

M.S. in Entomology and Nematology Academic Assessment Plan

College of Agricultural and Life Sciences
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Office of the Provost

*University of
Florida*

*Institutional
Assessment*

*Continuous Quality
Enhancement*

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Academic Assessment Plan for M.S. 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 M.S. 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

Our department offers a traditional M.S. with thesis to students on the Gainesville campus and at the UF/IFAS Research and Education Centers around the state of Florida. We also offer an online (distance) non-thesis M.S. to students anywhere in the world. The student learning outcomes and assessment methods differ for the two programs and will be addressed separately.

SLO Type	Student Learning Outcome	Assessment Method	Degree Delivery
Knowledge	1. Identify insects, other arthropods and/or nematodes, and describe their relationship with the environment and humans.	Students will demonstrate the ability to integrate and expand upon ideas critical to their area of specialization through successful completion of the end-of-program oral exam administered by the student's supervisory committee of at least two faculty members based on a rubric designed by faculty.	Campus & Distance

Knowledge	1. Identify insects, other arthropods and/or nematodes, and describe their relationship with the environment and humans.	At the end of the program, students will pass a <u>written</u> content-based exam, written by a group of faculty and administered and graded by the student's supervisory committee of at least two faculty members using a rubric designed by faculty	Distance
Knowledge	2. Discuss appropriate research methodology, including statistical aspects of experimental design and analysis, in the execution of arthropod research.	Students will demonstrate the ability to integrate and expand upon ideas critical to their area of specialization through successful completion of the end-of-program <u>oral exam</u> administered by the student's supervisory committee of at least two faculty members based on a rubric designed by faculty	Campus & Distance
Knowledge	2. Discuss appropriate research methodology, including statistical aspects of experimental design and analysis, in the execution of arthropod research.	At the end of the program, students will pass a <u>written</u> content-based exam, written by a group of faculty and administered and graded by the student's supervisory committee of at least two faculty members using a rubric designed by faculty	Distance
Skills	3. Effectively communicate science orally and in written form	1) Students will demonstrate satisfactory performance on the research proposal seminar as judged by their supervisory committee of at least two faculty members using a faculty-developed rubric 2) Students will demonstrate satisfactory communication skills at the oral defense and in the written thesis as judged by their supervisory committee of at least two faculty members using a	Campus

		faculty-developed rubric	
Skills	3. Effectively communicate science orally and in written form	Students will demonstrate satisfactory communication skills in the written and oral end-of-program examinations, developed by a group of faculty, and administered by the student's committee of two faculty members	Distance
Skills	4. Apply critical thinking and inquiry/analysis methodologies to solve problems and generate new knowledge.	1) Students will demonstrate satisfactory critical inquiry skills in their research proposal as judged by their supervisory committee of at least two faculty members using a faculty-developed rubric 2) Students will demonstrate satisfactory critical thinking and inquiry methodologies at the oral defense and in the written thesis as judged by their supervisory committee of at least two faculty members using a faculty-developed rubric	Campus
Professional Behavior	5. Interact with professional peers with honesty, ethical behavior, cultural sensitivity, teamwork and effective communication	Students will consistently adhere during the degree program to the University of Florida's Honor Code.	Campus & Distance
Professional Behavior	5. Interact with professional peers with honesty, ethical behavior, cultural sensitivity, teamwork and effective communication	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	Campus

C. Research

Our M.S. with thesis is a residential research and coursework program while the distance M.S. is a non-thesis program, primarily coursework, with no research expectations but with the opportunity to do a limited research project if the student is located in an area with a potential research mentor. Our thesis students are expected to demonstrate a focused, short-term research effort and to write a coherent and well-synthesized thesis. Students are expected to produce a refereed journal article within one year of graduation. In reality, M.S. students may publish two refereed journal articles. Students are prepared to become researchers through close mentoring and training by their supervisors, members of their supervisory committee, and PhD students or post-doctoral scientists in their mentor's laboratory, participation in required courses in experimental design and analysis, skills-acquisition laboratory courses, and research seminars. Our department and faculty encourage (and may fund) travel to scientific meetings, ethics training, and professional development workshops offered by the Graduate School which all contribute to the professional development of our M.S. students.

D. Assessment Timeline

M.S. (thesis)
in Entomology and Nematology

College of Agricultural and Life Sciences

Assessment SLOs	Semesterly Performance Evaluation	Research Proposal	Written Thesis	Final Oral Exam
Knowledge				
#1				X
#2				X
Skills				
#3		X	X	X
#4		X	X	X
Professional Behavior				
#5	X	Honor code violations will be monitored		

M.S. (non-thesis, online)
in Entomology and Nematology

College of Agricultural and Life Sciences

Assessment SLOs	Written Content-based Final Exam	Final Oral Exam
Knowledge		
#1	X	X
#2	X	X

Skills		
#3	X	X
Professional Behavior		
#5	Honor code violations will be monitored	

E. Assessment Cycle

M.S. in Entomology and Nematology

College of Agricultural and Life Sciences

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
Knowledge						
#1	minimal	X	X	X	X	X
#2	minimal	X	X	X	X	X
Skills						
#3	minimal	X	X	X	X	X
#4	minimal	X	X	X	X	X
Professional Behavior						
#5	minimal	X	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 two 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. The assessment administered at the time of the final exam is attached.

- ❖ Research proposal (thesis) – Students are required to present their proposed research both in written form and orally to the department in the second semester of their program. SLOs 3 and 4 are assessed at this time by all members of the student's supervisory committee.

- ❖ Final M.S. exam (thesis and non-thesis) – Students are given a comprehensive oral final exam (and written exam, in the case of non-thesis students) after their exit seminar. SLOs 1 and 2 are assessed at this time by all members of the student’s supervisory committee.
- ❖ Oral defense and written thesis (thesis only) – The same assessment tool that was used to evaluate SLOs 3 and 4 at the time of the research proposal presentation is used by the supervisory committee to evaluate the oral presentation and defense of the thesis and the written thesis.
- ❖ Semester evaluations (thesis only) – 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 5.

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	wtcr@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 M.S. Final Exam

Student _____

Date _____

Committee member _____

		Exemplary (4)	Proficient (3)	Marginal (2)	Unacceptable (1)
SLO 1 Identify insects, other arthropods and/or nematodes, and describe their relationship with the environment and humans (Max. points 48, min. 12)	General knowledge in biology	☐ All information presented is both accurate and relevant	☐ Nearly all information presented is accurate and relevant	☐ Many inaccuracies and some misinterpretation of content and largely irrelevant	☐ Inaccurate or misinterpreted content and almost entirely irrelevant
		☐ Question is answered fully	☐ Question is essentially answered	☐ Multiple aspects of question unanswered	☐ Question not answered
		☐ Proper use of terminology and citations	☐ Mostly proper use of terminology and citations	☐ Improper use of terminology and citations	☐ Misuse of terminology and citations
		☐ Insightful interpretation of the content	☐ Demonstrates clear understanding of the content without misinterpretation	☐ Misinterpretation of content	☐ Gross misinterpretation of content
	General knowledge in entomology or nematology	☐ All information presented is both accurate and relevant	☐ Nearly all information presented is accurate and relevant	☐ Many inaccuracies and some misinterpretation of content and largely irrelevant	☐ Inaccurate or misinterpreted content and almost entirely irrelevant
		☐ Question is answered fully	☐ Question is essentially answered	☐ Multiple aspects of question unanswered	☐ Question not answered
		☐ Proper use of terminology and citations	☐ Mostly proper use of terminology and citations	☐ Improper use of terminology and citations	☐ Misuse of terminology and citations

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		☐ Insightful interpretation of the content	☐ Demonstrates clear understanding of the content without misinterpretation	☐ Misinterpretation of content	☐ Gross misinterpretation of content
	In-depth knowledge in area of research specialization	☐ All information presented is both accurate and relevant	☐ Nearly all information presented is accurate and relevant	☐ Many inaccuracies and some misinterpretation of content and largely irrelevant	☐ Inaccurate or misinterpreted content and almost entirely irrelevant
		☐ Question is answered fully	☐ Question is essentially answered	☐ Multiple aspects of question unanswered	☐ Question not answered
		☐ Proper use of terminology and citations	☐ Mostly proper use of terminology and citations	☐ Improper use of terminology and citations	☐ Misuse of terminology and citations
		☐ Insightful interpretation of the content	☐ Demonstrates clear understanding of the content without misinterpretation	☐ Misinterpretation of content	☐ Gross misinterpretation of content
SLO 2 Discuss appropriate research methodology, including aspects of statistical design and analysis, in the execution of arthropod research	General knowledge in statistics and experimental method	☐ Answers all statistical questions correctly, in detail and logically	☐ Answers all statistical questions in some detail	☐ Attempts all statistical questions but has errors in answers	☐ Does not attempt to answer all statistical questions and/or has many errors
		☐ Answers all experimental methodology questions correctly, in detail and logically	☐ Answers all experimental methodology questions in some detail	☐ Attempts all experimental methodology questions but has errors in answers	☐ Does not attempt to answer all experimental methodology questions and/or has many errors

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(Max. points 8, min. 2)					
SLO 3 Clearly and confidently communicate science in oral exam (Max. points 12, min. 3)	Clarity	☐ Provides logically developed, thoughtful answers consistently	☐ Provides logical answers most of the time	☐ Answers may not be logical all the time	☐ Answers are confusing, illogical
		☐ Language is eloquent	☐ Language is straightforward	☐ Language is awkward	☐ Language is poor
	Confidence	☐ Confident in verbal communication skills	☐ Usually confident in verbal communication skills	☐ Somewhat confident in verbal communication skills	☐ Rarely confident in verbal communication skills
SLO 3 Clearly communicate science in written exam (if written exam is given) (Max. points 12, min. 3)	Content and organization	☐ Uses appropriate, relevant, and compelling content to illustrate mastery of the subject, conveying the writer's understanding of the questions	☐ Uses appropriate, relevant, and compelling content to explore ideas within the context of the questions	☐ Uses appropriate and relevant content to develop and explore ideas throughout most of the exam	☐ Does not use appropriate and relevant content to develop simple ideas
	Syntax and mechanics	☐ Uses language that skillfully communicates meaning to readers with clarity and fluency	☐ Uses straightforward language that generally conveys meaning to readers	☐ Uses language that generally conveys meaning to reader with clarity	☐ Uses language that sometimes impedes meaning
		☐ Writing is virtually error-free	☐ Writing has few errors	☐ Writing may include many errors	☐ Writing has many errors
	SLO 4	☐ Valid judgments based on evidence	☐ Nearly all judgments are valid and based on evidence	☐ Judgments are occasionally invalid	☐ Invalid judgments based on evidence provided

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Critical thinking ability – ability to synthesize and extrapolate (Max. points 24, min. 6)	☐ Analysis of material is insightful and conclusions are fully defensible	☐ Analysis of material is accurate and conclusions are defensible	☐ Analysis of material is inaccurate and conclusions are rarely defensible	☐ Indefensible conclusions
	☐ Synthesis of content is clearly evident	☐ Content synthesized well for the most part	☐ Merely recalls information, lists and defines but rarely synthesizes content	☐ No synthesis evident
	☐ Response is deeply reflective and evaluative	☐ Response is reflective and evaluative	☐ Responses are rarely evaluative	☐ Response is not reflective or evaluative
	☐ Exhibits advanced thinking and conceptualization	☐ Exhibits clear thinking and conceptualization	☐ Little ability to detect patterns or conceptualize	☐ No advanced thinking or conceptualization
	☐ Logical flow of ideas	☐ Ideas tend to flow logically	☐ Flow of ideas is rarely logical	☐ Illogical flow of ideas

SLO Achievement

These scores do not determine whether the student passes or fails the M.S. final exam. You can use the scores in your decision but there is no cut-off score below which the student fails the exam. 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 1 (knowledge of discipline) = _____ (maximum 48, minimum 12)
 SLO 2 (knowledge of statistical and research methodology) = _____ (maximum 8, minimum 2)
 SLO 3 (oral communication skills) = _____ (maximum 12, minimum 3)
 SLO 3 (written communication skills) = _____ (maximum 12, minimum 3)
 SLO 4 (critical thinking ability) = _____ (maximum 24, minimum 6)

Additional comments

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