

AGRONOMY GRADUATE STUDENT HANDBOOK (REVISED 06/14)

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GRADUATE ADMISSIONS

Requirements:

To qualify for standing to pursue a Ph.D. in the Department of Agronomy, applicants are required to have taken the following course work:

- 1 year general chemistry with labs
- 1 semester organic chemistry with labs
- 1 semester physics
- 1 semester calculus
- 1 semester statistics
- 4 semesters of biology distributed among three of the following four areas: biochemistry, genetics, plant morphology, anatomy or physiology, taxonomy, evolution, or ecology.

These entrance requirements are not for entering M.S. candidates. Entering M.S. candidates need only meet the general admission requirements.

Admission with deficiencies - If an applicant fails to meet the requirements listed in categories above, he/she may still be admitted (upon departmental recommendation) with deficiencies. Students are required to make up deficiencies by the end of the first full semester of enrollment. Students admitted with deficiencies may be required to spend more than the minimum time in residence. Request for deviations from these requirements can be made to the Graduate Studies Committee after admission with deficiencies. Such a request needs approval by the major advisor and the Certification Committee.

Admission on probation - A student whose undergraduate grade point average is below 3.0 may be admitted on probation provided he/she can present other substantial evidence of capacity to do satisfactory graduate work.

Admission of International Students - Every international applicant whose native language is not English is required to take either the TOEFL Test (no older than 2 years) given through the Educational Testing Service, Princeton, New Jersey, or the English Language Test given through the English Language Institute at Ann Arbor, Michigan. Satisfactory results of one of these tests must be submitted before being considered eligible for admission. Every international student must provide evidence of adequate financial support for the proposed duration of graduate studies at the University of Wisconsin.

Registration

All holds must be cleared prior to enrollment.

Each student is given an Enrollment Appointment Time that can be viewed at their MyUW Student Center. The appointment times will display the first week of November

for Spring enrollment, mid-March for Summer enrollment, and late-March for Fall enrollment. For further information see the Office of the Registrar's website: http://registrar.wisc.edu/enrollment_information.htm

Graduate Credits

Graduate courses in the University are numbered from 300 to 999. Pass/Fail courses will not count for the minimum credit requirement. Holders of research assistantships, fellowships, and scholarships are required to carry a full program of graduate studies during their appointments: 8 to 15 credits per semester and a minimum of 2 credits during Summer sessions. Students who have acquired Dissertator status are required to enroll for exactly 3 research credits per semester. Other students who use the facilities are required to register for at least 2 credits per semester. International students are required to be full time students.

A minimum grade point average of 3.0 is required to obtain a degree. Grades of D and F are included in the computation of the grade point average. Grades of Incomplete (I or IN) are considered to be unsatisfactory if they are not removed during the next period (semester) of residency. Grades acceptable in Agronomy 990 (Research) include P (progress), S (satisfactory), or a letter grade of B or better.

For the Master's degree, a minimum of 16 residence credits of graduate level courses are required; for the doctorate, 32 is the minimum. A total of 30 degree credits (including research) for M.S. degrees and 51 degree credits for Ph.D. degrees are required. The Graduate School will not transfer any graduate work done at another institution toward fulfillment of the minimum UW-Madison credit requirement. The minimum graduate residence requirement can be satisfied only with courses taken as a graduate at UW-Madison. For students who were UW-Madison undergraduates, Agronomy may decide to accept up to seven credits numbered 300 and above from their undergraduate work towards fulfillment of minimum degree requirements. However, this work is not allowed to count toward the 50% graduate coursework minimum unless taken at the 700 level or above.

Minimum Graduate Course Work

M.S.:

At least 50% of degree coursework (15 out of 30 total credits) must be completed by courses numbered 700 or higher; in Agronomy department courses that are designed as graduate courses (Agronomy/Soil Sciences/AOS* 532) or assess graduate students separately from undergraduate students (Agronomy 300, Agronomy 302, Agronomy/Horticulture 338, Agronomy/Horticulture/Botany 339, Agronomy/Horticulture/Botany 340, Agronomy 348, Agronomy/Botany/Soil Sciences 370, and Agronomy 377); or by courses in another scientific discipline that are considered graduate courses. Requirements are the same for all options/tracks within the M.S.

**Atmospheric and Oceanic Sciences*

Ph.D.:

Half of degree coursework (26 out of 51 total credits) must be completed by courses numbered 700 or higher; in Agronomy department courses that are designed as graduate courses (Agronomy/Soil Sciences/AOS 532) or assess graduate students separately from undergraduate students (Agronomy 300, Agronomy 302, Agronomy/Horticulture 338, Agronomy/Horticulture/Botany 339, Agronomy/Horticulture/Botany 340, Agronomy 348, Agronomy/Botany/Soil Sciences 370, and Agronomy 377); or by courses in another scientific discipline that are considered graduate courses.

Probation

The Graduate School regularly reviews the record of any student who earned grades of BC, C, D, F, or Incomplete in a graduate course (300 or above) or a grade of U in research credits. This review could result in academic probation with a hold on future enrollment or in being suspended from the Graduate School. For more information, please consult the Graduate School's Academic Policies and Procedures manual.

Continuation

Any student's continuation in the Graduate School is at the discretion of the Graduate School, the Agronomy Department, and the major professor. Each student will be evaluated by his/her advisory committee and major professor for performance in course work, in research (thesis), and for progress towards proficiency in the specific disciplines concerned.

The Graduate School requires that a student have a minimum overall GPA of 3.0 or better in all formal course work taken as a graduate student. Research credits (Agronomy 990) are not included in calculating a student's GPA. In special cases, the Graduate School may permit a student with a GPA below 3.0 to continue on probation upon recommendation of the major professor. A student who receives less than a B in any course may be required to repeat that course if his/her advisory committee or major professor deem it advisable.

AREAS OF SPECIALIZATION IN THE DEPARTMENT OF AGRONOMY

Crop production and management, molecular biology, plant breeding and genetics, plant physiology and biochemistry and weed science are specialized fields of research and study within the Department. Graduate students studying in these fields receive the M.S. and/or Ph.D. degree in Agronomy, although students in plant breeding may choose to receive their degree in Plant Breeding and Plant Genetics (<http://plantbreeding.wisc.edu/>).

Crop Production and Management, Sustainable Agriculture and Ecology

The majority of this research is of an applied nature generally conducted under field conditions. Presently, research in this area emphasizes forage crop establishment, management for persistence and nutritive value, chemical composition and preservation; cultural practices for maximizing crop returns including fertilizer practices and mineral nutrition of crop plants; the use of chemical growth regulators for crop yield enhancement; crop sequence, tillage interactions; weed control practices; and sustainable agriculture.

Botany, Soil Science, and Agronomy courses are recommended frequently for students specializing in the area of crop production and ecology. Ph.D. students specializing in crop production and ecology frequently minor in Botany or Plant Pathology, but other options exist including Soils Science, Plant Breeding and Plant Genetics, and Animal Nutrition.

Molecular Biology

The techniques of molecular biology are being used to analyze various traits affecting crop productivity or quality. Some of the specific areas of interest in the Department include: 1) the identification and use of DNA restriction fragments as genetic markers in crop plants and the analysis of molecular events associated with the generation of new genetic variation; 2) the molecular analysis is of the expression of genes affecting crop quality; and 3) the genetic construction of Rhizobium strains that are competitive for nodulation and provide increased legume productivity.

Courses in Molecular Biology, Genetics, Biochemistry, and Botany are recommended to students with interests in molecular biology. These students may choose from a wide variety of minors including genetics, plant pathology, bacteriology, and biochemistry. The University also offers a graduate program in Cell and Molecular Biology which has separate admissions requirements. Students admitted to this program can be advised by Agronomy professors who are members of the program.

Plant Physiology and Biochemistry

Plant physiology and biochemistry research involves study of fundamental processes of growth, development and metabolism in crop species. Current research being conducted in the Agronomy Department emphasizes nitrogen and carbon metabolism, enzyme functions, seed development and germination, and interfacing plant biochemistry, molecular biology, and physiology with breeding and genetics.

Plant physiology and biochemistry students usually obtain a strong background in chemistry, biochemistry, and botany. Biochemistry and/or Botany are frequently chosen by these Ph.D. candidates for a minor field of study.

Plant Breeding and Genetics

Plant breeding and genetics research focuses on the major Wisconsin crops: corn, forage legumes and grasses, small grains, soybeans and peas. Both basic and applied research is conducted utilizing whole plant, biochemical, molecular and cytogenetic techniques. Most research involves concentrated field work in the summer, supplemented by greenhouse and laboratory research during the fall and spring semesters.

Many students interested in plant breeding and genetics elect to obtain their degree under the Plant Breeding and Plant Genetics program (see program information on the Web). Those electing this option must fulfill the requirements of that program. However, they are housed in Agronomy (if their advisor is in Agronomy) and participate fully in activities of the Agronomy Department.

Weed Science

Research in the area of weed science is of both an applied and basic nature. Applied research is primarily directed towards control of annual and perennial weed species in row crops and forages. Applied (field) research includes experiments studying crop rotation, minimum-tillage practices, control of problem weeds, herbicide evaluation, and modifications of cultural practices. Basic research (weed physiology and biochemistry) currently emphasizes absorption and translocation of herbicides by plants, enzymology of herbicide metabolism, mechanisms of herbicide action and selectivity, and herbicide properties and persistence in soil.

Botany, Soil Science, Entomology, and Plant Pathology course work is stressed for students working on an applied project in weed science, whereas biochemistry and/or botany courses are stressed for students working on a basic project in weed science. Opportunities exist for cooperative study with scientists in closely related fields.

CURRICULUM

Course work taken by students specializing in above areas will vary widely depending on the research project emphasis and the individual student's advising committee. Courses frequently taken by students specializing in one of these areas are listed below.

Courses

		Credits
Plant and General Biochemistry		
Biochem 501	Intro. to Biochemistry	3
Biochem 601	Protein and Enzyme Structures and Function	2
Biochem 602	Intermediary Metabolism and Its Control	2
Biochem 621	Plant Biochemistry	3
Biochem 612	Prokaryotic Molecular Genetics	2
Biochem 603	Eukaryotic Cell and Molecular Biology	2
Agron 860	Biological Nitrogen Fixation	2
Plant Physiology and Growth Regulation		
Agron 520	Principles of Herbicide Action and Metabolism	3
Botany 500	Plant Physiology	3
Botany 840	Regulatory Mechanisms in Plant Development	3
Botany 845	Molecular Aspects of Plant Development	3
Plant Structure		
Botany 300	Plant Anatomy	4
Botany 305	Principles of Plant Structure	4
Botany 860	Plant Cell Biology	2
Plant Ecology		
Agron 300	Cropping Systems	3
Agron 302	Forage Management and Utilization	3
Agron 370	Grassland Ecology	3
Agron 377	Cropping Systems of the Tropics	3
Agron 532	Environmental Biophysics	3
Agron 724	Agroecosystems and Global Change	3
Botany 460	General Ecology	4
Botany 761	Taxonomy and Evolution of Wild and Domesticated Grasses	2
Botany 801	Advanced Plant Ecology: Communities	4
Botany 802	Advanced Plant Ecology: Physiological	3
Botany 828	Evolutionary Plant Ecology	3
Soils and Plant Nutrition		
Soil Sci 326	Plant Nutrition Management	3

Soil Sci 336	Nutrient Management: Nursery Tree Crops	1
Soil Sci 523	Soil Microbiology and Biochemistry	3
Soil Sci 621	Soil Chemistry	3
Soil Sci 622	Soil Physics	3
Soil Sci 626	Mineral Nutrition of Plants	3
Soil Sci 630	Soil Chemistry Laboratory	1
Soil Sci 632	Soil Physics Laboratory	2
Laboratory Techniques		
Agron 339	Plant Biotechnology: Principles and Techniques	4
Botany 501	Plant Physiology Laboratory	1
Biochem 651	Biochemical Methods	2
Biochem 652,653	Biochemical Techniques	1-2
Hort 500	Lab. Techniques in Plant Biotechnology	2
Entomology, Plant Pathology, and Pest Management		
Agron 328	Integrated Weed Management	4
Entom 351	Principles of Economic Entomology	3
Entom 570	Principles of Insect Pest Suppression	4
Plant Path 559	Diseases of Economic Plants	3
Plant Path 710	Plant Pathogens and Pathogenesis	3
Statistics		
Stat 333	Applied Regression Analysis	3
Stat 571	Statistical Methods for Bioscience I	4
Stat 572	Statistical Methods for Bioscience II	4
Agron 771	Experimental Design	1
Agron 772	Applications in ANOVA	1
Writing		
Ag Journ 560	Scientific Writing	3

REQUIREMENTS FOR THE MASTER OF SCIENCE DEGREE

A Master's plan of study will be prepared early in the student's program by the student and the major professor. The plan of study is then reviewed by a committee consisting of the major professor and two other faculty members. Included in the plan will be a section outlining how and when the student will obtain his/her recommended teaching experience. A copy of the plan of study will go to the Department Chair, the Teaching Committee Chair, and the Graduate Committee Chair.

All candidates for the M.S. degree in the Department of Agronomy are required to have completed the following courses by the time the M.S. exam warrant is requested:

- 1 year of general chemistry with labs
- 1 semester organic chemistry with lab
- 4 semesters of biology distributed among three of the following four areas
 - Biochemistry
 - Genetics
 - Plant morphology, anatomy, or physiology
 - Taxonomy, evolution, or ecology.

Requests for deviations from these requirements can be made to the Graduate Studies Committee by the student with permission and advice from their major professor. In addition, one semester of Agronomy Seminar (920, 950, or 957) is required.

All candidates for the M.S. degree in the Department of Agronomy must satisfy the requirements of one of the following two program options:

Option A: Thesis required. Thirty credits are required beyond the B.S. degree. A formal thesis is to be prepared and filed in Memorial Library as outlined in the University of Wisconsin Graduate School Bulletin. Students must also provide a hard-bound copy of their thesis to their major professor.

Option B: Comprehensive report required. Thirty credits required beyond the B.S. degree. A comprehensive report (not a formal thesis) is to be prepared and filed with the Department and with the major professor.

Under options A and B, each member of the examining committee must receive a copy of the thesis or report at least 7 days before the student's oral examination. In addition, at least one semester of Agronomy seminar is required under either option and all requirements of the Graduate School must be met. No minor is declared for the M.S. degree in Agronomy.

See the Graduate Studies Coordinator to request your warrant three weeks prior to your examination.

Exit Seminar

Students intending to terminate their graduate program at the UW with the M.S. degree are required to present an exit seminar, preferably prior to their M.S. oral exam.

M. S. Oral Exam

A comprehensive oral examination by a committee consisting of the major professor and two (or more) other faculty members must be satisfactorily completed before the degree is conferred.

REQUIREMENTS FOR THE Ph.D. DEGREE

Certification

Certification is the means by which a faculty committee, hereafter referred to as the Certification Committee, and the student jointly determine the courses that are necessary to ensure an adequate preparation in the graduate program. It involves review of the student's previous course work and discussion of the proposed field of study within Agronomy. Each Ph.D. student and his/her major professor should select a five-member Certification Committee, which shall include the major and minor professor (Appendix VI). A completed Certification of Candidate Form (Appendix V) showing courses completed and currently being taken should be given to the Certification Committee at least 7 days before the scheduled certification meeting. The Certification Committee determines the courses required by that individual student based upon the student's prior training, the student's educational objectives, and the nature and scope of the student's proposed thesis research (There is no foreign language requirement.) The completed, signed Certification Form should be filed with the Chair of The Graduate Committee within the first two full semesters of the student's Ph.D. program.

Two semesters of Agronomy Seminar (920, 950, and/or 957) are required beyond the M.S. Teaching experience is highly recommended by the department and the time for completion of this recommended experience should be included on the certification form. See the section entitled "Teaching" for a complete description concerning this departmental policy.

Minor Requirement

Students completing a Ph.D. in Agronomy must also complete requirements for a minor in another department. The student may choose as his/her minor field either a single department or program (option A) or a distributed minor among two or more departments (option B). The course work for completion of the minor requirement will be decided at the time of certification, with approval of the minor professor. Under option A the student is required to have at least 9 credits from a single degree program outside his/her major. The requirements of the minor department must be satisfied. To satisfy option B, the student is required to have at least 9 credits from two or more programs outside his/her major. The student must have formal approval from the major department, both for the request to choose the distributed option (option B) and for the content of the proposed program. In option A or B, one course cross-listed with the major may be used for the minor so long as it is staffed by the minor department and is not applicable to any

requirements of the major. Students should be aware that other departments can and may require more than the 9 credits for a minor set forth by the graduate school. The type and completion of the minor is reported to the Graduate School on the preliminary examination warrant.

Requirements for a Joint Major

Graduate students may major in both Agronomy and another department by meeting the requirements of a major in each of the departments. The two departments will share in directing the student's graduate program. No minor is required of a joint major.

Research Proposal

A thesis research proposal is to be prepared by the student in consultation with the major advisor. The proposal is to be reviewed by a five-membered faculty committee which includes the major and minor professors. The proposal should be delivered to committee members one week in advance of the review. The proposal review should take place no later than one year after certification. (See Appendix V).

Preliminary Examination

The preliminary examination is a comprehensive oral exam given by a five-member faculty committee, hereafter referred to as the Preliminary Examination Committee, when all or nearly all of the prescribed course work has been completed (all of the course work for the minor must be completed). The Preliminary Examination Committee must include the major and minor professors. Continuity in membership of the student's Certification Committee, Preliminary Examination Committee and Final Examination Committee is strongly encouraged. Students are not eligible to take the comprehensive preliminary examination until they have cleared their records of all incomplete grades. The Graduate School Office issues the warrant authorizing the department to admit the student to the preliminary examination. The Graduate Coordinator in the Agronomy office will request the warrant (three weeks' notice is needed). In the examination, the student is expected to demonstrate competency in his/her field of study as well as in other areas that the committee deems necessary. When special conditions exist, students may request their Preliminary Examination Committee to provide a comprehensive written examination in addition to the oral examination.

After passing their preliminary examination, the members of the Preliminary Examination Committee must sign the warrant; then the student must return the form to the department's Graduate Coordinator who will submit it to the Graduate School. The chair of the department signs as the minor professor for a distributed minor.

Credit and Residence Requirements

The minimum credit requirement for Ph.D. students is 51 credits. All graduate level credits, including those taken during the summer, count toward fulfillment of this requirement. The Agronomy Department requires at least two full-time semesters in residence for a Ph.D. The student's certification committee can petition the Graduate Studies Committee for a deviation from the residence requirement under unique circumstances.

Dissertator Status

To be eligible to register as a dissertator, the student must:

- pass the preliminary exam
- satisfy the Ph.D. residence requirements (at least 32 credits)
- complete the minor course requirements
- complete the major course requirements except dissertation
- clear all incompletes or “P” grades in non-research courses
- return the signed preliminary exam warrant to the Graduate School

The Graduate School requires that all dissertators maintain continuous enrollment. Dissertators must enroll in the semester(s) in which they defend, submit their dissertations, and graduate. In cases where this is not possible, a degree completion fee can be assessed. The fee is equal to 12 times the current per-credit dissertator rate in effect at the time the dissertation is submitted. The fee is assessed at the time the dissertators is ready to complete the degree and is based on the current per credit fee/tuition rate (based on actual Wisconsin resident or non-resident status which existed at the last term of registration). Contact the Graduate School Office for specific information.

A candidate for the Ph.D. degree who fails to take the final oral examination within five years after passing the preliminary examination is required to take another preliminary examination and be admitted to candidacy for a second time.

Dissertation

The dissertation must be the candidate's own work. It may be the result of research enterprises in which others have collaborated, but in such cases the candidate is required to present a substantial portion which represents the candidate's own contribution. Details about the formal requirements for preparation of thesis and abstract may be obtained in the Graduate School Office.

A copy of the dissertation must be submitted to the members of the Final Examination Committee at least one week prior to the final examination. Three members of the Final Examination Committee serve as a reading committee to review the dissertation in critical detail. Upon passing the final examination and making changes in the dissertation required by the examining committee, students must provide the major professor with a hard-bound copy of the dissertation. An unbound copy of the dissertation must be filed with the Memorial Library.

Exit Seminar

All Ph.D. candidates are required to present an exit seminar. This often is most convenient just prior to the final examination, or the seminar may be presented as part of the Agronomy Colloquium (see below).

Final Examination

The members of the Final Examination Committee are suggested by the major professor and approved by the Dean of the Graduate School. The committee consists of five or more members of the graduate faculty, with the major professor as chairperson. The committee will include at least one member from outside the department. This committee may or may not be the same as the Preliminary Examination Committee. The examination ordinarily covers the student's thesis and the general field of the major and minor studies. If the candidate passes the examination, the act is recorded on the warrant obtained by the candidate from the Graduate School.

The candidate may not take the final oral examination until all other requirements for the degree have been satisfied. The student's record must be cleared of incomplete grades.

Requirements of a Minor in Agronomy

Graduate students with a major in another department may minor in Agronomy by completing 9 credits of graduate level Agronomy courses. At least one semester of seminar is required. A member of the Agronomy Department will serve as the minor professor.

SEMINARS

Three student seminars are offered for credit in the Agronomy Department. *Agronomy 920, Seminar - General Agronomy*, is offered during the spring semester. Responsibility for organization of the seminar rotates among the Agronomy faculty. Students are asked to present a seminar on some aspect of a topic of general interest. *Agronomy-Horticulture 950, Seminar - Crop Physiology*, is offered each fall semester. A professor from each of the sponsoring departments is in charge of selecting a topic of interest to physiologists. Student presentations are critiqued for scientific content and presentation. *Agronomy-Horticulture-Genetics 957, Seminar-Plant Breeding* is offered each semester. Responsibility for organization rotates among faculty who are members of the Plant Breeding and Plant Genetics Group. Topics such as plant disease resistance, breeding methodology, students' research projects, etc. are covered.

Students also have the opportunity to attend and participate in seminars offered outside the Department. Many of the departments in the College of Agricultural and Life Sciences, and the Botany Department in the College of Letters and Sciences offer seminars and colloquiums of interest to graduate students. Announcements of these are regularly posted on bulletin boards and are listed in the Timetable when offered for degree credit.

AGRONOMY COLLOQUIUM

In recent years, the Agronomy Colloquium has been held in spring semester and may be

conducted jointly with Horticulture. Faculty, post-docs, visiting scientists, and exiting students will be featured speakers. Students may enroll in *Agronomy 875 Special Topics* and receive credit for participating in the Colloquium.

PLANT BREEDING JOURNAL CLUB

In addition to the plant breeding seminar, interested faculty and graduate students may participate in the Plant Breeding Journal Club. Current and past research papers in the plant breeding area are discussed. Frequently, lectures are presented by visiting scientists, by faculty or students who have attended national or international meetings, and, occasionally, by members of other UW departments with interests relevant to members of the club.

SUMMER SESSIONS

The University has a regular eight-week Summer session and a three-week inter-session between the Spring semester and the regular Summer session. Students who use University laboratories, libraries, faculty time and other facilities are required to register for the regular summer session. If only occasional use of University facilities is made, registration may not be required. A judgment as to whether anticipated use is regular or occasional will be made by the major professor and department chair.

Graduate students who hold appointments during the summer as RAs or Fellows must be registered in the regular eight-week Summer session for at least two graduate level credits. Ph.D. students who have dissertator status must register for three credits at the dissertator rate. Registration for the three-week intersession is not a substitute for registration in the regular eight-week session.

GRADUATE STUDENT APPOINTMENTS

All graduate students, regardless of their source of funding, are expected to conduct research towards their M.S. thesis report or their Ph.D. dissertation, and to assist their major professor's research project as requested. Contact with a diversity of research projects during graduate training enhances professional growth.

Graduate research and teaching assistantships are awarded on a competitive merit basis. Applicants or enrolled students with superior academic records may be considered for graduate fellowships. Brief descriptions of the types of appointments are given below.

Research Assistantships

Appointment as a Research Assistant is the most common type of appointment in the Department. RAs are normally for a 12-month period with compensation established on a university-wide basis each year. Research Assistantships

generally involve 50% appointments. RAs are required to carry a full graduate load of at least eight credits per semester and two credits during the Summer session.

Teaching Assistantships

Some voluntary TAs are available in the Department of Agronomy for assignment to Agronomy 100, Agronomy 300 and Agronomy 770. The TA assists in classroom instruction under the direction of a faculty member with duties that include preparing of instructional materials, directing labs, grading lab exercises and exams, etc.

Fellowships and Scholarships

Several University, College, National, and special fellowship and scholarship programs are available for outstanding students. Application procedures, deadlines, qualifications, etc. may be obtained from the Graduate School Fellowships Office or the Agronomy Graduate Committee Chairperson. Many of the fellowships require Departmental nomination. Some of these fellowships and scholarships are listed in Appendix V. Fellows do not have specific job responsibilities, but are expected to participate in their advisor's research program. The student and advisor should discuss the extent of this involvement at the time the student initiates graduate training.

Program/Project Assistantships

A graduate student may be employed to assist with research, training, or other programs and projects undertaken by the funding professor not directly associated with his or her thesis project.

Time Limits

A student may not hold an appointment for more than 3 years for a M.S. Degree or 5 years for a Ph.D. Degree. Requests from the major professor for extensions of these time limits will be considered by the Graduate Committee.

Working Hours, Sick Leave, Vacation Time

No specific written policy concerning hours of work, vacation, or sick leave exists for graduate students holding appointments. However graduate study, including class work and research or project work, should be regarded as the main activity while pursuing the degree. Students holding appointments are not to engage in major outside activities, such as second jobs. In fact, some appointments specifically prohibit retaining outside employment.

Students shall arrange vacation time in advance with their advisor to avoid conflicts with research or project activities. Students are expected to work when classes are not in session, except official University holidays. Students not holding appointments are still expected to assist their major professor's project as requested since full involvement in a research project is a vital part of the graduate training program.

If problems arise concerning work hours, sick leave, or vacation, discuss them with your advisor. If resolution is not possible at that level, the matter should be discussed with the Department Chair.

Income Taxes

For further information on income taxes consult The Guide to Graduate Student Life and the Academic Policies and Procedures manual.

If you have questions concerning your tax status, call University Payroll 262-5499 or 262-1838, or Graduate School at 262-5835. For specific questions about income from outside the University or allowable deductions, contact the IRS.

Payroll and Fringe Benefits

Research Assistant and Teaching Assistant paychecks are payable on the first day of the month. If the first of the month falls on a Saturday, Sunday, or a holiday, checks will be available after 3:00 p.m. on the day before the weekend or holiday. Hard copies of pay stubs can be accessed through the My UW website. Arrangements can be made for automatic deposit to a local bank or credit union.

A choice of several health insurance plans is available at very low cost to Graduate Students who have Assistantships with 33 % time or greater appointments. A fact sheet describing the benefits and cost of the plans will be given to you at the time of employment. Note there is no waiting period for pre-existing conditions if application is made within 30 days of employment. The same rule applies for addition of a spouse or dependent following marriage or the birth or adoption of a child: the addition to your policy must be made within 30 days of the event. Health insurance premiums will be deducted monthly and you are covered by health insurance through the month of termination. RAs are strongly advised to be covered under some kind of health insurance.

A life insurance plan is also available. See the Department Administrator for information and application forms.

INTERPERSONAL CONFLICTS

Sexual Harassment

If you feel that you are the victim of sexual harassment, talk to someone you trust about the situation. You may feel embarrassed, or worry that you did something to provoke the unwanted behavior, but you have the right to pursue your education in an environment free from harassment. If you feel comfortable taking this step, let the offender know that the behavior is unwelcome by telling the offender directly or in writing. If uncomfortable or unsuccessful with a direct approach, you can seek confidential advice or assistance from the Department Administrator.

Grievances

Students occasionally experience problems or interpersonal conflicts about academic or research performances. The student should first talk with the person at whom the complaint is directed. Most issues can be resolved at this level. If this proves

unsatisfactory, the student should contact one of the department's grievance contact persons. The procedure for addressing a complaint depends on whether the complaint is in the department, in the college, or outside the college.

TUITION

Graduate students who are classified as nonresidents of Wisconsin and who hold an appointment as a teaching, research, or project assistant at UW-Madison, will be entitled to remission of nonresident tuition in any semester in which this appointment equals at least 33.33% time. Some fellowships also provide for nonresident tuition remission. This should be reflected in the fees charged to you at the time of registration. The deferred tuition program allows eligible employees including teaching, research, program, and project assistants to have a semester's tuition deducted from their payroll checks in three installments. For fall, the first installment begins Nov. 1, and for spring, March 1. Otherwise, fees may be paid in person at the Bursar's Office, 333 East Campus Mall # 10501. Fee payment will be accepted by mail if payment is made by check, cashier's check, or money order (see instructions on the Fee Assessment Form provided by the registrar). No credit cards are acceptable as means of payment at registration. The Bursar's Office warns students that interest is charged from the time the student signs the registration form. For further Tuition information, see the Graduate School's Academic Policies and Procedures manual.

A student on a Federal fellowship or another award that pays all tuition and fees should have their fee card stamped "Fees deferred to Acct. # " at the Bursar's Office.

Students who have successfully passed their preliminary exams, completed the residence requirements, and satisfied major and minor requirements are classified as a Ph.D. Dissertator. Dissertators register for 3 credits and pay fees on a per credit basis at a reduced rate, which results in a substantial savings.

TEACHING

General Information

All graduate students are strongly encouraged to obtain teaching experience by participating in the Departmental instructional program. A graduate student, in consultation with the major professor, should indicate on the Master of Science plan of study or on the Ph.D. certification form how and when this teaching experience is to be obtained. A copy of this plan of study or certification form should be filed with the Chair of the Graduate Committee. Teaching experience may be obtained as a TA in Agronomy 100, 300 or 770, or as a volunteer in these or other Departmental courses.

Practicum in Agronomy Teaching

Credit may be received for teaching if the graduate student chooses to enroll in course #799, *Practicum in Agronomy Teaching*. This option is available every semester, can be

taken for 1-3 credits, follows the conventional grading system, and requires the consent of the supervising instructor. The practicum consists of four principal phases which must be satisfied in order for credit to be awarded to a graduate student:

1. Instructional Orientation
2. Direct Teaching Experience
3. Experience in Testing and Evaluation of Students
4. Analysis of the Graduate Student's Performance

For a more complete description of the requirements please see the folder "Practicum in Agronomy Teaching", available from the Chair of the Teaching Committee.

DEPARTMENTAL COMMITTEES

The Agronomy Department has approximately 23 standing committees. These committees are appointed annually by the Department Chair and the Associate Chairs, and frequently include one or more graduate student members. Graduate students frequently provide fresh new ideas which assist committees in their duties. At the same time, involvement with these committees can provide students with valuable experience regarding the operations of the University and Department. Graduate students interested in serving on various departmental committees should let their interests be known to the chair of the Agronomy Department.

FACILITIES

Offices

Graduate students are assigned desks in offices by the Departmental Administrator. Unless otherwise requested, desk assignments will be located as close to the major professor's office or to the research laboratories (for those students involved primarily in laboratory research) as possible. With prior approval of the Departmental Administrator, students may be permitted to change desks or offices to better accommodate their academic or research endeavors. The Departmental Administrator should be notified when students complete their graduate studies and have vacated their desk and office.

Laboratories

All laboratories are the responsibilities of individual professors. Students doing laboratory work will be assigned space in the laboratory of their major professor or the professor will make arrangements with the person responsible, if some other laboratory space is deemed more appropriate.

The USDA Agricultural Research Service has two separate laboratories on campus, the Cereal Crops Research Laboratory (502 Walnut Street) and the Dairy Forage Research Center (1925 Linden Dr) in addition to facilities within Moore Hall. Students will be

assigned work space in one of these facilities if their major professor is involved in one of these programs.

Field

The Arlington Agricultural Research Station 20 miles north of Madison contains more than 2,500 acres, of which about 380 are used by Agronomy. Many of the Department's research plots for breeding projects, weed science, crop production, and extension programs are located there. The West Madison research station also has plots used for Agronomy research.

Field plots for research are available at the outlying experimental research stations at Lancaster, Hancock, Marshfield; Rhinelander, Sturgeon Bay, Spooner, Ashland, and Hayward. These stations encompass the range of climatic and soil types prevalent in Wisconsin. Requests for field plot space on these farms should be made through your major professor.

The State Soil and Plant Analysis Lab is located at 8452 Mineral Point Road (262-4364). It provides mineral analysis for Wisconsin farmers and University personnel for a small fee.

Greenhouse

Greenhouse facilities are located in the Walnut Street complex on the corner of Walnut Street and Observatory Drive. Greenhouse space is assigned to individual professors by the Campus Agricultural Research Stations.

Controlled Environment Facilities

Several Agronomy faculty have plant growth chambers in Room 133. There are no growth chambers available for general assignment.

The Biotron at 2115 Observatory Drive has plant growth rooms which feature computer controlled temperature, humidity, and lighting conditions. Other specialized conditions can often be obtained. The Biotron also has specialized greenhouse facilities available. Biotron facilities are obtained by application to the Biotron, and a daily rental fee is charged.

Seeds Building

The Agronomy Seeds Building is located at 1930 Linden Drive. It houses grain and forage dryers, seed cleaning and grinding equipment, and space for ambient and cold temperature storage of plant materials and seed.

Libraries

The Steenbock Memorial Library, serving the College of Agricultural and Life Sciences, is located on Babcock Drive less than a block away from Moore Hall. Most journals of interest to Agronomy or Plant Breeding/Plant Genetics students, as well as abstracts, texts, college bulletins, etc. may be found in this library.

Some frequently cited journals are available only at other University or departmental libraries. For example, many botanical periodicals are to be found only in the Biology Library, Room BI64 Birge Hall. Frequently used departmental libraries include Plant Pathology (584 Russell Labs) and Genetics (110 Genetics). The Medical School Library, 1305 Linden Drive, houses the Science Citation Index. The index provides a convenient means of tracing the progress of a research area following the publication of a key paper.

For further information on the UW-Madison Library System, refer to page 19 of the Guide to Graduate Student Life.

DEPARTMENT AND CAMPUS

Smoking

Smoking is prohibited in all University buildings.

Mailboxes

Mailboxes are located in the main office. Campus mail is delivered and picked up around 8:30 and 1:00 each day. U.S. mail is delivered and picked up between 11:15-2:30 p.m. Outgoing mail may be deposited in the box in the main office. All mail should be of a business nature.

Keys

Your major professor must complete a form, provided by the Department Administrator, identifying the keys you will need. A deposit per key is currently required and will be refunded when the key is returned. Graduate students are not issued master keys (marked AA, AB, or AC). It is unlawful to duplicate any UW keys. All students must return their keys at the completion of their graduate program.

ID Cards

Your first University ID card is issued to you at no cost and can be obtained at the Wiscard Office in Union South. This card is valid throughout your entire academic and/or employment career at the University of Wisconsin-Madison and provides access to libraries, recreation facilities and other campus services. A replacement card can be issued at no cost (<http://www.wiscard.wisc.edu>) as long as you surrender your current valid ID at the time the new card is issued. Lost cards can be replaced for a \$25 fee.

Building Security

Make sure all doors are locked when you leave your office or laboratory, at night, and on weekends. Don't tempt thieves by leaving valuable personal articles exposed. The University does not carry insurance on personal items.

Telephones

At present, there should be a telephone accessible for each grad office. Since each off-campus local call costs the Department \$0.09, personal calls of a non-emergency nature should not be made. Long distance calls should be made using the State Telephone

System (dial 8 + area code + 7-digit number). Calls are monitored each month from a printout giving the time, location and cost of each call. **LONG DISTANCE CALLS MUST BE OF A BUSINESS NATURE** and will be charged directly to your major professor's project. **CALL 9-911 IN CASE OF EMERGENCY.**

Photocopy and Faxes

The Department has copy and fax machines located in the main office for administration, research, and extension only. Students can use these with approval of their major professor, and they must first enter their professor's confidential ID number into the machine. Steenbock Library across the street has facilities for your academic and course related photocopy needs. You may either purchase a Vendacard or use the coin operated machines.

Operation of a State Vehicle

Regardless of whether you are driving your personal vehicle, Car Fleet or DOA vehicle, or rental vehicle, all potential drivers must complete the appropriate driver authorization request form and received authorization through Risk Management. If you have an out-of-state driver's license, or have held a Wisconsin license less than three years, you will be required to sign a notarized statement listing any violations within the last three years. If you should have an accident while driving, there is an "Accident Kit" in the glove compartment of every vehicle. Please familiarize yourself with it.

Accidents

Work related accidents are not covered by Workmen's Compensation. Graduate student appointments are considered educational opportunities rather than employment. Any medical attention will have to be covered under personal health insurance.

Plant Sciences Graduate Student Council (PSGSC)

PSGSC was founded in 2000 by combining the graduate student councils of Agronomy, Horticulture, and Plant Breeding and Plant Genetics. PSGSC was created to foster enhanced communication and promote more social interaction amongst the grad students in the plant sciences field. The council serves to work with the faculty, staff, and students to promote educational and social outreach and to welcome new grad students in the plant sciences.

The Council is composed of six elected officers: President, Vice-President, Treasurer, Horticulture representative, Agronomy representative and Plant Breeding and Plant Genetics representative. Officers are elected by plant sciences graduate students for one-year terms spanning the calendar year. More information is available at <http://psgsc.wisc.edu>.

Travel

Project and meeting travel may be authorized by professors for their students. The University has established lodging and per diem rates for reimbursement of expenses. Please get these and a list of requirements on travel BEFORE traveling. Travel

regulations can be found through the Business Services website:
<http://www.bussvc.wisc.edu/acct/TEWeb/index.html>.

Travel expenses should be submitted within 30 days after the trip is completed.

APPENDIX I

UNIVERSITY OF WISCONSIN-MADISON DEPARTMENT OF AGRONOMY FACULTY LIST 2014

Faculty information can also be viewed at: <http://agronomy.wisc.edu/>

ALBRECHT, KENNETH A. Forage management and utilization. Influence of management and environmental factors on growth, development, and quality of crops used for hay, silage, and pasture. Use of perennial legumes in sustainable forage and cropping systems. Grazing systems for dairy and beef.

email: kaalbrech@wisc.edu

INSTRUCTION:

Agronomy 302 -- Forage Management and Utilization

ANÉ, JEAN-MICHEL M. Plant-Microbe symbioses: nodulation and mycorrhization. Symbiotic nitrogen fixation. Symbiotic phosphate transport. Development of *Medicago truncatula* as a model legume. Molecular and cellular biology, genetics, cytogenetics, genomics, biochemistry, microbiology and plant physiology.

email: jane@wisc.edu

INSTRUCTION:

Agronomy/Horticulture/Botany 339 - Plant Biotechnology: Principles and Techniques

CASLER, MICHAEL D. Perennial grass domestication and breeding for forage, turf, and bioenergy. Breeding methods to improve selection gains and efficiency. Mechanisms for improving forage and feedstock quality and yield. Quantitative genetics, statistical methods, and experimental design theory and applications.

email: mdcasler@wisc.edu

INSTRUCTION:

Agronomy 771 - Advanced Experimental Design
Agronomy 772 - Advanced ANOVA Applications

CONLEY, SHAWN P. State Soybean and Small Grains Extension Specialist. The overall goal of my Extension and research program is to increase the economic and environmental sustainability of Wisconsin soybean and small grains production practices through improved crop and pest management strategies. My research is in response to problems and needs expressed by agricultural professionals and growers in Wisconsin and the Midwest, and thus my results are intended to be immediately usable by

agricultural professionals. The primary objective of my program is to develop accurate soybean and small grains crop management recommendations and decision aids that maximize economic return for Wisconsin growers.

email: spconley@wisc.edu

DAVIS, VINCE. Cropping Systems Weed Science Extension. The mission of my program is to evaluate weed management practices to help Wisconsin growers sustainably control weeds and maximize the production of corn, soybean, small grains, and sweet corn crops. To accomplish this, my program investigates herbicide performance for the control of several weed species which are difficult to control, investigates the biology and ecology of problematic weeds, and investigates the long-term weed management effects in various crop rotation systems. The emphasis of my program is the integration of applied field research and extension activities. I strive to deliver thorough, unbiased results to Wisconsin crop producers in a timely manner as well as improve upon the body of scientific weed science literature.

email: vmdavis@wisc.edu

DE LEON, NATALIA. Plant breeding and quantitative genetics, population enhancement for biomass increase and cell wall composition. Interface of plant breeding and quantitative and molecular genetics. Combination of different sources of genetic information such as phenotypic, genotypic and expression data, genetic analysis of developmental traits in maize.

email: ndeleongatti@wisc.edu

INSTRUCTION:

Agronomy 811 - Biometrical Procedures in Plant Breeding

Agronomy 850 - Advanced Plant Breeding

DUKE, STANLEY H. Plant Starch Metabolism, photomorphogenesis, early events on seed germination, and energy transduction.

email: shduke@wisc.edu

INSTRUCTION:

Agronomy 406 -- Forage Physiology

Agronomy 500—Capstone

HENSON, CYNTHIA A. USDA-Agricultural Research Service - Cereal Crops Research Unit. Reserve carbon metabolism including elucidation of pathways, regulation via environmental and metabolic factors, and protein structure/function relationships.

email: cahenson@wisc.edu

JACKSON, RANDALL D. Grassland ecologist. Grazing effects on the structure and function of managed, semi-natural and natural grassland ecosystems, Landscape-level nutrient exchange, ecosystem-level carbon and nutrient cycling, and plant community responses to disturbance. Scientific basis for agroecology; farms as ecosystem units.

email: rdjackson@wisc.edu

INSTRUCTION:

Agronomy/Botany/Soil Science 370 – Grassland Ecology
Agroecology 710 – Seminar in Agroecology
Agroecology 701 - The Farm as a Socio-Environmental Endeavor

JAHN, MOLLY. Genetics, genomics and breeding of vegetable species with particular focus on disease resistance and quality traits; Capsicum germplasm and diversity; capsaicinoid biosynthesis.

email: mjahn@cals.wisc.edu

KAEPPLER, HEIDI F. Cereal monocot breeding and genetics, focusing on wheat, maize, oat and barley. Monocot tissue culture and genetic engineering, epigenetic research related to transgene integration and expression.

email: hfkaeppl@wisc.edu

INSTRUCTION:

Agronomy 340—Plant Cell Culture and Genetic Engineering

KAEPPLER, SHAWN M. Maize genetics and breeding. Functional genomic research related to epigenetics, plant nutrition, and maize as a biofeedstock. Characterization of major genes and modifiers that affect endosperm composition . Analysis of tissue culture-induced variation.

email: smkaeppl@wisc.edu

INSTRUCTION:

Agronomy 338 - Plant Breeding and Biotechnology
Agronomy 811 - Biometrical Procedures in Plant Breeding

KUCHARIK, CHRISTOPHER J. Cropping systems ecologist. Impacts of climate change and land management on ecosystem services (water quantity and quality, carbon sequestration, productivity, climate regulation) derived from agricultural landscapes. Field-scale measurements of carbon, water, and energy exchange coupled with landscape to regional-scale ecosystem modeling. Climate change impacts on agricultural productivity; carbon sequestration associated with prairie/grassland restoration; sustainability of bioenergy cropping systems in the Midwest U.S.

email: kucharik@wisc.edu

INSTRUCTION:

Agronomy/Agroecology/Environmental Studies 724 - Agroecosystems and Global Change

Agronomy/AOS/Soil Science 532 – Environmental Biophysics

LAUER, JOSEPH G. Extension and research in corn production/management. Decision making in areas of cropping systems, variety/hybrid selection, optimizing crop geometry, replant and yield loss assessments, crop morphology and development, and conservation tillage systems.

email: jglauer@wisc.edu

RENZ, MARK J. Extension and research in the management of weeds in perennial systems. Biology, ecology and management of perennial weeds. Invasive weed management and restoration. Root biology of perennial weeds.

email: mrenz@wisc.edu

INSTRUCTION:

Short course: Weed Identification and Management

STOLTENBERG, DAVID E. Weed biology, ecology, and management. Crop-weed interactions. Herbicide-resistant weeds. Weed plant population and seed bank dynamics.

email: destolte@wisc.edu

INSTRUCTION: Agronomy 300 - Cropping Systems

TRACY, WILLIAM F. Sweet corn breeding and genetics; breeding systems; the effects of endosperm mutants on quality, germination, and cold tolerance; disease and insect resistance. Genetic analysis of the morphology and development of corn. Evolution of sweet corn. Development of superior populations, inbreds, and hybrids for Wisconsin.

email: wftracy@wisc.edu

INSTRUCTION: Agronomy 100 - Principles and Practices of Crop Production

UNDERSANDER, DANIEL J. Extension research, forages. Forage establishment. Forage production and management to increase yields and improve quality. Forage marketing. Pasture management for production and to minimize environmental concerns.

email: djunders@wisc.edu

APPENDIX II SCHEDULE OF IMPORTANT ACTIONS

When you arrive on campus

See the Department Administrator to arrange for health insurance, complete other necessary paperwork and to arrange for an office and desk.

Have advisor complete a form listing keys you will need. See Department Administrator to obtain keys.

Prior to each semester

Before registration, students must meet with their advisor to discuss courses for the following semester.

During the first semester

M.S. Students - Along with advisor select an examining committee. Prepare a list of classes to be taken, an outline of proposed research, and recommended teaching experience.

Ph.D. Students - Review Recommended Guidelines for Meeting Requirements Toward a Ph.D. with a Major in Agronomy (Appendix IV)

Prior to M.S. Exam or Ph.D. Preliminary or Final Exam

Have the Graduate Coordinator request an E-Warrant from the graduate school three weeks before exam. Provide examining committee with copies of your thesis or comprehensive report at least 7 days prior to the final examination.

At the end of each semester

The professor and student should complete the student review form (APPENDIX VI). Copies of this form are to be retained by the student and advising professor only.

Exit seminar

Finishing students are required to present an exit seminar. This is best scheduled for just prior to the final exam, but must be given before leaving campus.

Before leaving campus

Meet with the Department Administrator to arrange for continuing health insurance, leave forwarding address, and complete paperwork. Turn in keys to the department administrator.

APPENDIX III
STUDENT REVIEW FORM

To be completed at the end of the fall, spring and summer semesters.

Name of Graduate Student _____ Semester _____ Year _____

CATEGORY

ADVISOR'S COMMENTS

Research Progress _____

Organization Ability _____

Communication Ability _____

Work Quality _____

Dependability _____

Initiative _____

Ability to Work with Other Staff _____

Teaching, Presentations _____

Other Comments:

Graduate Student's Signature _____

Advisor's Signature _____ Date _____

APPENDIX IV

Student: _____
Date of First Enrollment: _____

**RECOMMENDED GUIDELINES FOR MEETING
REQUIREMENTS TOWARD A Ph.D. WITH A MAJOR IN AGRONOMY**

	Target Date	Date Accomplished
1. Complete and file timetable of requirements within the first month of enrollment.	_____	_____
2. Certify proposed course work within the first two full semesters of enrollment in an Agronomy Ph.D. degree program. Requests for re-certification must be approved by the Graduate Committee and Department Chair.	_____	_____
3. Complete research proposal review no later than 1 year after certification.	_____	_____
4. Schedule oral preliminary exam at or near time that all courses are completed.	_____	_____
5. Present exit seminar	_____	_____
6. Successfully complete thesis defense examination. An exit seminar announcement must accompany warrant in order to obtain the chair's signature indicating completion of degree requirements.	At or near time of of thesis defense Grad School requires within 5 years of oral exam	_____ _____

These requirements and their target dates have been discussed. They are understood and agreed upon by the undersigned.

Graduate Student: _____
Major Professor: _____
Date: _____

APPENDIX V

DEPARTMENT OF AGRONOMY THE UNIVERSITY OF WISCONSIN - MADISON Certification of Candidate for PH.D. Degree

Three signed copies of this form should be prepared: one is retained by the major professor, one is given to the candidate, and one is for the Department Chair person. This form is similar to that formerly used by the Graduate Biological Division.

Where course listings are requested in the blank spaces below, list the course number, title, credits, and institution for courses offered in fulfillment of requirements; and the course number, title, and credits of those to be taken.

I. Academic History of Candidate

Name of candidate:

Date of certification:

Undergraduate work

Institution:

Dates attended:

Major subject(s):

Degree (with date):

Previous graduate work

Institution:

Dates attended:

Major subject(s):

Degree (with date):

Date entered University of Wisconsin Graduate School:

II. General Course Requirements

Biology: Four courses distributed among at least three of the following areas:

1. Biochemistry:
2. Genetics:
3. Structure and /or function of organisms:
4. Populations or ethology of organisms:

Chemistry:

1. Two semesters of general chemistry including laboratory:
2. One semester of organic chemistry with laboratory:

Physics: One course that includes electricity and light:

Mathematics:

1. A one-semester course in calculus:
2. A one-semester course in statistics:
3. Optional, but strongly advised, a course in computer programming :

Foreign Languages: A foreign language is not required by the Agronomy Department but can be required by the certification committee.

First language: Date passed: Level of competence:

Second language: Date passed: Level of competence:

III. Program Within Agronomy Department

Major department:

Major professor:

1. Courses in major completed elsewhere:
2. Courses in major completed at Wisconsin:
3. Related work already completed:
4. Additional required courses:
5. Additional courses advised but not required:

IV. Program Outside of Agronomy Department

1. Joint Major. Student declares a joint major, rather than a minor, with another department.

Joint - Major department: _____ Major professor: _____

- a. Courses completed elsewhere:
- b. Courses completed at Wisconsin:
- c. Related work already completed:
- d. Additional required courses:

e. Additional courses advised but not required:

2. MINOR OPTION A. Student declares a minor in a single department.

Minor department: _____ Minor professor _____

a. Courses completed elsewhere:

b. Courses completed at Wisconsin:

c. Related work already completed:

d. Additional required courses:

e. Additional courses advised but not required:

3. MINOR OPTION B: Student declares a minor distributed among two or more departments.

This type of minor requires the signature of the Agronomy Departmental Chairman.

Minor Departments: _____

Signature of Agronomy Department Chairman

a. Courses completed elsewhere:

b. Courses completed at Wisconsin:

c. Additional required courses:

d. Additional courses advised but not required:

Approved by Certification Committee and Student Candidate:

Student

Member

Major Professor

Member

Minor Professor

Member

APPENDIX VI

Agronomy Graduate Program

Procedures for Approval of Non-faculty Co-advisors and Committee Members

Non-faculty Co-advisors

The steps described below are to be used to approve an individual who is not a member of the UW-Madison Graduate Faculty to serve as a co-advisor of an Agronomy graduate student. These steps are to be followed for each potential graduate student co-advisee.

- (1) The individual must submit a cover letter that addresses the following points relative to serving as a co-advisor:
 - (a) Rationale
 - (b) Qualifications
 - (c) Philosophy and approach to mentoring graduate students
 - (d) Availability (percent of time available to mentor graduate students)
 - (e) Accessibility (location, e.g. on-campus, off-campus, out-state, out-of-state)
- (2) The individual must submit an up-to-date Curriculum Vita that includes an outline of experience mentoring graduate students.
- (3) The Agronomy faculty member who will also serve as co-advisor must submit a letter of recommendation on behalf of the individual to serve as a co-advisor.
- (4) Required information is to be submitted to the Chair of the Agronomy Graduate Studies Committee. The committee will review the information and make a recommendation to the Agronomy faculty for approval or disapproval of the individual to serve as a co-advisor.

Non-faculty Committee Members

The steps described below are to be used to approve an individual who is not a member of the UW-Madison Graduate Faculty to serve as a committee member of an Agronomy graduate student. These steps are to be followed for membership on each graduate student committee.

- (1) The Agronomy faculty member who will serve as advisor (committee chair) must submit a letter of recommendation on behalf of the individual to serve as committee member.
- (2) An up to date CV of the individual is to be included.
- (3) The letter and CV are to be submitted to the Chair of the Agronomy Graduate Studies Committee. The committee will review the information for approval or disapproval of the individual to serve as a committee member.

APPENDIX VII

LIST OF POSSIBLE FELLOWSHIPS AND SCHOLARSHIPS

There are a number of fellowships and awards which pay a cash stipend for which Agronomy graduate students are eligible. Some of these are described below:

University Fellowships. Fellows are selected in a campus-wide competition, and are nominated by the department upon recommendation of the graduate committee. Although there are categories for incoming, intermediate and advanced graduate students, most awards are given to incoming students. Stipends are generally equivalent to a half-time research assistantship. Applications require letters of recommendation, transcripts, and GRE scores, and are due by January 15. The competition for these fellowships is very keen, and high GRE scores, undergraduate GPA of 3.8 or higher, and outstanding recommendations are usually required. Students interested in being considered should speak to their advisor.

CALS Fellowships. Two to three fellowships are reserved for students enrolled in CALS. Procedures for application and stipends are similar to those for the University Fellowships, except that the deadline is earlier. Selection is made by the CALS Scholarships and Loans Committee, among those recommended by each department.

Advanced Opportunity Fellowships. Advanced Opportunity Program funds are granted to UW-Madison's Graduate School by the State of Wisconsin and combined with other graduate education funds to support the recruitment and retention of highly qualified underrepresented students in UW-Madison graduate programs. Fellowships are competitive and merit-based. Advanced Opportunity funding is intended to increase the racial and ethnic diversity of the graduate student population, as well as to support economically disadvantaged and first generation college students.

<http://uwoffr.wordpress.com/fellowships/grsfunding/>

E. B. Fred Fellowships. These fellowships are open to students for graduate study leading to a Ph.D., who are returning to graduate school after a 5-year interruption in their formal education. Awards are for one semester. Applications are obtained from the Graduate School Fellowships Office, and do not need to be submitted through the Department.

O. N. Allen Graduate Scholar Award. The O. N. Allen Award is provided to enable the Departments of Agronomy, Soil Science and Plant Pathology to attract truly outstanding graduate students. The income from the endowment is used as a \$2,000 supplement to a one-third time or greater research assistantship.

Dwayne A. Rohweder Graduate Student Award. This \$1,000 award will be presented to an incoming graduate student who has an interest in Agronomic extension, particularly in forages. The award is based on scholastic ability, professional interests and goals, and communication skills. The recipients will be selected by the Department upon recommendation of the graduate committee.

The William T. Dible - Terra International, Inc. Scholarship. Candidates for this scholarship are nominated by the Departments of Agronomy, Plant Pathology and Soil Science or the Program in Plant Breeding and Plant Genetics. The recipient is awarded a stipend of approximately \$1,500. Both incoming and continuing students are eligible, as are candidates for the M.S. or Ph.D.

D. C. Smith Outstanding Graduate Student Fellowship. This fellowship is presented annually to the outstanding graduate student in the Agronomy Department. The recipient is chosen by the department upon recommendation of the graduate committee. Candidates are nominated by their advisors; selection is based on classroom performance, research competency and accomplishments, and leadership in department and student activities. Candidates must have been in residence for at least one year, and must be in residence for at least one semester after receiving the award.

Marie Christine Kohler Fellowships. The Kohler Fellowship Program brings together 12 single graduate students, at the dissertation stage, from a variety of fields in an interdisciplinary living situation. The fellowship provides a free room (double occupancy), but not meals. Kohler Fellows are expected to live and participate in the programs at the Knapp Memorial Graduate Center, 130 E. Gilman Street. Candidates must have a good academic record and must either have passed their preliminary examinations or expect to have passed them by the beginning of the fall semester. In awarding the fellowship the students personality, leadership qualities and breadth of interests are considered. Candidates are nominated by their advisor in March.

R. Gordon Harvey Wisconsin Distinguished Graduate Fellowship in Weed Science.
Eligibility: Any incoming or first-year graduate student in the Department of Agronomy whose principal graduate research is in weed science. Minimum GPA of 3.5. Eligible once per graduate degree. Selection: The Agronomy Graduate Studies Committee will select the recipient based on academic performance, research competency, and leadership, as assessed from the vita and essay.