL 3100) and BIOL 3101. Plant growth and development from seed germination, through maturity and senescence. Summer, even years.		3	3
HORT 7050 NUTRITIONAL REQUIREMENTS OF HORTICULTURAL PLANTS (3) LEC. 3. LAB. 2. Pr. HORT 3000 . Nutritional requirements of horticulture crops and factors affecting these requirements. Departmental approval. Summer, odd years.		3	1

HORT 7070 PLANT BIOTECHNOLOGY (4) LEC. 2. LAB. 3. Pr. BIOL 3000 or BIOL 3003 . Plant biotechnology, including plant tissue culture technologies and genetic transformation and applications to horticultural crop improvement. Departmental approval. (Not currently offered)		2	
HORT 7080 ENVIRONMENTAL PLANT STRESS (3) LEC. 4. Pr. HORT 3000 . Departmental approval. Mechanisms related to adaptation of plants to environmental stresses. (Not currently offered)			
HORT 7840 GRADUATE STUDY/TRAVEL IN HORTICULTURE (1-4) LEC. Departmental approval. Programmed activities to enhance national/international awareness and enable students to understand horticultural practices in diverse areas. Course may be repeated for a maximum of 8 credit hours.			3
HORT 7850 URBAN FORESTRY SEMINAR (1) LEC. 3. SU. Presentation and discussion of research, scientific papers and issues related to urban forestry establishment, care and planning. Credit will not be given for HORT 7850 and FORY 7850 .			
HORT 7920 GRADUATE INTERNSHIP (1-4) INT. Departmental approval. Supervised professional experience in horticulture			3
HORT 7950 SEMINAR (1) SEM. SU. Graduate students are required to attend all seminars. Course may be repeated with change in topics.	3	3	3
HORT 7960 SPECIAL PROBLEMS (1-3) IND. 3. Conferences, problems and assigned readings in horticulture. Course may be repeated for a maximum of 6 credit hours.*			
HORT 7970 SPECIAL TOPICS IN HORTICULTURE (1-3) LEC. Principles, methods and techniques involved in gaining an understanding of different horticultural disciplines. Course may be repeated for a maximum of 3 credit hours.*			
HORT 8990 RESEARCH AND DISSERTATION (1-10) DSR. Course may be repeated with change in topics.			

*Dependent on project

**Department of Horticulture
Graduate Handbook
Acknowledgement Form**

This signature page confirms that I have received the current edition of the AU Department of Horticulture Graduate Handbook. I understand that it is my responsibility to read the contents of this handbook and become familiar with the policies and procedures of this Department and University. I also understand that I am to follow all policies, guidelines, and rules stated in this handbook knowing that change from the university is possible. I will regularly check with the Graduate School website to determine the most current deadlines and policies.

Failure to comply may result in delayed graduation, removal of assistantship, or possibly removal from the graduate program altogether.

Date

Student's Name (Print)

Student's Signature