

## **Graduate Student Learning Outcomes Assessment Plan.**

### **Department of Crop and Soil Sciences Graduate Student Learning Outcomes Assessment Plan**

Our department offers Master of Science (MS) and Doctor Philosophy (PhD) degrees in Agronomy. Areas of specialization include plant breeding and genetics, biotechnology, weed control, crop production and management, forage production and utilization, soil chemistry, soil physics, atmospheric physics, soil classification and genesis, soil erosion and conservation, soil fertility and plant nutrition, and soil microbiology. Graduates of the Department of Crop and Soil Sciences should be competitive and well prepared for careers in academia, industry, and government fields. This assessment plan is designed to evaluate the success of our graduate program and to provide guidance towards continuous improvement.

#### **Section 1: Statement of Student Learning Objectives**

1. Graduates should have a fundamental understanding of the scientific method and be capable of critical thinking.
2. Graduates should have in-depth knowledge in one of the following areas: plant breeding and genetics, biotechnology, weed control, crop production and management, forage production and utilization, soil chemistry, soil physics, atmospheric physics, soil classification and genesis, soil erosion and conservation, soil fertility and plant nutrition, or soil microbiology.
3. Graduates should have strong communication and technical skills.
4. Graduating MS students should be able to conduct original research and be prepared to enter a PhD program or a non-academic position.
5. Graduating PhD students should be able to formulate and conduct original research and be able to teach courses in their area of specialty.
6. Graduates should participate in professional societies and activities in Crop and Soil Sciences (e.g. membership and activities in state, regional, and national/international organizations) and win awards and recognition within the University, and at regional and national levels.

#### **Section 2: Learning Assessment Procedures**

The Department will use the following measures to obtain data with which to assess achievement of the student learning objectives:

1. Completion of a Student Performance Evaluation form by each member of a student's Advisory Committee at the Oral Preliminary Exam and at Dissertation/Thesis defense meetings (Form I).

2. Written record of Exit interviews with the Department Head (Forms II and III)
3. Annual report by the Graduate Coordinator to the Department faculty on number, GPA, and GRE scores of entering graduate students.
4. Survey of supervisors/administrators of graduates one year after graduation (Form IV).
5. Survey of graduate advisors in Ph.D. programs one year after graduation of M.S. students (Forms V).
6. Survey of graduate students one year after graduation (Form VI).

### **Section 3: Use of Assessment Results for Improvement**

Student Performance Evaluations (Form I) will be used to determine if students have mastered the core knowledge in their area of specialization, successfully conducted original research, and developed strong communication and technical skills. The written record on exit interviews with the Department Head (Forms II and III) will guide the Department in improving graduate programs, teaching proficiency, and the friendly atmosphere that is so critical for a first-class graduate program. The annual report by the Graduate Coordinator will be used by the Department to determine if entrance requirements need to be adjusted and if recruiting and retention efforts are satisfactory. The survey of supervisors/administrators, graduate advisors, and graduate students one year after graduation will allow the Department to identify those needed skills that are not currently provided by the programs. The USDA Cooperative States Research and Education Review and the University Review Program will be used to strengthen areas in the graduate program.

**Student Performance Evaluation (Form I)**  
Graduate Program Assessment  
Department of Crop and Soil Sciences  
University of Georgia

Each member of the Advisory Committee should fill out this form at Oral Preliminary Exams and at Dissertation/Thesis defenses. The forms should be returned to the Graduate Coordinator.

Student Name \_\_\_\_\_ Evaluation Date \_\_\_\_\_

Oral Preliminary Exam \_\_\_\_ Dissertation Defense \_\_\_\_ Thesis Defense \_\_\_\_

**Please rate each area with a scale of 1 to 10**  
**1 indicates poor preparation**  
**10 indicates outstanding performance**

Knowledge in Specialty Area .....

Communication Skills

    Written .....

    Oral .....

    One-on-one .....

Research Problem Solving

    Ability to organize and define problem .....

    Ability to assemble resources .....

    Creativity .....

    Ability to organize research and carry it through.

    Ability to evaluate results .....

Comments:

## Exit Interview (Form II)

Graduate Program Assessment  
Department of Crop and Soil Sciences  
University of Georgia

Please read the following statements to the graduate student being interviewed: “The following questions are designed to provide the Department of Crop and Soil Sciences with ongoing graduate program assessment data for use by the Department in periodic reviews of our graduate programs. Program assessment is vital in ensuring that we provide relevant and challenging graduate programs in Crop and Soil Sciences. I will ask you several questions about your experiences as a graduate student in this Department. Not all of the questions will be relevant to you and to your career goals. Following this interview, I will give you an optional form (Exit Interview - Form III) in the event you want to add additional, anonymous comments”.

Name: \_\_\_\_\_

Date: \_\_\_\_\_ Degree: \_\_\_\_\_

**Student Learning Objective 1:** Graduates should have a fundamental understanding of the scientific method and be capable of critical thinking

### Questions:

1. Did your graduate experience provide you the necessary background to understand the scientific method?
2. Do you feel that you can use critical thinking to address problems?

**Student Learning Objective 2:** Graduates should have in-depth knowledge in one of the following areas: plant breeding and genetics, physiology, weed control, crop production and management, forage production and utilization, soil chemistry, soil physics, atmospheric physics, soil classification and genesis, soil erosion and conservation, soil fertility and plant nutrition, or soil microbiology.

### Questions:

1. Did the program increase your knowledge of scholarship and new developments in your area of expertise?
2. Do you feel that your program was lacking in a particular area?

**Student Learning Objective 3:** Graduates should have strong communication and technical skills.

**Questions:**

1. Did the program increase your communication skills?
2. Did the program increase your technical skills?

**Student Learning Objective 4:** Graduating **MS students** should be able to conduct original research and be prepared to enter a PhD program or a nonacademic position.

**Questions (For MS students only):**

1. Did your graduate experience provide you the necessary background to conduct original research?
2. Do you feel that you are prepared to enter a Ph.D. program?

**Student Learning Objective 5:** Graduating **PhD students** should be able to formulate and conduct original research and be prepared to enter an academic position.

**Questions (for PhD students only):**

1. Did your graduate experience provide you the necessary background to formulate and conduct original research?
2. Do you feel that you are prepared to enter an academic position and teach in your area of specialty?

**Student Learning Objective 6:** Graduates should participate in professional societies and activities in Crop and Soil Sciences (e.g. membership and activities in state, regional, and national/international organizations) and win awards and recognition within the University, and at the regional and national levels.

**Questions:**

1. Did the program increase your knowledge of professional development and professional activities?
2. Do you currently participate in professional societies and activities? Please specify.

**Additional Questions**

1. Did you encounter specific problems as a graduate student in this Department?
2. How might have those problems have been avoided or corrected?
3. Were the faculty, staff and Department administrators helpful and supportive?
4. Would you choose graduate work in Crop and Soil Sciences if you had to make the choice again? (Please explain your response)
5. Do you have any suggestions as to how our Department might attract minority graduate students and be more sensitive to issues of cultural diversity?

**Exit Interview (Form III - Anonymous Responses)**

Graduate Program Assessment  
Department of Crop and Soil Sciences  
University of Georgia

This form is for your use if you did not wish to speak candidly at the Exit Interview or if you have thought of additional responses or comments that you would like to make. Please return this form to the Graduate Program Assistant, **not** to the Graduate Coordinator or the Department Head. The responses provided will be used only for internal purposes within the Department and anonymity of responses will be preserved.

Date: \_\_\_\_\_ Degree: \_\_\_\_\_

**Student Learning Objective 1:** Graduates should have a fundamental understanding of the scientific method and be capable of critical thinking

**Questions:**

1. Did your graduate experience provide you the necessary background to understand the scientific method?
2. Do you feel that you can use critical thinking to address problems?

**Student Learning Objective 2:** Graduates should have in-depth knowledge in one of the following areas: plant breeding and genetics, physiology, weed control, crop production and management, forage production and utilization, soil chemistry, soil physics, atmospheric physics, soil classification and genesis, soil erosion and conservation, soil fertility and plant nutrition, or soil microbiology.

**Questions:**

1. Did the program increase your knowledge of scholarship and new developments in your area of expertise?
2. Do you feel that your program was lacking in a particular area?

**Student Learning Objective 3:** Graduates should have strong communication and technical skills.

**Questions:**

1. Did the program increase your communication skills?
2. Did the program increase your technical skills?

**Student Learning Objective 4:** Graduating **MS students** should be able to conduct original research and be prepared to enter a PhD program or a nonacademic position.

**Questions (For MS students only):**

1. Did your graduate experience provide you the necessary background to conduct original research?
2. Do you feel that you are prepared to enter a Ph.D. program?

**Student Learning Objective 5:** Graduating **PhD students** should be able to formulate and conduct original research and be prepared to enter an academic position.

**Questions (for PhD students only):**

1. Did your graduate experience provide you the necessary background to conduct original research?
2. Do you feel that you are prepared to enter an academic position and teach in your area of specialty?

**Student Learning Objective 6:** Graduates should participate in professional societies and activities in Crop and Soil Sciences (e.g. membership and activities in state, regional, and national/international organizations) and win awards and recognition within the University, and at the regional and national levels.

**Questions:**

1. Did the program increase your knowledge of professional development and professional activities?
2. Do you currently participate in professional societies and activities? Please specify.

**Additional Questions**

1. Did you encounter specific problems as a graduate student in this Department?
2. How might have those problems have been avoided or corrected?
3. Were the faculty, staff and Department administrators helpful and supportive?
4. Would you choose graduate work in Crop and Soil Sciences if you had to make the choice again? (Please explain your response)
5. Do you have any suggestions as to how our Department might attract minority graduate students and be more sensitive to issues of cultural diversity?

**Survey of Supervisors/Administrators - 1 Year Post graduation (Form IV)**

Graduate Program Assessment  
Department of Crop and Soil Sciences  
University of Georgia

As part of the assessment of the graduate program in Crop and Soil Sciences at the University of Georgia, we would like to contact your supervisor/administrators in regard to your professional performance. These data will be very instrumental to us as we seek to determine how our graduates are performing in the workplace with the objective of improving our graduate program. If you are willing to participate in this assessment, please fill out the top portion of this form, thereby giving us permission to solicit this information from your supervisor/administrator. Then, ask your supervisor/administrator to complete this form and return it to the address listed below.

We appreciate your willingness to help in this effort to improve our graduate programs.

**To be completed by the graduate:**

Name: \_\_\_\_\_ Degree: \_\_\_\_\_ Date Degree Received: \_\_\_\_\_

Position: \_\_\_\_\_

I give my permission to the Department of Crop and Soil Sciences at the University of Georgia to solicit this information which will be used only for the purpose of internal review and assessment of the graduate program.

Signature: \_\_\_\_\_

**To be completed by the supervisor/administrator:**

1. Is the individual named above well prepared for the position in which he/she is employed?
2. Is he/she familiar with the latest developments in his area of expertise as they relate to duties in this position?
3. Is this individual contributing significantly to your program or enterprise? Please comment.
4. Are there specific skills, knowledge, or areas of expertise in which he/she excels?
5. Are there specific skills, knowledge, or areas of expertise in which he/she would have benefited from more preparation?

Please return this form to the Graduate Coordinator, Crop and Soil Sciences Department, 3111 Miller Plant Sciences Bldg, Athens, GA 30602. Thank you for your assistance to us in this assessment of our graduate program.

**Survey of Graduate Advisors in Ph.D. Programs (Form V)**  
Graduate Program Assessment  
Department of Crop and Soil Sciences  
University of Georgia

As part of the assessment of the assessment process for the M.S. program in the Department of Crop and Soil Sciences at the University of Georgia, we would like to contact your graduate advisor for the purpose of gathering information on the performance of our M.S. graduates in advanced degree programs. If you are willing to participate, please fill out the top portion of this form, thereby giving us permission to solicit this information. Then, ask your advisor to complete this form and return it to the address listed below. We appreciate your willingness to help in this effort to improve our graduate programs.

**To be completed by the graduate:**

Name: \_\_\_\_\_ Institution:

Degree Objective: \_\_\_\_\_ Major:

I give my permission to the Department of Crop and Soil Sciences at the University of Georgia to solicit this information which will be used only for the purpose of internal review and assessment of the graduate program.

Signature: \_\_\_\_\_

**To be completed by the graduate advisor:**

1. Was the student named above sufficiently prepared for graduate work at the doctoral level in your institution?
2. Was he/she aware of current scholarship and developments in Crop and Soil Sciences or a related field?
3. Has he/she demonstrated the capability to conduct original research?
4. Did he/she have any unexpected deficiencies in background or preparation?

Please return this form to the Graduate Coordinator, Crop and Soil Sciences Department, 3111 Miller Plant Sciences Bldg., Athens, GA 30602. Thank you for your assistance to us in this program assessment.

**Survey of Graduate Students - 1 Year Post graduation (Form VI)**

Graduate Program Assessment  
Department of Crop and Soil Sciences  
University of Georgia

The following questions are designed to provide the Department of Crop and Soil Sciences with ongoing assessment data for our graduate programs. This information will be used only within the Department and your responses will be used anonymously in program review and evaluation. Please return this form to the Graduate Coordinator, Department of Crop and Soil Sciences, 3111 Miller Plant Sci. Bldg., Athens, GA 30602. A self-addressed envelope is enclosed for your convenience.

Name and Permanent Address:

Today's Date: \_\_\_\_\_ Degree: \_\_\_\_\_ Date Degree Received: \_\_\_\_\_

Present Employment or Stage of Education: \_\_\_\_\_

The assessment is linked to the specific student learning objectives detailed below:

**Student Learning Objective 1:** Graduates should have a fundamental understanding of the scientific method and be capable of critical thinking

**Questions:**

1. Did your graduate experience provide you the necessary background to understand the scientific method?
2. Do you feel that you can use critical thinking to address problems?

**Student Learning Objective 2:** Graduates should have in-depth knowledge in one of the following areas: plant breeding and genetics, physiology, weed control, crop production and management, forage production and utilization, soil chemistry, soil physics, atmospheric physics, soil classification and genesis, soil erosion and conservation, soil fertility and plant nutrition, or soil microbiology.

**Questions:**

1. Did the program increase your knowledge of scholarship and new developments in your area of expertise?
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**Student Learning Objective 3:** Graduates should have strong communication and technical skills.

**Questions:**

1. Did the program increase your communication skills?
  
2. Did the program increase your technical skills?

**Student Learning Objective 4:** Graduating **MS students** should be able to conduct original research and be prepared to enter a PhD program or a nonacademic position.

**Questions (For MS students only):**

1. Did your graduate experience provide you the necessary background to conduct original research?
  
2. Do you feel that you were adequately prepared to enter a Ph.D. program?

**Student Learning Objective 5:** Graduating **PhD students** should be able to formulate and conduct original research and be prepared to enter an academic position.

**Questions (for PhD students only):**

1. Did your graduate experience provide you the necessary background to conduct original research?
  
2. Do you feel that you were adequately prepared to enter an academic position and teach in your area of specialty?

**Student Learning Objective 6:** Graduates should participate in professional societies and activities in Crop and Soil Sciences (e.g. membership and activities in state, regional, and national/international organizations) and win awards and recognition within the University, and at the regional and national levels.

**Questions:**

1. Did the program increase your knowledge of professional development and professional activities?
  
2. Do you currently participate in professional societies and activities? Please specify.

**Additional Questions**

1. Did you encounter specific problems as a graduate student in this Department?
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