

# **Ph.D. in Entomology and Nematology Academic Assessment Plan**

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*Office of the Provost*

*University of  
Florida*

*Institutional  
Assessment*

*Continuous Quality  
Enhancement*

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# Academic Assessment Plan for Ph.D. in Entomology and Nematology

College of Agricultural and Life Sciences

## A. Mission

The mission of the Entomology and Nematology Department is to be a world leader in entomology and nematology by conducting superior research, delivering quality teaching, and extending knowledge to improve agriculture, the environment, and human health and well-being. The goal of our PhD program is to equip our graduates with the skills, knowledge, and professional behaviors necessary to contribute significantly to researching, solving, and educating global citizens about critical entomological and nematological issues in today's society.

This mission aligns with the college's mission of providing graduate students with an excellent education so that they become productive citizens and life-long learners. Our program mission supports the University of Florida's mission by offering our students access to high quality education, cutting edge research opportunities, and the responsibility to extend that research to meet the tripartite responsibilities of a land grant university.

## B. Student Learning Outcomes and Assessment Measures

SLO Type	Student Learning Outcome	Assessment Method
Knowledge	1. Identify insects, other arthropods and/or nematodes, and describe their relationship with the environment and humans	Students will pass their written and oral qualifying examinations as judged by their supervisory committee of at least four faculty members using a faculty-developed rubric
Knowledge	2. Discuss appropriate research methodology, including aspects of statistical design and analysis, in the execution of arthropod research	Students will pass their written and oral qualifying examinations as judged by their supervisory committee of at least four faculty members using a faculty-developed rubric
Skills	3. Effectively communicate science orally and in written form to an audience of scientific peers	1) Students will demonstrate satisfactory performance on the research proposal as judged by their supervisory committee of at least four faculty members using a faculty-developed rubric  2) Students will pass their written and oral qualifying examinations as judged by their supervisory committee of at least four faculty members using a faculty-developed rubric

		3) Students will demonstrate satisfactory communication skills at the oral defense and in the written dissertation as judged by their supervisory committee of at least four faculty members using a faculty-developed rubric
Skills	4. Effectively communicate science orally and in written form to a non-specialized audience through educational activities	<p>1) Students will be encouraged to serve as teaching assistants and will be evaluated by students at the end of the semester. At least 80% of evaluated students will receive at least 3.5 out of 5 on the evaluations</p> <p>2) Students will be encouraged to conduct outreach activities to service the community and will be evaluated each semester on their participation in these activities by their supervisory committee chair using a faculty developed evaluation form</p>
	5. Apply critical thinking and inquiry/analysis methodologies to solve problems and generate new knowledge	<p>1) Students will demonstrate satisfactory critical inquiry skills in their research proposal as judged by their supervisory committee of at least four faculty members using a faculty-developed rubric</p> <p>2) Students will demonstrate critical thinking skills in order to pass their written and oral qualifying examinations as judged by their supervisory committee of at least four faculty members using a faculty-developed rubric</p> <p>3) Students will demonstrate satisfactory critical thinking and inquiry methodologies at the oral defense and in the written dissertation as judged by their supervisory committee of at least four faculty members using a faculty-developed rubric</p>
Professional Behavior	6. Interact with professional peers with honesty, ethical behavior, cultural sensitivity, and teamwork	<p>1) Students will consistently adhere during their degree program to the University of Florida's Honor Code</p> <p>2) Professional behaviors will be evaluated each semester using a subset of the data on the student's semester evaluation, developed by a committee of faculty, and administered by the student's supervisory committee chair</p>

## C. Research

Research is the primary focus of our PhD program. All students must demonstrate a sustained and original research effort resulting in a substantial body of work coherently written and synthesized in their dissertation. All students are expected to produce at least one peer-reviewed journal article within a year of graduation but the reality is that many students will publish four or more. Students are prepared to become researchers through close mentoring and training by their supervisors and members of their supervisory committee, participation in required courses in experimental design and analysis, laboratory courses focusing on acquisition of skills, and research seminars. Our department and faculty encourage (and may fund) participation in scientific meetings, attendance at grant-writing workshops and participation in a grant-writing course, ethics training, and professional development workshops offered by the Graduate School which all contribute to the professional development of our PhD students.

## D. Assessment Timeline

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Assessment SLOs	Research Proposal	Semesterly Evaluations	Qualifying Exam	Oral Defense and Written Dissertation	Teaching Evaluations
Knowledge					
#1			X		
#2			X		
Skills					
#3	X		X	X	
#4		X			X
#5	X		X	X	
Professional Behavior					
#6		X			

## E. Assessment Cycle

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Analysis and Interpretation:

Annually – August & September

Program Modifications:

Completed by September 30 of each year

Dissemination:

Completed by September 30 of each year

Assessments were designed in the spring semester of 2012 and the first assessments were administered in summer semester of 2012; thus data reported for the 2011-2012 academic year were minimal.

SLOs	Year	11-12	12-13	13-14	14-15	15-16
<b>Content Knowledge</b>						
#1		minimal	X	X	X	X
#2		minimal	X	X	X	X
<b>Skills</b>						
#3		minimal	X	X	X	X
#4		minimal	X	X	X	X
#5		minimal	X	X	X	X
<b>Professional Behavior</b>						
#6		minimal	X	X	X	X

## F. Measurement Tools

All assessments and scoring rubrics were developed by a group of faculty and are completed by each member of the student's supervisory committee (at least four faculty members), except for the semester evaluation which is completed by the major advisor only. Assessment results are entered into our student database and the hard copy is placed in the student's file maintained in the department's Student Services office. An example of an assessment is attached (research proposal presentation).

- ❖ Research proposal – Students are required to present their proposed research both in written form and orally to the department in the second to fourth semester of their program. SLOs 3 and 5 are assessed at this time by all members of the student's supervisory committee.
- ❖ Qualifying exam – Students take their written and oral qualifying exams between the third and fifth semester of their program. Students' knowledge (SLOs 1 and 2), oral and written communication skills (SLO 3), and critical thinking ability (SLO 5) are assessed at this time to determine whether they are competent to advance to candidacy.
- ❖ Oral defense and written dissertation – The same assessment that was used to evaluate SLOs 3 and 5 at the time of the research proposal presentation is used by the supervisory committee to evaluate the oral presentation and defense of the dissertation and the written dissertation.
- ❖ Semester evaluations – Students are evaluated each semester by their major advisor to determine whether they are making adequate progress in 13 key areas. This evaluation has been amended to also evaluate achievement of SLO 6 and to assess SLO 4 (educational activities to communicate science to a non-specialized audience).

- ❖ Teaching evaluations – PhD students are highly encouraged to teach lab sections of our courses. Students who teach are evaluated using the UF online student evaluation each semester and this evaluation is used as an additional assessment for SLO 4.

## G. Assessment Oversight

Oversight and program review will be completed by the graduate coordinator and the six-member departmental graduate committee.

Name	Department Affiliation	Email Address	Phone Number
Heather McAuslane, Graduate Coordinator	Entomology & Nematology	hjmca@ufl.edu	(352) 273-3913
Marc Branham	Entomology & Nematology	marcbran@ufl.edu	(352) 273-3915
Elaine Buss	Entomology & Nematology	eabuss@ufl.edu	(352) 273-3976
Billy Crow	Entomology & Nematology	wtc@ufl.edu	(352) 273-3941
Catharine Mannion	Entomology & Nematology	cmannion@ufl.edu	(305) 246-7001, ext. 220
Christine Miller	Entomology & Nematology	cwmiller@ufl.edu	(352) 273-3917
Hugh Smith	Entomology & Nematology	hughasmith@ufl.edu	(813) 633-4124

### Entomology and Nematology Research Proposal Presentation (Oral and Written)

Student \_\_\_\_\_

Date \_\_\_\_\_ Committee member \_\_\_\_\_

Student Learning Outcome		4 - Exemplary	3 - Proficient	2- Marginal	1 - Unacceptable
<b>SLO 3</b>  Written skills <sup>1</sup>  (max. 20 points, min. 5 points)	<b>Context and purpose</b>	Demonstrates a thorough understanding of context, audience, and purpose that focuses all elements of the work.	Demonstrates adequate consideration of context, audience and purpose, and a clear focus of the work.	Demonstrates awareness of context, audience, and purpose of the work.	Does not demonstrate attention to context, audience, and purpose of the work.
	<b>Content development</b>	Consistently uses appropriate, relevant and compelling content to illustrate mastery of the subject, conveying the writer's understanding.	Consistently uses appropriate, relevant, and compelling content to explore ideas within the subject.	Use appropriate and relevant content to develop and explore ideas throughout most of the work.	Does not use appropriate and relevant content to develop simple ideas in some parts of the work.
	<b>Conventions</b>	Detailed attention to and successful execution of all conventions specific to the discipline (organization, content, presentation, formatting, style)	Consistent use of important conventions specific to the discipline.	Follows expectations appropriate for specific discipline for organization, content and presentation.	Does not use a consistent system for basic organization and presentation.
	<b>Sources and evidence</b>	Demonstrates skillful use of high-quality, credible, relevant sources to develop ideas that are appropriate.	Demonstrates consistent use of credible, relevant sources to support ideas.	Demonstrates an attempt to use credible and/or relevant sources to support ideas.	Does not use sources to support ideas.
	<b>Syntax and mechanics</b>	Uses language that skillfully communicates meaning to readers with clarity and fluency, and is virtually error-free.	Uses straightforward language that generally conveys meaning to readers and has few errors.	Uses language that generally conveys meaning to readers with clarity but may include errors.	Uses language that sometimes impedes meaning because of errors in usage.



Student Learning Outcome		4 - Exemplary	3 - Proficient	2- Marginal	1 - Unacceptable
<b>SLO 3</b>  Oral presentation skills <sup>2</sup>  (max. 20 points, min. 5 points)	<b>Organization</b> (specific introduction and conclusion, sequence of material in body, and transitions)	Organizational pattern is clearly and consistently observable, is skillful, and makes the content of the presentation cohesive	Organizational pattern is clearly and consistently observable	Organizational pattern is intermittently observable	No organizational pattern observable
	<b>Language</b>	Language choices enhance the effectiveness of the presentation and are appropriate for the audience.	Language choices generally support the effectiveness of the presentation and are appropriate for the audience.	Language choices partially support the effectiveness of the presentation and are appropriate for the audience.	Language choices are unclear and minimally support the effectiveness of the presentation and are not appropriate for the audience.
	<b>Delivery</b> (posture, use of pointer, eye contact, vocal expressiveness)	Delivery techniques make the presentation compelling, and speaker appears polished and confident.	Delivery techniques make the presentation interesting and speaker appears comfortable.	Delivery techniques make the presentation understandable, and speaker appears tentative.	Delivery techniques detract from the understandability of the presentation and speaker appears uncomfortable.
	<b>Supporting material</b> (explanations, examples, illustrations, figures, photos, diagrams, statistics)	A variety of supporting materials makes appropriate reference to information or analysis that significantly supports the presentation.	Supporting materials make appropriate reference to information or analysis that generally supports the presentation.	Supporting materials make appropriate reference to information or analysis that partially supports the presentation.	Insufficient supporting materials make reference to information or analysis that minimally supports the presentation.
	<b>Central message</b>	Central message is compelling (strongly stated, appropriately repeated, memorable and strongly supported).	Central message is clear and consistent with the supporting material.	Central message is basically understandable but is not often repeated or is not memorable.	Central message can be deduced, but is not explicitly stated in the presentation.

Student Learning Outcome		4 - Exemplary	3 - Proficient	2- Marginal	1 - Unacceptable
<b>SLO 4 –M.S. SLO 5 – PhD</b>  Critical thinking and application of inquiry and analysis <sup>3</sup>  (max. 20 points, min. 5 points)	Has stated the research problem clearly, providing motivation for undertaking the research	Clear statement of the research problem with well stated associated rationale	Statement of research problem with associated rationale	Unclear statement of research problem OR rationale for undertaking the research is not well developed	Unclear statement of research problem AND rationale for undertaking the research is not well developed
	Demonstrated the potential value of solution to the research problem in advancing knowledge within the area of study	Clearly states the value of the proposed research	States the value of proposed research	Recognizes the value of the research but didn't state explicitly	Doesn't recognize the potential value of the proposed research
	Demonstrates sound knowledge of literature in the area, and of prior work on the specific research problem	Synthesizes in-depth information from relevant sources representing various points of view/approaches	Presents in-depth information from relevant sources presenting various points of view/approaches	Presents information from relevant sources representing limited points of view/approaches	Presents information from irrelevant sources representing limited points of view/approaches

	Planned research is creative and original with well-defined hypotheses or objectives	Highly creative and original with well-defined hypotheses or objectives	Somewhat creative and original with well-defined hypotheses or objectives	Research not very creative and original OR hypotheses or objectives not well-defined	Research neither creative nor original AND hypotheses or objectives not well-defined
	Has proposed sound state-of-the field research methods/tools to solve the defined problem and has described the methods/tools effectively	All elements of the methodology are skillfully developed. Appropriate methodology may be synthesized from across disciplines or from relevant sub-disciplines	Critical elements of the methodology are appropriately developed, however, more subtle elements are ignored or unaccounted for	Critical elements of the methodology are missing, incorrectly developed, or unfocused	Design of experiments demonstrates a misunderstanding of the methodology

## SLO Achievement

These scores do not determine whether the student passes or fails the research proposal presentation. They are for the student and supervisor's information to determine areas of strength and weakness that can be remedied before the conduct of the research and completion of the thesis or dissertation. All committee members should fill out a form and copies should be delivered to the Graduate Coordinator's office for deposit in the student's file. Supervisory committee chair - please share the results of this evaluation with your student, either summarizing their strengths/weaknesses or showing the individual score sheets.

SLO 3 (written communication skills) = \_\_\_\_\_ (maximum 20, minimum 5)

SLO 3 (oral communication skills) = \_\_\_\_\_ (maximum 20, minimum 5)

SLO 4 (M.S.) or 5 (PhD) (critical thinking ability) = \_\_\_\_\_ (maximum 20, minimum 5)

Additional comments

<sup>1</sup> Taken from Written Communication VALUE Rubric – Association of American Colleges and Universities

<sup>2</sup> Taken from Oral Communication VALUE Rubric - Association of American Colleges and Universities

<sup>3</sup> Taken from Inquiry and Analysis VALUE Rubric - Association of American Colleges and Universities