

# **Graduate Student Handbook**

**Department of Horticulture**

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## FOREWORD

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Entering graduate school is a significant step and change -- whether you come from a job or an undergraduate program. This booklet is to introduce you to the Department of Horticulture and to ease the transition from where you were to where you will be as a graduate student.

Information you will need as a graduate student comes from several sources: the graduate catalog, the Admissions office, your academic advisor, and your classmates. We have tried to include information about the most common challenges and policies that may be unique to the Department of Horticulture.

Part of the challenge of Graduate School is to get through the maze of paperwork and regulations. This booklet will not instruct you at every turn, but we hope it is helpful at the major crossroads. You should also obtain a copy of the online Graduate School Student Handbook ([http://grad.uark.edu/dean/GRADUATE\\_STUDENT\\_HANDBOOK.pdf](http://grad.uark.edu/dean/GRADUATE_STUDENT_HANDBOOK.pdf)).

- Wayne A. Mackay  
Graduate Program Coordinator  
Department of Horticulture

## GUIDELINES FOR STUDENTS SEEKING ADVANCED DEGREES

### I. Master of Science

#### A. Thesis Option

Students seeking the master's degree will normally pursue the thesis option. Graduate assistantships are given only for this option. A Graduate Student Survival Guide (<http://grad.uark.edu/dean/gs-survival-guide.php>) and other forms required during your course of study are available from the Graduate School website. It is the joint responsibility of the student and their advisor to meet the deadlines outlined therein.

1. **Committee:** The student will be assigned a major professor based on the area of emphasis the student indicates. During the student's **first** semester, the major professor, in consultation with the student, will establish a graduate advisory committee of at least three members from the graduate faculty, one of which must be from outside the department. A Master's Program Advisory Committee form (<http://grad.uark.edu/forms/student/masters-adv-comm.pdf>) must be completed and turned in to the Graduate School and Graduate Coordinator. The student or major professor must contact the committee members to request their service on the student's committee. The graduate committee will serve as an advisory committee to help develop the student's graduate program (and typically also serve as the Master's Thesis Committee, see below). Additional members may be added to the committee at the discretion and agreement of the student and major professor.
2. **Thesis Proposal and Plan of Study:** During the **first** semester of graduate study, the student will write a thesis research proposal following the format for AES/CRIS projects. After approval by the major professor, the proposal will then be given to the committee members for review and consideration. An outline of the student's plan of study will also be prepared in time for the initial meeting of the graduate advisory committee during the **first** semester. ***Failure to meet this deadline will result in the student being removed from their assistantship appointment (stipend and tuition waiver will be discontinued) until the requirement is met.***

At least three months prior to the comprehensive exam/thesis defense, a Master's Thesis Title & Thesis Committee form (<http://grad.uark.edu/forms/student/masters-thesis-title.pdf>) needs to be completed and sent to the Graduate

School. This committee can be the same as or different from the advisory committee.

3. **Course Requirements and Deficiency Courses:** A minimum of 30 hours of graduate credit is required, with a minimum of 24 hours of approved graduate courses and 6 thesis hours. Only courses with "5000" or higher designation and with "graduate" designation are acceptable for graduate credit. To maintain continuous enrollment, graduate assistants must enroll for a minimum of 6 hours in Spring and Fall semester and 3 hours during the Summer session.

Entering students are expected to have a background appropriate for the degree or program area that they are seeking. Deficiencies, which are in addition to the coursework requirements for the degree, will be determined by the graduate advisory committee on this basis. These courses need not be completed before admission to the program is granted. However, they must be satisfied before an advanced degree is awarded. Deficiency courses are not included in calculating the GPA.

The Graduate School will place students on probation if the cumulative GPA falls below 2.85 on the first 12 hours of coursework. The student will be dismissed from the degree program if the cumulative GPA is not raised above 3.0 on the next 9 hours of graded courses. The Department is responsible for monitoring graduate student GPA's and their progress toward a degree. Grades of D will not be accepted for degree credit.

4. **Credit Hours per Semester:** Students not on University appointment (departmental assistantship) may proceed at their own rate but usually do not take more than four academic courses per semester. Graduate students on departmental assistantships (RA) must take a minimum of 6 but not more than 7 hours of regular graduate courses per semester with a limit of 16 hours per academic year. Additional hours may be approved thru petition to the Department Head. Tuition for courses that are on the student's (RA) approved plan of study is paid for by the Department.

Graduate students may be required by their committee to take a number of undergraduate courses as deficiencies in their undergraduate programs. Courses that are required for admittance to the department will not be covered by the Department. The tuition for deficiency courses determined by the student's (RA) committee will be paid by the Department so long as the student does not exceed the 7 credit hours per semester. Students (RA) wishing to take more

than 7 credit hours per semester with tuition paid by the Department must receive permission from the Department Head. Payment of all fees is the responsibility of the student and is not part of a departmental assistantship.

5. **First Committee Meeting:** The major professor will call a meeting of the student and Advisory Committee during the first semester of graduate study to present a tentative outline of course requirements and to discuss the thesis proposal. The committee and student then agree on a definite plan of study and research. The plan of study and the written research proposal will have a cover sheet which will include *"I (We) approve of this research proposal"* and signature lines for the major advisor and committee members. The plan of study and research proposal can be combined under the same cover sheet. Copies of the signed and accepted plan of study and approved written research proposal will be sent to the Department Graduate Coordinator, the Department Head, and each committee member. The agreement by the committee and student on the plan of study is to provide clarity and mutual understanding of what is expected and agreed upon in pursuit of this degree by all parties involved. The completed and approved plan of study and research proposal is due within the first semester of the MS program or within the first month of the second semester. ***Failure to meet this deadline will result in suspension of the assistantship appointment (stipend and tuition waiver will be discontinued) until the requirement is met.***

The student should seek the help or advice of members of the Advisory and/or Thesis Committee as needed during the course of study. Major changes in the courses taken or the research problem must be done in consultation and with the consent of the committee members. Written notice and agreement of alterations and substantive changes to classes and research direction will need to be approved by the committee members, Graduate Coordinator and Department Head.

6. **Annual Progress Report:** Graduate School policy mandates an annual graduate student academic review (see Graduate School Handbook, <http://grad.uark.edu/dean/governance/gradacademicreview.php>). This requires the submission of an annual progress report describing the student's academic and research progress made during the past year by the Graduate Coordinator and the Department Head. **All** graduate students will prepare a Horticulture Department Annual Progress Report. The report form will be sent to you by the Office Staff in preparation for meeting with the Graduate Coordinator and Department Head. Information requested from you will include: list of courses taken and the grade received, completion of required exams, a short synopsis of thesis



research progress, a list of professional activities during the year, and an appraisal by the Major Advisor. Students will provide a copy of the completed Horticulture Department Annual Progress Report to each member of the student's advisory committee, the department Graduate Coordinator, and the Department Head. This must be completed no later than June 1 each year. The report will be reviewed by a departmental committee, comprised of the Graduate Coordinator and Department Head, which will then schedule a meeting with each student to discuss their progress. An Annual Graduate Student Academic Review form will then be signed by the student and review committee and forwarded to the Graduate School by June 15. ***Failure to provide such a document or to meet with the review committee will be interpreted as a lack of progress toward completion of the degree and will result in loss of assistantship appointment.***

If a situation should arise where it is impossible or impractical (must be approved by the Graduate School) for the student to meet with the review committee, the review committee's assessment will be mailed to the student. The student will have one week to respond to the review and return a signed copy of the Graduate School form.

7. **Seminar:** All students are required to register for a minimum of two hours of departmental seminar during their graduate program. The first seminar must be on a topic that is not related to their thesis research. The second required seminar will be an exit seminar based on their thesis work and given near the end of their program. Attendance at seminar is expected of all graduate students, whether registered for credit or not. The purpose of seminar is to broaden the students' horizons, provide experience in professional presentations before a scientific audience, and is viewed by the faculty as a key professional activity.
8. **The Thesis:** The initial draft of the thesis will be distributed to the Thesis Committee in sufficient time for all members of the committee to read and review prior to the defense. Distribution should be made at least three weeks before the oral examination is scheduled.

The thesis may be in a traditional format or presented as a series of journal articles. The traditional thesis format is specified in the "Guide for Preparing a Thesis or Dissertation" (<http://grad.uark.edu/dean/thesisguide.php>). The basic format is: a) introduction, b) literature review, c) materials and methods, d) results and conclusions, e) summary, and f) bibliography.

The alternate journal paper format is the presentation of experiments as a series of papers, written in the style of the journal to which they will be submitted, that

are treated as chapters in the thesis. The papers are tied together with a common introduction and conclusion. The thesis committee should approve this format choice. Certain procedures outlined in *Guide for Preparing Theses* relating to the binding of the thesis; such as margin width, page numbering and paper type, must still be met. The advantage of this format is that little rewriting is usually necessary to get the papers in an acceptable form for journal publication.

9. **Comprehensive Exam/Thesis Defense:** One of the requirements for the MS degree is a comprehensive examination that must be successfully completed at least one week prior to the expected date of graduation. The exam is usually oral but, at the discretion of the committee, may be written and oral. The questions may be on any topic but usually have a direct tie to the student's graduate program and thesis. Once the draft thesis has been read and accepted by the major professor and the committee, it can be defended orally. The oral exam should be scheduled before the anticipated graduation date in accordance with the Graduate School Master's Calendar and at the convenience of the thesis committee.

Students must receive a passing score on the examination (majority vote of the committee members). Students failing the examination may be retested one additional time at the discretion of the Thesis Committee. Students failing this exam may appeal the decision to the department Graduate Policies and Admissions Committee, chaired by the Graduate Coordinator. In the case of an appeal, a written summary of the exam results and thesis committee's decision will be provided to the Graduate Coordinator by the student's major advisor. Upon successful completion of the comprehensive exam/thesis defense, a Graduate School Record of Progress form (<http://grad.uark.edu/forms/student/progress-record.pdf>) must be completed and submitted to the Graduate School.

The final copy of the thesis must be approved and signed by all members of the student's Master's Thesis Committee before submission to the Graduate School. No degree will be conferred until this final requirement is met. At the time of submission to the Graduate School, the thesis must be accompanied by an Intellectual Property Disclosure form (<http://grad.uark.edu/forms/student/intellpropdisclose.pdf>).

Students must provide the department with a hardbound copy of the thesis (paid for by the department).

10. **Length of appointment and time limits:** Graduate assistantships for the M.S. are awarded for 24 months or four academic semesters and two summers. If advisors wish to keep students on appointment beyond the approved period, they

will be expected to provide funding from grant sources unless exceptional circumstances can be proven.

The Graduate School has established a six-year time limit for the completion of a MS degree. If the student fails to complete the degree within the time limit, courses taken more than six years before will be lost. These courses would then have to be retaken or validated by the professor teaching the course to be included for the degree.

11. **Termination:** Termination may result from failure to fulfill obligations within the time frame established by the Graduate School or the department. Graduate status may be terminated under circumstances of academic dishonesty, incompetence, inefficiency, neglect of duties, job-related misconduct, financial exigency, or other unforeseen circumstances that severely deter or halt progress in the student's program. If a student feels that they have been terminated unjustly, they may file a grievance following policies of the Office of Affirmative Action.
12. **Graduation:** Students must apply for graduation during their final semester. If students complete all requirements for graduation after they have gone off of appointment by the Department, they must apply for graduation, register for one credit hour, and pay the appropriate fees during the semester they plan to receive their diploma.

## **B. Non-thesis Option**

1. **Program Description:** The non-thesis MS program was developed for continued and advanced education in horticulture management. The non-thesis program provides an educational opportunity and enhanced employment opportunity for students who need additional educational training and experience in science-based horticulture technology, but not a self-directed in-depth research program. The proposed non-thesis option is directed toward students who are seeking additional course work and training, continuing their education, changing career paths, or returning for training from a career.
2. **Admission Requirements of Candidates:** Students seeking to pursue the non-thesis option must meet all admission criteria for the UA Graduate School. Applicants should have completed a BS or BA degree, and have had course work in plant sciences, biology, botany, horticulture, or three years of experience in a plant science-related career. Additionally, students seeking admission into the

program must submit three letters of reference regarding academic and professional experiences and potential. No professional examinations are required.

3. **Advisory Committee:** The student may choose or will be assigned a major advisor based on the student's area of interest. During the student's **first semester**, the major professor, in consultation with the student, will set up a graduate advisory committee of at least three members, one of which may be from outside the department. A Master's Program Advisory Committee form (<http://grad.uark.edu/forms/student/masters-adv-comm.pdf>) must be filled out and turned into the Graduate School. The student or major professor will contact the committee members to request their service on the student's committee.

The advisory committee assesses deficiency courses, helps develop the student's program of study and special problem, and administers the final exam. The exam can be oral, written, or both. The method must be decided upon when the program proposal is approved to let the student know what to expect.

4. **Program Requirements:** The non-thesis option requires a minimum of 30 hours of course work as approved by the student's advisory committee and within the requirements prescribed below:
  - A. Horticulture Block. A minimum 20-21 hrs including:
    - 3 hours HORT 503v Special Problems Research
    - 1 hour HORT 5001 Seminar
    - 9 hours HORT Courses
    - BIOL 5303 Plant Physiology
    - AGST 4023 Principles of Experimentation or AGST 5014 Experimental Design
  - B. Plant and Agricultural Science Block. A minimum of nine to 10 hours including course work in BIOL, CSES, AGST, ENSC, PLPA, ENTO, AGEC, AGME, AGED, FDSC, LARC, or HORT.
  - C. Students must pass a written and/or oral examination to be given by their advisory committee upon completion of their course work and submission of a special project.
5. **Time to Completion:** The Graduate School has established a six-year time limit for the completion of an MS degree. If the student fails to complete the degree within the time limit, courses taken more than six years before will be lost. These courses would then have to be retaken or validated by the professor teaching

the course to be included for the degree.

6. **Assistantships:** Students in the non-thesis program are not eligible for graduate assistantships or tuition waivers from the Department.

## II.

### Doctor of Philosophy in Plant Science

- A. The doctoral program in Plant Science (PhD-PTSC) is an inter-departmental program of the departments of Horticulture (HORT) and Plant Pathology (PLPA). Students should have completed the requirements for a master's degree in Horticulture, Plant Pathology, or a related biological science. Students determine a department (HORT or PLPA) of emphasis as the basis of their academic and research program. A Graduate Student Survival guide (<http://grad.uark.edu/dean/gs-survival-guide.php>) and other forms required during your course of study are available from the Graduate School website. It is the joint responsibility of the student and their advisor to meet the deadlines outlined there.

Each student will be assigned a faculty advisor who will serve as their major professor based on the area of emphasis the student indicates. During the student's **first** semester, the major professor, in consultation with the student, will establish a doctoral program advisory committee. The advisory committee must include at least five members of the graduate faculty. The committee will include a chairman (typically the major professor) from the student's department of emphasis, one other faculty member from the department of emphasis, one faculty member from the other department participating in the Plant Science program, and two other members, at least one of which is a faculty member from outside the Plant Science Program. A *Doctoral Program Advisory Committee* form (<http://grad.uark.edu/forms/student/doctoral-diss-comm.pdf>) must be completed and turned in to the Graduate School. The student or major professor must contact the committee members to request their service on the student's committee. The graduate committee will serve as an advisory committee to help develop the student's graduate program (and may also serve as the Doctoral Dissertation Committee, see below).

#### B. **Dissertation Proposal and Plan of Study**

During the first semester but not later than the first year of study in the PhD-PTSC program, the student will write a dissertation research proposal following the format for AES/CRIS projects. After approval by the major professor, the proposal will then be submitted to the committee members for consideration. An outline of the student's academic plan of study and program time-line will also be prepared in time for the initial meeting of the graduate advisory committee during the first semester but no later than the end of the first year.

The plan of study and the written dissertation proposal will have a cover sheet which will include "*I (We) approve of this research proposal*" and signature lines for the major advisor and committee members. The plan of study and dissertation proposal can be combined under the same cover sheet. Copies of the signed and accepted plan of study and approved written dissertation proposal will be

sent to the Department Graduate Coordinator, the Department Head, and each committee member. The agreement by the committee and student on the plan of study and dissertation proposal is to provide clarity and mutual understanding of what is expected and agreed upon in pursuit of this degree by all parties involved. The completed and approved plan of study and dissertation proposal is due by the end of the first year of the program. ***Failure to meet this deadline will result in suspension of the assistantship appointment (stipend and tuition waiver will be discontinued) until the requirement is met.***

The student should seek the help or advice of members of the Advisory and/or Thesis Committee as needed during the course of study. Major changes in the courses taken or the dissertation problem must be done in consultation and consent of the committee members. Written notice and agreement of alterations and substantive changes to classes and dissertation direction will need to be provided the committee members, Graduate Coordinator and Department Head.

At least one year prior to the dissertation defense, *Doctoral Dissertation Title* and *Doctoral Dissertation Committee* forms (<http://grad.uark.edu/forms/student/doctoral-title.pdf>, <http://grad.uark.edu/forms/student/doctoral-diss-comm.pdf>) must be completed and sent to the Graduate School. This committee can be the same as or different from the program advisory committee.

## C. Academic Requirements

### 1. Annual Progress Report

Graduate School policy mandates an annual graduate student academic review Graduate School Handbook ([http://grad.uark.edu/dean/GRADUATE\\_STUDENT\\_HANDBOOK.pdf](http://grad.uark.edu/dean/GRADUATE_STUDENT_HANDBOOK.pdf)). This requires the submission of an *annual progress report* describing the academic and research progress made during the past year (<http://grad.uark.edu/forms/student/reviewformfinal.pdf>). Copies of this report, listing completed courses and the grade received, completion of required exams, a short synopsis of dissertation research progress, and a list of professional activities during the year, will be provided to all members of the graduate student's committee, to the department Graduate Coordinator, and to the Department Head. This report should be completed no later than June 1 each year. The Department Review Committee, comprised of the Department Head and Graduate Coordinator, will review the report and then schedule a program assessment meeting with each student.

An *Annual Graduate Student Academic Review* form will then be signed by the student, the Department Head and/or Graduate Coordinator and forwarded to

the Graduate School by June 15. ***Failure to provide such a document or to meet with the review committee will be interpreted as a lack of progress toward completion of the degree and will result in loss of assistantship appointment for the following year.***

If a situation should arise where it is impossible or impractical (must be approved by the Graduate School) for the student to meet with the review committee, the program assessment will be mailed to the student. The student will have one week to respond to the review and return a signed copy of the Graduate School form.

## **2. Course Requirements**

- a. Specific course requirements for each degree candidate will be arranged on an individual basis by the faculty advisor, the advisory committee and the candidate. However, the following course requirements must be met:
  - 1) at least three graduate course credits in each PhD-PTSC department;
  - 2) at least six course credits outside these departments appropriate to the area of dissertation research;
  - 3) two semesters of Plant Science Colloquium, one directed by a member of HORT and one by PLPA;
  - 4) four credits of seminar (discussed further below); and
  - 5) a minimum of 18 hours of dissertation credit. Alternate courses may be selected, at the discretion of the committee, in the event that any of those selected are not offered.
- b. The student should have coursework in plant taxonomy, plant physiology and anatomy, genetics, chemistry through biochemistry, and statistics.
- c. Students specializing in Horticulture are expected to also have some background in horticultural and supporting agricultural/biological disciplines as represented by the BS. in Horticulture at the University of Arkansas.
- d. Students specializing in Plant Pathology are expected to be well-versed in



areas relevant to the discipline and should have coursework in mycology, plant virology, nematology, bacteriology and molecular biology. All candidates in the Department of Plant Pathology are required to take Advanced Plant Pathology, Genetics, and Physiology (PLPA 5303), and Advanced Plant Pathology, Ecology and Epidemiology (PLPA 5313) or must demonstrate previous equivalent coursework.

- e. Student must maintain the grade point necessary (3.0 minimum) to stay in good standing in the graduate program. Graduate school is a time for intellectual development so students should try some of the challenging courses available.
- 3. **Grades:** Only grades of A or B in graduate courses will be accepted for graduate credit for departmental requirements. Failure to maintain a cumulative grade point average of at least 3.00, or unsatisfactory research or general academic progress will result in the re-evaluation of the student by his/her Advisory Committee and may result in the student's termination. The decision of the Advisory Committee may be appealed to the Steering Committee and the decision of the Steering Committee may be appealed to the combined faculties of the two departments.
- 4. **Seminar Requirements:** Seminar is an important part of the training received in graduate school. It forces those making presentations to organize their thoughts and present them in an orderly fashion to their peers. *Attendance, whether registered or not, is required.*

Students are expected to attend seminars in one or both departments and are required to register for and present at least four seminars to include the following:

- a. A research proposal seminar to be given during the first year of their program.
- b. Two seminars on a subject other than the student's research area.
- c. An exit seminar on their dissertation research.

Additional seminar requirements are at the discretion of the Advisory Committee. The student may, at the discretion of the Advisory committee, present a seminar in another department, for example, the area of his/her minor, and substitute it for one of the required seminars. The student is strongly encouraged to give one seminar in a department other than his/her area of emphasis.

## 5. Research Requirements

- a. Each candidate must complete a doctoral dissertation on a research topic in their major field. The dissertation title and a list of the members of the Doctoral Dissertation Committee must be filed with the Dean of the Graduate School at least ONE YEAR before the final examination. The specific topic and research problem will be determined by the major advisor, the candidate, and the Advisory Committee in the student's first semester but no later than the end of the first year.
- b. **Candidacy Exam:** Each PhD-PTSC student must satisfactorily pass a written and oral candidacy examination, administered by their advisory committee, covering their discipline and supporting areas. This exam must be passed at least ONE YEAR before completion of the degree. All faculty members in the Plant Science Program should receive written notice of candidacy exams. All faculty members are welcome to attend.

Students must receive a passing score on the examination (majority vote of the committee members). Students failing the examination may be re-tested one additional time at the discretion of the advisory committee. Students failing this exam may appeal the decision to the Plant Science Steering Committee. In the case of an appeal, a written summary of the exam results and advisory committee's decision will be provided to the Plant Science Chair by the student's major advisor.

- c. After the student has passed the candidacy examinations, the student must register for at least one hour of dissertation each semester (including the summer session) until the dissertation is completed, whether the students is in residence or away from campus. For each semester in which a student fails to register without prior approval of the Dean of the Graduate School, a registration of three hours will be required before the degree is granted.
- d. The research program should be the focal point of a PhD-PTSC degree program. The student should commit the time resources necessary to do an excellent and thorough job on the project. Because the stay in the PhD program is limited to four years on assistantship and seven years from the submission of the declaration of intent, it is important that a dissertation project be outlined the first semester so that the work can be begun as soon as possible. Procrastination in the beginning can have a devastating effect on the finished product.

- e. **Publishing of Results:** It is expected that the dissertation research project will result in publishable data contributing to the scientific knowledge of the study topic. A dissertation must be written and approved by the graduate advising committee (discussed further below). Official graduate student requirements for the dissertation are spelled out in *Guide for Preparing Thesis and Dissertations* which is available online from the Graduate School. It is expected that the dissertation project will be of publishable quality. It is also expected that the student will make every effort to have the work prepared in publishable form by the end of, or shortly after, completion of the degree.
6. **Residency Requirements:** After filing a Declaration of Intent to pursue the doctoral degree, a student must fulfill a residence requirement by completing a minimum of two consecutive semesters of full-time graduate study (nine hours or more per semester), either fall-spring, spring-fall, spring and complete summer session, or a complete summer and fall. This period of residence is independent of, and in addition to, that required for any other graduate degree. During this residency period, the student must be continually involved on a full-time basis with the on-site academic, scholarly, and research activities of the academic department (or corresponding academic unit) in which the degree program is administered.
- A student who does not concurrently hold appointment as a Graduate Assistant must satisfactorily complete a minimum of 10 semester hours, including dissertation credits but exclusive of courses offered through the Global Campus, during each semester or summer counted in the residence period. For students who hold appointments as Graduate Assistant this minimum requirement is six semester hours per semester if the appointment is for 50 percent time and nine semester hours per semester if the appointment is for 25 percent time. A student not on assistantship who intends to satisfy one semester of the residency during the summer must satisfactorily complete a minimum of five semester hours of such work during each of the six week summer sessions. For a student holding a concurrent assistantship of 25 or 50 percent time in the summer, this requirement is three semester hours per any summer session.
7. **Dissertation Preparation and Defense:** The following timetable must be followed for preparation and defense of the dissertation. The *Guide for Preparing Thesis and Dissertation* ([http://grad.uark.edu/dean/commencement/GTandDD\\_Guide.pdf](http://grad.uark.edu/dean/commencement/GTandDD_Guide.pdf)) is available online from the Graduate School.
- a. **EIGHT WEEKS** before projected graduation date the Dissertation Committee must receive the dissertation for review.

- b. Provisional approval of the dissertation must be given by all members of the Dissertation Committee before scheduling the dissertation defense.
- c. **TWO WEEKS** prior to date of the dissertation defense an announcement of the doctoral candidate's dissertation defense and a copy of the dissertation abstract of not more than 350 words must be submitted to the Graduate School.
- d. **ONE WEEK** before the dissertation defense the Dissertation Committee must receive the dissertation in revised form. All faculty members in the Plant Science Program should receive written notice of the dissertation defense. Any member of the faculty is welcome to attend the dissertation defense.
- e. **TWO WEEKS** prior to projected graduation date the student must pass an oral examination in the defense of the dissertation. Students must receive a passing score on the examination (majority vote of the committee members). Students failing the examination may be retested one additional time at the discretion of the Dissertation Committee. Students failing this exam may appeal the decision to the department Graduate Policies Committee, chaired by the Graduate Coordinator. In the case of an appeal, a written summary of the exam results and dissertation committee's decision will be provided to the Graduate Coordinator by the student's major advisor.
- f. The final copy of the dissertation must be approved and signed by all members of the student's Doctoral Dissertation Committee before submission to the Graduate School. No degree will be conferred until this final requirement is met. At the time of submission to the Graduate School, the dissertation must be accompanied by an *Intellectual Property Disclosure* form (<http://grad.uark.edu/forms/student/intellpropdisclose.pdf>).
- g. When the dissertation is approved by the committee, students will be given directions from the Graduate School to submit their master's thesis or doctoral dissertation electronically to UMI ProQuest on any computer with internet access available to them. (Paper copies are not submitted to the Graduate School.) Students will then be given 24 hours or until 4:30pm on the due date, whichever comes first, in which to complete the publication agreement and submit their thesis or dissertation electronically. Students who submit theses and dissertations electronically after

4:30pm on the due date will be required to contact the Registrar's Office (575-5455) to move their date of graduation to a future semester. An unbound copy of the dissertation is also required by the Department of Horticulture.

- h. A student cannot be cleared for graduation until an application for the degree has been filed with the Registrar's Office and the appropriate graduation fee has been paid.
  - i. The degree application form is obtained from the Graduate School office and filed with the registrar in the semester in which the student expects to receive the degree. If there are any questions with regard to any of the above information, please call the Graduate School Dean's Office, 575-4401.
8. **Professional Growth:** Communication and interaction with one's professional associates is a skill that must be continuously exercised if one is to be effective and grow professionally. It is important that graduate students avail themselves of every opportunity of meeting with others in their profession. This opportunity comes through meetings such as the Arkansas State Horticultural Society each year, the Southern Region of the American Society for Horticultural Science (SR-ASHS) annual meeting in February, the national American Society for Horticultural Science (ASHS) meeting, and/or other professional and society conferences or meetings. Attending such meetings and interacting with one's peers is important for professional growth.

## **Statistics in Research**

Statistical design and analysis is an integral part of research in every discipline from the conception of the project through the dissemination of the results. Proper study design ensures that the data will address the study objectives as efficiently as possible given the available resources and avoids the danger of collecting data that are not able to unambiguously address the hypotheses of interest. Proper statistical analyses avoid incorrect, misleading and unsupportable conclusions from the study.

The Agricultural Statistics Laboratory faculty offer applied statistics courses at the graduate level in the Bumpers College of Agricultural, Food and Life Sciences that are oriented toward students in the College. These courses provide students with an understanding of statistics and its role in scientific research. All of the courses are taught with an emphasis on concepts and applications rather than on highly mathematical statistical theory. Students gain an appreciation for the

power of correctly applied statistical methodology as well as its limitations in poorly designed and inappropriate situations. Successful students obtain the knowledge needed to design and analyze their own research studies and, more importantly, to recognize when the advice and assistance of a professional statistician is required.

For graduate students in the College, the Laboratory faculty and staff also provide advice and assistance on statistical design, analysis, and data management issues related to their research subject to approval by the student's advisor. The assistance is provided on a time available basis. While reasonable efforts are made to meet project deadlines, they cannot be guaranteed. Students needing assistance are strongly encouraged to contact the Laboratory at the proposal stage of their research to avoid potential problems later.

**D. Financial Assistance:**

1. **Graduate Assistantships:** Students not on University appointment (departmental assistantship) may proceed at their own rate but usually do not take more than four academic courses per semester. Graduate students on departmental assistantships (RA) must take a minimum of 6 but not more than 7 hours of regular graduate courses per semester with a limit of 16 hours per academic year. Additional hours may be approved thru petition to the Department Head. Tuition for courses that are on the student's (RA) approved plan of study is paid for by the Department.

Graduate students may be required by their committee to take a number of undergraduate courses as deficiencies in their undergraduate programs. Courses that are required for admittance to the department will not be covered by the Department. The tuition for deficiency courses determined by the student's (RA) committee will be paid by the Department so long as the student does not exceed the 7 credit hours per semester. Students (RA) wishing to take more than 7 credit hours per semester with tuition paid by the Department must receive permission from the Department Head. Payment of all fees is the responsibility of the student and is not part of a departmental assistantship.

2. Students accepted on a conditional or non-degree basis, and those placed on academic probation, are not eligible for assistantship appointments.
3. **Length of Appointment and Time Limits:** Graduate assistantships for the PhD are normally awarded for 36 months and up to 48 months with permission. If advisors wish to keep students on appointment beyond the 4-year period, they will

be expected to provide funding from grant sources unless exceptional circumstances can be proven.

The Graduate School has established a seven year time limit from the time the *Declaration of Intent* is filed for the completion of a PhD degree. If the student fails to complete the degree within the time limit, courses taken more than six years before will be lost. These courses would then have to be retaken or validated by the professor teaching the course to be included for the degree.

4. **Hourly Employment by the Department:** Occasionally students working toward an advanced degree may be employed by the Department on an hourly basis. Students on hourly employment are responsible for their own tuition and fees. This option is sometimes used at the end of a student's program after his/her assistantship has ended, depending on availability of funds.

## REGISTRATION for CLASSES

A graduate program normally begins at the beginning of an academic semester or summer session. The specific starting date will be arranged by mutual agreement of the major professor, the student, and the Department Head. The most common times for beginning a program are (1) before the start of summer school which begins in late May, (2) on July 1, which is the beginning of the fiscal year, (3) at the start of the fall semester which is in late August, and (4) early January before the start of the spring semester. Once admitted to the Graduate School and the Department of Horticulture, the next task is to register for classes.

A schedule of classes for each semester can be acquired online. Brief descriptions of courses and prerequisites are found in the Graduate Catalog. Decide on your courses for the semester in consultation with your advisor.

### A. US Citizens

1. **Your First Registration:** When you arrive in Fayetteville to begin graduate school, report to the main office of the Department of Horticulture, 316 Plant Science Building (on Maple Street).
2. **Subsequent Registrations:** After your initial registration, you will pre-register in advance for each semester. Each semester you will need to complete applicable forms and comply with deadlines for registration, tuition waivers, and fee payments. Watch for announcements on times and procedures governing preregistration. Graduate Assistants need to inform the Department of Horticulture Office of the credit hours they are

taking so that proper fee payment forms can be prepared.

**B. International Students**

Registration itself is the same for international students as for domestic students, but the procedures to qualify for student status are different. International students should visit the International Student Office in Room 116 of the Arkansas Union (575-5003), before registration to clarify any points related to residence in the U.S. and status as a student.

**ACADEMIC PROBATION POLICY FOR GRADUATE STUDENTS**

Whenever a regularly-admitted graduate student earns a cumulative grade point average below 2.85 on graded course work taken in residence for graduate credit, he/she will be academically dismissed from the Graduate School.

Graduate teaching and research assistants and students on Lever, Doctoral, or Chancellor fellowships must maintain a cumulative grade point average of at least 2.85 on all course work taken for graduate credit. If a student's cumulative GPA falls below 2.85 on six or more hours of graduate work (one full-time semester) notification will be sent to the student and his/her department. If the CGPA is below 2.85 at the end of the next major semester (fall or spring), the department will not be allowed to appoint the student to an assistantship until such time as his/her CGPA has been raised to the required level.

1. **Related Policies:** Graduate students are eligible for continuing financial aid if:  
a) they complete, with grades of C or better, 67% of graduate courses attempted at the University; and b) they have not yet completed more than 150% of the graduate credits required for their degree. Students wishing to continue receiving financial aid who do not meet these requirements will petition the Student Aid Committee.
2. **Course Grades:** Courses for which students have received a grade of "D" or "F" will not be accepted as meeting degree requirements.
3. **Conditional Admission:** Students who have been conditionally admitted must maintain a minimum 2.85 grade point average on the first 12 hours of graded graduate course work taken in residence.
4. **Grade Forgiveness and Repeated Courses:** There is no grade forgiveness policy at the graduate level. If a student repeats a course, both the original and repeated course grade will be computed in the cumulative grade point average.



5. **Additional Courses above Requirements:** Students in master's programs may take only six hours in addition to degree requirements in an effort to raise the grade point average necessary to graduate.
6. **GPA Requirement to Receive a Doctoral Degree.** Students must obtain a minimum 3.0 cumulative grade point average on all graded graduate course work taken in residence to receive a doctoral degree from the University of Arkansas.
7. **Programs Requirements:** Individual degree programs may impose more stringent requirements than the Graduate School.

## **DEPARTMENTAL AND UNIVERSITY PROCEDURES, POLICIES, and HELPFUL ADVICE**

As an incoming graduate student in the Department of Horticulture, there are several things that should be done upon arrival at the university.

**Student I.D. Card:** All students should obtain a student I.D. card. This card is used to check out books and other materials from the library. I.D. cards are often used for administrative purposes, such as paying fees or obtaining a transcript. It can also be used as admission to many university sponsored events and to the HPER building (the university gym and recreation center). In addition, students can often receive discounts at restaurants, museums, parks, movie theaters, and performing arts concerts by showing a student I.D. Student I.D. cards are obtained in the I.D. office in the Arkansas Student Union.

**Keys:** Graduate students in the Department of Horticulture are allowed to have keys to the entrance of the Plant Science Building, the graduate office, labs/greenhouses appropriate for their course of study, and if needed, to the Agricultural Experiment Station (Farm). To obtain campus keys you will need the following:

1. A key card from the Horticulture Office. This card will list all keys that your advisor has approved as appropriate for you and must be signed by your major advisor and the Department Head.
2. University Student I.D. Card.
3. To go to the University of Arkansas Physical Plant Key Office located off of Razorback Road on Mitchell Street. They will issue to you the keys listed on the key card. Presentation of your University I.D. is required to obtain these keys and they are yours to keep during the duration of your time here. If your keys are lost or stolen, there is a key replacement fee enforced by Physical Plant and payment of those fees is your responsibility. When you have finished your degree or are no longer enrolled at the university, you must return your campus keys to the

key office. Otherwise you will be fined and/or your diploma will be withheld.

4. For Alternative Pest Control Building Main Entrance only: If you need access to the main entrance of the Alternative Pest Control Building, you must have your university I.D. scanned for non-key access to the building. Your key card and I.D. must be presented to the building manager of the Alternative Pest Control Building. The building manager will input your number into the computer system and this will allow you access to the APC main entrance.

**E-mail:** All students have a uark e-mail account assigned to them. To access your account follow the steps on the University of Arkansas Information Technology Services Homepage (<http://its.uark.edu/email/index.php>).

**Desk Assignment:** A desk will be assigned to you in the Graduate Student Office, Room 326C of the Plant Science Building. Please see the Horticulture office staff for assignment and keys to your desk. These desks are assigned on a first-come first-served basis but priority is given to students on assistantship.

### **Specific Graduate Assistant Responsibilities:**

**Work Responsibilities:** The responsibilities of Graduate Assistants (GAs) in the Department of Horticulture vary by project and major professor. Each GA is directly responsible to his or her major professor and it is up to the professor to assign specific duties. Each GA on a 50% appointment is expected to provide the equivalent of 20 hours of work each week for their major professor. For some GA's the work load is uniform throughout the year, for others more work time is required in the summer with a compensatory reduction in the fall or spring semester. The work schedule for GA's is left to the discretion of his/her major professor but should be clearly understood and agreed to at the beginning of the program.

**Individual Research Projects:** Each GA will have a thesis or dissertation research project that is directed by a major professor and carried out by the GA. The nature of the project dictates the type of work required.

**Annual Leave Time:** Graduate Assistants do not earn annual leave. Graduate Assistants who need time off should consult with their major professor before planning extended trips. Graduate Assistants receive official paid University holidays each year. A calendar of university holidays may be accessed at <http://hr.uark.edu/benefits/leave/index.php#current-holiday-schedule>.

### **Registering for Classes**

Registering for classes is done on-line through the UAConnect student registration system  
Revised January 2016

(<https://isis.uark.edu/>). To log into the system, enter your UARK e-mail I.D. and password. A tutorial on how to use the UAConnect system is located on the UAConnect homepage (<http://isishelp.uark.edu/>). All information regarding classes (i.e. the schedule of classes, the undergraduate catalog of studies, the graduate catalog of studies, etc.....) is found in the UAConnect system.

You should consult with your advisor about which classes to take. Once advised, your advisor or a member of the Horticulture Office Staff will remove your negative service indicator. Once this is successfully removed, you may proceed with registration through the UAConnect system. If you need to register for thesis or dissertation hours, special problems or special topics courses, please report to the Horticulture Office. They will handle registration in these classes for you.

### **Paying Fees**

Graduate assistants receive a tuition waiver which pays for tuition only. GAs must pay for all other fees (health fees, lab fees, media fees, etc.). Generally, GAs will still receive a bill which includes registration fees, as well as tuition fees. The tuition fees should be ignored, but all others should be paid before the Friday of the first week of classes.

### **Departmental Operations**

**Making Copies:** The copier in the Horticulture Department main office requires an access code for use. This code may be obtained from your major advisor. The department copier is to be used for departmental business only, which includes research, teaching, and extension. Graduate students are able to use this copier for research or teaching purposes if their major advisor allows them to use his/her access code.

**Printing Services:** If you need to make large numbers of copies, color copies, or unusual sized copies, you may do so on campus at any PMC Solutions locale (<http://PMCS.uark.edu>) University Copying Services located in the Union. If these copies are research or teaching related, your major advisor will have a purchase order number for you to use as payment of your bill. Otherwise, you will be responsible for payment.

**Telephone:** The University has its own telephone operating system. To dial an off campus number, a '9' must be dialed before the number. When dialing an on campus number, you need only dial '5' and the last four digits of the number. If you need to make a long distance call pertaining to your work, you will need to get a special long distance access code from your major advisor. For calling long distance, dial 9-1-area code-number, wait for the tone, and then enter your long distance access code.

**Sending Faxes:** The fax machine in the department main office is to be used for business purposes only. The same long distance access code used for telephoning is also used for sending

faxes. For local numbers off-campus dial 9 then the telephone number and press the start button. For on-campus numbers dial 5 then the last four digits of the fax number and press start. If you are dialing a long distance number, press 9-1-area code-phone number-the pause button-your long distance access code-then the start button. If you need assistance, please see the office staff.

**Mailboxes:** All graduate students are assigned a mailbox in the department mail room, Plant Science Room 317. All business related outgoing mail should be placed in the outgoing mail slot located in Room 317. Please DO NOT place personal mail in the outgoing mailboxes.

**Computers:** Several computers are available within the Horticulture Department for graduate students to use. Computers located in the graduate office are for use by all graduate students. Computers located in labs are associated with particular professors and projects. Students working with those professors or projects have use priority on those computers.

**State Automobile Use:** Several cars and trucks are available to use for work related purposes.

**Reservations:** Reservations can be made through the Horticulture Office Staff (575-2603, 5-2604, or 5-7016) during regular office hours, 8:00 a.m. to 5:00 p.m., Monday through Friday. Please be prepared to give your name, tag number of vehicle, date and time of departure and estimated return time when reserving a vehicle.

**Vehicle Log/Book Policy Statement:** The log book located in each vehicle contains credit cards and necessary information concerning checking out the vehicle, returning the vehicle, operation of the vehicle, and emergency procedures. Please read it and become familiar with the departmental policy.

**Please record the beginning and ending vehicle mileage, name, date and time you received the vehicle in the log book. Please also write any pertinent comments concerning performance of the vehicle. Leave the log book locked in the vehicle.**

**Returning the vehicle:** Vehicles should be returned with fuel tanks at least half-full; be reasonably clean (inside and outside); and ready for the next user.

Vehicles located at the farm should be returned to the Horticulture farm at the end of your trip regardless of time, day or night. During normal operating hours, key should be returned to the hooks located inside Farm building #308 main door. If after hours, return the keys through the slot near the farm shop door of building 308.

The vehicles located on campus are also reserved by calling the Horticulture Main Office. These vehicles should be returned during normal operating hours Monday-Friday 8:00 to 5:00 and key returned to the office. Please make arrangements with the office staff at time of reservation if vehicle is needed after normal operating hours.

**Routine Operations:** Refer to Division of Agriculture Vehicle Use Policy for most current information: <http://www.uaex.edu/division/docs/policies/pmgs-05-2.pdf>

1. Vehicles are for use by University employees on official business and may not be used for personal business.
2. Responsibility for knowledge of state laws, rules, and regulations governing use of Division or state-owned vehicles rests with the driver of such vehicle.
3. Drivers of vehicles are expected to observe all traffic laws. Failure to do so could result in suspension of use privileges. Fines for violations are the responsibility of the individual driver and will not be paid from University, Division, or ADC funds.
4. Drivers are required to hold a valid driver's license from the State of Arkansas and have a satisfactory driving record with no major traffic offenses. International driver's licenses are not acceptable.
5. University vehicles shall not be driven in excess of legally authorized and posted speeds and shall at all times be driven in a manner conducive to safety, economy, and good public relations.
6. Drivers shall be personally responsible for costs resulting from damage to vehicles while engaged in unauthorized or illegal use of state vehicles.
7. No alterations may be made on vehicles without prior permission from the Department Head. These include, but are not limited to, clamp-on bumper hitches, luggage racks, bumper stickers or decals.
8. Employees' family members are permitted as passengers with the approval of the Department Head. Permission will be granted only when the family member provides a reasonable complement to the purpose of the travel. No children or other family members are permitted.

10. No hitchhikers or unauthorized passengers are allowed in the vehicles.
11. Vehicles may not be taken home unless authorized by the Department Head
12. Any individual can be suspended from use of departmental vehicles by the Department Head, when in his/her judgment; such suspension is in the best interest of the University. Causes for suspension may include, but are not limited to:
  - (A) Citations for moving vehicle violations.
  - (B) Physical evidence of alcoholic beverage having been transported or consumed in vehicle.
  - (C) Evidence of possession or use of unlawful drugs by person operating or riding as a passenger in vehicle.
  - (D) Operation of vehicles while under the influence of intoxicants or drugs, whether or not a citation is issued or conviction occurs.
  - (E) Damage or excessive soiling of vehicle interior.
  - (F) Citizen's complaint of misuse of vehicle.
  - (G) Citizen's complaint of vulgar or other unseemly conduct of vehicle occupant.
  - (H) Any action detrimental to the function or public image of the University of Arkansas.

**Accidents:**

1. Assist any injured; call ambulance if needed.
2. If able to do so safely, call the police to the scene before the vehicles are moved.
3. Do not try to assess blame or discuss the accident with anyone except police authorities or University officials.
4. Exchange the following information with the other driver:  
  
Name:  
Address:  
Driver's license number:  
Automobile license number:  
State in which license was issued:
5. Complete the U of A/Division Motor vehicle accident report

(<http://risk.uark.edu/resources/documents/mvaccprint.pdf>) .

### **Mechanical Problems/Emergency Service Number to call:**

Jimmy Moore - cell phone #479-957-2296

Dr. Wayne Mackay – cell phone #972-896-4429

Horticulture Office – 479-575-2603 or 479-575-2604

If problems develop in the Little Rock area, and you have not been able to contact Jimmy, you may be able to get assistance from the UALR Physical Plant (569-3390). Whenever independent action is required, drivers are expected to work within the limits of their situation and exercise good judgment. In the event that repairs must be made while on a trip, return any broken or replaced parts to Jimmy, unless they are too large to be transported in the vehicle.

### **Laboratory Use**

Departmental laboratory space and equipment will be required for most graduate research. Before starting any laboratory based research, you should consult with the designated lab coordinator. The lab coordinators are:

PTSC 322

PTSC 323

PTSC 324B

PTSC 326A

PTSC 326B

Dr. Shi

Drs. Richardson/Karcher

Dr. McDonald

Drs. Rom/Clark

Dr. Evans

Before using any lab equipment, have the researcher responsible for the equipment demonstrate correct usage. Should routine laboratory supplies be depleted during the course of the laboratory project, see that the appropriate person is notified and additional supplies ordered. If equipment malfunctions, notify the person in charge of the lab space. Cleanup time must be allotted when planning a research project. Each lab may have particular labware cleaning procedures. Clean up thoroughly after completing the research project. Because space is very limited, do not store research samples in the lab space once the research procedure is complete.

### **Purchasing**

Purchasing supplies for your research can be very time consuming. For this reason and for budgeting reasons, it is a good idea to try to make a list of all the supplies that you know you will need, where you can purchase them and their cost before you begin your project. Many supplies ordered from catalogs can take several weeks to receive and requisitions can take

weeks to process, so plan ahead!

**Procurement Cards:** In most purchasing cases, you will use your (or your Major Advisors) Visa Procurement Card (P-Card). This card is accepted at most establishments much like a regular VISA card. There are, however, some items that are excluded from purchase. To see a list of non-allowable purchase items, please visit the U of A purchasing website at: <http://procurement.uark.edu/policy/p-card-policy.php> and click on 'Non-Allowable Items'. We must have on file a signed Cardholder Delegation Form from your Major Advisor authorizing you to use their card. Some advisors authorize us to issue P-cards directly to their graduate students. Please check with your advisor regarding their P-card policy.

While P-card use is preferred, in rare cases a company will not accept this form of payment. Please check with the Horticulture Department accounting team regarding payment methods of non P-card purchases. When purchasing something with a P-card, you will need to inform your advisor concerning what you plan to purchase and the estimated dollar amount. You can then go to the store (or website), select your supplies, and pay with your P-card as you would any other VISA purchase. After making your purchase, you will need to have your receipt signed by your advisor and then turned in to the accounting team. It is YOUR RESPONSIBILITY to make sure P-Card receipts are turned in to the department accounting team within two days of the purchase.

**Requisitions:** When purchasing items from places where a P-card is not accepted, you will need to fill out a *Requisition Form*. This form is located in the department office in the forms drawer. Make sure to fill out the form completely including the company's name, address, phone number, and fax number. Once the form is complete, turn it into the department accountant. Your requisition request will be processed on a first-come, first-served basis and it generally takes about two weeks for the item(s) to be delivered.

**Receiving :** When your ordered item(s) arrive, check each item against the packing list. Make any notes on the packing list regarding returns, damaged items, or missing items and turn it in to the department accountant.

## Travel

Sometimes a student may need to travel for research purposes or to attend a professional meeting.

**Travel Requests:** Before going on a trip, you will need to fill out a travel request form which states where you are going and which account will pay for the trip. This form can be obtained in the Horticulture main office. The earlier you turn in your request for



travel to the Horticulture office the better. The office staff recommends that they receive the form a minimum of two weeks prior to your travel.

**Cash Advances:** You may wish to get a cash advance before leaving on a trip rather than waiting to be reimbursed later. You are only allowed an advance for 80% of the expected cost of the trip. If you anticipate needing a cash advance for any trip you are taking, please see the staff in the Horticulture main office at least 2 weeks before the beginning of the trip.

**Spending Limits:** Spending limits vary depending upon which state and even which city you are visiting. You will not be reimbursed for any amount above the spending limits. You will not be reimbursed for tips either. Before leaving on a trip, check with the Horticulture office staff to see what the spending limits are for the place you are going.

**Reimbursement:** Upon returning from a trip, you are required to fill out a Statement of Travel Expense. You need to keep all hotel, transportation, and registration fee receipts if you wish to be reimbursed for them. If you are being reimbursed from a Foundation Account, you must turn in meal receipts also. If you are not sure if you are being reimbursed from a Foundation account, please ask the office staff or your advisor. It generally takes four to six weeks to be reimbursed for travel.

**Travel Grants:** The Graduate School gives travel grants in the amount of \$100 to selected graduate students. To apply for a grant from the Graduate School, call 575-7762. Other grants for travel may be available through professional societies and student organizations.

## Farm Operations

**Greenhouses:** Greenhouse space at the Horticulture Farm is assigned to specific faculty members. Students requiring greenhouse space should consult with their major professor. Additional greenhouse space is available in the Rosen Alternative Pest Control Building. This greenhouse space is often leased by faculty in the Department of Horticulture. Space is available on a first-come first-served basis. Students requiring space in this facility should consult with their major professor.

**Coolers:** There are three walk-in coolers at the farm. The north cooler is for research samples. The middle cooler is for plant material only and no fruit should be put in this cooler. The south cooler is used for seed storage. Do not take anything from the coolers without permission. Occasionally, fresh produce and plants are available for Horticulture students and faculty to take home. **It is extremely important that you always get permission before you take anything!**

**Land Allocation:** To obtain land on which to conduct your research, you must fill out a *Land Use Request/Work Plan* available from the Farm Resident Director and online. If you need land for spring or summer tests, the form must be turned in by March 1. If you need land for fall or winter tests the form must be turned in by August 1.

**Work Requests:** If you need the help of the farm crew, you must fill out a work request form available at the Horticulture Field Lab office or the main office. It is important to submit work requests as early as possible. The farm crew can modify or refuse to perform a work request if they feel that it is inappropriate. In general, it is a good idea to consult with the Horticulture Farm Resident Director about a work request before submitting it.

**Hazardous Materials:** Hazardous materials, including pesticides and laboratory chemicals, are often used at the farm. The University requires that all graduate students attend a one day course on hazardous materials use and safety which is offered several times every semester. The Horticulture Department also strongly recommends that all graduate students attend a pesticide applicators training course and obtain a pesticide applicators license. The pesticide applicators training course is offered once in Little Rock in the fall semester and once in Fayetteville in the spring semester.

**Waste Disposal:** Hazardous materials used at the farm must be disposed of properly. Consult with the farm crew about disposing of hazardous materials. There are also special places at the farm to dispose of soil and plant material which is generated at the farm. Ask the farm crew about disposal areas.

## **Rosen Alternative Pest Control (APC) Greenhouses**

This greenhouse range is located on campus and is available for graduate students to use for their research.

**Greenhouse Allocation:** Space in the APC greenhouses is rented on an annual basis to research programs approved by the APC Management Committee. A call for space requests is made in the middle of the fall semester and typically due mid-November. Applications are submitted online at: <http://rosencenter.uark.edu/550.htm>. The APC Management Committee can either approve or deny the request. Sometimes a small amount of bench space is available for rent throughout the year. Please contact the greenhouse manager to check for availability.

**Pesticide Application:** Regulations for pesticide application in the APC greenhouses are very strict. You should obtain a list of these regulations when your request for space is approved.

**Waste Disposal:** All soil and plant material generated in the APC greenhouses should be disposed of in the appropriate bin. Ask the APC Manager about proper disposal.

## Campus Facilities

**Computer Labs:** Several computer labs are scattered throughout campus for students to use. Locations and operating hours are listed at <http://www.uark.edu/staff/complabs>

**Library:** There are six libraries on campus. The Mullins Library is the main library. Information about library resources and use can be found at <http://libinfo.uark.edu/>. It is suggested that all graduate students attend a library use course to learn how to use inter-library loan, Super Service, and the various databases. Contact the library at 575-8418 to arrange to attend a course.

**HPER:** The HPER (pronounced "hyper") building is a gym containing a swimming pool, indoor track, racquetball courts, a fitness room, and other activity areas. Use of the HPER is free for any student who has paid the HPER fee at the beginning of the semester. You must show your student ID to enter. Several intramural activities and classes are offered for a fee as well.

## Other Facilities and Services

**Health Care:** As a student, you are eligible for treatment at the campus health clinic. A fee is charged for laboratory tests and medication, but the office visit is free if you have paid the health fee at the beginning of the semester. Spouses and children, unless they are students, are not eligible for health care on campus unless you purchase student health insurance. Student health insurance may be purchased on a semester or annual basis. The cost of this plan varies depending on number of people enrolled. For more information about this insurance plan call 479-575-4451.

**Credit Union:** If you hold an assistantship, you are an employee of the University of Arkansas and as such, are eligible for membership in the UARK Federal Credit Union. For information call the UARK Federal Credit Union at 479-575-2958.

**On-Campus Housing:** Student family housing is available on a first come-first served basis. Dormitory rooms are also available to graduate students. Contact Residence Life and Dining Services for more information (479-575-3951). Student housing is limited, so apply early.

**Parking:** Everyone is required to have a parking permit in order to park in a campus

parking lot. A parking permit can be purchased from the Transit and Parking Department, Administrative Services Building, 155 Razorback Rd., Monday through Friday, 7am-5pm.

**Transit System:** A transit system of university buses circuits the campus and a wide area of the city adjacent to the campus. Route maps and schedules can be obtained at the Transit and Parking Office, 155 Razorback Road or at newspaper stands in the Student Union.

## **CODE OF ETHICS**

### **Preamble: General Principles**

A code of ethics is a personal statement of belief. It therefore seems appropriate that it should be written in first person singular, which makes it a personal code and also makes it voluntary rather than a set of rules imposed by an institution on its members. The latter is certainly appropriate for an employing institution such as a company or a university.

The following code addresses matters involving the relationships of each horticulturist in the American Society for Horticultural Science to colleagues, to the Society, to students, to the employer, to the public, to the creatures and materials of the environment, but perhaps most important, to the person within. For the Society, it represents a suggestion to its Members of matters to be considered. It should not in itself be considered to be coercive. However, the Society must reserve the right to consider removing from its rolls persons who have committed fraud or other grievous actions.

### **The Code of Ethics**

As a professional horticulturist, I resolve to be guided by the following principles, which I believe to be important for mutual respect in relationships with my colleagues, other professional associates, students, employer, employees, and the public and which, above all, is vital to my personal integrity, dignity, and self-worth.

I will be honest in my work, and will not lie or deceive about my results or accomplishments.

I will maintain confidentiality of information to which I am privileged.

I will refrain from conflicts of interest.

I will respect the confidences of others and be honorable in competition.

I will be impartial in all dealings with colleagues, students, and other associates, irrespective of race, creed, color, sex, age, sexual orientation, physical or medical handicaps, marital or family status, and ancestry.

I will point out error and expose fraud and dishonesty.

I will be honorable in dealing with my employer and in relationships with clients, suppliers, and others in the business world and other professions.

I will be fair in dealing with others' opportunities for advancement, respecting their privacy, giving credit for accomplishment, maintaining discipline, and ensuring freedom from coercion.

Finally, I will strive to be constantly aware of the effects my activities will have on the public and the environment in which we all live, and to minimize possible harmful effects of those activities.

NOTE: Adopted by the membership of the American Society of Horticultural Science, Tucson, AZ, November 1990.

## THE GRADUATE FACULTY AND THEIR RESEARCH AREAS

Department of Horticulture, University of Arkansas

Mackay, Wayne (PhD, University of Maryland) Professor and Department Head. Department Administration. [mackay@uark.edu](mailto:mackay@uark.edu)

Clark, John R. (PhD, University of Arkansas) University Professor. Teaching and research in fruit production and fruit breeding and genetics. [jrclark@uark.edu](mailto:jrclark@uark.edu)

Evans, Michael R. (PhD University of Minnesota) Professor. Teaching and research related to controlled environments, greenhouse crop production and floriculture. [mre-vans@uark.edu](mailto:mre-vans@uark.edu)

Garcia, M. Elena (PhD University of Arkansas) Associate Professor. Research related to fruit crops. Special interest in organics and sustainable crops related to small and tree fruits. [megarcia@uark.edu](mailto:megarcia@uark.edu)

Karcher, Douglas E. (PhD, Michigan State University) Associate Professor. Research in soil physics, fertility and management of turfgrass. [karcher@uark.edu](mailto:karcher@uark.edu)

McDonald, Garry V. (PhD, Texas A & M University). Assistant Professor. Teaching landscape installation, construction, management and planning. Research focuses on sustainable landscape design, installation, and management. Other areas of research include water quality, irrigation recycling, and water conservation. [gmcdonal@uark.edu](mailto:gmcdonal@uark.edu)

Richardson, Michael D. (PhD, University of Georgia) Professor. Research and teaching in turfgrass physiology and management. [mricha@uark.edu](mailto:mricha@uark.edu)

Robbins, James A. (PhD, University of California-Davis) Professor, Little Rock. Research and extension in ornamentals and nursery production. [jrobbins@uaex.edu](mailto:jrobbins@uaex.edu)

Rom, Curt R. (PhD, Ohio State University) Professor. Teaching in pomology, horticulture, and plant science; research in fruit physiology, culture and management, and cooperation in fruit breeding; emphasis on tree fruits. [crom@uark.edu](mailto:crom@uark.edu)

Shi, Ainong (PhD, North Carolina State University) Assistant Professor. (Teaching and research in vegetable breeding, genetics, and molecular biology)

## EMERITUS FACULTY

Bradley, G. A. (PhD., Cornell University) Professor Emeritus - Physiology and culture,

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especially nutrition, of vegetables.

Einert, A. E. (PhD., Mississippi State University) Professor Emeritus - Physiology and culture of ornamental crops. Specialty is in the area of landscape design.

Hensley, David L. (PhD, Purdue University) Professor Emeritus. Research in ornamental and landscape horticulture. [dhensley@uark.edu](mailto:dhensley@uark.edu)

King, John (Ph.D., Michigan State University) Associate Professor Emeritus. Turfgrass Culture. [jking@uark.edu](mailto:jking@uark.edu)

Klingaman, Gerald L. (Ph.D., University of Maryland) Professor Emeritus. Ornamental Horticulture. [gklinga@uark.edu](mailto:gklinga@uark.edu)

Martin, L.W. (PhD, Michigan State University) Professor Emeritus. Department Administration. [scamperd@aol.com](mailto:scamperd@aol.com)

Moore, J. N. (PhD, Rutgers University) Distinguished Professor Emeritus- Genetics, breeding and culture of small fruits and tree fruits, especially grapes, blueberries, blackberries, and strawberries. [jnmoor@uark.edu](mailto:jnmoor@uark.edu)

Murphy, J. Brad (PhD, Yale University) Professor Emeritus. Seed physiology, plant biotechnology and laboratory instrumentation; research in seed physiology and plant biochemistry and molecular biology. [jbmurph@uark.edu](mailto:jbmurph@uark.edu)

Rom, R. C. (PhD., Wisconsin) University Professor Emeritus - Tree fruit physiology, culture and breeding including rootstock development, especially peaches and apples. [rcrom@uark.edu](mailto:rcrom@uark.edu)

## **STAFF**

### **Staff:**

Cindy Kuhns - Administrative Support Supervisor (575-7016)

Doris Smith - Accountant (575-2599)

Shelby Hanson - Accountant (575-6680)

Shannon Mason-Recruitment and Special Project Coordinator (575-2645)

Jo Salazar - Administrative Assistant (575-2604)

Shirl St. Clair- Administrative Assistant (575-2603)

Farm Personnel (Main Station): (575-3399)

Vaughn Skinner - Resident Director (575-5479)

Jimmy Moore - Farm Foreman



## EXPERIMENT STATION PERSONNEL

### **Fruit Research Station, Clarksville (479-754-2406)**

Dan Chapman - Resident Director - responsible for coordinating the work of the station with departments on campus. [dlchapma@uark.edu](mailto:dlchapma@uark.edu)

Katie Hanshaw- Administrative Assistant. [khanshaw@uark.edu](mailto:khanshaw@uark.edu)

Taunya Ernst - Program Associate - responsible for culture and physiology of small fruits and for assistance with the breeding program. [ernst@uark.edu](mailto:ernst@uark.edu)

Jeff Innes-Program Technician-responsible for pest management. [jinness@uark.edu](mailto:jinness@uark.edu)

### **Southwest Research and Extension Center, Hope, AR (501-777-9702)**

Vic Ford- Director of the Station - responsible for coordinating the work of the station with departments on campus. [vford@uaex.edu](mailto:vford@uaex.edu)

### **Vegetable Research Station, Kibler, AR (479-474-0475)**

Dennis Motes - Director of the Station - responsible for coordinating station work with the departments on campus. [dmotes@uark.edu](mailto:dmotes@uark.edu)

Christina Lawrence - Administrative Assistant. [cml015@uark.edu](mailto:cml015@uark.edu)

Steve Eaton – Program Associate - responsible for vegetable research on the station. [seaton@uark.edu](mailto:seaton@uark.edu)

Larry W. Martin – Program Associate - responsible for vegetable research on station. [lmartin@uark.edu](mailto:lmartin@uark.edu)

## **COOPERATIVE EXTENSION SERVICE (Little Rock)**

Holly Beason – Administrative Specialist (501-671-2237) [hbeason@uaex.edu](mailto:hbeason@uaex.edu)

Janet Carson - Extension Horticulture Specialist, Master Gardener Program (501-671-2174) [jcarson@uaex.edu](mailto:jcarson@uaex.edu)

Dr. Jim Robbins - Extension Specialist - Ornamentals (501-671-2307) [jrobbins@uaex.edu](mailto:jrobbins@uaex.edu)

Julie Treat - Program Technician (501-671-2231) [jtreat@uaex.edu](mailto:jtreat@uaex.edu)