Integrated Plant and Soil Sciences (IPSS) Graduate Program Guide

Covering M.S. and Ph.D. Degrees in IPSS



Department of Forestry and Natural Resources
Department of Horticulture
Department of Plant Pathology
Department of Plant and Soil Sciences

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1 Introduction

1.1 Program information and administration

This handbook for the Integrated Plant and Soil Sciences (IPSS) graduate program serves as a guide for faculty, current, and prospective graduate students. The handbook summarizes the major rules and procedures of the Graduate School and describes policies specific to the IPSS graduate programs. The policies and procedures described here are intended to be consistent with those contained in the Graduate School Catalog, but Graduate School rules take precedence in all cases. Students are advised to review the Graduate School Catalog and become familiar with its contents.

The IPSS program is interdepartmental and interaction among students and faculty within the different disciplines in this program is extensive. Assistantship support and some other aspects of the program, however, are organized along departmental lines. Faculty members in the Departments of Forestry and Natural Resources, Horticulture, Plant Pathology, and Plant and Soil Sciences who have Graduate Faculty status in IPSS place the highest priority on excellence in graduate student education. They make every effort to provide an environment conducive to learning, productive graduate research, and professional development. Outside of their advisors, graduate students should feel free to contact the IPSS Director of Graduate Studies (DGS) or their department chair for advice or information at any time. Up-to-date information on IPSS contacts is found below and on the IPSS website.

Briefly, roles of IPSS administration are as follows (more information in section 9 (role of advisors and committees) and Appendix G):

- The Director of Graduate Studies (DGS) is the Graduate School's local representative of the graduate program, acting as the official liaison with the Graduate School. The DGS is responsible to the IPSS Graduate Faculty and to the Dean of the Graduate School for the recruitment, admission, advising, evaluation and graduation of students in their program. Consequently, the DGS has an important impact on the quality of graduate programs at the University of Kentucky. The DGS of a graduate program reports directly to the Dean of the Graduate School or to the Dean's designee on all matters relating to graduate education in the program. The DGS is responsible for the administration of the graduate program, including maintenance of records at the departmental level, admission of graduate students, fellowships, program requirement changes and new programs, advising and registration, appointment of advisory and examination committees, and other degree requirements related to the graduate program. The DGS should also ensure that the program's Graduate Student Handbook is current and that annual written evaluations are provided to each student. Additionally, the DGS serves as the focal point for dissemination of information from the Graduate School to both graduate students and the Graduate Faculty in their program.
- The IPSS Steering Committee coordinates programmatic changes, administration, and assessment, and leads efforts to improve IPSS structure and function.
- The Department Chairs administer assistantships (if any) and provide general guidance for graduate activities in their respective departments.

1.2 Contact Information

IPSS Director of Graduate Studies

• Art Hunt

o Phone: 859-218-0776

o Email: aghunt00@uky.edu

Website: https://ipss.ca.uky.edu/

Forestry and Natural Resources

• Department Chair: Steven Price (interim)

o Phone: 859-257-7610

o Email: steven.price@uky.edu

Website: https://forestry.ca.uky.edu/

Horticulture

• Department Chair: Mark Williams

o Phone: (859) 257-1758

o Email: mark.williams@uky.edu

o Website: https://www.uky.edu/hort/

Plant and Soil Sciences

• Department Chair: Rebecca McCulley

o Phone: (859) 257-6388

Email: <u>Rebecca.mcculley@uky.edu</u>Website: https://pss.ca.uky.edu/

Plant Pathology

Department Chair: S. Reddy Palli

Phone: 859-218-0725Email: rpalli@uky.edu

o Website: https://plantpathology.ca.uky.edu/

Chair, IPSS Steering Committee

• Erin Haramoto

o Phone: 859-218-0745

o Email: erin.haramoto@uky.edu

2 Graduate Degree Programs

2.1 Degrees offered

The Integrated Plant and Soil Science program offers two graduate degrees – the Master of Science (M.S.) and the Doctor of Philosophy (Ph.D.). In the M.S. degree program, students can pursue a degree with a thesis option (Plan A), which involves research and a thesis, or with the non-thesis option, which includes coursework and a research report (Plan B). Details on these two options are found here. A master's degree is not a pre-requisite for entering a Ph.D. program. However, with few exceptions, students without a master's degree who want to enter Ph.D. programs will be enrolled in an M.S. program for a one-year probationary period. In agreement with the student, the advisor will make a request for transition into the Ph.D. program to the DGS.

2.2 Graduate Faculty

Faculty members in the IPSS participating departments are appointed to the IPSS Graduate Faculty. This allows them to chair or co-chair a graduate student's advisory committee, and to serve on graduate student committees in any UK graduate program. Ranks within the <u>Graduate Faculty</u> are often confused with regular faculty appointment ranks, but they are not identical. Assistant professors are typically appointed as associate members of the Graduate Faculty and moved up to full member status when promoted to the Associate Professor level and tenured. However, tenure is not a requirement to be a full member of the Graduate Faculty. Advisors can query the DGS or

department chairs to determine the graduate faculty status and rank of a faculty member within a particular graduate program.

3 Application Process and Admissions

3.1 Application Procedure

Admission to the IPSS program is competitive. *The IPSS program only recommends applicants to the Graduate School for admission if they have identified an advisor who will make a commitment of financial support.* Thus, admittance to the program depends on funding availability and is not guaranteed even if students meet the requirements below. Prospective students are encouraged to contact potential advisors **before** applying. Once support from an advisor is assured, prospective students should apply <u>online</u> to the University of Kentucky Graduate School.

Applicants must meet the following requirements for admission to the Graduate School:

- Obtain a baccalaureate degree, prior to the start of the term for which they are admitted, from a fully accredited U.S. institution of higher learning or from a recognized foreign institution (details here; see section "Admissions Requirements...").
- International applicants must submit either a TOEFL (Test of English as a Foreign Language) or IELTS (International English Language Testing System) score. Scores expire after two years. See the Graduate School's requirements on this here (see section "Test Scores: English Language Proficiency").
- An overall grade point average of **2.75** on undergraduate work and **3.00** on all graduate work on a 4.00 scale (or equivalent) is required by the Graduate School and for the IPSS program. The IPSS minimum requirements may be waived in exceptional cases if sufficient evidence of the student's ability to do graduate work is presented. However, Graduate School minimum requirements must still be met.

Applicants must submit the following materials to be considered for admission to the Graduate School and the IPSS program. Official GRE test score(s) are not required by the IPSS program but may be required for consideration for some university fellowships (section 4.1.3).

- Official transcripts showing, at minimum, a baccalaureate degree from a fully accredited U.S. institution of higher learning or from a recognized foreign institution. Although unofficial transcripts will complete the application, official transcripts need to be submitted to the Graduate School by the beginning of the second term of the student's program;
- TOEFL or IELTS score if necessary:
- Current CV;
- Personal statement briefly explaining your background, why you want to pursue this degree, your research interests, and your short- and long-term career goals;
- Three (3) letters of recommendation which will be requested electronically from letter writers who are identified by the applicant in their graduate school application;
- Application fee. Domestic applicants (U.S. citizens or resident aliens) must pay a \$65
 application fee; international applicants must pay a \$75 fee. In exceptional cases, the
 application fee can be paid by the applicant's advisor. Once paid, these fees are not
 refundable;
- Additionally, the student will select the anticipated Ph.D. specialization or M.S. concentration (see description in section 11.2.3).

Application deadlines differ for domestic and international students. Check the <u>Graduate School</u> <u>website</u> (section "Application Deadlines") for exact dates.

3.2 Conditional admittance

The IPSS program does not have coursework requirements for program admission. However, for students who do not have basic coursework in biology, chemistry, physics, mathematics, statistics, or other courses deemed necessary to be successful in their field of study, the prospective advisor and the admissions committee may recommend that admission to the program be conditional pending the completion of supporting coursework. Once these background courses have been completed, the condition will be lifted.

3.3 Part-time Students

Part-time graduate students can apply to the IPSS program. Part-time students are ineligible for graduate research assistantships and pay tuition per credit hour. Employees of UK may be eligible for tuition waivers for up to 12 credit hours of graduate credit each year (a maximum of 6 credit hours per semester) under the Employee Education Program (EEP). Certain amounts of graduate credit may be transferable to UK graduate programs from other public universities. Contact your DGS for more information on part-time programs and EEP.

4 Financial Support

With very few exceptions, all IPSS students are on some form of assistantship. These generally include a stipend, tuition, and health benefits. Graduate students are responsible for all mandatory fees. The base stipend is determined by the University of Kentucky. Stipends may be supplemented for exceptional candidates and performance, per the advisor's departmental stipend policies and at the discretion of the advisor's department chair. Some funding agencies specify minimum stipends which will be honored for students supported by those agencies. The DGS will notify students of their funding source, stipend amount, and type of assistantship in offer letters.

4.1 Types of Assistantships/Fellowships

4.1.1 Research Assistantships

Research assistantships are awarded on a competitive basis by some individual departments and faculty, not by graduate programs. Students on departmentally-funded assistantships may be required to serve as teaching assistants, with the number of semesters and courses determined by the department.

4.1.2 Teaching Assistantships

Teaching assistantships are determined by individual departments, not by graduate programs. Recipients teach laboratory or recitation sections, with number of semesters and courses determined by the department. Students not supported by departmental funds who volunteer or are called upon to serve as teaching assistants may be eligible for an additional stipend, depending on their department.

4.1.3 Graduate School Fellowships

Several different <u>fellowships</u> are awarded by the Graduate School. Contact the DGS for further information on procedures. Many fellowships and scholarships are self-nominated by the student, while others need a nomination by the DGS.

4.2 Enrollment Requirements

To receive full health and tuition benefits, Master's students receiving assistantships or fellowships:

- must be enrolled for a minimum of nine (9) credit hours each fall and spring semester. PLS 768 credits count towards this total. Enrollment is not required during the summer term and summer tuition is not covered by most assistantships.
- register for PLS 748 (zero credit hours) if they are not taking other formal courses that are required for the completion of their degree (example: coursework is complete and the student is writing their thesis and about to defend). Graduate students cannot register for PLS 748 themselves. They need to contact the DGS who sends a request to the Graduate School.

To receive full health and tuition benefits, Doctoral students receiving assistantships or fellowships:

- must meet the University residence requirement (two (2) consecutive full-time terms with nine (9) credit hours or three (3) consecutive part-time terms with six (6) credit hours)
- continue to register for a minimum of nine (9) credit hours each semester until the qualifying exam. Enrollment is not required during the summer term and summer tuition is not covered by most assistantships.
- During the semester of their qualifying exam, PhD students enroll in two (2) credit hours of PLS 757.
- After the qualifying exam, students register for two (2) credit hours of PLS 767 each term until the completion of their degree. Two (2) credit hours of PLS 767 are considered by the University to represent full-time status for doctoral candidates. If international graduate students intend to defend their thesis or dissertation during the summer term, it is recommended that they register for PLS 767, however, only during the summer term in which they defend.

4.3 Duration of Assistantships

Graduate research and teaching assistantships are awarded on a 12-month basis. (Fellowships are usually awarded for the academic year, the duration being established by the Graduate School.) Providing the student is making satisfactory progress, and depending on the availability of funding, assistantships are automatically renewed annually with the following limits (limits can differ on an individual basis):

- M.S. Assistantships will terminate at the end of three years.
- Ph.D.
 - o From the B.S. degree without a Master's degree Assistantships will terminate at the end of the fifth year.
 - From the Master's degree Assistantships will terminate at the end of the third vear.

Extension of assistantships beyond the normal termination date can be granted on a semester-by-semester basis. The extension must be requested by the student, recommended by the Advisor / Advisory Committee, and approved by the IPSS Steering Committee or its designee. The request must be accompanied by a report of progress and justification for extension. Please note that these limits are independent of the availability of funding. Assistantships may be terminated earlier if funding is not available. Contact the DGS for more information.

4.4 Assistantships and Academic Probation

Graduate research assistants on academic probation (see Section 11) forfeit their out-of-state tuition scholarship while they are on probation and are responsible for paying their own tuition. Additionally, students on academic probation will automatically be placed on probation with respect to their assistantship. The assistantship will be terminated if the student is not removed from academic probation after one semester of full-time enrollment or two semesters of part-time

enrollment, unless extenuating circumstances can be satisfactorily demonstrated to the IPSS Steering Committee or other designated body.

4.5 Termination of Assistantships

Assistantships may be terminated prior to completion of degree requirements or prior to the normal termination date identified under section 4.3. Potential reasons include, but are not limited to:

- 1. Failure to make satisfactory research progress as determined by the Advisor and/or Advisory Committee.
- 2. Failure of the Ph.D. Qualifying Examination. If deemed appropriate by the committee, the exam may be retaken no earlier than four months after failure. This is a policy of the Graduate School.
- 3. Failure of the Final Examination for the M.S. degree or the Ph.D. degree.
- 4. Student remains on academic probation for too long (see section 4.4).

Termination of an assistantship is recommended by the Advisor and/or the Advisory Committee, reviewed by the IPSS steering committee, and finally approved by the appropriate Department Chair.

5 Responsibilities of Graduate Assistants

Graduate assistantships are awarded to support a student financially while they conduct research. The thesis or dissertation is the student's own work. However, the research is almost always consistent with the long-range objective of the Advisor / Major Professor's research program. The Advisor or Major Professor may request assistance in research not related to the student's thesis or dissertation, or may ask the student to participate in other activities for the student's educational benefit.

The general expectation for a research assistantship is that the recipient should devote approximately 20 hours per week to their research, with the remaining 20 hours at the discretion of the Advisor / Major Professor. The IPSS program's philosophy is that commitment and dedication are essential characteristics of a good graduate student; that an assistantship should provide the student the opportunity to devote full attention to study and graduate research; and that successful graduate study demands very frequent evening and weekend work. Graduate study is an avocation, not just a job. Students are often given flexibility in arranging their study and work schedules with the expectation that supervision of working hours will be unnecessary. Students and advisors should discuss these expectations early and frequently so there is mutual understanding of the working hours required (including vacations).

Graduate students involved in research are held to the same high standards of ethical and professional conduct as all scientists. Misrepresentation of research or coursework may result in termination of financial support and academic sanctions. The publication 'Student Rights and Responsibilities' (available online) provides detailed information about the Code of Student Conduct, academic offenses, and related questions. Further information is available from the Academic Ombud, 109 Bradley Hall. Additionally, all students receiving research assistantships at the University of Kentucky are required to complete Responsible Conduct of Research training.

6 Conflict Resolution

In general, students should start with their Advisor / Major Professor with any issues in their graduate program. From there, students can contact their committee members, the DGS, their department chair, and/or the <u>University of Kentucky Ombud Services</u>. Any of these levels can be skipped if deemed to be inappropriate. Additionally, students can report issues anonymously to any of these levels. Harassment and discrimination, defined <u>here</u> by the University, can be reported anonymously to the <u>Office of Equal Opportunity</u>.

7 Orientation

Prior to the start of the Fall semester, the IPSS program conducts an orientation for new and returning students and faculty. The orientation will include an introduction to rules and procedures, such as travel and purchasing, an overview of faculty research in IPSS, a discussion of the importance of attendance and participation in seminars, and information on opportunities for scholarships, fellowships, and other financial support. Students starting in January or May are encouraged to attend the next scheduled orientation, and to contact the DGS for important information when they start.

8 Registration

Registering for courses is completed via myUK by following instructions on this site. New graduate student advisor holds will be lifted automatically on registration dates unless otherwise specified by the graduate program. Questions or comments regarding registration can be sent to registration@uky.edu. Information on registration windows for each term can be found on the Registrar's website.

9 Graduate Faculty and Advising

9.1 Advisor (M.S.) and Major Professor (Ph.D.)

The graduate school has different titles for the direct supervisor of a graduate student. An M.S. student has an **Advisor**, a Ph.D. student has a **Major Professor**. An **Advisor** is appointed for each M.S. student. They advise the student on coursework and serve as the **Thesis Director**. A **Major Professor** for each Ph.D. student is appointed by the Graduate Dean on recommendation by the DGS. <u>Only</u> Full members of the Graduate Faculty may act as *sole* Major Professor to a Ph.D. student (see section 9.2.2 below). The Major Professors assume primary advisory functions for the student, chair the **Advisory Committee**, and serve as **Dissertation Director**.

9.2 Committees

Normally, Thesis and Advisory Committees (described below) meet at least once each year. A student is required to consult frequently with committee members, and any other appropriate faculty, during the planning and execution of their research project.

9.2.1 M.S.

The IPSS Graduate Program requires that M.S. students form a thesis committee and strongly recommends that this group, which is designated on annual review paperwork, meet during the first term of study and subsequently on at least a yearly basis. This thesis committee guides the student on research and coursework selection. In the IPSS program, it also serves as the student's examining committee. At least two committee members (including the chair or co-chair) must be members of the Graduate Faculty, and at least one of the two must be a Full member of the Graduate Faculty. At least two members of the committee should be from the student's program/department. Committee members from outside the University of Kentucky whose disciplinary expertise would become necessary for a graduate student's project can be appointed to the Graduate Faculty and

serve on the committee as a voting member for the duration of the specific committee. Contact the DGS for details.

(Note that the Graduate School requires only that an M.S. examining committee be formally designated in writing prior to the Final Examination, with the committee members officially appointed by the Dean of the Graduate School.)

9.2.2 Ph.D.

Each doctoral student's program is directed by a Major Professor and an Advisory Committee. The IPSS graduate program also requires that this Advisory Committee be formed in a student's first semester. (Failing that, it **must** be done no later than when the student accumulates 18 credit hours of graduate work **AND** must be formed at least one year prior to the Qualifying Examination.) Forming the Advisory Committee early ensures that the course of study suggested by the committee can be implemented and allows the committee to provide input on the research proposal. The Major Professor and Advisory Committee are formally designated through the 'Formation of an Advisory Committee' form, submitted electronically by the student and approved by the DGS. The DGS then submits the approved form to the Graduate School Dean for formal designation of the committee.

In cases where the Major Professor is not yet a full member of the Graduate Faculty, a Co-Chair who is a full member of the Graduate Faculty <u>must</u> be a member of the committee. In some cases, given the nature of a student's dissertation research, it is appropriate that two Co-Directors of the Advisory Committee are named, one of whom must be a full member of the Graduate Faculty. The Ph.D. Advisory Committee has a core of four members. This core consists of the Major Professor as chair, a co-chair if necessary (as described above), two members from the program area, and at least one committee member from another area. At least one of these committee members must be from outside the program area (or outside the main area of specialization). All members of the core must be members of the Graduate Faculty of the University of Kentucky and three (including the Major Professor or Co-Director) must possess Full Graduate Faculty status. Additional faculty members may serve as members of the Advisory Committee. The core of the Advisory Committee must be kept at its full complement throughout the graduate career of the individual student. The Advisory Committee provides advice to the student and specifically sets requirements that the student must meet in pursuit of the doctorate (within Program, Graduate School, and University regulations). The Advisory Committee administers the Qualifying Examination, supervises the preparation of the dissertation, and administers the Dissertation Defense and Final Examination. Committee members from outside the University of Kentucky whose disciplinary expertise would become necessary for a graduate student's project can be appointed to the Graduate Faculty and serve on the committee as a voting member for the duration of the specific committee. Contact the DGS for details.

10 IPSS Degree Requirements

Students enrolled in the IPSS program must meet the minimum requirements of the Graduate School for the awarding of M.S. (30 graduate credit hours) and Ph.D. (36 graduate credit hours, of which at least 18 credit hours must be taken in residence) degrees. Please consult the checklist (Appendix B, D) which provides supplementary information in a concise format to aid in completion of the requirements in a timely fashion.

10.1 Learning Outcomes

At the completion of their program, graduates of the M.S. and Ph.D. program in IPSS will:

- 1. Have acquired extensive knowledge of the science and technology that supports research, education, and technological innovation in plant biology, crop science, horticultural science, soil sciences, and/or environmental and ecosystem science.
- 2. Be conversant with the literature, current concepts, and experimental methods that support research, teaching, outreach, and technological innovation in plant biology, crop science, horticultural science, soil sciences, and/or environmental and ecosystem science.
- 3. Have acquired skills in critical and analytical thinking and in communication that may be applied to research, education, outreach, industry, and government.
- 4. Have acquired those elements of professionalism necessary for rewarding and developing careers in science devoted to research, education, outreach, and industry.

10.2 Areas of Specialization/Concentrations

The IPSS program includes six disciplinary areas (specializations for Ph.D. students and concentrations for M.S. students). Currently, with the exception of the Plant Pathology area, the IPSS program does not require specific courses for these areas. Therefore, the specialization / concentration areas are not reflected on students' diplomas or transcripts. Regardless, students must select a specialization or concentration; this initially occurs during the application process though it can be changed. Descriptions of the concentrations/specializations are in APPENDIX A.

Within IPSS (both M.S. and Ph.D.) areas of specialization/concentration include:

- Crop Science
- Environmental Science and Ecosystem Ecology
- Horticultural Science
- Plant Biology
- Plant Pathology (see Appendix A for coursework requirements)
- Soil Science

10.3 Plan of Study

Each student will establish, in consultation with their Advisory/Thesis Committee, a proposed set of courses to be taken and arrange to fulfill any service requirement. Students are encouraged to consult Sections 10.6 or 10.7, and with the DGS, to ensure their Plan of Study will fulfill all credit requirements.

10.3.1 Core Courses

The IPSS program requires all M.S. and Ph.D. graduate students to enroll in IPS 610 Trans-Disciplinary Communication in IPSS (2 credits) and IPS 625 Trans-Disciplinary Research in IPSS (2 credits) at least once. IPS 610 and 625 are interdisciplinary, topic-driven courses. Each student must also enroll in a graduate-level statistics course (minimum 3 credits). *Students in the Plant Pathology specialization / concentration have additional requirements; see Appendix A.5.*

10.3.2 Additional Coursework

See Appendix A for more information on the course options within each specialization / concentration area. Students should consult with their Advisor and Committee to select their additional coursework.

10.4 Annual Review of Progress

Each student should meet, at a minimum, with their committee once each year. At this meeting, the progress of the student towards fulfilling the requirements for the degree will be reviewed and discussed. The results of this determination will be communicated to the student in writing with a copy sent to the DGS. In addition, students must submit an annual review of progress, with their annual review CV (in a specific format) to the DGS. These reports are used to generate data on graduate student productivity and the annual Program Student Learning Outcome assessment that the IPSS program submits to the Director of Institutional Effectiveness.

10.5 Other IPSS program requirements

10.5.1 Seminar

All graduate students should attend their respective departmental seminars (if any). Departmental seminars are a critical component of graduate education and help to introduce the students to research from a variety of disciplines.

10.5.2 Publication Requirement

Publication of research in refereed journals is the key to successful academic careers and represents the final objective of any research project. It is also an essential means of evaluating the success of the student and the academic program. Therefore, it is imperative that students gain this skill during their academic education. To this end, the IPSS program requires each M.S. and Ph.D. student to have submitted a manuscript based on their dissertation or thesis work to an appropriate refereed journal, selected in consultation with their Advisory/Thesis Committee, prior to the dissertation or thesis defense. However, because circumstances can arise to prevent this, the manuscript requirement can be waived by the DGS upon the recommendation of the student's Advisory/Thesis Committee.

10.5.3 Presentation Requirement

Students must present their research annually at the IPSS graduate student symposium to demonstrate their competence in public presentation skills. (Students with a scheduled exit seminar in the same academic year as the IPSS symposium can be exempted from this requirement.) If students are unable to attend the annual graduate student symposium, they may substitute another presentation *that is open to the University of Kentucky community*. Students needing to present at an alternate forum must inform the DGS prior to the annual IPSS graduate student symposium of their plans. To apply for travel scholarships or other funding available from the IPSS program, students must meet this annual presentation requirement by the end of the fiscal year (June 30). If they do not, they forfeit the right to receive travel funds or other monetary awards from the IPSS program in the subsequent fiscal year. Reference the student checklists found in Appendix B and D for more information.

10.5.4 Teaching opportunities

There is no formal teaching requirement for IPSS graduate students. Students interested in pursuing a career in teaching are encouraged to explore obtaining the Graduate Certificate in College Teaching and Learning offered through the Graduate School. Information on the certificate can be found here.

10.5.5 Exit survey

The IPSS program sends a survey to all graduating students. This survey asks about satisfaction with different aspects of the program, what students will do after their degree completion (i.e., another graduate program, employment, type of employment), and collects important data on program effectiveness. The survey is anonymous.

10.6 Specific requirements: Master of Science (M.S.)

Requirements for an advanced degree shall be no less than the minimum established by the Graduate School.

10.6.1 Master of Science in Integrated Plant and Soil Sciences (Thesis Option)

The general requirements of the thesis option are as follows. Rules and requirements from the Graduate School catalog take precedence in all cases, and students are encouraged to familiarize themselves with its content.

- Thirty hours of approved graduate credits, including (1) at least 24 credits of graduate coursework that includes IPS 610, IPS 625, and 3 credits of a graduate-level statistics course, and (2) six credits of thesis residence (PLS 768) that can be taken over multiple semesters.
- Of the required coursework hours (24 credits):
 - o at least one half (12 credits) must come from the student's major area.
 - at least two-thirds (16 credits) must be "regular" courses. These exclude research and independent study credits (including PLS 799), seminars, residency credits (including PLS 768), special topics courses (PLS 597, PLS 697) practicum credits, etc
 - o at least one half (12 credits) must be at the 600 or 700 level. PLS 768 credits do NOT count towards this requirement, but IPS 610 and IPS 625 do count.
 - Students in the PPA concentration must meet additional requirements outlined in Appendix A5.
- Presentation of an exit seminar, passing the final exam (i.e., defense), and submission of a thesis.

Provided that these requirements are satisfied, students may apply up to 9 hours of <u>approved</u> post baccalaureate graduate coursework (i.e., completed after the undergraduate program and before graduate school enrollment, or graduate-level courses completed while not pursuing a degree) from the University of Kentucky or other accredited institutions to the 30 credit hour requirement. The plan of coursework in both the major area and in background courses in basic sciences (if required) must meet the approval of the Advisor.

10.6.2 Master of Science in Integrated Plant and Soil Sciences (Non-thesis Option)

A non-thesis M.S. option is offered by the IPSS graduate program. The non-thesis option is generally intended for students who already hold professional positions and have no intention of additional graduate study. This option provides strong technical training, but does not require an extended period of full-time, on-campus research. An overall GPA of 3.0 is required to graduate.

The general requirements of the non-thesis option are as follows. Rules and requirements from the <u>Graduate School catalog</u> take precedence in all cases, and students are encouraged to familiarize themselves with its content.

- Thirty credit hours of approved graduate courses that include IPS 610 and IPS 625, and 3 credits of graduate level statistics.
- Of the required coursework hours (30 credits):
 - o at least half (15 hrs) must be at the 600- or 700-level. PLS 799 credits count towards this total, as do IPS 610 and IPS 625.
 - o at least half (15 hours) must be in the student's major area.

- At least two thirds (20 hours) must be "regular" courses. These exclude research and independent study credits, seminars, residency credits, practicum credits, etc.
- At least 4, but not more than 8, of the 30 hours must be PLS 799 Research in Plant and Soil Science. This course is intended for on-campus (Lexington, Princeton, or Robinson Substation/Forest) independent research. It will consist of a research project involving design, execution, analysis, and a written report by the student.
- Final examination, and submission of a project.

Provided that these requirements are satisfied, Non-thesis students may apply up to 9 hours of <u>approved</u> post baccalaureate graduate coursework (i.e., completed after the undergraduate program and before graduate school enrollment or graduate-level courses completed while not pursuing a degree) from the University of Kentucky or other schools to the 30-hour requirement. Non-thesis M.S. students may also take up to 8 hours of PLS/HOR 599 Special Problems. This course differs from PLS/HOR 799 in that PLS/HOR 599 may involve off-campus projects conducted under the supervision of any faculty member. This will still require a written report by the student. PLS 768 (Residence credit for Master's degree) only counts against the credit requirement for thesis students (Plan A); non-thesis (Plan B) students cannot use PLS 768 for credit. The plan of coursework must meet the approval of the Advisor.

10.6.3 Master's Thesis

Theses must be prepared in conformity with the instructions published by the Graduate School. Detailed instructions can be found here.. The thesis in its final form must be received by the Graduate School within 60 days of the Final Examination. Theses must be presented to and accepted in the Graduate School by the last day of the semester if a student plans to graduate that semester. The formatted quality of the completed thesis must be acceptable to the Graduate School, and the student must transmit the completed ETD form. Theses submitted by candidates become the physical property of the University of Kentucky. To view the current collection of Electronic Theses and Dissertations (ETDs), go to http://uknowledge.uky.edu/gradschool.

10.6.4 Final Examination for Thesis and Non-Thesis M.S. Options

An oral Final Examination, also known as the defense, is given to all candidates for master's degrees not later than eight business days before the last day of classes of the semester in which the degree is to be awarded. The examination is scheduled by the Dean of the Graduate School and the report is returned to the Dean upon completion of the examination, which in no case may be later than two weeks after the start of the examination.

The "Request for Final Master's Degree Examination" form must be filed at least two weeks prior to the date of the examination. Students on academic probation are not eligible to sit for the final examination. Class must be in session for the student to sit for the exam. If the candidate fails the final examination, the committee may recommend to the Dean of the Graduate School the conditions under which a second examination may be administered. If practical, the same examining committee gives this examination. In all decisions the majority opinion of the committee prevails. If the committee is evenly divided, the candidate fails. A third examination is not allowed. See Appendix J for a description of the final examination procedures.

The default format of final M.S. degree exams is in-person. However, if one or several members of the committee or the candidate cannot attend in person, the Graduate School allows the exam to be conducted in hybrid mode (a mixture of in-person and virtual attendance). The candidate must announce the need for conducting the final exam in hybrid format as early as possible. The

Graduate School has implemented rules that need to be followed without exception. For detailed instructions, see APPENDIX L.

10.6.5 Time Limit for Master's Degrees

Students first enrolled in a master's/specialist program in the fall 2005 semester and beyond have 6 years to complete all requirements for the degree, with the opportunity to request extensions up to an additional 4 years (a total of 10 years). Extensions up to 2 years may be approved by the Dean of the Graduate School. Requests for extensions longer than 2 years must be considered by the Graduate Council. All requests should be initiated by the Director of Graduate Studies. No activity completed more than 10 calendar years preceding the proposed graduation date will be considered for graduation. This timeline is independent of funding availability (see sections 4.3-4.5 for information on assistantship duration).

A program may submit an appeal to the Graduate Council to allow a time-to-degree terminated student to be readmitted and pursue the degree without re-taking all required coursework. The appeal should:

- Provide an explanation for the failure to initially complete the degree on-time.
- Provide a detailed description of the requirements that must be fulfilled in order to receive the degree.
- Provide confirmation that the appeal was approved by the majority of the program graduate faculty.

10.7 Specific requirements: Doctor of Philosophy (Ph.D.)

The degree of Doctor of Philosophy is conferred after completing graduate work devoted to study of a special field of knowledge, passing a comprehensive examination on the dissertation subject and chosen field, presenting a satisfactory dissertation, and demonstrating evidence of scholarly achievement. For the Ph.D. degree, a minimum of 36 credit hours of graduate level work (of which 18 hours must be in residence at the University of Kentucky) must be completed. Some specific requirements for the Ph.D. degrees granted through the IPSS program are identified below.

10.7.1 Course Requirements

Ph.D. students are allowed to transfer up to 18 credit hours of previously-completed graduate level coursework (e.g., from M.S. degree) to meet the coursework requirements in the Ph.D. program. The course requirements consist of IPS 610 and IPS 625, and 3 credits of a graduate level statistics course. The remaining hours (up to 36 credit hours) are determined by the Advisory Committee. Students may apply previous coursework (from prior graduate work) towards fulfilling the graduate level statistics requirement; this is at the discretion of the Advisory Committee. Suggested courses for each specialization are provided in Appendix A. There is no minor requirement. To be credited to the program the course must be 400G+ level and students must take at least 18 credits from courses at 500+ level. Students who enroll in a 400G course can only get credit for it if it does not have a PLS or IPS prefix.

10.7.2 Residency

See the Graduate School catalog for specific residency requirements. Before taking the qualifying exam (see next section), Ph.D. students must accumulate 36 credit hours minimum to satisfy the residency requirement. For students **without** an M.S. degree, four semesters of full-time residence (36 credit hours) at the University of Kentucky are required prior to the qualifying examination. Students **with** completed M.S. degrees can apply to the graduate school for credit transfer (up to 18

credits) from prior M.S. studies in lieu of two semesters of residency. If the maximum number of credits (18) were transferred from a prior MS degree, full-time Ph.D. students can sit for their Qualifying Exam after two semesters with 9 credits per semester, whereas part-time students can take more time to complete the 18 credits prior to the Qualifying Exam.

Following the successful completion of a qualifying exam, each student must register for 2 credit hours of PLS 767 (Post Qualifying Exam Residency Credit) every semester until the completion of their degree. The University of Kentucky considers students in PLS 767 to have full-time status. Students must fulfill at least two semesters of residency after successfully completing their qualifying exam before graduating. Refer to Section 10.7.3.

10.7.3 Qualifying Examination

The qualifying examination must be both written and oral components. See above for the timing of the qualifying exam. Once a doctoral student has passed the qualifying exams, they are considered a 'doctoral candidate.' A student may repeat a failed qualifying exam after a minimum of four months has expired. A student may have no more than two chances to pass a qualifying exam.

- 1. *The Written Exam.* The form and timing of the written qualifying exam is at the discretion of the Advisory Committee and is completed in advance of the oral exam.
- 2. *The Oral Exam*. An oral exam will be administered after successful completion of the written exam according to Graduate School rules. Oral exams are open to the participation of every member of the Graduate Faculty in IPSS and must be scheduled at a place and time to permit full participation of the Graduate Faculty.

Students must have the equivalent of 2 years of residency (36 hours or 18 hours plus written approval to use the M.S. degree to partially satisfy residency requirements). In addition, academic transcripts must show that there are no missing grades, 'I' grades (incomplete), and a GPA of 3.00 or higher. Graduate School policy will not allow a student to sit for the exam if they have unresolved academic issues.

The oral exam must be scheduled with the graduate school a minimum of two weeks before the proposed examination date. It requires that the student have an approved Advisory Committee in place. The request to schedule the qualifying examination must be submitted a minimum of two weeks in advance. A student must enroll for PLS 757 in the same term that they take their qualifying exam. If they fail the qualifying exam, they remain enrolled in PLS 757 for the semester during which the exam was held. In the following semester they are required to take 9 credit hours per semester until they have passed the qualifying examination. Once they pass the qualifying examination, they enroll in two (2) credit hours of PLS 767 from the following semester on until they graduate. Students can only sit for a qualifying exam when classes are in session. Therefore, it is the policy of the IPSS program that a student on assistantship may only sit for the qualifying examination in a Fall or Spring Term when they are enrolled as full-time students, or they may take the qualifying examination during the first or second summer terms, or winter intersession, when classes are in session.

Options for conducting the Qualifying Exam in hybrid format are the same as for a Final Exam and are listed below in 12.7.8.

10.7.4 Time Limits

Students first enrolled in a doctoral program in the fall 2005 semester and beyond must take the qualifying examination within five years of entry into the program. Extensions up to an additional three years may be requested. All degree requirements for the doctorate must be completed within five years following the semester or summer session in which the candidate successfully completes the qualifying examination, but extensions up to an additional 5 years may be requested (a total of 10 years). All pre- and post-qualifying extension requests should be initiated by the DGS and accompanied by a letter of support from the student's Major Professor / Dissertation Director. Extensions up to twelve months may be approved by the Dean of the Graduate School upon receipt of a request from the DGS. Requests for extensions longer than twelve months must be considered by the Graduate Council and will require the positive recommendation of the DGS, the chair of the student's doctoral Advisory Committee, and a majority vote of Graduate Faculty in the program. If the qualifying examination has not been passed at the end of five years, or at the end of all approved time extensions the student will be dismissed from the program. All requests for extensions in the post-qualifying period must include a recommendation on whether or not a retake of the qualifying examination should be a requirement of the extension. If requested, failure to pass the reexamination will result in the termination of degree candidacy; a second re-examination is not permitted. Failure to complete all degree requirements within 10 years of initially taking the qualifying examination will also result in the termination of degree candidacy. This new time limit applies to all programs.

A program may submit an appeal to the Graduate Council to allow a time-to-degree terminated student to be readmitted and pursue the degree without re-taking all required coursework. The appeal should:

- Provide an explanation for the failure to initially complete the degree on-time;
- Provide a detailed description of the requirements that must be fulfilled in order to receive the degree;
- Provide confirmation that the appeal was approved by the majority of the program graduate faculty.

10.7.5 Dissertation Proposal

Requirements for a dissertation proposal are at the discretion of the individual Advisory Committee.

10.7.6 Publication of Dissertation Research

A student, in cooperation with the Dissertation Director, may submit manuscripts, derived from the dissertation, for publication prior to completing the dissertation defense and is strongly encouraged to do so as evidence of scholarly achievement. Before such manuscripts are submitted, it is recommended that they be reviewed by the Dissertation Director and the student's Advisory Committee. It is the current policy of the doctoral programs mentioned in this guide that students will not be allowed to schedule a dissertation defense unless a manuscript has been submitted. This requirement may be waived by the DGS if extenuating circumstances are presented by the student's Advisory Committee.

10.7.7 Final Examination

The Final Examination includes a defense of the dissertation and may be as comprehensive in the major and minor areas as the Advisory Committee chooses to make it. It is conducted by an expanded Advisory Committee chaired by the Director of Graduate Studies or someone designated by the DGS. The Dean of the Graduate School and the President of the University are ex officio

members of all final examination committees. The examination is a public event and its scheduling is published and announced beforehand. Any member of the University community may attend. See Appendix J and this website for final examination procedures.

- 1. At least 8 weeks prior to the final examination, students must complete and submit the "Notification of Intent to Schedule a Final Examination" form for the Graduate School. At this time, the Graduate Dean appoints an Outside Examiner as a core member of the Advisory Committee. The dissertation should then be distributed to members of the Advisory Committee and the Outside Examiner at least two weeks prior to the final examination. The role of the outside examiner on the Final Examination Committee includes (a) assurance that only qualified candidates receive degrees and (b) assurance that the examination is administered in a fair, impartial and professional manner.
- 2. After distributing the dissertation, and a minimum of two weeks before the final examination, the student should file a "Request for Final Examination" form online. Prior to this, the student should have arranged with the Advisory Committee and Outside Examiner a mutually agreeable time and place to hold the exam. An examination cannot take place unless all participants are present (see below for hybrid options). The DGS will be notified of this request and asked for approval which results in an examination card being released. The Graduate School will designate the final time and place of the examination at least two weeks prior to the date. The final examination must take place no later than eight days prior to the last day of classes of the semester in which the student expects to graduate. Final examinations are public events and must take place while the University is officially in session. They may not be scheduled during the periods between semesters or between the end of the second summer session and the beginning of the fall semester. All members of the committee except the outside examiner must have an opportunity to suggest revisions prior to scheduling the Final Examination. Thus, most revisions should have been completed at an earlier time.
- 3. The draft dissertation must be complete in its content. The pre-exam copy of the dissertation must include title page, abstract, table of contents with page numbers, complete text, footnotes, list of tables, list of figures, appendices, references, and it must be typed in final format form except that page numbers may be penciled in. It should include any revisions that Advisory Committee members have suggested during their initial review. A dissertation approval form is not required as part of the dissertation defense
- 4. The final copy of the dissertation is prepared after the Final Examination is passed. Contact the Graduate School for detailed regulations on organization and formatting of the dissertation. All theses and dissertations are now required to be submitted electronically. The final copies, with signatures of the Dissertation Director and DGS must be received in the Graduate School within 60 days of the Final Exam. See the Graduate School Bulletin for details.

The default format of Qualifying and final Ph.D. degree exams is in-person. However, if one or several members of the committee or the candidate cannot attend in person, the Graduate School allows the exam to be conducted in hybrid mode, i.e., a mixture of in-person and virtual attendance. The candidate must announce the need for conducting the final exam in hybrid format as early as possible. The Graduate School has implemented rules that need to be followed without exception. For detailed instructions, see APPENDIX L.

10.7.8 The Dissertation

Each student must present a dissertation which represents the culmination of a major research project. The dissertation must be a well-reasoned, original contribution to knowledge in the field of study and should provide evidence of high scholarly achievement. Dissertations must be prepared in conformity with the instructions published by the Graduate School. Specific formatting instructions can be found here. The dissertation in its final form must be received in the Graduate School within 60 days of the final examination. If this deadline is not met, the candidate may be required to undergo a second examination. All doctoral dissertations must be submitted in electronic format. Instructions are available here. To view the current collection of ETDs, go to http://uknowledge.uky.edu/gradschool/.

11 Academic Performance, Probation, & Termination

11.1 Academic Probation

A student's grade-point average (GPA) must meet or exceed the 3.0 average established by the Graduate School. A letter grade of 'D' is not allowable for graduate students, and 'D' grades for any graduate student will automatically be converted to 'E' grades (no quality points earned). If, after having earned at least 12 credits of graduate work, a student's GPA drops below 3.0, they are placed on probation. One semester is allowed for a student on probation to attain a 3.0 GPA.

11.2 Repeat Option

A graduate student may elect to repeat a course and count only the second grade as part of their GPA. The option can only be used once in a degree program. The student must obtain a **Repeat Option Form** from the office of the Associate Dean. If the student retakes the course without prior approval, both grades will count in calculating the GPA.

11.3 Termination

The enrollment of a student in the IPSS program may be terminated for the following reasons (these are not the same rules for assistantship termination). This list is not exhaustive, and other reasons may apply:

- 1. Academic probation for three enrolled semesters regardless of whether that enrollment is full-time (9 credit hours) or part-time (<9 credit hours), i.e., being placed on academic probation three different semesters (exclusive of summer sessions).
- 2. Having failed the final examination for the Master's Degree or the Ph.D. qualifying examination two times. (See the Graduate School Bulletin for rules on the final Ph.D. examination.)
- 3. Unsatisfactory progress prior to the qualifying examination. Prior to the qualifying examination, the Ph.D. student will meet annually with the Advisory Committee and/or the graduate faculty in the area of specialization for review of their progress, coursework, dissertation research, and other areas of professional development. The student will be informed of specific weaknesses requiring improvement. Those weaknesses considered sufficient for possible termination will be reported to the Graduate School, and a period established for correction, and for another evaluation of the student. It is the responsibility of the Advisory Committee to determine if weaknesses have been corrected. If a majority of the Advisory Committee feels the weaknesses have not been corrected by the established time, a recommendation will be made to the Graduate School to terminate the student's enrollment. In cases when the Advisory Committee lacks consensus with respect to termination, the Advisory Committee may consult other IPSS faculty to establish such consensus.

- 4. Unsatisfactory progress after the qualifying examination. After passing the qualifying examination the candidate will meet annually more often if deemed necessary with the Advisory Committee. In cases where the Advisory Committee recommends termination after the qualifying Examination has been passed, the Graduate Faculty in the area of specialization will meet to vote on the recommendation. If a majority of the Graduate faculty concurs with the original decision, a recommendation will be made to the Graduate School for termination of the student.
- 5. Plagiarism, cheating, or misrepresentation of research. Further information about academic offenses and sanctions is provided in the publication 'Student Rights and Responsibilities,' which is available online at http://www.uky.edu/deanofstudents/student-rights-and-responsibilities.

12 Access to Departmental Spaces and Facilities and other IPSS resources

12.1 Research Facilities

Graduate students' access to laboratories, greenhouses, and field facilities is arranged and determined by a graduate student's advisor. In general, laboratories and equipment are under the control of individual faculty; however, most equipment is shared and available to all graduate students to the maximum extent possible. Shared use facilities require emphasis on consideration for others and knowledge of proper operation. All students must receive appropriate safety training and other facility or equipment-specific training before using any research facilities. Students and advisors should work together to determine appropriate training, with the faculty or staff responsible for the facility.

12.2 Building Resources

The Plant and Soil Sciences computer labs (Agricultural Science Center North Building, Plant Science Building) are designed primarily for use by graduate students and staff in that department. An IT Specialist is available for initial instruction and consulting and will need to be contacted for software installations and updates on UK-owned computers.

Desk space will be provided and is distributed by floor coordinators in the Agricultural Science Center North Building and Plant Science Building (see Appendix G). The Major Advisor and/or DGS are responsible for informing the area coordinator of an arriving student requiring desk space. Keys to appropriate office and laboratory facilities can be obtained by contacting appropriate departmental administrative staff.

A mailbox is provided for each student. Students should check their mailboxes daily for announcements of importance. All graduate students are provided with their <u>linkblue account</u> and an '@uky.edu' email address, which is the official venue by which University, program, and departmental announcements are transmitted electronically.

12.3 IPSS Travel Awards

The IPSS program currently offers awards for travel to participate in workshops or to present research at conferences. Grants are awarded on a first-come, first-served basis; the funding cycle follows the University's fiscal calendar (beginning July 1). Students who have fulfilled their IPSS

seminar presentation requirement are eligible to apply. To apply, complete the <u>form on the IPSS</u> <u>website</u> and return to the DGS.

12.4 IPSS Graduate Student Association

The IPSS Graduate Student Association (GSA) welcomes new students by maintaining local guides (to housing and other local resources). It also sponsors professional development and social events and organizes the 3MT (Three Minute Thesis competition). Membership in the GSA is automatic once a student enrolls in IPSS. The GSA officers are elected annually and include a president, vice president, business officer, Graduate Student Congress representative, social events chair, and a professional development chair. More details on the GSA can be found here.

13 Career Placement

Part of the faculty's responsibility in accepting a graduate student advisee is assistance in placing the student in a position at the completion of the degree program. This is not a guarantee that awarding the graduate degree will result in a position. The assistance is given primarily in the form of recommendations and referrals. A student can expect a faculty reference to give an honest appraisal of the student's academic performance, attitude, work habits, grasp of subject matter, capability to conduct independent research, and potential future performance.

Students are encouraged to actively seek from faculty, their Director of Graduate Studies, and their Department Chair, advice on application procedures, interview techniques, and development of a positive professional image. The Graduate School also offers <u>career resources</u>.

International students may apply for the Optional Practical Training Program, which will enable them to work in their field in the United States for a defined time period after graduation . Rules for these programs can be found $\underline{\text{here}}$.

Appendix A. Disciplinary area guidelines

The description of the disciplinary areas for the IPSS program are listed below. Courses listed in these specialty areas are suggested electives. The selection of electives will be determined by the students' Advisory Committees. *Please note that other courses, particularly new course offerings, may be available at the discretion of faculty. Consult the current schedule of classes for the most updated information on course offerings.*

A.1 Crop Science

The list of suggested courses for Crop Science is at the discretion of the student's advisory committee.

A.2 Environmental Science and Ecosystem Ecology

Students can select from the following list of suggested courses, or their equivalent at other institutions, for a degree in the Environmental Science and Ecosystem Ecology specialization (Ph.D.) and concentration (M.S.).

PLS 679 Ecosystem Ecology (3)

PLS 560 Ecotoxicology (4)

PLS 502 Ecology of Economic Plants (3)

PLS 581 Chemical Analysis of Soils and Plants (4)

PLS 671 Soil Chemistry (3)

PLS 566 Soil Microbiology (3)

PLS 567 Methods in Soil Microbiology (1)

PLS 575 Soil Physics (3)

PLS 576 Soil Physics Lab (1)

Students should choose additional electives that meet the students' educational objectives and satisfy credit hour requirements. Suggested courses in addition to those listed above include but are not limited to:

PLS 573 Soil Morphology and Classification

PLS 650 Soil-Plant Relationships

PLS 514 Grass Taxonomy and Identification

PLS 741 Environmental Clay Mineralogy

CHE 565 Environmental Chemistry

CHE 626 Advanced Analytical Chemistry

CHE 547 Principles of Physical Chemistry

EES 530 Low Temperature Geochemistry

EES 585 Hydrogeology

EES 630 Stable isotopes in the environment

BAE 532 Introduction to Stream Restoration

IPS 790 Supervised Research and Study in Plant and Soil Sciences

Recommended Statistics Courses

STA 570 Basic Statistical Analysis (3)

BST 600 Introduction to Biostatistical Methods (3)

A.3 Horticultural Sciences

The list of required courses for Horticultural Sciences is at the discretion of the student's advisory committee.

A.4 Plant Biology

The following courses, or their equivalent at other institutions, are suggested for a degree in the Plant Biology specialization (Ph.D.) and concentration (M.S.).

BCH 401G	General Biochemistry (3)
BCH 609	Plant Biochemistry (3)
PLS 620	Plant Molecular Biology (3)
PLS/622	Physiology of Plants I (3)

Additional courses suggested courses are.

BCH 610	Biochemistry of Lipids and Membranes	(3)
BCH 611	Biochemistry/Cell Biology of Nucleic Acids	(3)
BCH 612	Structure/Function of Proteins and Enzymes	(3)
BIO 615	Molecular Biology	(3)
CHE 442G	Thermodynamics and Kinetics	(3)
STA 570	Basic Statistical Analysis	(4)

A.5 Plant Pathology

Students in the Plant Pathology concentration <u>must</u> take six credits from the following list of courses:

PPA 500	Physiology of Plant Health and Disease
PPA 600	Critical Methods in Plant-Microbe Interactions
PPA 609	Plant Biochemistry
PPA 640	Identification of Plant Diseases
PPA 641	Plant Disease, Population Biology, and Biotechnology
PPA 650	Fungal Biology
PPA 670	Plant Bacteriology
PPA 671	Advanced Plant Virology
PPA 673	Advanced Plant Disease Resistance

Additional coursework may be required by the student's thesis or advisory committee.

A.6 Soil Science

The Advisory Committee is responsible for determining specific course requirements for graduate students in the Soil Science specialty area.

Appendix B: Master of Science Degree Checklist □ **Official Academic Transcripts Received** – Students accepted conditionally on the basis of unofficial academic transcripts must provide an official academic transcript notifying that the undergraduate degree has been awarded by the beginning of the second term of residency. (Date Transcripts sent to Graduate School) **Transfer of Credit Form:** Written request to transfer up to 9 hours of post baccalaureate graduate credit (or up to 12 hours for the Non-thesis plan). This form is on the Graduate School's form website, and filled out by the student. The Graduate School will then send it to the DGS for approval. The form can only be accessed from the UK campus or through a VPN client. (Date Submitted) Identify Program of Course Work (end of First Semester) (Date Approved by Major Advisor) Annual seminars (see section 10.5.1) (Dates Presented) □ **Degree Audit:** Conduct a review of the transcript to insure there are no missing grades, 'I' grades, and the GPA is 3.00 or higher. Graduate School policy will not allow a student to sit for the exam if there are unresolved academic issues. Minimum number of hours/requirements for program _ At least 15 credit hours at 600/700 level _____ (# of hrs) At least 20 credit hours in regular (organized) graduate level courses, i.e., 400G (other than PLS prefix), 500-, 600-or 700 level. _____ (# of hrs) Exit seminar ___(Date Presented) **Complete Exit Survey (upon E-mail invite from PSS Department Manager) Submit CV to PSS Department Manager** Submit the following form during the intended semester of graduation: Application for degree: http://myuk.uky.edu/ Click on: Student Services / myRecords / Graduate Degree Application. Due 30 days after the beginning of the semester (15 days for 2nd summer session). Please see http://www.uky.edu/registrar/content/academic-calendar for specific deadlines. (Date Submitted) Submit the following forms at least 2 weeks prior to examination. Forms are available here. **Request for Final Master's Examination** ☐ Thesis Approval Form Examining Committee consists of at least three qualified members recommended by the DGS and appointed by the Graduate Dean. The final examination must take place no later than eight days prior to the last day of classes of the semester in which the student expects to graduate. Final examinations may not be scheduled during the period between semesters or between the end of

the eight- week summer session and the beginning of the fall semester. Consult the Academic

Calendar (http://www.uky.edu/registrar/content/academic-calendar) for deadlines for the scheduling of final examinations.
(Date Submitted)
Thesis (Thesis Students Only):
A student has 60 days following the date of his/her defense to submit the final, accepted document to the Graduate School. Students will not have the entire 60 days if they defend late in the semester and need to graduate that semester (check http://www.uky.edu/Registrar/AcademicCalendar.htm for submission deadlines). Prior to final submission , the thesis must be reviewed by the Graduate School for a first format check. This process takes about 48 hours.
☐ Presentation of the final copy of the thesis in approved form to the Graduate School.
(Date Submitted)

Appendix C: Student Forms for Master's Degree
This is a list of forms you may use as an M.S. student. All forms must be accessed through VPN or campus internet. Contact your IT person or advisor for assistance. Forms are located here: http://gradschool.uky.edu/studentforms.

<u>Check sheet for Master's Non-Thesis Students</u>
Check sheet for Master's Thesis Students
Concurrent Master's Degrees
Request for Final Master's Degree Examination
Master's Exam Survey
Request for Specialist Examination
Graduate School Application for Degree
<u>Transfer of Credit: Master's or Specialist</u>
<u>Information on Degree Certification</u>
Request for Degree Certification form
Electronic Thesis or Dissertation (ETD) Approval Form for Final Copy

Appendix D: Doctor of Philosophy Degree Checklist

	Official Academic Transcripts Received – Students accepted conditionally on the basis of unofficial academic transcripts must provide an official academic transcript notifying that the undergraduate or M.S./M.A. degree has been awarded by the beginning of the second term of residency.
	(Date Transcripts sent to Graduate School) Transfer of Credit Form: Written request to transfer up to 18 hours of graduate credit from a previous MS degree. This form is accessed at the Graduate School <u>form website</u> , filled out and submitted by the student. The Graduate School delivers it to the DGS for approval. Note restrictions on the type of credit hours that can be transferred.
	(Date Submitted)
	Formation of Advisory Committee: http://ris.uky.edu/cfdocs/gs/DoctoralCommittee/Selection Screen.cfm
	(Date Submitted)
Ch stu the po	e Advisory Committee has a core of four members. This core consists of the Major Professor as air, two other members from the major area, and at least one representative from outside the ident's home department or area of specialization. All members of the core must be members of a Graduate Faculty of the University of Kentucky and three (including the Major Professor) must ssess Full Graduate Faculty status. It is strongly suggested that this committee be formed by the d of the student's first semester and no later than the end of the student's second semester.
	Annual Advisory Committee Meetings
	(Dates Held)
	Qualifying Examination Request (minimum of two weeks before the requested date)
	(Date Submitted)
	Students must have the equivalent of 2 years of residency (36 hours or 18 hours plus written approval to use the M.S. degree to partially satisfy residency requirements through credit transfer from a M.S. degree of up to 18 hours). Conduct a review of your transcript to insure you don't have any missing grades, 'I' grades, and your GPA is 3.00 or higher. Graduate School policy will not allow you to sit for the exam if you have unresolved academic issues. During the semester in which the student will take their Qualifying Exam they will enroll in 2 credit hours of PLS 757, and will remain enrolled for that semester regardless whether they pass or fail their Qualifying Examination.
	Language Requirement (only if required by committee) – Before Qualifying Exam After passing the Qualifying Exam, students must maintain continuous enrollment in PLS 767 for 2 credit hours each term until the dissertation is successfully defended.
Su	bmit the following form during the intended semester of graduation:
	Application for degree: http://myuk.uky.edu/ Click on: Student Services/myRecords/Graduate Degree Application. Due 30 days after the beginning of the semester (15 days for 2nd summer session). Please see http://www.uky.edu/registrar/content/academic-calendar for specific deadlines. (Date Submitted)
	(Date submitted)

Su	bmit the following form at least 8 weeks prior to the expected final examination:
	Notification of Intent to Schedule a Final Doctoral Examination http://ris.uky.edu/cfdocs/gs/DoctoralCommittee/Selection Screen.cfm http://cis.uky.edu/cfdocs/gs/DoctoralCommittee/Selection Screen.cfm http://cis.uky.edu/cfdocs/gs/DoctoralCommittee/Selection-Screen.cfm http://cis.uky.edu/cfdocs/gs/DoctoralCommittee/Selection-Screen.cfm <a cfdocs="" doctoralcommittee="" gs="" href="http://cis.uky.edu/cfdo</td></tr><tr><td></td><td>found. At least 4 weeks prior to examination, provide a nearly complete (except for pagination) copy of the dissertation to Advisory Committee. A dissertation approval form is no longer required by the Graduate School but it is expected that the student provide the Advisory Committee with a document sufficiently organized and complete that it provides strong evidence the dissertation is ready to be defended.</td></tr><tr><td>Su</td><td>bmit the following form at least 2 weeks prior to the expected final examination:</td></tr><tr><td></td><td>Request for Final Doctoral Examination http://ris.uky.edu/cfdocs/gs/DoctoralCommittee/Selection Screen.cfm The candidate must provide the Outside Examiner with an approved (by the Advisory Committee) dissertation giving evidence of sufficient completeness that it is ready to be defended.
to an for Gra	student has 60 days following the date of his/her defense to submit the final, accepted document the Graduate School. Students will not have the entire 60 days if they defend late in the semester d need to graduate that semester (check http://www.uky.edu/Registrar/AcademicCalendar.htm submission deadlines). Prior to final submission the dissertation must be reviewed by the aduate School for a first format check. This process takes about 48 hours but may take longer ring peak periods, especially during the end of the semester. Plan accordingly.
	(Date Submitted) Presentation of Exit Seminar(Date Submitted)
	Complete Exit Survey (upon E-mail invite from PSS Department Manager) Submit CV to PSS Department Manager

Appendix E: Student Forms for Doctoral Degree

This is a list of forms you may use as a Ph.D. student. All forms must be accessed through VPN or campus internet. Contact your IT person or advisor for assistance. Forms are located here: http://gradschool.uky.edu/studentforms.

	<u>Check sheet for Doctoral Students</u> (pdf)
	<u>Transfer of Credit: Doctoral</u> (login required)
	Concurrent Master's and Doctoral Programs (pdf)
	Formation of an Advisory Committee (login required)
	<u>Graduate School Application for Degree</u> (Click on Student Services/myRecords/Graduate
	Degree Application)
	Notification of Intent to Schedule A Final Doctoral Examination (login required)
	The Qualifying Exam (login required)
	Request for Final Doctoral Examination (login required)
	Information on Degree Certification (pdf)
	Request for Degree Certification form(pdf)
	Outside Reviewer Survey (online)
	Electronic Thesis or Dissertation (ETD) Approval Form for Final Copy
П	Dissertation Agreement

Appendix F: PSB Space Policy

Desk Assignment Policy:

Office desk space is prioritized for trainees (grad students, postdocs, and visiting scholars). Each floor will have a 'Desk Coordinator' who will oversee desk assignment, re-assignment, and usage. Check with advisors or departmental staff for these coordinators.

Faculty should contact the appropriate Desk Coordinator as soon as they know when a new student will arrive. The Desk Coordinators will be responsible for identifying when people have graduated/left and what desks are free. Requests to change desks should also go through the Desk Coordinators. In the case of conflicting requests to change a desk, seniority may be used to determine the assignment.

If there are more desks than needed, staff members can request and be assigned a desk; however, they must justify their need for a desk (e.g., spending time on data analysis, writing, reviewing manuscripts, etc.), and they may be asked to relinquish their desks, if additional desk space for trainees is required.

In cases where trainee status is questionable/unknown and/or trainees become staff, Desk Coordinators will make the call on desk assignments.

Appendix G. Organizational Structure and Administration

Graduate School

The University of Kentucky began offering graduate work in 1870 and awarded its first graduate degrees in 1876. The Graduate School became a distinct unit in the University organization in 1912. The mission of the Graduate School is to promote advanced study, graduate instruction, and research by the faculty and students of all colleges and departments. The total graduate resources of the University are merged under the Graduate School for the purpose of promoting the acquisition of knowledge in an atmosphere of free and lively inquiry. Graduate work is offered in most colleges in the University.

Dean

The Dean of the Graduate School is charged with administering the policies adopted by the Graduate Faculty and the University Senate relating to graduate studies. The Dean of the Graduate School presides over all meetings of the Graduate Faculty and calls meetings of this faculty whenever it is advisable or whenever requested to do so by one-fourth of the membership. Recommendations are made by the dean to the Graduate Faculty regarding the requirements for advanced degrees, the regulations necessary to insure a high standard of graduate work and all other aspects of the graduate program.

The graduate programs are administered in the interest of efficient instruction and the highest attainment possible on the part of each graduate student. The dean is responsible for determining and certifying to the Registrar candidates who have fulfilled requirements for advanced degrees. The President, the Executive Vice President for Research, the Provost, and the Dean of the Graduate School shall be ex officio members of all committees of the Graduate School.

Director of Graduate Studies

The Director of Graduate Studies (DGS) is the local representative of each graduate program; they provide for the program's administration and acts as the official liaison with the Graduate School. The DGS is responsible to the Graduate Faculty of their program and to the Dean of the Graduate School for the recruitment, admission, advising, and evaluation of students in their program. Consequently, they have an important impact on the quality of graduate programs at the University of Kentucky. In addition to a DGS for specific programs, some colleges have designated a faculty member as Associate Dean for Research and Graduate Studies who serves as the local extension of the Graduate School at the college level.

DGS appointments are approved by the Dean of the Graduate School. The DGS is normally a tenured faculty member, holding the rank of Associate Professor or above, and must be a full member of the Graduate Faculty. The standard term for a DGS is three years however programs have the option to request an appointment for up to four years if appropriate. A DGS who will be absent from the University for a semester or more must inform the Dean of the Graduate School so that a substitute can be appointed.

The DGS of a graduate program reports directly to the Dean of the Graduate School or to the Dean's designee on all matters relating to graduate education in the program. They are responsible for the administration of the graduate program, including maintenance of records, administration of graduate program funds, admission of graduate students, fellowships, program requirement changes and new programs, advising and registration, appointment of advisory and examination committees, and other degree requirements related to the graduate program. The DGS (with a steering committee, if applicable) should also ensure that their program's Graduate Student Handbook is current and that annual written evaluations are provided to each student. Additionally, the DGS serves as the focal point for dissemination of information from the Graduate School to both graduate students and the Graduate Faculty in their program. The DGS may also be asked to provide program information to the Graduate School.

The DGS serves as program advisor to each student until the student has a thesis or dissertation director. The DGS then recommends that the thesis or dissertation director be appointed as the student's advisor or committee chair. In areas where a thesis is not required, the DGS is the advisor of all students. The student advisor must endorse all student schedules. If it is desirable, a DGS may recommend that additional advisors in the program be appointed. A list of current Directors of Graduate Studies can be accessed here.

IPSS Steering Committee

The IPSS DGS will be assisted by a committee of representatives that reflect the participation of the various involved departments and represent the diversity of focus areas included in the degree programs. The IPSS Steering Committee will be responsible for overall direction of the degree, including

- 1. Coordination of programmatic changes, administration, and assessment;
- 2. Leading efforts to improve IPSS structure and function (e.g. improve communication, integration across departments, recruitment, student quality and numbers, student experience, etc.);
- 3. Assist the DGS where appropriate

Composition, Selection, and Terms

The committee members will be chosen by the DGS and the Steering Committee Chair with the support of the participating department chairs. The DGS and SC Chair will annually solicit input from the program faculty as to the performance of the committee members. The committee will be composed of the following representatives:

Chair

 Any tenured, active faculty member from a department participating in the IPSS program; 3-year term

IPSS DGS

• Any tenured, active faculty member from a department participating in the IPSS program; 3-year term

• Horticulture Representative(s)

 One or two (fluctuates based on department of DGS and Chair) Horticulture faculty member(s) active in the IPSS program; 2-year term

Plant & Soil Sciences Representative(s)

One or two (fluctuates based on department of DGS and Chair) PSS faculty member(s) active in the IPSS program; 2-year term

• Forestry & Natural Resources Representative

o One Forestry faculty member active in the IPSS program; 2-year term

• Plant Pathology Representative

o One Plant Pathology faculty member active in the IPSS program; 2-year term

• At-large Non-IPSS Representative (from outside MG-CAFE)

o One faculty member with familiarity of the IPSS program; 2-year term

• IPSS Graduate Student Association Representative

o Elected president of the GSA; 1-year term

• At-large IPSS Student

o One active IPSS, preferably international (if President is not), student; 1-year term

Responsibilities of Committee Positions

- **Chair** Renews membership terms and/or adds/removes members; provides budgetary oversight and guidance; sets and leads committee meetings
- **DGS** In charge of administration of the program; develops the program budget in consultation with the chairs and steering committee.
- **Other members** Attend meetings, participate in subcommittees as appropriate or assigned

Appendix H. Physical Locations

Excellent facilities and equipment are available for graduate research. Faculty, staff, and laboratories associated with the graduate program are distributed among four buildings: Agricultural Science Center North Building, Kentucky Tobacco Research and Development Center Building, Thomas Poe Cooper Building (Forestry), and Plant Science Building. There are additional outlying buildings on central campus and research farms. The departments have research at multiple research stations: South Farm (Lexington), North Farm (Lexington), Oran C. Little Animal Research Farm (Woodford Co.), Robinson Center for Appalachian Resource Sustainability (Quicksand, KY), and University of Kentucky Research and Education Center (Princeton, KY).

Appendix I: Retired, auxiliary, and adjunct service on advisory committees

When faculty members retire or leave the University, they may continue their service on previously established committees, but may not be appointed to new committees. The departing faculty member cannot be the sole chair of a graduate student's advisory committee; a UK faculty member must serve as co-chair.

Continued service requires the approval of the Dean of the Graduate School. In the case of a faculty retirement or departure, the DGS should inform the Dean of the Graduate School, in writing, if continued service on Advisory Committees is requested for the faculty member. The DGS should specify all student committees for which continued service is requested.

On recommendation of the Director of Graduate Studies and with the approval of the Dean of the Graduate School, persons who normally do not hold academic appointment in the University, but who have demonstrated an interest in collaborative participation in its graduate programs, may be appointed as **Auxiliary Graduate Faculty Members**. They should hold the terminal academic degree in the field and possess a record of research or creative experience that would warrant their inclusion on advisory committees to assist graduate students in conducting research. Auxiliary Graduate Faculty may serve only as nonvoting members of the Advisory Committee.

Adjunct Members of individual graduate programs may be appointed for the specific purpose of serving on advisory committees in those programs. They are <u>voting members</u> of Advisory Committees. Adjunct Members should hold the terminal academic degree in the field and possess a record of research or creative experience that would warrant their inclusion on Advisory Committees to assist graduate students in conducting research. Departmental procedures exist for appointing Adjunct Members to graduate faculties for this purpose.

Contact the DGS of the appropriate program for additional information.

Appendix J: Examination procedures

The following are Graduate School procedures for conducting the Final Examination: At the outset of the Examination, the DGS or committee chair should verify that the Examination Card has been brought to the examination room. If this is not the case, the committee chair or DGS must call the Senior Associate Dean's office at the Graduate School (257.7126) to determine if the examination may proceed.

- The Examination may not begin until all voting members of the committee are present (these names are listed on the examination card)
- One or more members of a master's or doctoral committee may participate remotely in an Examination if a video-conference connection can be established (this option does not apply to the Outside Examiner assigned to final doctoral defenses). The DGS should identify the committee members participating in this fashion on the qualifying or final examination request form. Under exceptional circumstances, the remote participation option may also be extended to the student.

- An Examination may be cancelled prior to its official start for substantive reason with no permanent consequences for the student. The student has not failed the examination in this case because it was never officially begun. Substantive reasons can include a missing committee member, a sudden difficulty in the candidate's personal life that may affect performance, or a (late) opinion on the part of one or more committee members, for example that the dissertation is not ready to be defended. In such cases, the committee may hold an open or closed discussion to review the issues at hand and reach a decision on whether to hold the examination or not. Furthermore, the candidate does have the right to cancel the examination prior to its start. If the examination is cancelled, it must be formally rescheduled with the Graduate School in the standard fashion. A minimum two-week interval is required for re-scheduling the examination
- Once the examination has begun, all committee members must remain present for the
 duration of the process. In cases in which a committee member is participating remotely, if
 the connection is lost, the examination process should be immediately suspended and not
 re-started until connection is again fully established.
- Once the examination has begun, it must be carried through until its end. A formal vote
 must be taken and recorded on the examination card, along with the signatures of all
 (voting) members. There are only two outcomes possible; by majority vote, Pass or Fail. The
 only suspensions permitted are short ones to permit the candidate or committee members
 to refresh themselves.
- If an emergency situation should arise during the course of an examination, the committee chair or DGS should immediately call the Graduate School (257.4905 or 257.1759) to seek guidance.

In all decisions, the majority opinion of the Graduate Faculty members of the Advisory Committee prevails. If the Advisory Committee is evenly divided, the candidate fails. In the event of failure, the Advisory Committee recommends to the Dean of the Graduate School conditions under which the candidate may be re-examined, if re-examination is deemed appropriate. When conditions set by the Dean of the Graduate School have been met, the candidate may be re-examined. The minimum time between examinations is four months. A second examination must be taken within one year after the first examination. Should any vacancies on the Committee occur between the two examinations, the Dean of the Graduate School shall appoint replacements. A third examination is not permitted.

Appendix K: Addition or deletion of specialty areas

Graduate faculty are encouraged to cross disciplinary lines and create new specialty areas in the IPSS program to respond to changing research opportunities. Creation of new specialty areas in IPSS must be approved by the Graduate School, Graduate Council, and University Senate as it is a major program change. To create a new specialty area requires a minimum of four faculty, three of whom must be full members of the Graduate Faculty. These faculty must provide a rationale explaining the need for the new specialty area, identify the background knowledge and preparation, core science, and disciplinary coursework required for Ph.D. students in their area. These requirements can be no less than the minimum required by the Graduate School as specified in the Graduate School Bulletin and can be more rigorous at the discretion of the proposed program area. The faculty members must identify the basis for written and oral qualifying examinations and the format that will be followed for written exams. The IPSS DGS will work with the graduate faculty to submit this information to the Graduate School for approval.

At least four active faculty must be identified as members of a specialty area at all times or enrollment in the specialty area will be suspended. At least one student must be enrolled in the specialty area during a three-year rolling period or enrollment in the specialty area will be suspended.

Appendix L: Graduate School Rules for Final M.S. and Ph.D. Exams and Qualifying Exams with virtual attendance of committee members or the candidate

- 1. Prior to any oral exam, student and Committee Chair coordinate exam protocol with other committee members.
- 2. All remote participants must join fully interactive audio and video communications along with screen-sharing capabilities, which must be maintained throughout the examination and any related discussion.
- 3. The use of audio-only communications is not permitted.
- 4. Participation by viewing a recording of the examination is specifically prohibited.
- 5. All members of the committee, on- or off-site, must participate in the final evaluation of the examination or defense; provisions must be made to record their votes and collect their signatures, must be submitted to the Graduate School within 7 days of the exam. For easy signing process, it is recommended that the adobe form is not locked electronically by any member signing [DGS].
- 6. Committee Chair, or another non-student designee, shall be the host of the virtual meeting. A co-host may be assigned. Host should ask the student to share their screen, in order to make the presentation visible to all attendees. The host must also ensure appropriate security precautions to prevent any interruptions of the event. The candidate must not be the host of the virtual meeting.
- 7. If there is a public portion of the exam (e.g., presentation), mention that on the form and then following this public portion of the defense, the host shall ask all non-committee members to leave the exam. The committee may then continue the event as outlined in their program protocols.
- 8. Once the committee has completed the examination of the student, the host shall ask the student to leave the meeting room so the committee can conduct their deliberations in private [DGS].

The Committee Chair must have a secondary videoconferencing system available as a back-up in case of technical difficulties. Cancellation of the examination should only occur in the case where both the primary and secondary back-up systems fail. If an examination must be rescheduled, it will be done without prejudice to the student. Since committee deliberations are an essential aspect of the examination, completing the examination and final discussion via email or other non-audiovisual means is not an option.

If the student or any committee member(s) have a disability that will be impacted by virtual participation, accommodations for participation must be provided.