CALS Curriculum Committee Meeting
February 20, 2026
McCarty Hall D Rm. 1044/1045
1:00 p.m.

Via Zoom: https://ufl.zoom.us/j/355458614
Meeting ID : 355458614

Members: K. Braggs, D. Coenen, T. Easterly, B. Gankofskie, C. Haxton, E. Hellgren, P. Inglett, T. Johns, M. Jones, G. MacDonald, T. Martin, A. Mathews, H. McAuslane, G. Nunez, B. Schutzman, M. Smith, D. Vyas, P. Ward, A. Watson, J. Weeks (Chair), A. Wysocki

Agenda and Index for Materials

Approve Minutes from the January 16, 2026 meeting

Dr. Mathews: Update from UCC

Graduate New Course Proposals

1. ENY 6XXX – The Business of Beekeeping (req. #22384)

2. ENY 6XXXL – Spider Biology Lab (req. #22538)

Graduate Course Modification Proposals

3. AEC5037 – Agricultural and Natural Resources Media Production (req. #22518)

4. AEC5541 – Instructional and Communication Technologies in Agriculture and Natural Resources (req. #22512)

5. ENY6166 – Insect Classification (req. #21883)

Undergraduate New Course Proposals

6. BSC 4XXX – Comparative Microbial Genomics (req. #22276)

7. ENY 4XXX – The Business of Beekeeping (req. #22383)

Undergraduate Course Modification Proposals

8. AEC4036 – Advanced Agricultural Communication Production (req. #22511)

9. ENY2890C – Insect Research CURE – (req. #22540)

10. ENY3830L – Spider Biology Lab (req. #22609)

11. ENY4161 – Insect Classification (req. #21882)

12. ENY4660 – Medical and Veterinary Entomology (req. #22571)

13. WIS4501 – Introduction to Wildlife Population Ecology (req. #22479)

Curriculum Modifications

14. Updates to ENY Major Specialization – Biological Science of Insects (req. #22552)

15. Updates to ENY Major Specialization – Pre-Professional (req. #22553)

16. Updates to ENY Major Specialization – Urban Pest Management (req. #22554)

Certificate

17. Proposed New Graduate Certificate – Water Policy

Minor

18. Proposed Updates to the Entomology and Nematology Minor (req. #22555)

CALS Curriculum Committee Meeting
Minutes from January 16, 2026
Submitted by James Fant

Members Present: D. Coenen, B. Gankofskie, E. Helgren, P. Inglett, T. Johns, M. Jones, G. MacDonald, T. Martin, A. Mathews, H. McAuslane, G. Nunez, B. Schutzman, M. Smith, D. Vyas, P. Ward, A. Watson, J. Weeks

Substitutes: Becky Raulerson for T. Easterly

Visitors: Jennifer Vogel, Ying Wang

Call to Order: The College of Agricultural and Life Sciences Curriculum Committee met in McCarty Hall D Rm. 1044/1045 on January 16, 2026. Dr. Weeks called the meeting to order at 1:01 p.m.

Previous agenda items and supporting material can be found on the CALS College Committees homepage under document archives: https://cals.ufl.edu/faculty-staff/committees/

Approval of Minutes: A motion was made by Dr. Inglett to approve the minutes of the December 19, 2025 meeting of the CALS CC. The motion was approved.

All items approved by the committee will be forwarded to either the Graduate Curriculum Committee (GCC), Graduate Council (GC) or the University Curriculum Committee (UCC) once any changes requested are made and the submission is complete.

Links: Required Documents
- **CALS CC Checklist** (required for all course and certificate submissions)
- **CALS Syllabus Template** (download the Word document and populate it with your course content)
- **CALS Syllabus Accessibility Quick Reference Tips**
- **Video Walkthrough of CALS Syllabus Template**

Other Reference Documents
- **General Education Procedures and Application**
- **CALS Guidelines for Submission of Proposals for Co-Taught Courses**
- **UF Syllabus Policy**
- **UF Guidelines for Graduate Certificates**
- **UF Guidelines for Undergraduate and Professional Certificates**
- **Guide to Course Design**
- **CALS Course Objectives**
- **How to Write Course Objectives**

Dr. Mathews – Update from UCC:

- UCC meeting to occur on 1/23/26 so no updates from that meeting on CALS submissions.
- **Simple Syllabus and 45-Day syllabus posting update:**
    1. **45-day advance posting for summer semester is March 26th.** Simple Syllabus will be required to use and available on approximately Feb 20th for faculty teaching summer semester courses. All required institutional syllabus information will be prepopulated, and the syllabus itself will then populate into Canvas.
    2. **45-day advance posting for fall semester will be in July.** Nine-month faculty should ideally create syllabus prior to leaving for the summer. Simple Syllabus will be available for fall courses sometime in April.
    3. Trainings will be available to coincide with Feb 20th date.

Graduate New Course Proposal

1. PLP 6XXX – Introduction to RNA Engineering (req. #22337)

Please be sure to make all requested changes to both the UCC form and syllabus if necessary. This item was reviewed with item #2. All comments apply to both submissions unless otherwise stated. A motion was made by Dr. Coenen to approve these items with edits required. The motion was approved. Remove the first two sentences of the proposed course description. Then reword the remaining description appropriately. The second entry under Recommended Textbooks needs to be changed to required. There are too many weeks listed in the course schedule. Remove the graduate learning objective from the undergraduate syllabus. Below are the comments from Teams.

APPROVAL NUMBER	ITEM	REVIEWERS	SUBMITTER/Instructor
GRADUATE COURSES			
22337	**NEW: COURSE – PLP6XXX Introduction to RNA Engineering**	Bath Gankofskie, Patrick Ward, Melissa Jones, Patrick Inglett, Kayla Braggs, Greg Macdonald, Heather McAuslane	Ying Wang
Form Edits/Comments	The course description on the form and the syllabus match but the information about number of lectures and no lab is not pertinent. I suggest removing that sentence (HJM). Maybe this is a question at a higher level, but aren't most co-linked courses 5xxx at the grad level? Why is this 6xxx?		**Submitter Response:**

Syllabus Edits/Comments	I believe a graduate course is expected to have a relatively long list of readings, certainly more than two (HJM). Doesn't the curriculum committee prefer separate syllabuses for graduate and undergraduate courses that are co-taught? It makes it clearer for the students (HJM). I also thought there should a different course title? Literature reading assignment. As written, it looks as if graduate students will present on the same second paper. Is that true or will they choose one of their own? Perhaps make that clearer? You ask them to provide a 2-page essay about the paper they've read. What are your policies on AI use? (HJM) • I have the same concern about the graduate student presentations. The way the syllabus is written, it seems that the graduate students will each present the same paper independently, each time requiring about 20 minutes of class time. Or is this to suggest that the totality of graduate student presentations should take about 20 minutes? This should be made clearer. It also seems a bit odd that graduate students would all be presenting the same paper. I would think that would get redundant after a while. - PW • It should be clearer how the evaluations of graduate student and undergraduate student essays will be different. This assignment is worth 100 points for both undergrads and grads,	**Submitter Response:**

	but the 100 points reflects performance on both the essay and the presentation for graduate students, while only reflecting performance on the essay for undergraduates. - PW • Syllabus could indicate that the final exam will be taken during the final exam period (though the specific date/time are TBD). - PW • The “Critical Dates” section in the syllabus could be removed, since it simply directs students to the weekly schedule. - PW • Make the capitalization of the learning objectives consistent-mkj • A link to the UF absence policy should be included in the syllabus under the appropriate section.-mkj • Graduate courses generally do not require pre-requisites unless you want to make enrollment in the graduate program a requirement.-mkj • I share the concerns outlined above about the Literature essay-mkj • Please review the academic calendar for the fall. The university is closed for UF Homecoming and Veterans Day and lectures are scheduled for both of those holidays and so your schedule may need to be revised. -mkj • The syllabus needs to be for the graduate course only with a separate document submitted briefly describing how the gradate course differs from	

	the undergraduate course. -mkj	
Other Edits/Comments		**Submitter Response:**

Undergraduate Course Modification

2. PLP 4600 – RNA Biology (req. #22331)
See item #1. Below are the comments from Teams.

APPROVAL NUMBER	ITEM	REVIEWERS	SUBMITTER/Instructor
UNDERGRADUATE COURSES			
22331	**NEW: MODIFICATION of title for PLP4600 RNA Biology**	Tre Easterly, Beth Gankofskie, Patrick Inglett, Diwakar Vyas, Adam Watson, Kayla Braggs	Ying Wang
Form Edits/Comments			**Submitter Response:**

Syllabus Edits/Comments	• Change to 15 weeks to match new university calendar realities- TE • Strongly advised to develop an AI statement or policy- TE • Course prereq. Suggest adding an "OR" between BCH4024 and PCB4522. Maybe delete "at other universities". - AW • CALS encourages faculty to keep the Campus Health and Wellness Resources section. Also suggest including a section on Software Use, Privacy and Accessibility Policies. •	**Submitter Response:**
Other Edits/Comments	• Intro to RNA engineering as a title might trigger questions from UCC as the medical science (i.e., Biochem and Molecular Biology, Molecular Genetics and Microbio). Suggest including some language here that differentiates this course, so it is distinct to Plant Science or PLP. Perhaps "Intro to RNA Engineering in Plant Systems". I know this course already has a number but wondering if we need an outside consult? - AW	**Submitter Response:**

Minors

3. Proposed Minor in Plant Breeding (req. #22356)

A motion was made by Dr. Inglett to approve this item with an edit required. The motion was approved. In the list of elective courses for the minor change the course title for PLP4600 to Introduction to RNA Engineering. The title change is currently moving through the approval process. The committee recommends contacting the department that offers MCB4304 to make sure there is no capacity issue with the course. Below are the comments from Teams.

APPROVAL NUMBER	ITEM	REVIEWERS	SUBMITTER/Instructor
UNDERGRADUATE COURSES			

22356	**NEW: Minor in Plant Breeding**	Danny Coenen, Caroline Haxton, Tim Martin, Tracy Johns, Melissa Jones	Greg Macdonald
Form Edits/Comments	- On the Minor Request form, - MKJ * the Proposed Transcript title is a partial sentence ending with an incomplete word and should be revised. *too long + looks like it might just be a typo - TJ *under Impacts on Other Programs, I think the authors meant to say "since nearly **all** courses...". The word "all" is missing and should be added.		**Submitter Response:** These have been corrected
Syllabus Edits/Comments	• I am confused by the way the Genetics course requirement is formatted. If there are three courses for the students to choose from, why not format this as "Select one" and list the three courses below? • *Looking through the elective options, a student could conceivably take Python Programming, Programming with R, RNA biology, and Plant Pathology as electives and so the student would only take true plant breeding course yet still receive a minor in plant breeding. Is that acceptable to the faculty leading this program? If not, I'd suggest further subdividing elective options. - MKJ* • Revised document: I believe PCB 3063 is a 4-credit course. - DC		**Submitter Response:** This has been revised to address these concerns – see version 2

Other Edits/Comments		**Submitter Response:** Danny, Thanks – I have made the minor ones, checking with my colleagues for clarification on the electives. Greg

4. Expand Existing Residential Agricultural and Natural Resource Communication Minor to UF Online in CALS (req. #22355)

A motion was made by Dr. Nunez to approve this item as submitted. The motion was approved.

5. Expand Existing Residential Extension Education Minor to UF Online in CALS (req. #22357)

A motion was made by Dr. Nunez to approve this item as submitted. The motion was approved.

Curriculum Modifications

6. AI Designation for Undergraduate Course – AEC 3073 Intercultural Communication (req. #22307)

Please be sure to make all requested changes to both the UCC form and syllabus if necessary. Add a CALS CC Checklist. The link to the checklist can be found at the top of this document. Under Class Times on the first page of the syllabus add "see course schedule." The dates for the Zoom meetings need to be updated. Explain how the second course objective will be assessed. The learning verb "Understand" needs to be replaced in objective #5. See the link for CALS Course Objectives at the top of this document for assistance. Remove the Gen-Ed attributes that no longer apply. The course is listed as Gen-Ed International only in the current catalog. Below are the comments from Teams.

APPROVAL NUMBER	ITEM	REVIEWERS	SUBMITTER/Instructor
UNDERGRADUATE COURSES			
22307	**NEW: AI DESIGNATION - AEC 3073 Int'l Communication**	Patrick Ward, Eric Hellgren, Patrick Inglett, Tracy Johns, Danny Coenen	Pablo Lamino Jarmillo

Form Edits/Comments	-Course Description meets word/character count on syllabus but is different (much longer) on form (Course Objectives are longer on syllabus than form – not sure if they need to match) - TJ	**Submitter Response:** I appreciate your comment. I have revised the course description to ensure it aligns with the form.
Syllabus Edits/Comments	• Syllabus uses outdated boilerplate, including outdated honor code – DC • SLO 5: Remove "Understand" - DC • SLO 2: How is "developing appropriate skills" assessed? - DC • Course description: Remove GE designations (as a 3000-level course, those are probably no longer valid) • In Evaluations of the Grades table, Perusall is misspelled. - DC • Syllabus mentions optional meetings every two weeks, but does not specify where or when these meetings will be held. - PW • I may have been looking at an outdated set of AI SLOs, but SLO2 that I found did not include "Recognize". Since SLO2 is aimed at critical thinking and communication, it might be useful to highlight this focus, since this is a course on intercultural communication. - PW • I realize this course will have a substantial discussion on the ethical use of AI and potential biases in AI-generated output, but it might be useful to have a stated policy in the syllabus about the responsible and ethical use of AI. - PW	**Submitter Response:** Thank you for providing this information. I have reviewed the material to ensure that the Honor Code statements align with the latest version.

Other Edits/Comments	• The submission is missing the CALS CC checklist. - PW • Weekly Schedule of Topics: Should the course only have 15 weeks (14 + spring break)? Is the Country Comparison Presentation the equivalent of the Final Exam for the course? - EH	**Submitter Response:**

7. Agricultural Operations Management (BS) Quest 3 Modification – Course Catalog (req. #22321)

A motion was made by Dr. Jones to approve this item as submitted. The motion was approved.

The meeting was adjourned at **1:45** p.m.

Cover Sheet: Request 22384

ENY6XXX - The Business of Beekeeping

Info

Process	Course|New|Grad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Cameron Jack cjack@ufl.edu
Created	1/12/2026 11:46:06 AM
Updated	2/17/2026 10:46:50 AM
Description of request	I am seeking approval for a new course offered in the Entomology and Nematology Department called The Business of Beekeeping. This course will be an essential part of our beekeeping certificate program.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Entomology and Nematology 60140000	Jennifer Weeks		1/28/2026
Differences between undergrad and grad Business of Beekeeping Courses.docx CALS CC Checklist_CJ Completed.pdf					1/12/2026 1/28/2026
College	Pending	CALS - College of Agricultural and Life Sciences			1/28/2026
No document changes					
Graduate Curriculum Committee					
No document changes					
University Curriculum Committee Notified					
No document changes					
Statewide Course Numbering System					
No document changes					
Graduate School Notified					
No document changes					
Office of the Registrar					
No document changes					
College Notified					
No document changes					

Original file: Cover sheet.pdf

Course|New for request 22384

Info

Request: ENY6XXX - The Business of Beekeeping
Description of request: I am seeking approval for a new course offered in the Entomology and Nematology Department called The Business of Beekeeping. This course will be an essential part of our beekeeping certificate program.
Submitter: Cameron Jack cjack@ufl.edu
Created: 1/28/2026 12:00:49 PM
Form version: 2

Responses

Recommended Prefix ENY
Course Level 6
Course Number XXX
Category of Instruction Joint (Ugrad/Grad)
Lab Code None
Course Title The Business of Beekeeping
Transcript Title The Business of Beekeeping
Degree Type Graduate

Delivery Method(s) Online
Co-Listing Yes
Co-Listing Explanation Both ENY4XXX (undergraduate) and ENY6XXX (graduate) versions of The Business of Beekeeping cover similar topical content and share several core assignments (module assessments, critical thinking exercises, commercial beekeeper interview, and business plan). However, the 6000-level course includes additional and more advanced graded assignments that substantially differentiate it from the 4000-level course.
1. Graduate-Level Extension (EDIS) Project (Major Assignment Difference)
The most significant distinction between the two courses is the inclusion of a Commercial Beekeeping Extension (EDIS) Project in ENY6XXX, which is not present in ENY4XXX.
• ENY6XXX Requirement: Graduate (and honors) students must produce a professional-quality Extension document modeled after UF/IFAS EDIS publications. This project includes:
o Topic approval
o A complete first submission
o Peer review of other students' extension documents
o A revised final submission suitable for public dissemination
• Graded Value: 100 points out of 700 total course points (≈14.3% of the course grade).
• This assignment requires synthesis of scientific literature, translation of technical material for non-technical audiences, adherence to formal Extension publication standards, and iterative revision based on peer feedback—expectations consistent with graduate-level scholarship and professional practice.
This assignment alone nearly meets the 15% threshold and represents a clear, categorical difference in assignment structure and expectations between course levels.
2. Increased Rigor of Critical Thinking Exercises
While both courses include five critical thinking exercises, the point value and expectations differ:
• ENY4XXX:
o 5 exercises × 35 points = 175 points (≈31.8% of total grade).
• ENY6XXX:
o 5 exercises × 45 points = 225 points (≈32.1% of total grade).
In the graduate course, these exercises explicitly incorporate primary scientific literature and require deeper analytical engagement, reflecting higher Bloom's taxonomy levels (analysis, synthesis, and evaluation). Although similar in format, the expanded scope and increased weighting further distinguish the graduate experience.
3. Expanded Reading
ENY6XXX includes additional peer-reviewed journal articles and advanced scientific readings that directly inform graded assignments (critical thinking exercises, business plan justification, and the Extension project). Undergraduate students in ENY4XXX rely more on Extension-style readings, with fewer expectations for independent synthesis of primary literature.

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4. Overall Graded Material Differential
- Total Points:
  - ENY4XXX: 550 points
  - ENY6XXX: 700 points
- Additional Graduate-Level Graded Work:
  - Extension (EDIS) Project: 100 points
  - Increased rigor and weighting of critical thinking exercises: +50 points

Collectively, these differences account for 150 additional points in the graduate course, representing over 21% of the total graded material in ENY6XXX that is not required of ENY4XXX students, thereby exceeding the 15% differentiation requirement.

Effective Term Fall
Effective Year Earliest Available
Rotating Topic? No
Repeatable Credit? No

Amount of Credit 3

S/U Only? No
Contact Type Regularly Scheduled
Weekly Contact Hours 3
Course Description Provides an overview related to the management of a commercial beekeeping operation. This course will provide an overview of the ways to generate revenue in beekeeping, the steps of creating an effective business plan and many of the rules and regulations of which beekeepers should be aware.
Prerequisites ENY6572 Apiculture I
Co-requisites N/A
Rationale and Placement in Curriculum The Business of Beekeeping course will be an graduate elective course within the Entomology and Nematology Department. This course will become a popular elective within the rapidly growing Beekeeping certificate program. This course is unique as it is not as focused on the scientific understanding of the organism (honey bee) but is focused on assisting those who desire to create a beekeeping business. This is the only university course on beekeeping businesses in the country and is essential for our beekeeping education program at UF.
Course Objectives 1. Identify the federal and state requirements associated with operating a beekeeping business.
2. Describe the transportation requirements of hauling honey bee colonies and the considerations for commercial pollination services.
3. Compare the types of beekeeping operations and the different ways to generate revenue in beekeeping.
4. Summarize the steps of hiring and managing employees.
5. Create a business plan according to the goals, revenue streams and interests of the beekeeper.
6. Create an extension article that will teach correct beekeeping best management practices for non-technical commercial beekeeper audiences.

Course Textbook(s) and/or Other Assigned Reading Textbook: (Recommended): Flotum, K. 2018 (revised from 2011). In Business with Bees: How to expand, sell and market honey bee products and services including pollination, bees and queens, beeswax, honey and more. Quarry Books. Beverly, MA, 158 pp.
Required Readings:
1. Jack, C. and J. Ellis. 2021. Integrated Pest Management Control of Varroa destructor (Acari: Varroidae), the Most Damaging Pest of Apis mellifera L. (Hymenoptera: Apidae) Colonies. Journal of Insect Science 21(5): 6.
2. Evans, E. A. 2024. Primer for Developing a Farm Business Plan. University of Florida EDIS. FE720
3. Ahn, S., O'Donougue, A., House, L., and R. Goodrich-Schneider. 2021. How to Start a Food Business: Writing a Business Plan. University of Florida EDIS. FSHN14-12
4. Lamas, Zachary S., et al. "Viruses and vectors tied to honey bee colony losses." BioRxiv (2025): 2025-05.
5. Lewis, H. 2012. Basic Accounting: Guidance for Beginning Farmers. National Sustainable Agriculture Information Service.
6. Lewis, H. 2012. Financing Your Farm: Guidance for Beginning Farmers. National Sustainable

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Agriculture Information Service.
7. Ansaloni, Leticia S., et al. "An overview of the nutritional requirements of honey bees (Apis mellifera Linnaeus, 1758)." Insects 16.1 (2025): 97.
8. United States Department of Labor. Cultivating Compliance: An Agricultural Guide to Federal Labor Law. WH15220714
9. Simone-Finstrom, Michael, et al. "Impact of honey bee migratory management on pathogen loads and immune gene expression is affected by complex interactions with environment, worker life history, and season." Journal of Insect Science 22.1 (2022): 17.
10. Goodrich, B., Williams, J., and Goodhue, R. 2019. The great bee migration: supply analysis of honey bee colony shipments into California for almond pollination services. Amer. J. Agr. Econ. 101(5): 1353–1372; doi: 10.1093/ajae/aaz046
11. Zettel-Nalen, C. M. and J. D. Ellis. 2021. Theft, Vandalism, and Other Related Crimes in the Beekeeping Industry: A Guide for Beekeepers. University of Florida EDIS. ENY157

Weekly Schedule of Topics Getting Started: Welcome ; How to be successful in this course
Types of Beekeeping Operations: Backyard; Sideliner; Commercial; Transition and effort
Ways to Generate Revenue in Beekeeping: Bee production; Honey producers/packers; Queen producers; Bee removal; Beekeeping supplies distributors, Commercial pollination; Regulatory
Creating a Business Plan: Assistance and training; Goal setting; Business planning; Writing a business plan
Starting a Business: Selecting a legal structure; Registering name and taxes; Licenses and permits
Financial Structure: Financial advisor; Bookkeeping basics; Financial statements; Budgeting; Making money with bees
Federal and State Requirements: Rules and regulations for keeping honey bees; Federal taxes, State and local taxes; Labor laws
Hiring and Managing Employees: Contractor or employer; Steps for hiring an employee; Hiring foreign employees; Employee rights and benefits
Insurance: Overview of insurance types; Liability; Farm insurance
Transportation Requirements: Moving colonies; State regulations; License and weight requirements; Commercial bee hauling and subcontracting
Almond Pollination: Finding an almond grower; Preparing bees for almond pollination; During pollination contract; End of pollination contract
Bottling Honey and Food Safety: Bottling honey; Commercial honey house requirements; Commercial honey labeling requirements

Grading Scheme Module assessments: 15 points each × 10 assessments
150 points
Section critical thinking exercises: 45 points each × 5 exercises 225 points
Identify commercial beekeeper to interview: 15 points 15 points
Commercial Beekeeper interview report: 75 points 75 points
1st Submission of Business Plan 15 points: 15 points
Submission of your peer evaluations of two of your peers' Business Plans: 20 points
Final draft of your Business Plan: 100 points 100 points
Commercial Beekeeping EDIS: 100 points

100 points
Total Course Points 700 points

Instructor(s) Cameron Jack
Attendance & Make-up Yes
Accomodations Yes
UF Grading Policies for assigning Grade Points Yes
Course Evaluation Policy Yes

Original file: Submitted form version 2.pdf

CALS Curriculum Committee
Submission Checklist

Updated January 2026

NOTE: This checklist must be included with all course and certificate submissions.

The checklist below is intended to facilitate course and certificate submissions to the University of Florida Academic Approval Tracking System (https://approval.ufl.edu/). The checklist consists of the most common items that can cause a submission to require changes or be recycled. Contrary to information provided on the UF approval site, the CALS Curriculum Committee requires a syllabus be submitted with each new course or course modification request. Please note that submitters are encouraged to attend the CALS CC meeting at which their item is being reviewed. This allows the submitter to answer any potential questions that may arise that could cause the item to not be approved. Also, be aware that when completing the UCC form the section Description of Request is asking for a brief statement about what you are doing. This is **not** the place for a course description. A statement such as "Proposal of a new undergraduate course" is all that is needed. Please do not submit documents in pdf format. All documents should be submitted in Word to facilitate editing on our end if necessary.

CHECKLIST: PLEASE INITIAL OR MARK N/A FOR EACH STATEMENT TO INDICATE YOUR COMPLIANCE.

SYLLABUS: You are encouraged to use the CALS ACCESSIBLE SYLLABUS TEMPLATE. Accessibility will be required by APRIL 2026.
****Use of Simple Syllabus will be required for Summer 2026 forward. It is slated to be released to faculty in late February 2026.****

X It is required when making a submission that you consult your department's representative to the CALS CC. A list of current members can be found on the committee site located at: https://cals.ufl.edu/faculty-staff/committees/.

X Submission of a course modification requires both the current version of the course syllabus and the proposed version.

X Joint course submissions must include 1) both graduate and undergraduate syllabuses and 2) a separate document outlining the substantial (more than one) differences in assignments between the two courses. These assignments must account for at least a 15% difference in graded material between the two levels. If this is a new course submission both courses must be submitted for approval simultaneously.

X The course description on the UCC form and in the syllabus must match and should be no longer than 500 characters. FOR AN EXITING COURSE, THE DESCRIPTION **MUST MATCH THE CATALOG DESCRIPTION**. Follow the **COURSE DESCRIPTION GUIDELINES** for new courses if not contraindicated by outside certification requirements. Any other information you wish to include needs to be under a different heading such as background or additional course information.

Original file: CALS CC Checklist_CJ Completed.pdf

X The course learning objectives must be consistent with Bloom's taxonomy. Please see the following link at the CALS Curriculum site. (https://cals.ufl.edu/content/PDF/Faculty_Staff/cals-courseobjectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

X The course schedule should be concise and include the appropriate number of weeks in the semester.

X All graduate course submissions must include a reading list if a textbook is not required. The reading list should include at least some current readings (within the last 5 years). All readings do not need to be current.

X Outside consultations are required if there is a possibility of the proposed course covering a significant amount of material taught in another department or college on campus. There must be a consult form completed by the chair of the department from who you are seeking the consult. Instructors may provide additional consults. The form can be found at: https://approval.ufl.edu/policies/external-consultations/.

X Prerequisite courses are required for 3000 and 4000 level courses. This line of the approval form cannot be "none" or left blank. Junior or senior standing is an acceptable option. A phrase such as "a course in basic biology" is not acceptable. (Graduate courses should not have specific courses listed as prerequisites. If needed a statement of skills required prior to taking the course can be provided under other course information.)

X Decimal points must be included in the grading scale if grade cut-offs are based on percentages. While this is not a university policy it is a CALS standard practice to avoid any confusion when final grades for the course are determined.

X The attendance and make-up policy in a syllabus cannot contradict the university's policy. Do not include any additional wording to this policy. A statement and link regarding this are included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

X The most recent version of the UF Syllabus Statements. Using the accessible syllabus template will ensure you have the most up to date statements. Do not use boilerplate statements from an old syllabus as they are likely to be out of date.

Certificates

If proposing a new undergraduate or graduate level certificate that includes any courses outside of the submitters department a statement regarding any possible impact on those courses needs to be included. An email from the instructor is acceptable. Also, any courses required for the certificate must have permanent prefixes and course numbers. The submission must include intended catalog copy. (Contact Dr. Anne Mathews (anne.mathews@ufl.edu) for further instruction)

Original file: CALS CC Checklist_CJ Completed.pdf

ENY#### The Business of Beekeeping

Fall 2026
Online Asynchronous, 3 credits

Instructor

Cameron Jack, PhD
Office Room #: ENY (Bldg 964), room 114
Office Address: Steinmetz Hall, Natural Area Drive, P.O. Box 110620, Gainesville, FL 32611
Office Phone #: 352-294-6926
E-mail: cjack@ufl.edu
Office Hours: Tuesdays 2 – 4 pm at my office or online by appointment.

Teaching Assistant

Tim Liptak
Office Phone #: 843-276-2938
E-mail: tliptak@ufl.edu
Office Hours: Thursdays 6 – 7 pm via Zoom (link will be provided).

Course Description

An overview of managing commercial beekeeping operations. Topics include revenue generation through beekeeping, effective business plan development, and beekeeping rules and regulations.

Course Learning Objectives

1. Identify the federal and state requirements associated with operating a beekeeping business.
2. Describe the transportation requirements of hauling honey bee colonies and the considerations for commercial pollination services.
3. Compare the types of beekeeping operations and the different ways to generate revenue in beekeeping.
4. Summarize the steps of hiring and managing employees.
5. Create a business plan according to the goals, revenue streams and interests of the beekeeper.
6. Create an extension article that will teach correct beekeeping best management practices for non-technical commercial beekeeper audiences.

Course Prerequisites

ENY6572 Apiculture I

Textbooks, Learning Materials, and Supply Fees

Textbook: (Recommended): Flotum, K. 2018 (revised from 2011). In Business with Bees: How to expand, sell and market honey bee products and services including pollination, bees and queens, beeswax, honey and more. Quarry Books. Beverly, MA, 158 pp.

Required Readings:

1. Jack, C. and J. Ellis. 2021. Integrated Pest Management Control of Varroa destructor (Acari: Varroidae), the Most Damaging Pest of Apis mellifera L. (Hymenoptera: Apidae) Colonies. Journal of Insect Science 21(5): 6.

2. Evans, E. A. 2024. Primer for Developing a Farm Business Plan. University of Florida EDIS. FE720
3. Ahn, S., O'Donougue, A., House, L., and R. Goodrich-Schneider. 2021. How to Start a Food Business: Writing a Business Plan. University of Florida EDIS. FSHN14-12
4. Lamas, Zachary S., et al. "Viruses and vectors tied to honey bee colony losses." *BioRxiv* (2025): 2025-05.
5. Lewis, H. 2012. Basic Accounting: Guidance for Beginning Farmers. National Sustainable Agriculture Information Service.
6. Lewis, H. 2012. Financing Your Farm: Guidance for Beginning Farmers. National Sustainable Agriculture Information Service.
7. Ansaloni, Leticia S., et al. "An overview of the nutritional requirements of honey bees (Apis mellifera Linnaeus, 1758)." *Insects* 16.1 (2025): 97.
8. United States Department of Labor. Cultivating Compliance: An Agricultural Guide to Federal Labor Law. WH15220714
9. Simone-Finstrom, Michael, et al. "Impact of honey bee migratory management on pathogen loads and immune gene expression is affected by complex interactions with environment, worker life history, and season." *Journal of Insect Science* 22.1 (2022): 17.
10. Goodrich, B., Williams, J., and Goodhue, R. 2019. The great bee migration: supply analysis of honey bee colony shipments into California for almond pollination services. Amer. J. Agr. Econ. 101(5): 1353–1372; doi: 10.1093/ajae/aaz046
11. Zettel-Nalen, C. M. and J. D. Ellis. 2021. Theft, Vandalism, and Other Related Crimes in the Beekeeping Industry: A Guide for Beekeepers. University of Florida EDIS. ENY157

Instructor Interaction Plan

All course communications (assignments, announcements, test information, etc.) will be made via the Announcements in Canvas. Please ensure that your Canvas profile is set to receive notifications (i.e. please check the appropriate box to receive all notifications). To do this, click on your name in the upper right corner of the Canvas homepage after logging into Canvas. Next, click "notifications" on the left. This will take you to the Notification Preferences page. Then, click the check symbol for at least the following notifications: Due Date, Course Content, Announcement, and Grading.

Students are encouraged to post general questions on topics taught in the class under the General Questions thread. The instructor and/or the TAs will respond to the questions. Other students are also encouraged to respond to the questions. Private questions should be sent to the TAs via e-mail.

The instructor and TAs will do our best to respond within **24 hours during the week and 48 hours on weekends**. We will also do our best to grade assignments within one week of the due date.

Technical Support

UF Computing Help Desk & Ticket Number: All technical issues require a UF Helpdesk Ticket Number. The UF Helpdesk is available 24 hours a day, 7 days a week. https://helpdesk.ufl.edu/ | 352-392-4357

Weekly Course Schedule

This course is offered via Canvas as a distance education course. To stay on track, students must adhere to the course schedule.

Module	Video Content	Weekly Readings	Module Assessments	Critical Thinking Exercises	Interview with Beekeeper	Business Plan Assignments	Commercial Beekeeping EDIS
Getting Started	Welcome video; How to be successful in this course	Course syllabus; Tips for success	Aug. 28th				
Types of Beekeeping Operations	Backyard; Sideliner; Commercial; Transition and effort	Jack and Ellis, 2021; Textbook: 8-16	Sep. 4th				
Ways to Generate Revenue in Beekeeping	Bee production; Honey producers/packers; Queen producers; Bee removal; Beekeeping supplies distributors, Commercial pollination; Regulatory	Textbook: 66-90	Sep. 11th	Sep. 11th	Identify Commercial Beekeeper Sep. 11th		EDIS Topic Sep. 11th
Creating a Business Plan	Assistance and training; Goal setting; Business planning; Writing a business plan	EDIS: Developing a Business Plan; Writing a Business Plan	Sep. 18th				
Starting a Business	Selecting a legal structure; Registering name and taxes; Licenses and permits	Bhatia et al., 2021; Textbook: 17-35	Sep. 25th	Sep. 25th			
Financial Structure	Financial advisor; Bookkeeping basics; Financial statements; Budgeting; Making money with bees	Basic Accounting; Financing your Farm	Oct. 2nd				
Federal and State Requirements	Rules and regulations for keeping honey bees; Federal taxes, State and local taxes; Labor laws	Noordyke and Ellis, 2021; Cultivating compliance	Oct. 9th	Oct. 9th			

Hiring and Managing Employees	Contractor or employer; Steps for hiring an employee; Hiring foreign employees; Employee rights and benefits		Oct. 23rd		Beekeeper Interview Report Oct. 23rd		1st Submission Oct. 23rd
Insurance	Overview of insurance types; Liability; Farm insurance	Alger et al., 2018	Oct. 30th	Oct. 30th		1st Submission Oct. 30th	Peer Review Oct. 30th
Transportation Requirements	Moving colonies; State regulations; License and weight requirements; Commercial bee hauling and subcontracting	Goodrich et al., 2019	Nov. 6th			Peer Review Nov. 6th	
Almond Pollination	Finding an almond grower; Preparing bees for almond pollination; During pollination contract; End of pollination contract	EDIS: Crimes in Beekeeping Industry Textbook: 104-109	Nov. 13th				
Bottling Honey and Food Safety	Bottling honey; Commercial honey house requirements; Commercial honey labeling requirements	Textbook: 43-65	Nov. 20th	Nov. 20th		Final Submission Nov. 20th	Final EDIS Submission Nov. 20th

Grading Policy

Course grading is consistent with UF grading policies.

Course Grading Structure

The course grade is based on total points earned out of 700 possible points.

Module assessments	15 points each × 10 assessments	150 points
Section critical thinking exercises	45 points each × 5 exercises	225 points
Identify commercial beekeeper to interview	15 points	15 points
Commercial Beekeeper interview report	75 points	75 points
1st Submission of Business Plan	15 points	15 points
Submission of your peer evaluations of two of your peers' Business Plans	10 points × 2 peer reviews	20 points
Final draft of your Business Plan	100 points	100 points
Commercial Beekeeping EDIS	100 points	100 points
	Total Course Points	700 points

Grading Scale

Grade	Points
A	≥ 651
A-	$630 - 650.99$
B+	$609 - 629.99$
B	$581 - 608.99$
B-	$560 - 580.99$
C+	$539 - 559.99$
C	$511 - 538.99$
C-	$490 - 510.99$
D+	$469 - 489.99$
D	$441 - 468.99$
D-	$420 - 440.99$
S	$0 - 419.99$

Assignments:

(1) **Module Assessments:** There is a 15-point assessment associated with each of the eleven modules in this course. The lowest assessment grade will be dropped. These assessments are *open note* (i.e. you *are* allowed to use class lectures, books, websites, etc. while taking the assessments). The assessments will be composed of true/false and multiple choice questions. The assessments 1) open the Saturday morning after the previous section ends, 2) are timed (30 minutes each), and 3) are due on the following Friday at 11:59 pm on the date listed in the course schedule. These are individual assessments so please do your own work and do not work in groups or share your answers. There is a large bank of test questions for each assessment and the assessment questions are selected randomly for each student. **You will receive a 5-point deduction for each day a module assessment is late**.

The first module assessment is an ungraded syllabus quiz on the "Getting Started" module. You need to read the syllabus and answer quiz questions related to it before you are able to advance to the next module. This quiz will show you how your online assessments will be formatted as well as allow you to demonstrate that you understand how this course works and important due dates.

(**2) Critical Thinking Exercises:** The exercises are designed to encourage you to think critically about the content presented in the module lectures. The critical thinking exercises are worth 35 points each. There are separate exercises designed for honors and graduate students incorporating additional questions from the scientific journal articles assigned to that section. These are individual exercises so please do your own work and do not work in groups or share your answers. All of the critical thinking exercises are open note and untimed. You can close and reopen the exercise as many times as you would like until the due date (see course schedule), but you will not be able to make any changes once you have officially submitted your final exercise. **The exercises are due at 11:59 pm on the date listed in the course schedule.** You will receive a 5 point deduction for each day a module assessment is late.

(3) Commercial Beekeeper Interviews: One of the best ways to learn about commercial beekeeping is to talk to actual commercial beekeepers! This semester, you will have the opportunity to find a commercial beekeeper and talk to them about their own operation. Find out how they diversify their operation, what challenges they face and what advice they would give to someone starting out their beekeeping enterprise. Commercial beekeepers are incredibly busy and may not always be the easiest people to reach. However, at the end of the day, you have the same resources available to find commercial beekeepers that the Instructor and TAs have. Thus, the responsibility of finding a beekeeper lies with the student. That said, please contact the Instructor or TA if you need help finding a commercial beekeeper after doing your best to locate one yourself.

The Commercial Beekeeper Interview grade is composed of two components.

1) Identifying a commercial beekeeper to interview (15 points) – We want to know who you plan to interview and see a written confirmation that the beekeeper has agreed to be interviewed. To complete this part of the assignment, please provide 1) the name of the beekeeper, 2) when you plan to interview the beekeeper, 3) contact information for the beekeeper (phone number/email), and 4) proof of consent (can be an image of text message or screenshot of email) by the due date noted in the course schedule.

2) Interview Report (75 points) – You are expected to produce a written report containing the notes and highlights of the interview. During the interview you can discuss how their operation is managed, what the main revenue stream of their operation is (pollination, honey production, etc.), key obstacles the beekeeper must overcome in his/her operation, etc. **Your visit with the beekeeper should help you write your own business plan**, so keep that in mind as you are talking with the beekeeper.

A grading rubric will be provided in Canvas to facilitate development of your commercial beekeeper interview report. **Five points will be deducted from reports every day past the due date (see the course schedule) that the report is submitted.** Please do not wait until the last minute to schedule your interview.

(4) Business Plan: An effective business plan is at the heart of any successful business. We've all heard the adage, "If you fail to plan, you plan to fail." Well, this semester we are going to prepare for your future by creating an effective business plan. Regardless of whether you actually start a beekeeping business in the future, the concepts of a good business plan are transferable to many other parts of life.

Your Business Plan must include:

- Executive summary
- Company description
- Products and services
- Marketing plan
    - An image of your logo (It's OK if you do not have amazing graphic design skills, just make sure it is neat and you do your best.)
- Operational plan
- Human Resource Plan
- Financial plan
- Subheadings to differentiate between activities or meetings you experienced
- Page numbers
- 12-point, professional font
- Double spaced
- 4-5 pages long (including pictures and/or figures)

A grading rubric will be provided in Canvas to facilitate development and peer review of the beekeeping experience report. **Five points will be deducted from reports every day past the due date (see the course schedule) that the report is submitted.** Please do not wait until the last minute to produce your business plan.

The business plan grade (up to 135 pts) is composed of three components.

A) 15 points for the Business Plan 1st Submission – In this assignment, you will submit the first draft of your business plan. This submission should be as close to a final version as possible (i.e., **do not submit an outline**).

B) 20 points for submitting your peer evaluations of two other students' business plans (10 points per report) – After submission of all students' business plans, you will be randomly assigned two other students' business plans to peer evaluate using the rubric at the end of this syllabus. You will be awarded 0, 10, and 20 points for submitting zero, one or two peer reviews respectively. Your evaluations

of two of your peer's business plans are due by the date listed in the course schedule. This is your chance to help your fellow students, so please offer a respectful and useful critique of their work.

C) 100 points from the Instructor and TA's reviews of your business plan – The two peer reviews offered by the two students in the class based on the business plan rubric will help serve as a reviewing guide. The Instructor or TA will see if you made the appropriate or necessary changes to your plan suggested by your reviewers and also read your plan to assign the final grades based on the rubric provided in the Final Business Plan page.

5) Extension Project: Honors and graduate students are required to produce an additional extension project which will be in the form of an EDIS document (http://edis.ifas.ufl.edu/). It should be completed as if it were to be published through the University of Florida's extension branch (Cooperative Extension Service). EDIS documents are designed to be informational or instructional how-to documents for the public. Your document should be written on a topic of your choice meant to provide useful information for commercial beekeepers. Students should refer to the "Publishing FAQs" under "Instructions for Authors" on the EDIS website for publication guidelines. You must check with the TA before beginning your project so that they can verify that such a document does not already exist on your topic. The instructor or TA can provide ideas for selecting a topic. A grading rubric will be provided to facilitate development of the extension project.

Here are some examples of published EDIS documents that could be useful for you as you think of topics for your document:

- Theft, vandalism and other crime in the beekeeping industry https://edis.ifas.ufl.edu/publication/IN872
- Building bear fences for your apiary https://edis.ifas.ufl.edu/publication/IN1318
- Using nucs in your apiary https://edis.ifas.ufl.edu/publication/IN869

This written report should convey scientific information in a way that a high school student could understand. Figures are extremely helpful in extension documents, and students are encouraged to include as many figures as necessary to explain a topic. You must obtain use permission from the owner of any figures you include in your final report if the figure is not original to you.

There are four components of the extension project that compose the completed assignment. Due dates for each component are listed in the course schedule.

1) Extension Report Topic Due – The student should identify and record the topic chosen for the EDIS document by completing the Canvas assignment "Extension Report Topic."

2) 1st Submission – This is not a rough draft, but rather is what the student considers the completed document.

3) Peer Review – The 1st submission will be shared with other honors and graduate students in the class who will provide a peer review of the report by the due date listed in the course schedule. Each student will peer review two extension reports.

4) Final Submission – Students are expected to revise the extension report or production plan per the comments provided during the peer review process. The final report or video must be submitted by the due date shown in the course schedule.

A grading rubric will be provided in Canvas to facilitate development and peer review of the extension project. Five points will be deducted from the final project score every day past the due dates that any of the information requested above is late, regardless of the excuse. Please do not wait until the last minute to submit your project or meet any of the other deadlines. All points lost will be deducted from the final Extension Project grade.

Optional content: In addition to the assignments above, optional resources are provided throughout the course modules, labeled as "supplemental content." These resources are not required for course completion and are solely included for enrichment opportunities.

AI Use Policy for this course:

Artificial Intelligence (AI) tools, including but not limited to ChatGPT, Gemini, Claude, Copilot, and other generative AI systems, can be powerful aids for learning, writing, and problem-solving. In this course, **you are permitted to use AI to support your writing and coursework**, provided that you do so **responsibly, transparently, and in ways that uphold the UF Student Honor Code**.
Your work must always reflect **your own thinking, learning, and personal experiences**. AI may assist you, but it should not replace you.

What Is Allowed
You *may* use generative AI tools for tasks such as:

- brainstorming ideas
- outlining or organizing your thoughts
- revising for clarity and grammar
- generating practice questions or study guides
- suggesting alternative phrasing

AI may also be used at specific assignment stages when noted in the instructions.

What Is Not Allowed
You *may not*:

- submit AI-generated text **as your own original work**
- use AI to fabricate personal experiences, reflections, or observations
- use AI to complete tasks that specifically require *your own* interpretation, analysis, or judgment
- input any **restricted, sensitive, or personal data** into external AI tools (per UF Data Security and Privacy guidance)

Misuse of AI—including unacknowledged AI assistance—will be treated as a violation of the UF Student Honor Code.

Required Citation of AI Use
Any use of AI tools in your work must be **clearly cited**. At minimum, include:

1. The tool used (e.g., ChatGPT)
2. The purpose (e.g., "to generate an outline," "to suggest revisions")
3. The exact prompt(s) you used, either in an appendix or assignment note

Example Citation (APA style)
ChatGPT (2025, January 12). Response to the prompt: *"Suggest three ways to reorganize this paragraph for clarity."* OpenAI. https://chat.openai.com/

Academic Policies and Resources

Academic policies for this course are consistent with university policies. See https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

Campus Health and Wellness Resources

Visit https://one.uf.edu/whole-gator/topics for resources that are designed to help you thrive physically, mentally, and emotionally at UF.

Please contact UMatterWeCare for additional and immediate support.

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Privacy and Accessibility Policies

[required for online courses, list all technology used]

- Instructure (Canvas)
  - Instructure Privacy Policy
  - Instructure Accessibility
- Zoom
  - Zoom Privacy Policy
  - Zoom Accessibility

Substantive Differences in Assignments Between ENY4XXX and ENY6XXX

The Business of Beekeeping

Both ENY4XXX (undergraduate) and ENY6XXX (graduate) versions of *The Business of Beekeeping* cover similar topical content and share several core assignments (module assessments, critical thinking exercises, commercial beekeeper interview, and business plan). However, the **6000-level course includes additional and more advanced graded assignments that substantially differentiate it from the 4000-level course.**

1. Graduate-Level Extension (EDIS) Project (Major Assignment Difference)

The most significant distinction between the two courses is the inclusion of a **Commercial Beekeeping Extension (EDIS) Project** in ENY6XXX, which is **not present** in ENY4XXX.

- **ENY6XXX Requirement**: Graduate (and honors) students must produce a professional-quality Extension document modeled after UF/IFAS EDIS publications. This project includes:
    - Topic approval
    - A complete first submission
    - Peer review of other students' extension documents
    - A revised final submission suitable for public dissemination
- **Graded Value**: 100 points out of 700 total course points (≈14.3% of the course grade).
- This assignment requires synthesis of scientific literature, translation of technical material for non-technical audiences, adherence to formal Extension publication standards, and iterative revision based on peer feedback—expectations consistent with graduate-level scholarship and professional practice.

This assignment alone nearly meets the 15% threshold and represents a clear, categorical difference in assignment structure and expectations between course levels.

2. Increased Rigor of Critical Thinking Exercises

While both courses include five critical thinking exercises, the **point value and expectations differ**:

- **ENY4XXX**:
    - 5 exercises × 35 points = 175 points (≈31.8% of total grade).
- **ENY6XXX**:
    - 5 exercises × 45 points = 225 points (≈32.1% of total grade).

In the graduate course, these exercises explicitly incorporate **primary scientific literature** and require deeper analytical engagement, reflecting higher Bloom's taxonomy levels (analysis, synthesis, and evaluation). Although similar in format, the expanded scope and increased weighting further distinguish the graduate experience.

3. Expanded Reading

ENY6XXX includes **additional peer-reviewed journal articles and advanced scientific readings** that directly inform graded assignments (critical thinking exercises, business plan justification, and the Extension project). Undergraduate students in ENY4XXX rely more on Extension-style readings, with fewer expectations for independent synthesis of primary literature.

4. Overall Graded Material Differential

- **Total Points**:
    - ENY4XXX: 550 points
    - ENY6XXX: 700 points
- **Additional Graduate-Level Graded Work**:
    - Extension (EDIS) Project: 100 points
    - Increased rigor and weighting of critical thinking exercises: +50 points

Collectively, these differences account for 150 additional points in the graduate course, representing over **21%** of the total graded material in ENY6XXX that is not required of ENY4XXX students, thereby exceeding the 15% differentiation requirement.

Cover Sheet: Request 22538

2

ENY 6XXX: Spider Biology Lab (Graduate)

Info

Process	Course|New|Grad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Anthony Auletta anthonyauletta@ufl.edu
Created	2/1/2026 10:37:00 PM
Updated	2/16/2026 4:04:03 PM
Description of request	This is a proposal for a new graduate-level Spider Biology course, which will meet concurrently with an existing undergraduate course on the same topic (currently ENY 3830L: Spider Biology Lab, which is in consideration for upgrade to 4000-level–see request 22609). ENY 3830L was previously approved in 2023.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Entomology and Nematology 60140000	Jennifer Weeks		2/2/2026
Syllabus- ENY 3830L (Spider Biology Lab).docx CALS CC Checklist- Graduate Spider Biology Lab.pdf					2/1/2026 2/1/2026
College	Pending	CALS - College of Agricultural and Life Sciences			2/2/2026
No document changes					
Graduate Curriculum Committee					
No document changes					
University Curriculum Committee Notified					
No document changes					
Statewide Course Numbering System					
No document changes					
Graduate School Notified					
No document changes					
Office of the Registrar					
No document changes					
College Notified					
No document changes					

Original file: Cover sheet.pdf

Course|New for request 22538

Info

Request: ENY 6XXX: Spider Biology Lab (Graduate)
Description of request: This is a proposal for a new graduate-level Spider Biology course, which will meet concurrently with an existing undergraduate course on the same topic (currently ENY 3830L: Spider Biology Lab, which is in consideration for upgrade to 4000-level–see request 22609). ENY 3830L was previously approved in 2023.
Submitter: Anthony Auletta anthonyauletta@ufl.edu
Created: 2/16/2026 4:03:11 PM
Form version: 2

Responses

Recommended Prefix ENY
Course Level 6

Course Number XXX
Lab Code L
Course Title Spider Biology Lab
Transcript Title Spider Biology Lab
Delivery Method PC - Primarily Classroom (0-49% of course content taught outside of classroom)
Effective Term Earliest Available
Effective Year Earliest Available
Rotating Topic No
Repeatable Credit? No

Amount of Credit 1

S/U Only? No
Contact Type Regularly Scheduled
Course Type Lecture
Weekly Contact Hours 2 contact hours/week (with additional outside-of-class work expected from students to complete assignments)
Course Description Provides practical experience working with spiders, including field collection techniques, identification and curation of spider specimens, and observing spider behavior. Spider collection is required.
Prerequisites N/A
Co-requisites N/A
Rationale for Placement in the Curriculum This course is intended as a graduate-level elective for students in the Entomology & Nematology graduate program (MS and PhD). It will expose students to a wide variety of field techniques used to collect spiders, as well as provide students with the knowledge and skills needed to identify spiders to the family level. These are valuable skills for students whose graduate research involves spiders, as well as those doing more general field survey work and those whose post-graduate careers may have them coming into contact with spiders. Although intended primarily for Entomology & Nematology students, it may also be useful for students in other programs as well (e.g. Biology / Zoology. Interdisciplinary Ecology, Wildlife Ecology & Conservation, etc.); however, the course is not a formal part of those other programs.
Syllabus Content Requirements All Items Included

Original file: Submitted form version 2.pdf

CALS Curriculum Committee
Submission Checklist

Updated January 2026

NOTE: This checklist must be included with all course and certificate submissions.

The checklist below is intended to facilitate course and certificate submissions to the University of Florida Academic Approval Tracking System (https://approval.ufl.edu/). The checklist consists of the most common items that can cause a submission to require changes or be recycled. Contrary to information provided on the UF approval site, the CALS Curriculum Committee requires a syllabus be submitted with each new course or course modification request. Please note that submitters are encouraged to attend the CALS CC meeting at which their item is being reviewed. This allows the submitter to answer any potential questions that may arise that could cause the item to not be approved. Also, be aware that when completing the UCC form the section Description of Request is asking for a brief statement about what you are doing. This is **not** the place for a course description. A statement such as "Proposal of a new undergraduate course" is all that is needed. Please do not submit documents in pdf format. All documents should be submitted in Word to facilitate editing on our end if necessary.

CHECKLIST: PLEASE INITIAL OR MARK N/A FOR EACH STATEMENT TO INDICATE YOUR COMPLIANCE.

SYLLABUS: You are encouraged to use the CALS ACCESSIBLE SYLLABUS TEMPLATE. Accessibility will be required by APRIL 2026.
****Use of Simple Syllabus will be required for Summer 2026 forward. It is slated to be released to faculty in late February 2026.****

AA It is required when making a submission that you consult your department's representative to the CALS CC. A list of current members can be found on the committee site located at: https://cals.ufl.edu/faculty-staff/committees/.

N/A Submission of a course modification requires both the current version of the course syllabus and the proposed version.

AA Joint course submissions must include 1) both graduate and undergraduate syllabuses and 2) a separate document outlining the substantial (more than one) differences in assignments between the two courses. These assignments must account for at least a 15% difference in graded material between the two levels. If this is a new course submission both courses must be submitted for approval simultaneously.

AA The course description on the UCC form and in the syllabus must match and should be no longer than 500 characters. FOR AN EXITING COURSE, THE DESCRIPTION **MUST MATCH THE CATALOG DESCRIPTION**. Follow the **COURSE DESCRIPTION GUIDELINES** for new courses if not contraindicated by outside certification requirements. Any other information you wish to include needs to be under a different heading such as background or additional course information.

Original file: CALS CC Checklist- Graduate Spider Biology Lab.pdf

AA The course learning objectives must be consistent with Bloom's taxonomy. Please see the following link at the CALS Curriculum site. (https://cals.ufl.edu/content/PDF/Faculty_Staff/cals-courseobjectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

AA The course schedule should be concise and include the appropriate number of weeks in the semester.

AA All graduate course submissions must include a reading list if a textbook is not required. The reading list should include at least some current readings (within the last 5 years). All readings do not need to be current.

N/A Outside consultations are required if there is a possibility of the proposed course covering a significant amount of material taught in another department or college on campus. There must be a consult form completed by the chair of the department from who you are seeking the consult. Instructors may provide additional consults. The form can be found at: https://approval.ufl.edu/policies/external-consultations/.

AA Prerequisite courses are required for 3000 and 4000 level courses. This line of the approval form cannot be "none" or left blank. Junior or senior standing is an acceptable option. A phrase such as "a course in basic biology" is not acceptable. (Graduate courses should not have specific courses listed as prerequisites. If needed a statement of skills required prior to taking the course can be provided under other course information.)

AA Decimal points must be included in the grading scale if grade cut-offs are based on percentages. While this is not a university policy it is a CALS standard practice to avoid any confusion when final grades for the course are determined.

AA The attendance and make-up policy in a syllabus cannot contradict the university's policy. Do not include any additional wording to this policy. A statement and link regarding this are included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

AA The most recent version of the UF Syllabus Statements. Using the accessible syllabus template will ensure you have the most up to date statements. Do not use boilerplate statements from an old syllabus as they are likely to be out of date.

Certificates

N/A If proposing a new undergraduate or graduate level certificate that includes any courses outside of the submitters department a statement regarding any possible impact on those courses needs to be included. An email from the instructor is acceptable. Also, any courses required for the certificate must have permanent prefixes and course numbers. The submission must include intended catalog copy. (Contact Dr. Anne Mathews (anne.mathews@ufl.edu) for further instruction)

Original file: CALS CC Checklist- Graduate Spider Biology Lab.pdf

Rubric: Spider Collection, Part 1 (Graduate)

ENY 3830L / 6934: Spider Biology Lab

Student Name: _____

*Each specimen in your collection is worth up to **15 points** and will be evaluated based on the quality of the specimen, the accuracy of your identification, and your ID justification. Additional points are allocated for the presentation of your collection and having a sufficient number of unique families represented in your collection.*

*Please note that every specimen in your collection must be a **unique morphospecies** and must be accompanied by **complete, accurate labels** inside the vial. No credit will be earned for duplicate morphospecies, specimens with incomplete or missing labels, or specimens that otherwise do not meet the requirements for the collection assignment!*

Grading Criterion	Count	Score	Comments
Specimen Quality: *Part 1 of collection contains **18 adult/subadult spider specimens**, each of which is in acceptable condition (e.g., not damaged or missing too many legs, etc.).* (3 pts per specimen)	__ / 18	__ / 54	
Family IDs: *Each specimen for Part 1 of the collection is **correctly identified to family**, with the ID indicated on the appropriate label in the specimen's vial.* (6 pts per ID)	__ / 18	__ / 108	
ID Justifications: *Each identification for Part 1 of the collection is accompanied by an **appropriate and accurate written justification** in the collection spreadsheet.* (6 pts per justification)	__ / 18	__ / 108	

Curation & Presentation: *Specimens for Part 1 of the collection are **properly curated** (e.g., labels are neat and correctly formatted, there is an appropriate level of ethanol in all vials, etc.). Collection is overall is neat, organized, and professional in **presentation**.*	N/A	__ / 10	
Unique Families: *Collection includes at least **18 different spider families** (between Parts 1 and 2 of the collection).* ** This aspect of your collection will not be graded now but <u>will</u> factor into your grade for Part 2 of the collection. For now, we'll just tally how many correctly IDed families you have submitted so far, so that you know how many more you'll need to include for Part 2!*	__ / 18	N/A	
Dichotomous Key IDs: *Collection includes at least **8 specimens IDed by dichotomous key** (between Parts 1 and 2 of the collection).* ** This aspect of your collection will not be graded now but <u>will</u> factor into your grade for Part 2 of the collection. For now, we'll just tally how many valid dichotomous key IDs you have, so that you know how many more you'll need to include for Part 2!*	__ / 8	N/A	

TOTAL SCORE: ___ / 280 (= ___%)

Additional comments:

Original file: Rubric- Spider Collection (Graduate).pdf

Rubric: Spider Collection, Part 2 (Graduate)

ENY 3830L / 6934: Spider Biology Lab

Student Name: _____

*Each specimen in your collection is worth up to **15 points** and will be evaluated based on the quality of the specimen, the accuracy of your identification, and your ID justification. Additional points are allocated for the presentation of your collection and having a sufficient number of unique families represented in your collection.*

*Please note that every specimen in your collection must be a **unique morphospecies** and must be accompanied by **complete, accurate labels** inside the vial. No credit will be earned for duplicate morphospecies, specimens with incomplete or missing labels, or specimens that otherwise do not meet the requirements for the collection assignment!*

Grading Criterion	Count	Score	Comments
Specimen Quality: *Part 2 of collection contains **18 additional adult/subadult spider specimens**, each of which is in acceptable condition (e.g., not damaged or missing too many legs, etc.). Specimens for Part 2 of the collection must be different from those submitted for Part 1.* (3 pts per specimen)	__ / 18	__ / 54	
Family IDs: *Each specimen for Part 2 of the collection is **correctly identified to family**, with the ID indicated on the appropriate label in the specimen's vial.* (6 pts per ID)	__ / 18	__ / 108	
ID Justifications: *Each identification for Part 2 of the collection is accompanied by an **appropriate and accurate written justification** in the collection spreadsheet.* (6 pts per justification)	__ / 18	__ / 108	

Unique Families: *Collection includes at least **18 different spider families** (between Parts 1 and 2 of the collection).* (10 pts per correctly IDed unique family)	__ / 18	__ / 180	
Dichotomous Key Justifications: *At least **8 specimens** must be identified via **dichotomous key** between Parts 1 and 2 of the collection.* (If fewer than 5 specimens were IDed by key, a penalty of -6 pts will be applied for each dichotomous key justification that is missing)	__ / 8		
Curation & Presentation: *Specimens for Part 2 of the collection are **properly curated** (e.g., labels are neat and correctly formatted, there is an appropriate level of ethanol in all vials, etc.). Collection is overall is neat, organized, and professional in **presentation**.*	N/A	__ / 10	
Extra Credit (5 pts for each unique family beyond 12, to a maximum of 5 extra families)	__ / 5	__ / 25	

TOTAL SCORE: ___ / 460 (= ___%)

Additional comments:

Original file: Rubric- Spider Collection (Graduate).pdf

Rubric: Spider Collection, Part 1 (Undergraduate)

ENY 3830L: Spider Biology Lab

Student Name: _____

*Each specimen in your collection is worth up to **15 points** and will be evaluated based on the quality of the specimen, the accuracy of your identification, and your ID justification. Additional points are allocated for the presentation of your collection and having a sufficient number of unique families represented in your collection.*

*Please note that every specimen in your collection must be a **unique morphospecies** and must be accompanied by **complete, accurate labels** inside the vial. No credit will be earned for duplicate morphospecies, specimens with incomplete or missing labels, or specimens that otherwise do not meet the requirements for the collection assignment!*

Grading Criterion	Count	Score	Comments
Specimen Quality: *Part 1 of collection contains **12 adult/subadult spider specimens**, each of which is in acceptable condition (e.g., not damaged or missing too many legs, etc.).* (3 pts per specimen)	__ / 12	__ / 36	
Family IDs: *Each specimen for Part 1 of the collection is **correctly identified to family**, with the ID indicated on the appropriate label in the specimen's vial.* (6 pts per ID)	__ / 12	__ / 72	
ID Justifications: *Each identification for Part 1 of the collection is accompanied by an **appropriate and accurate written justification** in the collection spreadsheet.* (6 pts per justification)	__ / 12	__ / 72	

Curation & Presentation: *Specimens for Part 1 of the collection are **properly curated** (e.g., labels are neat and correctly formatted, there is an appropriate level of ethanol in all vials, etc.). Collection is overall is neat, organized, and professional in **presentation**.*	N/A	__ / 10	
Unique Families: *Collection includes at least **12 different spider families** (between Parts 1 and 2 of the collection).* ** This aspect of your collection will not be graded now but <u>will</u> factor into your grade for Part 2 of the collection. For now, we'll just tally how many correctly IDed families you have submitted so far, so that you know how many more you'll need to include for Part 2!*	__ / 12	N/A	
Dichotomous Key IDs: *Collection includes at least **5 specimens IDed by dichotomous key** (between Parts 1 and 2 of the collection).* ** This aspect of your collection will not be graded now but <u>will</u> factor into your grade for Part 2 of the collection. For now, we'll just tally how many valid dichotomous key IDs you have, so that you know how many more you'll need to include for Part 2!*	__ / 5	N/A	

TOTAL SCORE: ___ / 190 (= ___%)

Additional comments:

Original file: Rubric- Spider Collection (Undergraduate).pdf

Rubric: Spider Collection, Part 2 (Undergraduate)

ENY 3830L: Spider Biology Lab

Student Name: _____

*Each specimen in your collection is worth up to **15 points** and will be evaluated based on the quality of the specimen, the accuracy of your identification, and your ID justification. Additional points are allocated for the presentation of your collection and having a sufficient number of unique families represented in your collection.*

*Please note that every specimen in your collection must be a **unique morphospecies** and must be accompanied by **complete, accurate labels** inside the vial. No credit will be earned for duplicate morphospecies, specimens with incomplete or missing labels, or specimens that otherwise do not meet the requirements for the collection assignment!*

Grading Criterion	Count	Score	Comments
Specimen Quality: *Part 2 of collection contains **12 additional adult/subadult spider specimens**, each of which is in acceptable condition (e.g., not damaged or missing too many legs, etc.). Specimens for Part 2 of the collection must be different from those submitted for Part 1.* (3 pts per specimen)	__ / 12	__ / 36	
Family IDs: *Each specimen for Part 2 of the collection is **correctly identified to family**, with the ID indicated on the appropriate label in the specimen's vial.* (6 pts per ID)	__ / 12	__ / 72	
ID Justifications: *Each identification for Part 2 of the collection is accompanied by an **appropriate and accurate written justification** in the collection spreadsheet.* (6 pts per justification)	__ / 12	__ / 72	

Unique Families: *Collection includes at least **12 different spider families** (between Parts 1 and 2 of the collection).* (10 pts per correctly IDed unique family)	__ / 12	__ / 120	
Dichotomous Key Justifications: *At least **5 specimens** must be identified via **dichotomous key** between Parts 1 and 2 of the collection.* (If fewer than 5 specimens were IDed by key, a penalty of -6 pts will be applied for each dichotomous key justification that is missing)	__ / 5		
Curation & Presentation: *Specimens for Part 2 of the collection are **properly curated** (e.g., labels are neat and correctly formatted, there is an appropriate level of ethanol in all vials, etc.). Collection is overall is neat, organized, and professional in **presentation**.*	N/A	__ / 10	
Extra Credit (5 pts for each unique family beyond 12, to a maximum of 5 extra families)	__ / 5	__ / 25	

TOTAL SCORE: ___ / 310 (= ___%)

Additional comments:

Original file: Rubric- Spider Collection (Undergraduate).pdf

Spider Biology Lab
ENY 3830L
Fall 2025 (1 credit)

Spiders are one of the most diverse and successful groups of animals on Earth. They exhibit many interesting behaviors, play important roles in nearly all terrestrial ecosystems, and are intricately interwoven with human society. This course will provide students with **practical, hands-on experience** working with these fascinating creatures. We will emphasize **field techniques** to observe and collect spiders, as well as **lab techniques** to curate and identify spider specimens. Throughout the semester, each student will create a curated, preserved **spider collection** emphasizing local spider diversity. By the end of this course, students will be able to **identify 35 spider families** by sight, as well as additional families using a dichotomous key. Students will also gain hands-on experience in **spider anatomy**, **behavior**, and **ecology**.

Catalog description: Provides practical experience working with spiders, including field collection techniques, identification and curation of spider specimens, and observing spider behavior. Spider collection is required.

Wednesdays, Periods 4 - 5 (10:40am – 12:35pm)

3118 Steinmetz Hall

Prerequisites: Sophomore standing or above, or instructor permission

Co-requisites: ENY 3830 (Spider Biology lecture), or instructor permission

Canvas: ufl.instructure.com/courses/540635

Instructors:

Dr. Anthony Auletta (he/him)
anthonyauletta@ufl.edu
(352) 273-3954
Office: 3102 Steinmetz Hall
Office Hours: Tuesdays & Wednesdays, 2:00pm – 3:00pm (or by appointment via Calendly: calendly.com/anthonyauletta)

Dr. Lisa Taylor (she/her)
lisa.taylor@ufl.edu
(352) 273-3937
Office: 2211 Steinmetz Hall
Office Hours: Mondays & Wednesdays, 1:40pm – 2:30pm, or by email appointment

Student Learning Outcomes

By the end of the course, students will be able to:

- **Collect** spiders in the field using a variety of techniques and **create** a collection of 24 properly curated and preserved spider specimens that showcases family-level diversity.
- **Identify** spider specimens to the family level, both by sight (for 35 select families) and by using a dichotomous key.
- **Describe** the morphological characters that are important for family-level spider identification.
- **Explain** the natural history of 35 common and noteworthy spider families.
- **Record observations** of spider behavior both in field and in the laboratory.

In working towards these goals, students will hopefully also foster a sense of curiosity and appreciation for spiders– including their diversity and their many fascinating behaviors.

Course Format

This is an **in-person course** that is structured as a **hands-on lab**. Some of our class sessions will take place in the field, where you will learn and practice spider collecting techniques. Other sessions will take place indoors in our lab classroom, where you will primarily work with preserved specimens under a microscope to learn and practice spider identification. You will be expected to attend class regularly so that you can participate in these activities. It is also very important that you review the assigned readings and other prep materials before class each week, so that you are well-prepared for our class sessions and can make the most of your valuable time in the lab! There will also be time in class for you to ask **questions**; in fact, we strongly *encourage* you to ask questions in class (as long as they are germane to that day's topics)– such questions will enhance the learning experience for everyone!

Teaching Assistants

We are fortunate to have two excellent **teaching assistants (TAs)** on the instructor team this semester; do not hesitate to contact your TAs if you have any questions about the course! All TAs will hold office hours by email appointment only:

Madison (Maddie) Heisey (she/her)
Teaching Assistant

Email: mheisey@ufl.edu

Aditi (Adi) Persad (she/her)
Teaching Assistant

Email: persad.aditi@ufl.edu

Meeting & Communication Policies

If you have any questions or concerns about the course, or if you're experiencing difficulties that are impacting your ability to succeed, please don't hesitate to **reach out to your professors and TAs**. We are here to help! If an issue arises, we encourage you to contact us as early as possible– the sooner we know about the issue, the sooner we can discuss your options and try to find a solution! Our options for assisting you may become more limited as we get closer to the end of the semester….

Meeting Policy: For quick questions, you are welcome chat with the professors / TAs after class if they are available. For items that need more discussion, we encourage you to come to the professors' **drop-in office hours** (details on Page 1 of this syllabus). Office hours will be held starting on the first day of class through the date of our final exam, excluding university holidays and breaks. You are also welcome to **schedule a 1-on-1 meeting** with any of the instructors; you can request a meeting with Dr. Auletta via Calendly (http://calendly.com/anthonyauletta) or with Dr. Taylor and your TAs via email. If you schedule a meeting, you are expected to keep it or to let us know reasonably far in advance that you cannot make it; if you are a no-show to your appointment, the instructors reserve the right to limit you to meetings during regularly scheduled office hours only.

Email Policy: Outside of class and office hours, **email** is our preferred method of contact; you can email us using your **GatorLink account** or the **Canvas messaging system**. Note that we will not respond to any method of contact other than those listed in this syllabus. We will do our best to respond to messages within 48 hours, not including weekends or holidays. If you have not received a response, you may send a polite follow-up message after that 48 hour period (but not before that– please give

the instructors adequate time to respond!). Note that we check our email occasionally during the day and will not necessarily view a message as soon as you send it; you should also not expect a response from the instructors outside of standard working hours (9:00am – 5:00pm, Monday - Friday).

Canvas: Important announcements and updates will be regularly posted to the **course Canvas website**. To ensure that you do not miss anything, make sure that your Canvas profile is set to send notifications to your email inbox. You are responsible for all of the information and assignments posted to our Canvas website, even if they do not appear in your Canvas To-Do List; it is your responsibility to ensure that you are able to navigate the Canvas website and know where to find these items. If you have any questions about Canvas, please ask the instructors at the beginning of the semester. Also note that our Canvas website will be updated as the semester goes on, so be sure to check Canvas frequently!

Readings & Course Materials

Textbooks & Readings: The following book is **required** for this course. We will use it extensively for spider identification in lab, so be sure to purchase / rent your copy by the first week of the semester and bring it to class each week!

- Ubick D, Paquin P, Cushing PE, & Roth V, eds. (2017). *Spiders of North America: An Identification Manual, Second Edition.* American Arachnological Society. ISBN: 978-0998014609.

The books below are all **optional** but recommended– they are great resources that can be helpful for spider identification. They are worth adding to your library if you're a spider enthusiast!

- Bradley RA. (2013). *Common Spiders of North America.* University of California Press. ISBN: 978-0520315310.
- Rose S. (2022). *Spiders of North America (Princeton Field Guides).* Princeton University Press. ISBN: 978-0691175614.
- Levi HW & Levi LR. (2002). *Spiders and Their Kin: A Golden Guide (Revised & Updated).* St. Martin's Press. ISBN: 978-1582381565.
- Platnick NI, ed. (2020). *Spiders of the World: A Natural History.* Princeton University Press. ISBN: 978-0691188850.
- Nelson X (2024). *The Lives of Spiders: A Natural History of the World's Spiders.* Princeton University Press. ISBN: 978-0691255026.
- Edwards GB & Marshall S. (2002). *Florida's Fabulous Spiders.* World Publications. ISBN: 978-0911977219

Additional readings and resources may be posted on Canvas throughout the semester. Students are expected to complete all required readings before the corresponding class session.

Collecting Equipment: At the start of the semester, each student will be issued a set of **basic spider collecting & curation equipment**, including vials for their specimens and vial storage boxes. Other collecting tools (such as nets and beat sheets) will be available for use during class time. Students are required to provide their own **field notebooks** (to record notes and observations during collecting trips) and may wish to purchase additional (optional) collecting equipment, such as a headlamp for

nocturnal collecting. The instructors will provide an overview of equipment commonly used for spider collecting & curation at the start of the course.

Computing Requirement: All students must have reliable access to a **computer with a high-speed internet connection** to access assignments and other course materials on Canvas. A laptop or desktop computer running the current version of Windows or MacOS is strongly recommended. Although many aspects of the course can be completed using a smartphone or tablet, please be aware that our Canvas website is not optimized for these devices.

If your internet service is disrupted, or if your computer breaks / becomes unavailable during the semester, you will be responsible for finding an alternative device so that you can continue to access course content and complete your assignments by their deadlines. You may, for example, use the computers that are freely available at public libraries, campus libraries, or university computer labs. For a list of on-campus computing locations, please see here: https://it.ufl.edu/learning-spaces/.

Projects, Assignments, & Exams

Spider Collection: Throughout the semester, each student will create a **curated collection of 24 preserved spider specimens**, all of which must be identified to the family level and accompanied by complete, accurate labels. Detailed guidelines for the spider collection will be provided to you at the start of the semester and can also be found on Canvas. There will be a **preliminary collection check** during the first third of the course (to ensure that you're making good progress), and then your **final collection** will be submitted in two parts later in the semester. See the course schedule below for the collection due dates.

A Few Notes about Making Collections: *Creating a professional spider collection involves euthanizing live spiders and preserving them in ethanol. This is because, for many spider taxa, accurate identification can only be achieved by observing specimens under a microscope and looking for specific morphological characteristics– something that is just not feasible with live spiders that are constantly moving around. While you can try to collect spiders that have already died from natural causes, please be aware that spiders in the field tend to degrade very quickly after death. And so, it is very unlikely that you will be able to complete your entire collection by using already dead specimens.*

During class, we will discuss strategies for ethically collecting spiders and humanely euthanizing them. However, students who do not think that they will be able to complete the collection assignment (due to ethical concerns or any other reason) are advised to drop this lab course before the drop / add deadline, as it is not possible to meet the course's learning objectives without making a collection of physical spider specimens. Photo collections are not a suitable substitute and thus will not be accepted.

Please note that as the weather gets cooler, many types of spiders will become harder to find– and so we strongly suggest that you collect frequently during the beginning of the semester! We recommend that students have most of the specimens for their collection before the end of October, to ensure that they'll be able to meet all of the collection requirements.

Final Practical Exam: At the end of the semester, you will take a **final practical exam** that is designed to assess the knowledge and skills that you have gained during this course. This exam will ask you to identify unknown spider specimens to family, identify anatomical structures, and answer other questions that relate to the content we've covered throughout the lab course.

Lab Worksheets: During most of our class sessions, students will be required to complete brief **worksheets** based on that day's activities. These worksheets are designed to help you practice spider identification and other important skills / concepts. The worksheets are due at the end of the corresponding class period, but if you are not able to finish a worksheet before class ends, you may hand it in by the end of the following week's class session without penalty.

Extra Credit: Extra credit opportunities may be posted at the **instructors' discretion only**. Any other extra work submitted in order to raise a grade will not be accepted and requests for additional extra credit will not be considered.

Submitting Assignments: *All of the assignments for this course will be submitted during class, either on paper or as physical specimens. It is your responsibility to ensure that you submit every assignment by the date and time at which it's due! Some assignments may be due at the start of the lab period, while others may be due at the end of the lab period. Work that is submitted after the deadline will be subject to the late penalties described later in this syllabus. Alternative means of submission (e.g., emailing paper assignments) will not be accepted.*

Alternative Assignments: *You are expected to follow all of the instructions for every assignment; you cannot earn credit if you do not turn in the specific work that was assigned. Remember, your professors have carefully designed each assignment in this course to help you meet the learning objectives and demonstrate your mastery of the content. And so, requests for alternative assignments will not be considered. If you have approved reasonable accommodations from the Disability Resource Center (DRC), the instructors will discuss with you how to implement those accommodations so that you can complete the assignments.*

Pre-Grading: *Please note that instructors will not "pre-grade" an assignment– i.e., we will not review or grade a preliminary version of your assignment before you submit it. You are, however, welcome– and encouraged– to meet with an instructor in person (e.g., during office hours) to discuss specific questions that you have as you work on an assignment!*

Re-Dos / Corrections: *Once an assignment has been graded, it cannot be resubmitted for a different grade (unless stated otherwise on Canvas). In other words, there are no re-dos or assignment corrections in this course unless the instructors explicitly indicate otherwise.*

Course Schedule

Below is a tentative* schedule of topics & assignments for the semester. Readings and other materials for each session will be posted on Canvas and must be completed before the start of class. All assignments must be submitted by the end of the class period on the due date listed below, unless otherwise noted– see Canvas for the most up-to-date deadlines for assignments!

Week	Dates	Topics	Assignments Due
1	Aug. 21 – Aug. 23	No Class; Review Orientation Materials on Canvas	
2	Aug. 24 – Aug. 30	Field Trip: Spider Collecting Techniques	
3	Aug. 31 – Sept. 6	Field Trip: Additional Spider Collecting Techniques Specimen Labels & Curation	
4	Sept. 7 – Sept. 13	Spider Anatomy, Part 1	Worksheet #1 (W)
5	Sept. 14 – Sept. 20	Spider Anatomy, Part 2	Worksheet #2 (W)
6	Sept. 21 – Sept. 27	Using Dichotomous Keys to ID Spiders	Collection Check (W, start of class period) Worksheet #3 (W)
7	Sept. 28 – Oct. 4	Collection Working Day	
8	Oct. 5 – Oct. 11	Spider Families I: Mesothelae, Mygalomorphs, & Basal Araneomorphs	Worksheet #4 (W)
9	Oct. 12 – Oct. 18	Spider Families II: 6-Eyed Spiders	Worksheet #5 (W)
10	Oct. 19 – Oct. 25	Spider Families III: Orb Weavers & Look-Alikes	Worksheet #6 (W)
11	Oct. 26 – Nov. 1	Spider Families IV: Additional Web Builders; Wolf Spiders & Look-Alikes	Collection Part 1 (W, start of class period) Worksheet #7 (W)
12	Nov. 2 – Nov. 8	Spider Families V: Foliage Dwellers & Crab Spiders	Worksheet #8 (W)
13	Nov. 9 – Nov. 15	Collection Working Day	
14	Nov. 16 – Nov. 22	Spider Families VI: Ground & Sac Spiders	Worksheet #9 (W)
15	Nov. 23 – Nov. 29	No Class (Thanksgiving Break)	
16	Nov. 30 – Dec. 3	Non-Spider Arachnids Review for the Practical Exam	Collection Part 2 (W, start of class period)
Finals Week	Dec. 10 (W)	Final Practical Exam 3:00pm – 5:00pm in 3118 Steinmetz Hall	

** Although we will do our best to adhere to this schedule, it may be adjusted during the semester to accommodate opportunities, disruptions, and other circumstances. Note that this includes assignment*

deadlines, which the instructors may change as needed during the semester. All of these changes will be communicated clearly via Canvas as far in advance as possible.

List of Important Dates

Key dates to remember are below– be sure to add them to your calendar now, and make sure that you take them into consideration when scheduling your travel and other obligations this semester! Due dates for other assignments are listed in the Course Schedule above and/or on Canvas.

- **August 27 (W):** First Class Session
- **September 6 (Sa):** Optional Nocturnal Collecting Field Trip (tentatively at 7:00pm)*
- **September 14 (Su):** Optional Diurnal Collecting Field Trip (tentatively at 2:00pm)*
- **September 24 (W):** Preliminary Collection Check (at the start of the class period)
- **October 29 (W):** Collection Part 1 due (at the start of the class period)
- **November 24 – 29 (M-Sa):** Thanksgiving Break (no class)
- **December 3 (W):** Last Day of Class; Collection Part 2 due (at the start of the class period)
- **December 10 (W):** Final Practical Exam (3:00pm – 5:00pm in 3118 Steinmetz Hall)

** Tentative dates and times; may be rescheduled or cancelled in the event of inclement weather.*

Academic Policies & Resources

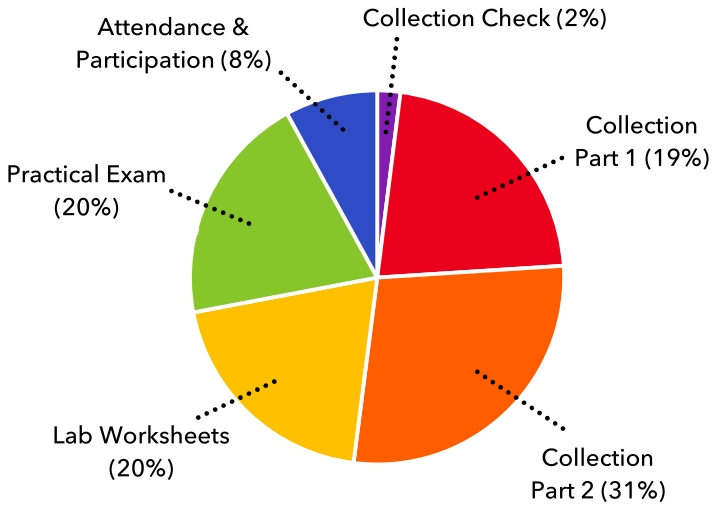
Academic policies for this course are consistent with the university policies that are outlined here: https://go.ufl.edu/syllabuspolicies. Later in this syllabus, you will find additional policies, which are specific to this course and intended to supplement (not replace) the university policies. Every student in this course will be held accountable to *all* university policies as well as the additional policies in this syllabus. It is your responsibility to ensure that you are familiar with and adhere to all of them! If you have any questions, please do not hesitate to reach out to an instructor.

For a list of helpful campus resources, please visit https://one.uf.edu/whole-gator/topics. These resources are designed to help you thrive physically, mentally, and emotionally as a student at UF! If you require additional and immediate support, please don't hesitate to contact the Campus Assistance & Resources for Empowerment (CARE) Team: https://umatter.ufl.edu/, 352-294-2273.

Grading Policies

This course uses a points system for grading. The anticipated maximum that can be earned in the course is **1,000 points**, distributed as follows:

- **Spider Collection: 520 pts total** (breakdown below):
  - ✦ **Collection Check: 20 pts**
  - ✦ **Collection Part 1: 190 pts**
  - ✦ **Collection Part 2: 310 pts**
- **Lab Worksheets: 200 pts**
- **Final Practical Exam: 200 pts**
- **Attendance & Participation: 80 pts**



At the end of the semester, your total course grade will be converted to a letter grade using the scale below:

93 – 100% = **A**	80 – 82.99% = **B-**	67 – 69.99% = **D+**
90 – 92.99% = **A-**	77 – 79.99% = **C+**	63 – 66.99% = **D**
87 – 89.99% = **B+**	73 – 76.99% = **C**	60 – 62.99% = **D-**
83 – 86.99% = **B**	70 – 72.99% = **C-**	below 60% = **E**

The instructors **do not round or "bump up" grades**; requests to do so will not be considered.

The instructors may add, remove, or adjust assignments (with prior notice) to accommodate unforeseen disruptions, schedule changes, or opportunities that arise during the semester. It is your responsibility to check the Canvas announcements regularly so that you can stay informed of these changes. Canvas will always reflect the most up-to-date list of assignments and deadlines. Changes to assignments (if they arise) may alter the total number of points available in the course, but the scale used to calculate your final letter grade will remain the same.

For current UF policies on assigning grade points, consult the following policy website: https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

Disputing a Grade: *If you wish to dispute a grade for any exam/assignment, you must contact the instructors in writing after the assignment has been returned. In your message, you must include a specific explanation for why you think the grade is incorrect and how you think it should be changed. An instructor will then arrange a meeting with you to discuss the issue and determine whether or not to the grade should be changed. The grade assigned following this meeting will be final.*

Attendance & Participation

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies.

Expectations for Attendance & Participation: Due to the hands-on nature of this course, attendance in class is *critically important*. If you are absent, you won't be able to participate in field trips, work on your collection in class, or complete other lab activities. Thus, you are expected to **attend every class session** (unless your absence is excused), **arrive to class on time**, and **stay for the entire session**. You are also expected to be **fully prepared for and engaged in each session**– this includes completing all required readings / prep materials beforehand, submitting all assignments on time, paying attention during class, and actively participating in all class activities. Participation in our class sessions is worth **80 points (= 8% of your final course grade)**. Your Attendance & Participation grade will be calculated based on the percentage of class sessions in which you are present for the entire time and complete the assigned in-class activities, excluding class sessions during the drop / add period and excused absences. You will *not* earn full attendance and participation points for a class session if you arrive substantially late or leave substantially early.

Since this is a **face-to-face course**, students will not have the option to join class remotely via Zoom. The instructor will also not record the class sessions.

Work Outside of Class: In addition to working on your spider collection in class, you will be expected to allocate adequate time outside of class to collect, curate, and identify your specimens. The exact amount of time will depend on how much progress you make during our class sessions, but every student should expect to spend several hours per week working on their collection. Throughout the semester, the instructors may host **optional open lab hours**– this is unstructured time outside of our scheduled class periods for you to work on your collection in our lab classroom (where you'll have access to microscopes and other course equipment). The dates and times of these open lab hours will be announced during class.

Late Work & Extensions

Policy on Late Work: All assignments in this course must be submitted in person (either on paper or as physical specimens) **by the date and time indicated on the assignment page in Canvas**. Worksheets are due at the end of the class period in which they are handed out, but you may hand them in up to one week later (i.e., by the end of the following class session) without penalty. After that grace period has passed, late worksheets will not be accepted and a grade of 0 will be assigned for the missing work. Please note that all parts of your collection (including the preliminary check) *must* be submitted by the indicated due dates and times; late collections will *not* be accepted unless you have reached out to the instructors in advance and have been granted an extension (see below for our extension policy). If your collection is not complete by the due date, we recommend that you turn in the specimens that you *do* have so that you can earn partial credit.

All deadlines are in Eastern Time (ET). To avoid potential confusion, make sure that you set the time zone in your Canvas settings to Eastern Time!

Extensions: Extensions for assignments will be considered on a case-by-case basis. If you have a situation that you believe warrants an extension, it is your responsibility to contact the instructors as soon as possible to discuss your situation and options. Please note that asking for an extension does not guarantee that you will be granted one, and that the instructors may require **valid documentation** of your situation before granting an extension. While waiting for the instructors' response, you should assume that the assignment is still due by the due date and time on Canvas (and plan accordingly).

> ***A Note about Deadlines:*** *Remember, the due date doesn't have to be the "do" date! In other words, we encourage you to start working on your assignments in advance to ensure that they are submitted on time! Non-emergency situations that arise right before the assignment's due date are not valid reasons to request an extension. Likewise, vacations / personal travel, being busy with other courses / employment / extracurriculars, social obligations, and other personal events are also not acceptable reasons for an extension. All of these outside obligations are things that you can control or predict in advance; so, if you know that you will be busy with any of these things on / near the assignment's due date, you should plan ahead and submit the work early. Remember that, as a college student (and future professional), you will have many demands on your time… so it is important to practice* ***effective time management****! The late work and extension policies for this course are designed to help you build this important professional skill.*

Make-Up Assignments & Exams

Make-Up Lab Activities: Our course policy on make-up assignments and other work is consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/. If you are absent from class, it is your responsibility to contact the instructors as soon as possible to discuss options for making up missed work or assignments. As noted above, the instructors may ask for **valid documentation** of your absence before allowing make-up work to be submitted. We also encourage you to contact a classmate to ask for notes from the session(s) that you missed; the instructors will not provide notes.

Make-Up Exams: The final practical exam must be taken on the **scheduled date and time** (as indicated in the Course Schedule above and on Canvas) unless you have an excused absence on the exam day. In that case, you must reach out to the instructors as soon as you can to discuss your situation and options for making up the exam. The instructors may ask for **valid documentation** of your absence before allowing a make-up exam to be scheduled.

The make-up exam, like the original, must be completed in person under the supervision of a proctor. If you are granted a make-up exam, it will be your responsibility to attend it at the date, time, and location designated by the instructors. Note that, due to time constraints, it may not be possible to schedule a make-up of the practical exam before the semester ends. If this is the case, the instructors will assign you an incomplete grade (I*) in the course and then schedule your make-up exam during the post-semester break or at the start of the following semester. Upon completion and grading of the make-up final, your incomplete grade will be changed to the letter grade that you earned in the course.

Make-up exams will assess the same learning objectives as the original exam. But to maintain academic integrity, the make-up will be different from the original. In other words, although the make-up will cover the same range of content, it will consist of *different questions* and those questions may be in *different formats*.

Professionalism & Etiquette

Everyone in the class is expected to conduct themselves in a **courteous and professional manner** at all times. This includes (but is not limited to) being polite and respectful when interacting with your peers and instructors, making an honest effort to engage in all aspects of the course (including doing the required preparatory work), being on time for our class sessions (or minimizing disruptions if you arrive late), raising your hand and waiting to be called on when you wish to speak during class, allowing others in the class to share their perspectives even if you disagree with them, actively listening to others and showing attention as an expression of respect, not talking over others or interrupting them, not monopolizing shared resources in the classroom, avoiding activities that might be distracting to others or interfere with the learning experience (including inappropriate use of electronic devices and packing up your belongings before class is over), quietly excusing yourself from class if needed, contributing meaningfully to group work, being open to constructive feedback, abiding by all course and university policies, and being proactive about issues that arise during the semester. Students who behave disrespectfully or disruptively may be **dismissed from the class session** and will be reported to the **Dean of Students Office**.

Laboratory Guidelines & Safety

Everyone is required to follow all **lab safety procedures** and other **lab guidelines** provided by the instructors. These procedures will be clearly communicated via Canvas and/or during class. While in the laboratory and in the field, all students must wear closed-toed shoes. Also note that food and beverages are not permitted in the lab. Throughout the course, you will be required to handle arachnid specimens (alive and preserved) as well as use microscopes & other lab equipment; please treat these specimens and instruments with care! Always ask an instructor if you are unsure about how to use an instrument. Students who do not adhere to these guidelines will be dismissed from class and considered absent for that day, and they may also be reported to the Dean of Students Office for misconduct. You may also be liable for any damages to lab equipment that result from your negligence or misuse.

Spiders may bite in self-defense if they feel threatened, and nearly all spider species can inject venom when they bite. If you follow the proper collection procedures that we discuss in class, the probability of being bitten by a spider in this course is extremely low– neither of your professors have ever been bitten by spiders, despite many years of working with them on a near-daily basis! Nevertheless, all students should be aware that being bitten while collecting spiders *is* a possibility. The vast majority of spiders that you can find in North America have venom that is *not* medically significant to humans; most spider bites result in mild pain around the bite site that quickly dissipates. The only notable exceptions are the widow spiders (genus *Latrodectus*) and recluse spiders (genus *Loxosceles*), which do have medically significant venom. It is your responsibility to make sure that you can identify these medically significant genera (ask an instructor if you're not sure!) and that you take extra precautions if you choose to collect them. Note that you do not *need* to collect any medically significant spiders to

complete this course, and indeed we recommend that you avoid these medically significant species. If you are bitten by a spider during a class activity, you should alert an instructor immediately. And if you are **allergic** to spider bites– or suspect that you might be– you must let the instructors know at the start of the semester.

Field Trip Expectations

Observing and collecting spiders in the field is a major focus of this course (and necessary to meet the stated learning objectives). There will be several **required field trips** during the semester, which will occur during class time and be within walking distance of our classroom. Dates for the major field trips are listed in this syllabus and on Canvas. All students are expected to participate in these trips, and thus they will count towards your Attendance & Participation grade. Inclement weather may force us to reschedule/cancel some of these excursions; those changes will be clearly communicated via Canvas as far in advance as possible. Additional in-class field activities may be organized during the semester as opportunities arise; these will also be announced as far in advance as possible.

This means that we will be spending a significant amount of class time outdoors, including on days when it may be hot and humid. On days when field activities are scheduled, you should come to class prepared to spend time outside in the day's predicted weather conditions. This includes wearing comfortable, closed-toed shoes and clothes that are suitable for fieldwork. You are also encouraged to bring a hat (to shade yourself from the sun), sunscreen, bug spray, and a water bottle. If you are allergic to any organisms that we may encounter on these field trips, you should let the instructors know ahead of time and bring an allergy pen if needed.

If you have concerns about working in the field, make sure to reach out to the instructors at the beginning of the semester. We are happy to discuss reasonable accommodations for students who have limited mobility, allergies, or other conditions that may impact their ability to participate in the field trips.

In addition to these required field activities, the instructors will organize several **optional field trips** outside of our usual class time (including at least one nocturnal collecting trip). Students are *not* required to attend these excursions but are encouraged to if their schedule allows– they are great opportunities to collect additional spiders for your collection! Tentative dates for these field trips are provided in the List of Important Dates above; more details (including locations and carpooling logistics) will be announced on Canvas after the semester begins. Note that these optional field trips may be rescheduled or canceled in the event of inclement weather or other circumstances. Additional optional trips may also be organized during the semester.

Use of Artificial Intelligence (AI)

When used properly, **artificial intelligence (AI)** can be a tool to supplement your learning. However, *improper* use of AI can impede your learning and may be considered academic dishonesty. Furthermore, most scientific journals, funding agencies, and professional societies now have strict rules about AI use and require all authors to disclose if / how they used AI. For all of these reasons, it is critically important for students to learn how to use AI tools responsibly and ethically!

For this course, you are not permitted to use content generated by ChatGPT, Copilot, DeepSeek, Gemini, Claude, or any other AI tool in *any assignment*, unless an instructor provides written permission stating otherwise. This includes– but is not limited to– submitting AI-generated content as your own work, submitting content that was paraphrased or modified from an AI output, quoting text generated by an AI (even if it is properly cited), and using AI to generate false sources. All of your assignments should consist entirely of your own original work, created by you specifically for this class. We are interested in assessing *your* understanding of the material and *your* ability to think critically / synthesize information– not that of an artificial algorithm! Unauthorized use of AI in an assignment will be treated as **academic misconduct**.

You are allowed to use AI tools in the following ways. Note that these are the *only* acceptable uses of AI in this course:

- Outside of graded assignments, e.g., to help you study or review class material.
- To proofread or provide feedback on your original work before submitting it. *Note that you aren't permitted to include the AI's output in your assignment, even if you edit it first… but you can use the AI's suggestions to refine your work yourself. If you do so, you must include an appendix with your assignment submission, in which you name the specific AI tools that you used and provide the exact prompts that you entered as well as verbatim copies of all of the AI's outputs. You must also confirm, in writing, that your assignment is written entirely in your own words, i.e., without any AI-generated content (including paraphrased content). Failure to provide all of this information when you use AI will result in a report to the Dean of Students Office.*

As a general rule, AI should never be your starting point– you should always start with your own original ideas and work! You should not use AI for anything that a human proofreader or study buddy could not ethically do for you.

All students should also be aware of the **many limitations and pitfalls** of AI. The material generated by these tools is often inaccurate, incomplete, misleading, and/or biased. It is also often overly generalized and formulaic, lacking both the depth of analysis and quality of writing that is expected in most college-level courses (and in our discipline more broadly). AI-generated content may also not align with the specific content that we cover in class. Remember, these AI tools are neither students in this course nor experts in our field– all they can do is generate statements that *sound* plausible, without any regard for (or ability to determine) the accuracy of those statements. Thus, if you use AI as a study tool, you should always fact-check the outputs using your notes from class, other course materials, or credible external sources. Also note that, in general, relying too heavily on these tools may erase your individual voice from your work, stifle the development of your own critical thinking skills and creativity, and prevent you from gaining the depth of knowledge expected of an expert in your discipline. Outsourcing your learning to AI can thus make it difficult for you to succeed in other aspects of college and in your future career!

Finally, be aware that every course at the university has its own individual policy about AI, which the instructors have implemented to maximize learning in their courses. The policy described here is for this course only and may not be the same as the policies for your other courses!

Use of Electronic Devices

You may use personal electronic devices such as laptops or tablets during class (excluding the practical exam), unless otherwise noted by the instructors. However, it is your responsibility to make sure that you use your devices in a **professional and courteous manner**. This includes:

- Limiting device use only to activities that are **directly related to your learning of course material**, such as taking notes or creating labels for your specimens. Using your devices for any other purpose is not allowed in the classroom; doing so is disrespectful to the instructors, distracting to your fellow students, and deprives you of a quality learning experience.
- Keeping your devices **muted at all times** to prevent disrupting others around you.
- **Quietly stepping out into the hall** if you must take a call or contact someone. We understand that emergencies can happen and will not prevent you from attending to them, but we also ask that you try to minimize disruptions to your peers.

If your device use is disruptive or inappropriate, you will be asked to put away your device. Students who repeatedly violate this policy will no longer be allowed to use devices in class and may be reported to the Dean of Students Office.

During the practical exam, you are not permitted to use electronic devices of any kind– this includes (but is not limited to) cell phones, tablets, laptops, smart watches, smart glasses, and earbuds / headphones. All devices must be muted and put away in your pocket or bag for the entire duration of the exam; they cannot be on your desk, even if they are face down or turned off. If you have to use the restroom during the exam, you must leave your devices with the proctor before you leave the exam room. Students who violate this policy will earn a grade of 0 on the exam and will not be able to retake it for a different grade.

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

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It is your responsibility to ensure that you fully understand all policies outlined in this syllabus as well as the policies of the university as they relate to this course. In the interest of fairness, all students in the class will be held accountable to these policies without exception; these policies are not negotiable.

This syllabus cannot predict every possibility that could happen during the semester. If a situation arises that is not explicitly covered by this syllabus, the instructors will respond to it using their best judgment while following all applicable university policies. Students will be expected to abide by the instructors' decisions in these (and all other) matters.

At their discretion, the instructors may add, remove, or otherwise change aspects of the course during the semester to accommodate new opportunities, unforeseen disruptions, or other circumstances. These changes will be communicated clearly in class and / or through Canvas. The current version of the syllabus will always be available on our course's Canvas website. It is your responsibility to ensure that you are following the most recent version of the syllabus.

By remaining enrolled in this course, you agree that you have read and understood all parts of this syllabus and that you will be held accountable to the policies within. If you have any questions, please contact the instructors as soon as possible (preferably at the beginning of the course)!

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Cover Photo: Cardinal jumping spider, *Phidippus cardinalus* (Salticidae)
by Jay Sun Len (microcosmnaturephotography.com)

Spider Biology Lab
ENY 6XXXL
Fall 2025 (1 credit)

Spiders are one of the most diverse and successful groups of animals on Earth. They exhibit many interesting behaviors, play important roles in nearly all terrestrial ecosystems, and are intricately interwoven with human society. This course will provide students with **practical, hands-on experience** working with these fascinating creatures. We will emphasize **field techniques** to observe and collect spiders, as well as **lab techniques** to curate and identify spider specimens. Throughout the semester, each student will create a curated, preserved **spider collection** emphasizing local spider diversity. By the end of this course, students will be able to **identify 42 spider families** by sight, as well as additional families using a dichotomous key. Students will also gain hands-on experience in **spider anatomy**, **behavior**, and **ecology**.

Catalog description: Provides practical experience working with spiders, including field collection techniques, identification and curation of spider specimens, and observing spider behavior. Spider collection is required.

Wednesdays, Periods 4 - 5 (10:40am – 12:35pm)

3118 Steinmetz Hall

Prerequisites: None; prior experience in entomology or biology recommended

Canvas: ufl.instructure.com/courses/540635

Instructors:

Dr. Anthony Auletta (he/him)

anthonyauletta@ufl.edu

(352) 273-3954

Office: 3102 Steinmetz Hall

Office Hours: Tuesdays & Wednesdays, 2:00pm - 3:00pm (or by appointment via Calendly: calendly.com/anthonyauletta)

Dr. Lisa Taylor (she/her)

lisa.taylor@ufl.edu

(352) 273-3937

Office: 2211 Steinmetz Hall

Office Hours: Mondays & Wednesdays, 1:40pm – 2:30pm, or by email appointment

Student Learning Outcomes

By the end of the course, students will be able to:

- **Collect** spiders in the field using a variety of techniques and **create** a collection of 36 properly curated and preserved spider specimens that showcases family-level diversity.
- **Identify** spider specimens to the family level, both by sight (for 42 select families) and by using a dichotomous key.
- **Describe** the morphological characters that are important for family-level spider identification.
- **Explain** the natural history of 42 common and noteworthy spider families.
- **Record observations** of spider behavior both in field and in the laboratory.

In working towards these goals, students will hopefully also foster a sense of curiosity and appreciation for spiders– including their diversity and their many fascinating behaviors.

Course Format

This is an **in-person course** that is structured as a **hands-on lab**. Some of our class sessions will take place in the field, where you will learn and practice spider collecting techniques. Other sessions will take place indoors in our lab classroom, where you will primarily work with preserved specimens under a microscope to learn and practice spider identification. You will be expected to attend class regularly so that you can participate in these activities. It is also very important that you review the assigned readings and other prep materials before class each week, so that you are well-prepared for our class sessions and can make the most of your valuable time in the lab! There will also be time in class for you to ask **questions**; in fact, we strongly *encourage* you to ask questions in class (as long as they are germane to that day's topics)– such questions will enhance the learning experience for everyone!

Teaching Assistants

We are fortunate to have two excellent **teaching assistants (TAs)** on the instructor team this semester; do not hesitate to contact your TAs if you have any questions about the course! All TAs will hold office hours by email appointment only:

Madison (Maddie) Heisey (she/her)
Teaching Assistant

Email: mheisey@ufl.edu

Aditi (Adi) Persad (she/her)
Teaching Assistant

Email: persad.aditi@ufl.edu

Meeting & Communication Policies

If you have any questions or concerns about the course, or if you're experiencing difficulties that are impacting your ability to succeed, please don't hesitate to **reach out to your professors and TAs**. We are here to help! If an issue arises, we encourage you to contact us as early as possible– the sooner we know about the issue, the sooner we can discuss your options and try to find a solution! Our options for assisting you may become more limited as we get closer to the end of the semester….

Meeting Policy: For quick questions, you are welcome chat with the professors / TAs after class if they are available. For items that need more discussion, we encourage you to come to the professors' **drop-in office hours** (details on Page 1 of this syllabus). Office hours will be held starting on the first day of class through the date of our final exam, excluding university holidays and breaks. You are also welcome to **schedule a 1-on-1 meeting** with any of the instructors; you can request a meeting with Dr. Auletta via Calendly (http://calendly.com/anthonyauletta) or with Dr. Taylor and your TAs via email. If you schedule a meeting, you are expected to keep it or to let us know reasonably far in advance that you cannot make it; if you are a no-show to your appointment, the instructors reserve the right to limit you to meetings during regularly scheduled office hours only.

Email Policy: Outside of class and office hours, **email** is our preferred method of contact; you can email us using your **GatorLink account** or the **Canvas messaging system**. Note that we will not respond to any method of contact other than those listed in this syllabus. We will do our best to respond to messages within 48 hours, not including weekends or holidays. If you have not received a response, you may send a polite follow-up message after that 48 hour period (but not before that– please give

the instructors adequate time to respond!). Note that we check our email occasionally during the day and will not necessarily view a message as soon as you send it; you should also not expect a response from the instructors outside of standard working hours (9:00am – 5:00pm, Monday - Friday).

Canvas: Important announcements and updates will be regularly posted to the **course Canvas website**. To ensure that you do not miss anything, make sure that your Canvas profile is set to send notifications to your email inbox. You are responsible for all of the information and assignments posted to our Canvas website, even if they do not appear in your Canvas To-Do List; it is your responsibility to ensure that you are able to navigate the Canvas website and know where to find these items. If you have any questions about Canvas, please ask the instructors at the beginning of the semester. Also note that our Canvas website will be updated as the semester goes on, so be sure to check Canvas frequently!

Readings & Course Materials

Textbooks & Readings: The following book is **required** for this course. We will use it extensively for spider identification in lab, so be sure to purchase / rent your copy by the first week of the semester and bring it to class each week!

- Ubick D, Paquin P, Cushing PE, & Roth V, eds. (2017). *Spiders of North America: An Identification Manual, Second Edition.* American Arachnological Society. ISBN: 978-0998014609.

The books below are all **optional** but recommended– they are great resources that can be helpful for spider identification. They are worth adding to your library if you're a spider enthusiast!

- Bradley RA. (2013). *Common Spiders of North America.* University of California Press. ISBN: 978-0520315310.
- Rose S. (2022). *Spiders of North America (Princeton Field Guides).* Princeton University Press. ISBN: 978-0691175614.
- Levi HW & Levi LR. (2002). *Spiders and Their Kin: A Golden Guide (Revised & Updated).* St. Martin's Press. ISBN: 978-1582381565.
- Platnick NI, ed. (2020). *Spiders of the World: A Natural History.* Princeton University Press. ISBN: 978-0691188850.
- Nelson X (2024). *The Lives of Spiders: A Natural History of the World's Spiders.* Princeton University Press. ISBN: 978-0691255026.
- Edwards GB & Marshall S. (2002). *Florida's Fabulous Spiders.* World Publications. ISBN: 978-0911977219

Additional readings and resources may be posted on Canvas throughout the semester. Students are expected to complete all required readings before the corresponding class session.

Collecting Equipment: At the start of the semester, each student will be issued a set of **basic spider collecting & curation equipment**, including vials for their specimens and vial storage boxes. Other collecting tools (such as nets and beat sheets) will be available for use during class time. Students are required to provide their own **field notebooks** (to record notes and observations during collecting trips) and may wish to purchase additional (optional) collecting equipment, such as a headlamp for

nocturnal collecting. The instructors will provide an overview of equipment commonly used for spider collecting & curation at the start of the course.

Computing Requirement: All students must have reliable access to a **computer with a high-speed internet connection** to access assignments and other course materials on Canvas. A laptop or desktop computer running the current version of Windows or MacOS is strongly recommended. Although many aspects of the course can be completed using a smartphone or tablet, please be aware that our Canvas website is not optimized for these devices.

If your internet service is disrupted, or if your computer breaks / becomes unavailable during the semester, you will be responsible for finding an alternative device so that you can continue to access course content and complete your assignments by their deadlines. You may, for example, use the computers that are freely available at public libraries, campus libraries, or university computer labs. For a list of on-campus computing locations, please see here: https://it.ufl.edu/learning-spaces/.

Projects, Assignments, & Exams

Spider Collection: Throughout the semester, each student will create a **curated collection of 36 preserved spider specimens**, all of which must be identified to the family level and accompanied by complete, accurate labels. Detailed guidelines for the spider collection will be provided to you at the start of the semester and can also be found on Canvas. There will be a **preliminary collection check** during the first third of the course (to ensure that you're making good progress), and then your **final collection** will be submitted in two parts later in the semester. See the course schedule below for the collection due dates.

A Few Notes about Making Collections: *Creating a professional spider collection involves euthanizing live spiders and preserving them in ethanol. This is because, for many spider taxa, accurate identification can only be achieved by observing specimens under a microscope and looking for specific morphological characteristics– something that is just not feasible with live spiders that are constantly moving around. While you can try to collect spiders that have already died from natural causes, please be aware that spiders in the field tend to degrade very quickly after death. And so, it is very unlikely that you will be able to complete your entire collection by using already dead specimens.*

During class, we will discuss strategies for ethically collecting spiders and humanely euthanizing them. However, students who do not think that they will be able to complete the collection assignment (due to ethical concerns or any other reason) are advised to drop this lab course before the drop / add deadline, as it is not possible to meet the course's learning objectives without making a collection of physical spider specimens. Photo collections are not a suitable substitute and thus will not be accepted.

Please note that as the weather gets cooler, many types of spiders will become harder to find– and so we strongly suggest that you collect frequently during the beginning of the semester! We recommend that students have most of the specimens for their collection before the end of October, to ensure that they'll be able to meet all of the collection requirements.

Final Practical Exam: At the end of the semester, you will take a **final practical exam** that is designed to assess the knowledge and skills that you have gained during this course. This exam will ask you to identify unknown spider specimens to family, identify anatomical structures, and answer other questions that relate to the content we've covered throughout the lab course.

Lab Worksheets: During most of our class sessions, students will be required to complete brief **worksheets** based on that day's activities. These worksheets are designed to help you practice spider identification and other important skills / concepts. The worksheets are due at the end of the corresponding class period, but if you are not able to finish a worksheet before class ends, you may hand it in by the end of the following week's class session without penalty.

Extra Credit: Extra credit opportunities may be posted at the **instructors' discretion only**. Any other extra work submitted in order to raise a grade will not be accepted and requests for additional extra credit will not be considered.

Submitting Assignments: *All of the assignments for this course will be submitted during class, either on paper or as physical specimens. It is your responsibility to ensure that you submit every assignment by the date and time at which it's due! Some assignments may be due at the start of the lab period, while others may be due at the end of the lab period. Work that is submitted after the deadline will be subject to the late penalties described later in this syllabus. Alternative means of submission (e.g., emailing paper assignments) will not be accepted.*

Alternative Assignments: *You are expected to follow all of the instructions for every assignment; you cannot earn credit if you do not turn in the specific work that was assigned. Remember, your professors have carefully designed each assignment in this course to help you meet the learning objectives and demonstrate your mastery of the content. And so, requests for alternative assignments will not be considered. If you have approved reasonable accommodations from the Disability Resource Center (DRC), the instructors will discuss with you how to implement those accommodations so that you can complete the assignments.*

Pre-Grading: *Please note that instructors will not "pre-grade" an assignment– i.e., we will not review or grade a preliminary version of your assignment before you submit it. You are, however, welcome– and encouraged– to meet with an instructor in person (e.g., during office hours) to discuss specific questions that you have as you work on an assignment!*

Re-Dos / Corrections: *Once an assignment has been graded, it cannot be resubmitted for a different grade (unless stated otherwise on Canvas). In other words, there are no re-dos or assignment corrections in this course unless the instructors explicitly indicate otherwise.*

Course Schedule

Below is a tentative* schedule of topics & assignments for the semester. Readings and other materials for each session will be posted on Canvas and must be completed before the start of class. All assignments must be submitted by the end of the class period on the due date listed below, unless otherwise noted– see Canvas for the most up-to-date deadlines for assignments!

Week	Dates	Topics	Assignments Due
1	Aug. 21 – Aug. 23	No Class; Review Orientation Materials on Canvas	
2	Aug. 24 – Aug. 30	Field Trip: Spider Collecting Techniques	
3	Aug. 31 – Sept. 6	Field Trip: Additional Spider Collecting Techniques Specimen Labels & Curation	
4	Sept. 7 – Sept. 13	Spider Anatomy, Part 1	Worksheet #1 (W)
5	Sept. 14 – Sept. 20	Spider Anatomy, Part 2	Worksheet #2 (W)
6	Sept. 21 – Sept. 27	Using Dichotomous Keys to ID Spiders	Collection Check (W, start of class period) Worksheet #3 (W)
7	Sept. 28 – Oct. 4	Collection Working Day	
8	Oct. 5 – Oct. 11	Spider Families I: Mesothelae, Mygalomorphs, & Basal Araneomorphs	Worksheet #4 (W)
9	Oct. 12 – Oct. 18	Spider Families II: 6-Eyed Spiders	Worksheet #5 (W)
10	Oct. 19 – Oct. 25	Spider Families III: Orb Weavers & Look-Alikes	Worksheet #6 (W)
11	Oct. 26 – Nov. 1	Spider Families IV: Additional Web Builders; Wolf Spiders & Look-Alikes	Collection Part 1 (W, start of class period) Worksheet #7 (W)
12	Nov. 2 – Nov. 8	Spider Families V: Foliage Dwellers & Crab Spiders	Worksheet #8 (W)
13	Nov. 9 – Nov. 15	Collection Working Day	
14	Nov. 16 – Nov. 22	Spider Families VI: Ground & Sac Spiders	Worksheet #9 (W)
15	Nov. 23 – Nov. 29	No Class (Thanksgiving Break)	
16	Nov. 30 – Dec. 3	Non-Spider Arachnids Review for the Practical Exam	Collection Part 2 (W, start of class period)
Finals Week	Dec. 10 (W)	Final Practical Exam 3:00pm – 5:00pm in 3118 Steinmetz Hall	

** Although we will do our best to adhere to this schedule, it may be adjusted during the semester to accommodate opportunities, disruptions, and other circumstances. Note that this includes assignment*

deadlines, which the instructors may change as needed during the semester. All of these changes will be communicated clearly via Canvas as far in advance as possible.

List of Important Dates

Key dates to remember are below– be sure to add them to your calendar now, and make sure that you take them into consideration when scheduling your travel and other obligations this semester! Due dates for other assignments are listed in the Course Schedule above and/or on Canvas.

- **August 27 (W):** First Class Session
- **September 6 (Sa):** Optional Nocturnal Collecting Field Trip (tentatively at 7:00pm)*
- **September 14 (Su):** Optional Diurnal Collecting Field Trip (tentatively at 2:00pm)*
- **September 24 (W):** Preliminary Collection Check (at the start of the class period)
- **October 29 (W):** Collection Part 1 due (at the start of the class period)
- **November 24 – 29 (M-Sa):** Thanksgiving Break (no class)
- **December 3 (W):** Last Day of Class; Collection Part 2 due (at the start of the class period)
- **December 10 (W):** Final Practical Exam (3:00pm – 5:00pm in 3118 Steinmetz Hall)

** Tentative dates and times; may be rescheduled or cancelled in the event of inclement weather.*

Academic Policies & Resources

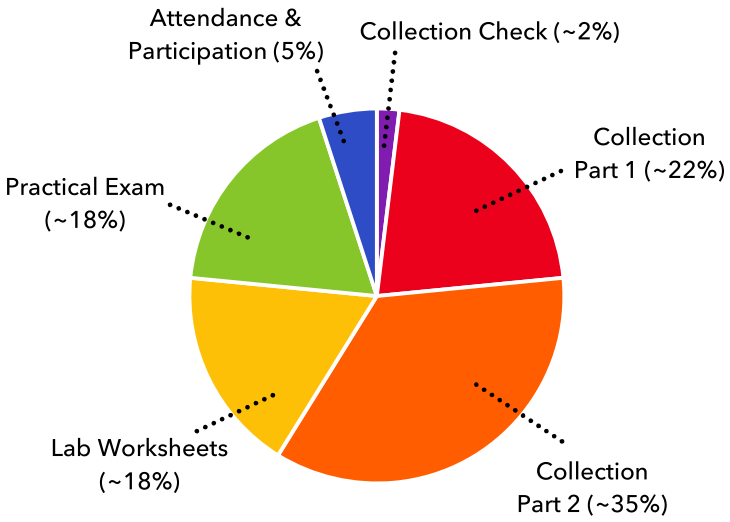
Academic policies for this course are consistent with the university policies that are outlined here: https://go.ufl.edu/syllabuspolicies. Later in this syllabus, you will find additional policies, which are specific to this course and intended to supplement (not replace) the university policies. Every student in this course will be held accountable to *all* university policies as well as the additional policies in this syllabus. It is your responsibility to ensure that you are familiar with and adhere to all of them! If you have any questions, please do not hesitate to reach out to an instructor.

For a list of helpful campus resources, please visit https://one.uf.edu/whole-gator/topics. These resources are designed to help you thrive physically, mentally, and emotionally as a student at UF! If you require additional and immediate support, please don't hesitate to contact the Campus Assistance & Resources for Empowerment (CARE) Team: https://umatter.ufl.edu/, 352-294-2273.

Grading Policies

This course uses a points system for grading. The anticipated maximum that can be earned in the course is **1,300 points**, distributed as follows:

- **Spider Collection: 765 pts total** (breakdown below):
  - ✦ **Collection Check: 25 pts**
  - ✦ **Collection Part 1: 280 pts**
  - ✦ **Collection Part 2: 460 pts**
- **Lab Worksheets: 230 pts**
- **Final Practical Exam: 240 pts**
- **Attendance & Participation: 65 pts**



At the end of the semester, your total course grade will be converted to a letter grade using the scale below:

93 – 100% = **A**	80 – 82.99% = **B-**	67 – 69.99% = **D+**
90 – 92.99% = **A-**	77 – 79.99% = **C+**	63 – 66.99% = **D**
87 – 89.99% = **B+**	73 – 76.99% = **C**	60 – 62.99% = **D-**
83 – 86.99% = **B**	70 – 72.99% = **C-**	below 60% = **E**

The instructors **do not round or "bump up" grades**; requests to do so will not be considered.

The instructors may add, remove, or adjust assignments (with prior notice) to accommodate unforeseen disruptions, schedule changes, or opportunities that arise during the semester. It is your responsibility to check the Canvas announcements regularly so that you can stay informed of these changes. Canvas will always reflect the most up-to-date list of assignments and deadlines. Changes to assignments (if they arise) may alter the total number of points available in the course, but the scale used to calculate your final letter grade will remain the same.

For current UF policies on assigning grade points, consult the following policy website: https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

Disputing a Grade: *If you wish to dispute a grade for any exam/assignment, you must contact the instructors in writing after the assignment has been returned. In your message, you must include a specific explanation for why you think the grade is incorrect and how you think it should be changed. An instructor will then arrange a meeting with you to discuss the issue and determine whether or not to the grade should be changed. The grade assigned following this meeting will be final.*

Attendance & Participation

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies.

Expectations for Attendance & Participation: Due to the hands-on nature of this course, attendance in class is *critically important*. If you are absent, you won't be able to participate in field trips, work on your collection in class, or complete other lab activities. Thus, you are expected to **attend every class session** (unless your absence is excused), **arrive to class on time**, and **stay for the entire session**. You are also expected to be **fully prepared for and engaged in each session**– this includes completing all required readings / prep materials beforehand, submitting all assignments on time, paying attention during class, and actively participating in all class activities. Participation in our class sessions is worth **65 points (= 5% of your final course grade)**. Your Attendance & Participation grade will be calculated based on the percentage of class sessions in which you are present for the entire time and complete the assigned in-class activities, excluding class sessions during the drop / add period and excused absences. You will *not* earn full attendance and participation points for a class session if you arrive substantially late or leave substantially early.

Since this is a **face-to-face course**, students will not have the option to join class remotely via Zoom. The instructor will also not record the class sessions.

Work Outside of Class: In addition to working on your spider collection in class, you will be expected to allocate adequate time outside of class to collect, curate, and identify your specimens. The exact amount of time will depend on how much progress you make during our class sessions, but every student should expect to spend several hours per week working on their collection. Throughout the semester, the instructors may host **optional open lab hours**– this is unstructured time outside of our scheduled class periods for you to work on your collection in our lab classroom (where you'll have access to microscopes and other course equipment). The dates and times of these open lab hours will be announced during class.

Late Work & Extensions

Policy on Late Work: All assignments in this course must be submitted in person (either on paper or as physical specimens) **by the date and time indicated on the assignment page in Canvas**. Worksheets are due at the end of the class period in which they are handed out, but you may hand them in up to one week later (i.e., by the end of the following class session) without penalty. After that grace period has passed, late worksheets will not be accepted and a grade of 0 will be assigned for the missing work. Please note that all parts of your collection (including the preliminary check) *must* be submitted by the indicated due dates and times; late collections will *not* be accepted unless you have reached out to the instructors in advance and have been granted an extension (see below for our extension policy). If your collection is not complete by the due date, we recommend that you turn in the specimens that you *do* have so that you can earn partial credit.

All deadlines are in Eastern Time (ET). To avoid potential confusion, make sure that you set the time zone in your Canvas settings to Eastern Time!

Extensions: Extensions for assignments will be considered on a case-by-case basis. If you have a situation that you believe warrants an extension, it is your responsibility to contact the instructors as soon as possible to discuss your situation and options. Please note that asking for an extension does not guarantee that you will be granted one, and that the instructors may require **valid documentation** of your situation before granting an extension. While waiting for the instructors' response, you should assume that the assignment is still due by the due date and time on Canvas (and plan accordingly).

> ***A Note about Deadlines:*** *Remember, the due date doesn't have to be the "do" date! In other words, we encourage you to start working on your assignments in advance to ensure that they are submitted on time! Non-emergency situations that arise right before the assignment's due date are not valid reasons to request an extension. Likewise, vacations / personal travel, being busy with other courses / employment / extracurriculars, social obligations, and other personal events are also not acceptable reasons for an extension. All of these outside obligations are things that you can control or predict in advance; so, if you know that you will be busy with any of these things on / near the assignment's due date, you should plan ahead and submit the work early. Remember that, as a college student (and future professional), you will have many demands on your time… so it is important to practice* ***effective time management****! The late work and extension policies for this course are designed to help you build this important professional skill.*

Make-Up Assignments & Exams

Make-Up Lab Activities: Our course policy on make-up assignments and other work is consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/. If you are absent from class, it is your responsibility to contact the instructors as soon as possible to discuss options for making up missed work or assignments. As noted above, the instructors may ask for **valid documentation** of your absence before allowing make-up work to be submitted. We also encourage you to contact a classmate to ask for notes from the session(s) that you missed; the instructors will not provide notes.

Make-Up Exams: The final practical exam must be taken on the **scheduled date and time** (as indicated in the Course Schedule above and on Canvas) unless you have an excused absence on the exam day. In that case, you must reach out to the instructors as soon as you can to discuss your situation and options for making up the exam. The instructors may ask for **valid documentation** of your absence before allowing a make-up exam to be scheduled.

The make-up exam, like the original, must be completed in person under the supervision of a proctor. If you are granted a make-up exam, it will be your responsibility to attend it at the date, time, and location designated by the instructors. Note that, due to time constraints, it may not be possible to schedule a make-up of the practical exam before the semester ends. If this is the case, the instructors will assign you an incomplete grade (I*) in the course and then schedule your make-up exam during the post-semester break or at the start of the following semester. Upon completion and grading of the make-up final, your incomplete grade will be changed to the letter grade that you earned in the course.

Make-up exams will assess the same learning objectives as the original exam. But to maintain academic integrity, the make-up will be different from the original. In other words, although the make-up will cover the same range of content, it will consist of *different questions* and those questions may be in *different formats*.

Professionalism & Etiquette

Everyone in the class is expected to conduct themselves in a **courteous and professional manner** at all times. This includes (but is not limited to) being polite and respectful when interacting with your peers and instructors, making an honest effort to engage in all aspects of the course (including doing the required preparatory work), being on time for our class sessions (or minimizing disruptions if you arrive late), raising your hand and waiting to be called on when you wish to speak during class, allowing others in the class to share their perspectives even if you disagree with them, actively listening to others and showing attention as an expression of respect, not talking over others or interrupting them, not monopolizing shared resources in the classroom, avoiding activities that might be distracting to others or interfere with the learning experience (including inappropriate use of electronic devices and packing up your belongings before class is over), quietly excusing yourself from class if needed, contributing meaningfully to group work, being open to constructive feedback, abiding by all course and university policies, and being proactive about issues that arise during the semester. Students who behave disrespectfully or disruptively may be **dismissed from the class session** and will be reported to the **Dean of Students Office**.

Laboratory Guidelines & Safety

Everyone is required to follow all **lab safety procedures** and other **lab guidelines** provided by the instructors. These procedures will be clearly communicated via Canvas and/or during class. While in the laboratory and in the field, all students must wear closed-toed shoes. Also note that food and beverages are not permitted in the lab. Throughout the course, you will be required to handle arachnid specimens (alive and preserved) as well as use microscopes & other lab equipment; please treat these specimens and instruments with care! Always ask an instructor if you are unsure about how to use an instrument. Students who do not adhere to these guidelines will be dismissed from class and considered absent for that day, and they may also be reported to the Dean of Students Office for misconduct. You may also be liable for any damages to lab equipment that result from your negligence or misuse.

Spiders may bite in self-defense if they feel threatened, and nearly all spider species can inject venom when they bite. If you follow the proper collection procedures that we discuss in class, the probability of being bitten by a spider in this course is extremely low– neither of your professors have ever been bitten by spiders, despite many years of working with them on a near-daily basis! Nevertheless, all students should be aware that being bitten while collecting spiders *is* a possibility. The vast majority of spiders that you can find in North America have venom that is *not* medically significant to humans; most spider bites result in mild pain around the bite site that quickly dissipates. The only notable exceptions are the widow spiders (genus *Latrodectus*) and recluse spiders (genus *Loxosceles*), which do have medically significant venom. It is your responsibility to make sure that you can identify these medically significant genera (ask an instructor if you're not sure!) and that you take extra precautions if you choose to collect them. Note that you do not *need* to collect any medically significant spiders to

complete this course, and indeed we recommend that you avoid these medically significant species. If you are bitten by a spider during a class activity, you should alert an instructor immediately. And if you are **allergic** to spider bites– or suspect that you might be– you must let the instructors know at the start of the semester.

Field Trip Expectations

Observing and collecting spiders in the field is a major focus of this course (and necessary to meet the stated learning objectives). There will be several **required field trips** during the semester, which will occur during class time and be within walking distance of our classroom. Dates for the major field trips are listed in this syllabus and on Canvas. All students are expected to participate in these trips, and thus they will count towards your Attendance & Participation grade. Inclement weather may force us to reschedule/cancel some of these excursions; those changes will be clearly communicated via Canvas as far in advance as possible. Additional in-class field activities may be organized during the semester as opportunities arise; these will also be announced as far in advance as possible.

This means that we will be spending a significant amount of class time outdoors, including on days when it may be hot and humid. On days when field activities are scheduled, you should come to class prepared to spend time outside in the day's predicted weather conditions. This includes wearing comfortable, closed-toed shoes and clothes that are suitable for fieldwork. You are also encouraged to bring a hat (to shade yourself from the sun), sunscreen, bug spray, and a water bottle. If you are allergic to any organisms that we may encounter on these field trips, you should let the instructors know ahead of time and bring an allergy pen if needed.

If you have concerns about working in the field, make sure to reach out to the instructors at the beginning of the semester. We are happy to discuss reasonable accommodations for students who have limited mobility, allergies, or other conditions that may impact their ability to participate in the field trips.

In addition to these required field activities, the instructors will organize several **optional field trips** outside of our usual class time (including at least one nocturnal collecting trip). Students are *not* required to attend these excursions but are encouraged to if their schedule allows– they are great opportunities to collect additional spiders for your collection! Tentative dates for these field trips are provided in the List of Important Dates above; more details (including locations and carpooling logistics) will be announced on Canvas after the semester begins. Note that these optional field trips may be rescheduled or canceled in the event of inclement weather or other circumstances. Additional optional trips may also be organized during the semester.

Use of Artificial Intelligence (AI)

When used properly, **artificial intelligence (AI)** can be a tool to supplement your learning. However, *improper* use of AI can impede your learning and may be considered academic dishonesty. Furthermore, most scientific journals, funding agencies, and professional societies now have strict rules about AI use and require all authors to disclose if / how they used AI. For all of these reasons, it is critically important for students to learn how to use AI tools responsibly and ethically!

For this course, you are not permitted to use content generated by ChatGPT, Copilot, DeepSeek, Gemini, Claude, or any other AI tool in *any assignment*, unless an instructor provides written permission stating otherwise. This includes– but is not limited to– submitting AI-generated content as your own work, submitting content that was paraphrased or modified from an AI output, quoting text generated by an AI (even if it is properly cited), and using AI to generate false sources. All of your assignments should consist entirely of your own original work, created by you specifically for this class. We are interested in assessing *your* understanding of the material and *your* ability to think critically / synthesize information– not that of an artificial algorithm! Unauthorized use of AI in an assignment will be treated as **academic misconduct**.

You are allowed to use AI tools in the following ways. Note that these are the *only* acceptable uses of AI in this course:

- Outside of graded assignments, e.g., to help you study or review class material.
- To proofread or provide feedback on your original work before submitting it. *Note that you aren't permitted to include the AI's output in your assignment, even if you edit it first… but you can use the AI's suggestions to refine your work yourself. If you do so, you must include an appendix with your assignment submission, in which you name the specific AI tools that you used and provide the exact prompts that you entered as well as verbatim copies of all of the AI's outputs. You must also confirm, in writing, that your assignment is written entirely in your own words, i.e., without any AI-generated content (including paraphrased content). Failure to provide all of this information when you use AI will result in a report to the Dean of Students Office.*

As a general rule, AI should never be your starting point– you should always start with your own original ideas and work! You should not use AI for anything that a human proofreader or study buddy could not ethically do for you.

All students should also be aware of the **many limitations and pitfalls** of AI. The material generated by these tools is often inaccurate, incomplete, misleading, and/or biased. It is also often overly generalized and formulaic, lacking both the depth of analysis and quality of writing that is expected in most college-level courses (and in our discipline more broadly). AI-generated content may also not align with the specific content that we cover in class. Remember, these AI tools are neither students in this course nor experts in our field– all they can do is generate statements that *sound* plausible, without any regard for (or ability to determine) the accuracy of those statements. Thus, if you use AI as a study tool, you should always fact-check the outputs using your notes from class, other course materials, or credible external sources. Also note that, in general, relying too heavily on these tools may erase your individual voice from your work, stifle the development of your own critical thinking skills and creativity, and prevent you from gaining the depth of knowledge expected of an expert in your discipline. Outsourcing your learning to AI can thus make it difficult for you to succeed in other aspects of college and in your future career!

Finally, be aware that every course at the university has its own individual policy about AI, which the instructors have implemented to maximize learning in their courses. The policy described here is for this course only and may not be the same as the policies for your other courses!

Use of Electronic Devices

You may use personal electronic devices such as laptops or tablets during class (excluding the practical exam), unless otherwise noted by the instructors. However, it is your responsibility to make sure that you use your devices in a **professional and courteous manner**. This includes:

- Limiting device use only to activities that are **directly related to your learning of course material**, such as taking notes or creating labels for your specimens. Using your devices for any other purpose is not allowed in the classroom; doing so is disrespectful to the instructors, distracting to your fellow students, and deprives you of a quality learning experience.
- Keeping your devices **muted at all times** to prevent disrupting others around you.
- **Quietly stepping out into the hall** if you must take a call or contact someone. We understand that emergencies can happen and will not prevent you from attending to them, but we also ask that you try to minimize disruptions to your peers.

If your device use is disruptive or inappropriate, you will be asked to put away your device. Students who repeatedly violate this policy will no longer be allowed to use devices in class and may be reported to the Dean of Students Office.

During the practical exam, you are not permitted to use electronic devices of any kind– this includes (but is not limited to) cell phones, tablets, laptops, smart watches, smart glasses, and earbuds / headphones. All devices must be muted and put away in your pocket or bag for the entire duration of the exam; they cannot be on your desk, even if they are face down or turned off. If you have to use the restroom during the exam, you must leave your devices with the proctor before you leave the exam room. Students who violate this policy will earn a grade of 0 on the exam and will not be able to retake it for a different grade.

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

* * * * *

It is your responsibility to ensure that you fully understand all policies outlined in this syllabus as well as the policies of the university as they relate to this course. In the interest of fairness, all students in the class will be held accountable to these policies without exception; these policies are not negotiable.

This syllabus cannot predict every possibility that could happen during the semester. If a situation arises that is not explicitly covered by this syllabus, the instructors will respond to it using their best judgment while following all applicable university policies. Students will be expected to abide by the instructors' decisions in these (and all other) matters.

At their discretion, the instructors may add, remove, or otherwise change aspects of the course during the semester to accommodate new opportunities, unforeseen disruptions, or other circumstances. These changes will be communicated clearly in class and / or through Canvas. The current version of the syllabus will always be available on our course's Canvas website. It is your responsibility to ensure that you are following the most recent version of the syllabus.

By remaining enrolled in this course, you agree that you have read and understood all parts of this syllabus and that you will be held accountable to the policies within. If you have any questions, please contact the instructors as soon as possible (preferably at the beginning of the course)!

* * * * *

Cover Photo: Ladybird Mimic Velvet Spider, *Eresus hermani* (Eresidae)
by Nikola Rahmé (flickr.com/photos/eurythyrea)

Summary of Differences between Graduate and Undergraduate Versions of the Spider Biology Lab

Our proposed graduate-level version of the **Spider Biology Lab (ENY 5XXXL)** will meet concurrently with the existing undergraduate version of the course (currently ENY 3830L; under consideration for an upgrade to 4000-level). This is a hands-on lab course that focuses on spider collecting techniques and spider identification at the family level, which are valuable skills for entomology students at any level.

Graduate and undergraduate students will be exposed to the same content (lectures, readings, etc.), participate in the same field and lab activities, and complete many of the same assessments (albeit with different requirements). However, the graduate version of the course will differ from the undergraduate version in the following respects:

1. The **spider collection assignment** (= the capstone project for the course) will be significantly expanded for graduate students. Graduate students will need to turn in a collection of 36 unique spider specimens spanning at least 18 different families, whereas undergraduates turn in a collection of 24 specimens from at least 12 families. Not only is the graduate collection *larger*, but it also requires graduate students to *engage more deeply* with the course content– to meet the larger collection requirements, graduate students will need to employ a wider variety of spider collecting techniques, look for spiders in a wider range of microhabitats, and likely work with spider families that are rarer and/or more challenging to identify.

2. Graduate students will be required to **sight identify a greater number of spider families** compared to undergraduate students in the course– 42 families to be precise (compared to the 35 families required for undergraduates). The additional families that are required only for graduate students are more technically challenging to identify, and thus graduate students will need to have a deeper understanding of spider morphology in order to correctly ID these families. Students will also be required to know the basic natural history of these families. Identification of these families and understanding of their natural history will be assessed in two ways– via graduate student-only questions on the **weekly worksheet assignments**, as well as several graduate student-only questions on the **final lab practical exam**.

Collectively, the graduate-only aspects of the spider collection, worksheets, and lab practical account for 300 / 1,300 points (= approximately 23% of the course grade for graduate students).

More details about grading differences between graduate and undergraduate sections of the course:

- **Worksheets:** There are 9 worksheets in total during the course. Worksheets 1-3 are identical for undergraduates and graduate students, as they focus on content required for all students (spider collection methods and how to use a dichotomous key). Worksheets 4-9 focus on family-level identification, and these worksheets are *not* identical for undergraduates and graduates. Some questions on these worksheets will be the same for all students (reflecting families that everyone is expected to know), but the graduate student worksheets will contain additional questions that are required only for graduate students. For those questions, graduate students will have to draw and label diagnostic structures for the additional spider families that are required only for graduate students, as well as describe (in words) how they would distinguish those families from the others covered in the course. Each worksheet is worth 25 or 30 points for undergraduates (depending on the number of families covered); for Worksheets 4-9, there are an additional 5 points worth of questions for graduate students (making those worksheets worth 30 – 35 points each for graduate students).

- **Lab Practical Exam:** For undergraduates, the lab practical exam consists of 25 microscope stations collectively worth 200 points. Graduate students must complete these stations as well, but they must *also* complete 5 additional stations (worth 40 additional points), which test their knowledge of the graduate student-only families. This means that the lab practical contains a total of 30 stations and is worth 240 points for graduate students.

- **Spider Collection Assignment:** The spider collection assignment for graduate students is worth 765 points total (as opposed to 520 points, which is the collection point total for undergraduates). This is because graduate students must submit 50% more specimens compared to undergraduates (36 instead of 24) and must have additional families represented (18 vs. 12). See the attached rubrics for graduate and undergraduate students for more details.

The higher expectations for graduate students are reflected in multiple **student learning outcomes (SLOs)** in the syllabus, which are copied below:

By the end of the course, students will be able to:

- **Collect** spiders in the field using a variety of techniques and **create** a collection of 36 properly curated and preserved spider specimens that showcases family-level diversity.
- **Identify** spider specimens to the family level, both by sight (for 42 select families) and by using a dichotomous key.
- **Explain** the natural history of 42 common and noteworthy spider families.

The corresponding SLOs for undergraduates mention just 24 specimens in the collection and 35 families that students need to know for sight identification / natural history.

Cover Sheet: Request 22518 3

AEC 5037 Agricultural and Natural Resources Media Production

Info

Process	Course|Add to Existinggrad|AI
Status	Pending at CALS - Agricultural and Life Sciences - General 60030000
Submitter	Jamie Loizzo jloizzo@ufl.edu
Created	1/30/2026 9:41:27 AM
Updated	2/16/2026 10:34:31 AM
Description of request	We request an AI-Enable designation for the course. This course is often the graduate level course that is cross listed with AEC 4036 (which we have also submitted for Enable-AI designation). While AEC 5037 includes similar scaffold and project assignments as AEC 4036 -- two assignments are different / upgraded for graduate student-level learning. AEC 4036 has a 'Reading Check' -- but AEC 5037 instead has graduate students develop a theoretical framework paper for their multimedia final project. AEC 4036 has an 'Online Promotion' assignment - but AEC 5037 instead has graduate students develop a K-12 Educator Lesson Plan / toolkit for implementing their multimedia projects into classrooms/after school programs.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Agricultural Education and Communication 514926000	Brian Myers		1/30/2026
No document changes					
College	Pending	CALS - Agricultural and Life Sciences - General 60030000			1/30/2026
No document changes					
AI Curriculum Committee					
No document changes					
Graduate Curriculum Committee					
No document changes					
Office of the Registrar					
No document changes					
Graduate Catalog					
No document changes					
College Notified					
No document changes					

Original file: Cover sheet.pdf

Existing AI Course (without changes) for request 22518

Info

Request: AEC 5037 Agricultural and Natural Resources Media Production
Description of request: We request an AI-Enable designation for the course.
This course is often the graduate level course that is cross listed with AEC 4036 (which we have also submitted for Enable-AI designation).
While AEC 5037 includes similar scaffold and project assignments as AEC 4036 -- two assignments are different / upgraded for graduate student-level learning.
AEC 4036 has a 'Reading Check' -- but AEC 5037 instead has graduate students develop a theoretical framework paper for their multimedia final project.
AEC 4036 has an 'Online Promotion' assignment - but AEC 5037 instead has graduate students develop a K-12 Educator Lesson Plan / toolkit for implementing their multimedia projects into classrooms/after school programs.

Submitter: Jamie Loizzo jloizzo@ufl.edu
Created: 2/16/2026 10:32:44 AM
Form version: 2

Responses

Canvas Availibility Yes, I acknowledge this requirement.
Assessment Data Yes, I acknowledge this requirement.
Weekly Schedule and Assignments Yes, I acknowledge this requirement.
Course Prefix and Number AEC 5037
Course Title Agricultural and Natural Resources Media Production
Lab Code C
Delivery Method HB - Hybrid Blend (50-79% of course content taught outside of classroom)
Effective Term Earliest Available
Effective Year Earliest Available
Credit Hours 3
Prerequisites N/A
AI Percentile Designation This course contains greater than 10% and less than 50% AI-related content.

Requested AI Categories (10%-50%) Enable-AI: AI Enabled
SLO Statement Requirement I understand and agree to include the required statements in the course syllabus.
Rationale for the AI Category AI Course Category:
We propose to modify AEC 4036 and cross-listed AEC 5037 to receive the Enable-AI course designation. AI usage for advanced multimedia agricultural and natural resources communication project research, development, and implementation as well as reflective learning will account for 10-49% of the course content.
Rationale:
AI tools and practices such as ChatGPT, Microsoft CoPilot, Adobe Creative Cloud, Adobe Firefly, Descript, Synthesia, and more are revolutionizing agricultural and natural resources communication. Land grant universities must prepare the next generation of science communicators and scientists to harness and apply these tools in ethical and effective ways. AEC 4036 will leverage a project-based learning instructional design to simultaneously teach AI literacy, practical AI tool application for public communication and engagement, and AI ethics. Students will use AI for brainstorming, outlining, issue and source research, and multimedia production, implementation, accessibility, and assessment. They will also apply critical thinking and human-AI judgment to shape their final work. We have already begun Enable-AI pedagogical approaches and activities into AEC 4036. For instance, through an Association of Public Land Grant Universities Innovative Teaching Award (2024), we implemented and evaluated AI-human podcasting tactics and tools. Pre/post-student survey results indicated students AI perceptions and podcasting self-efficacy increased. AI self-efficacy had the greatest increase (pre-M 2.46 pre-SD 1.08/ post-M 3.88 / post-SD 0.73), while AI trust had a slight decrease (pre-M 3.55 pre-SD 0.43/ post-M 3.57 / post-SD 0.45). Qualitative results revealed students foresee the future uses of AI to include creative ideation and task efficiency in ANR communication careers, as well as writing

Original file: Submitted form version 2.pdf

and graphic design enhancement. The project won the ‘High Impact Research’ poster award at the UF Research in Teaching and Learning (RiTL; 2025) Symposium and was presented at the North America College Teachers of Agriculture as an oral session (2025).

Course Description Provides directed experience in the following areas of agricultural and natural resources communication: video and audio production, graphic design, visual composition, desktop publishing and multimedia development.

Course Emphasis: Agricultural and natural resources communicators must understand the concepts and theories of science literacy, national standards for what it means to be a scientifically literate citizen, and how to connect scientists and the public through a variety of communication channels. This is an undergraduate/ graduate cross-listed college course designed to raise your awareness of science literacy concepts, how to engage in public conversations about controversial issues, how to interview scientists, how to edit scientific multimedia interviews, and how to ultimately produce a multimedia series with the goal to increase the public’s science literacy. We will use multimedia and AI communication tools to create science communication and engagement projects such as high-end videos, podcasts, virtual reality (VR) tours, and/or social media campaigns. Some multimedia projects may be published in partnership with The Streaming Science Project, UF Research, Florida of Natural History (FMNH), and/or UF/IFAS Research. Completed high-quality multimedia projects could be shown in a museum display, on partners’ YouTube channels and social media, and/or on WUFT-TV.

Course Objectives Essential Questions (EQs) and Learning Objectives (LOs)
EQ1: How can science communicators design a multimedia series with the overarching goal of increasing public science engagement and literacy?
LO1: Describe science engagement and literacy.
LO2: Research scientific concepts.
LO3: Contact and engage with scientists in a variety of research settings.
LO4: Create communication and instructional plans for partners to implement completed multimedia projects.
EQ2: What are methods for conducting and facilitating informational interviews with scientists that public audiences will find engaging?
LO5: Develop multimedia interview outlines and questions.
LO6. Conduct scientific multimedia interviews.
EQ3: How can science communicators leverage a variety of audio hardware and software (including AI) to produce professional multimedia to share with public audiences?
LO7. Edit scientific interviews.
LO8. Produce online multimedia series.
LO9. Write multimedia descriptions.
LO10. Use social media to share the final projects.

Instructor(s) Jamie Loizzo and Shane White
Required Links and Policies Yes

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Agricultural and Natural Resources Media Production
AEC 5037
Fall 2026 – 3 Credit Hours

Instructors

Jamie Loizzo, Ph.D.
Assistant Professor
Email: jloizzo@ufl.edu
Office Location: 121D Bryant Hall
Office Hours: by appointment

Shane White, Ph.D.
Instructional Assistant Professor
Email: shanewhite@ufl.edu
Office Location: UF/IFAS Plant City
Office Hours: by appointment

Teaching Assistants
TBD

Class Times	Location
Mondays 8:30-11:30am (Loizzo/**Gainesville**)	Bryant 107
Tuesdays 12:50-3:50pm (White/**Plant City**)	Plant City Mac Lab 117

This is a flipped class. You are expected to actively participate in face-to-face and online activities. *It is important you attend as many class meetings as possible unless you have an excused absence.

Course Description
Provides directed experience in the following areas of agricultural and natural resources communication: video and audio production, graphic design, visual composition, desktop publishing and multimedia development.

Course Emphasis: Agricultural and natural resources communicators must understand the concepts and theories of science literacy, national standards for what it means to be a scientifically literate citizen, and how to connect scientists and the public through a variety of communication channels. This is an undergraduate/ graduate cross-listed college course designed to raise your awareness of science literacy concepts, how to engage in public conversations about controversial issues, how to interview scientists, how to edit scientific multimedia interviews, and how to ultimately produce a multimedia series with the goal to increase the public's science literacy. We will use multimedia and AI communication tools to create science communication and engagement projects such as high-end videos, podcasts, virtual reality (VR) tours, and/or social media campaigns. Some multimedia projects may be published in partnership with The Streaming Science Project, UF Research, Florida of Natural History (FMNH), and/or UF/IFAS Research. Completed high-quality multimedia projects could be shown in a museum display, on partners' YouTube channels and social media, and/or on WUFT-TV.

Artificial Intelligence (AI) Credit
AEC 5037 is an **Enable-AI** designated course.
Enable-AI: Support AI through related knowledge and skill development, such as programming or statistics. AI course content is 10-49%.

This course accomplishes the AI Designation objective of the subject areas listed above. This course explains the definitions of AI, AI instructional and communication approaches and tools,

and the ethics of human-AI generated science communication for public engagement. It also explores various AI applications for science communication such as information-seeking, writing, editing, design, non-formal engagement facilitation, and assessment.

Artificial Intelligence Student Learning Outcomes (SLO)

SLO3. Select and/or utilize AI tools and techniques appropriate to a specific context and application.

- Assessed in lectures, weekly discussion, and scaffolded assignments for multimedia science project development.
- Addressed in development and implementation of final multimedia science communication project.

Essential Questions (EQs) and Learning Objectives (LOs)

EQ1: How can science communicators design a multimedia series with the overarching goal of increasing public science engagement and literacy?

LO1: Describe science engagement and literacy.
LO2: Research scientific concepts.
LO3: Contact and engage with scientists in a variety of research settings.
LO4: Create communication and instructional plans for partners to implement completed multimedia projects.

EQ2: What are methods for conducting and facilitating informational interviews with scientists that public audiences will find engaging?

LO5: Develop multimedia interview outlines and questions.
LO6. Conduct scientific multimedia interviews.

EQ3: How can science communicators leverage a variety of audio hardware and software (including AI) to produce professional multimedia to share with public audiences?

LO7. Edit scientific interviews.
LO8. Produce online multimedia series.
LO9. Write multimedia descriptions.
LO10. Use social media to share the final projects.

You will practice and demonstrate theories and skills through in-class and online discussions and project-based assignments.

Course Design

This course is structured following a project-based learning (PjBL) design. Our driving question this semester will be: *How can we as science communicators and leaders utilize multimedia to educate online audiences about sustainable agriculture and natural resources topics?*

PjBL steps include:

- Challenging problem/question
- Sustained inquiry
- Authenticity
- Student voice & choice
- Reflection
- Critique & vision
- Public Product

This class is also designed to follow the 'Partnering Pedagogy' philosophy. We are partners in your learning and will work together to develop pathways and solutions to reach course learning goals.

Requirements

Textbook:

Strategic Science Communication by John C. Besley and Anthony Dudo

Technology:

To succeed in this course, you must have access to the following technology:

- Desktop Computer or Laptop
  - Audio Capabilities
  - Webcam and Microphone for synchronous sessions
- Microsoft Word - Microsoft 365 basics video training
- Adobe Audition – UF IT Student Discount Options
- Adobe Reader - Acrobat tutorials
- Zoom - Zoom Privacy Policy
- Internet Connection with access to Canvas
  - Canvas is the course management system at the University of Florida in which students will find course content, links to video lectures, assignments, quizzes, discussions, and grades. The use of this system will vary by instructor, but the following videos describe the most common tools in Canvas. The full student guide is provided if you have additional questions.
  - View Canvas Privacy Policy
- **Web Browser - Chrome** is the preferred browser for Canvas. If you do not have Chrome, you can download it.
- University of Florida Email
  - Students are expected to check their my.ufl emails daily. View the Student Computing Requirements page for information on technology requirements and expectations.

Artificial Intelligence (AI) Usage:

Within this class, we will use artificial intelligence including text, audio, and art-generating software (such as Descript, Adobe Audition Audio Essentials, ChatGPT, Canva Magic Tools, Adobe FireFly, etc.) in an unrestricted fashion to support activities such as idea generation, writing outlines, audio editing, artwork drafting, and analysis of public data sources (NOT data from private research participants). However, you should note that all large AI models still tend to make up incorrect facts and fake citations, code generation models tend to produce inaccurate outputs, and image generation models can occasionally come up with highly offensive products. You will be responsible for any inaccurate, biased, offensive, or otherwise unethical content you submit regardless of whether it originally comes from you or an AI model. If you use these models, their contribution must be acknowledged with your assignment; you will be penalized for using AI without acknowledgment. Having said all these disclaimers, the use of AI models is encouraged, as it may make it possible for you to submit assignments with higher quality, in less time.

The university's policy on plagiarism still applies to any uncited or improperly cited use of work by other human beings or submission of work by other human beings as your own. Some student work may be submitted to AI or plagiarism detection tools to ensure that student work is predominantly human created.

Minimum Technical Skills:

Minimum technical skills required:

- Proficiency in utilizing Canvas and navigating the internet effectively.
- Competence in using email for communication purposes, including sending and receiving messages and managing attachments.
- Familiarity with commonly used word processing applications (such as Microsoft Word or Google Docs), including the ability to create, edit, and format documents.
- Basic computer skills, including understanding fundamental operations like file management, using menus and toolbars, and navigating between different applications.
- Ability to perform online research using a variety of search engines and library databases.

Instructor Response & Feedback

We are committed to responding to your Canvas and email messages **within 24 hours** when feasible during the work week, Monday through Friday, *except holidays*. The major assignments will be graded, with *meaningful feedback* provided, **within one week of their submission**.

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Assignments

Learning Objective	Assignment/Activity	Possible Points	% of Grade
5	Practice Interview	20	2.2%
7,8	Human-AI Ethics Code	20	2.2%
1	Theoretical Framework Paper	30	3.3%
7,8	Human-AI Usage Log	50	5.6%
4,8	Final Presentation & Reflection	30	3.3%
3,6	Professionalism & Attendance	50	5.6%
	Pre-Production		
5	• Practice Video Draft	50	5.6%
5,7	• Practice Video Review	30	3.3%
7,8	• Practice Video Final	100	11.1%
2,3	• Topic Research & Expert Contact	40	4.4%
4,5	• Interview & B-Roll Plan	40	4.4%
	Production		
6	• Raw Interview(s)	40	4.4%
6,7	• Rough Cut	50	5.6%
7	• Rough Cut Review	30	3.3%
7,8	• Source Checks	50	5/6%
	Post-Production		
10	• K-12 Educator Packet	50	5.6%
7,8,9	• Final Video	100	11.1%
	Total	**900**	**100%**

Practice Interview You will conduct a short practice interview to develop foundational skills in question design, active listening, and communicating scientific topics for public audiences.

Human–AI Ethics Code You will create a personal ethics code outlining responsible and transparent use of AI tools in science communication and multimedia production.

Theoretical Framework Paper (Graduate-Level) Graduate students will write a short theoretical paper (approximately 4–5 pages) applying 2–3 science communication or engagement frameworks to the design of their multimedia project. The paper should demonstrate how theory informed decisions related to audience, storytelling, ethical AI use, and public engagement.

Human–AI Usage Log You will document and reflect on how AI tools were used throughout the course to support ethical, intentional, and transparent multimedia production.

Scaffolded Multimedia Production Series Throughout the semester, you will complete a sequenced set of assignments that guide you through the full multimedia production process, including topic research, expert outreach, interview planning, practice video development, raw interviews, rough cuts, source verification, final video production, and online promotion, allowing students to progressively build skills while receiving feedback at each stage.

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Educator Packet: Classroom Implementation Toolkit Graduate students will create an educator packet designed to help K–12 teachers implement the class-produced videos in classroom or non-formal learning settings. The packet should include learning objectives, discussion questions, activities, standards alignment, and accessibility considerations written in clear, teacher-friendly language.

Final Presentation & Reflection You will present your completed multimedia project and reflect on learning outcomes, production challenges, and professional growth.

Professionalism & Attendance You are evaluated on participation, communication, collaboration, timeliness, and professional conduct throughout the semester.

Course Grading:

The course grading scale is provided below. Papers and out-of-class assignments must be typed and formatted according to the instructions I provide in Canvas.

Grading Scale

A = 93-100%	C+ = 76 – 79.99%	F = Below 60%
A- = 90 – 92.99%	C = 73 – 75.99%	
B+ = 86 – 89.99%	C- = 70 – 72.99%	
B = 83 – 85.99%	D+ = 66 – 69.99%	
B- = 80 – 82.99%	D = 63 – 65.99%	
	D- = 60 – 62.99%	

Further information about UF grading policies can be found here:
https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

Reading & Assignment Schedule:

Week	Topic	Readings	Assignments	*AI Contact
Practice & Pre-Production				
1 Aug 22	Strategic SciComm Multimedia Production Human-AI Creativity	Chapters 1 & 2	Practice Interview	1 hour
2 Aug 26	Conducting Interviews Case Study Video Edit AI Workflow & Prompting	Ch 3 & 4	Human-AI Ethics	1 hour
3 Sep 2	Collaborating w/Scientists Case Study Video Edit AI Prompting	Ch 5 & 6	Practice Video Draft	2 hours
4 Sep 9	SciComm Models Topic Research AI Planning Tools	Ch 7 & 8	Topic Research Practice Video Review	1 hour
5 Sep 16	Expert Contacts AI Planning Tools	Ch 9 & 10	Expert Contact Practice Video Review	2 hours
6 Sep 23	SciComm Narratives Interview Questions AI & Audiences	Ch 11 & 12	Final Practice Video	1 hour
7 Sep 30	B-Roll Plan AI & Authenticity		Interview/B-Roll Plan Theoretical Paper	1 hour

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Week	Topic	Readings	Assignments	*AI Contact
Production				
8 Oct 7	Video Interviews AI & Accessibility			1 hour
9 Oct 14	Video Interviews AI Multimedia Editing		Raw Interviews	1 hour
10 Oct 21	Video Editing AI Multimedia Editing			1 hour
11 Oct 28	Rough Cuts Online Promotion Plan AI Audience Engagement		Rough Cuts	1 hour
12 Nov 4	Rough Cut Review AI Audience Engagement Educator Guide		Rough Cut Review	1 hour
Post-Production & Reflection				
13 Nov 11	Final Video Editing Captions AI Iterative Improvement Educator Guide			2 hours
14 Nov 18	Final Video Editing Captions AI Iterative Improvement Educator Guide		Educator Guide Draft	2 hours
Break Nov 25	**Break**			
15 Dec 2	Final Video AI Professional Practice		Source Check Human-AI Usage Log Educator Guide Final	
FINALS Dec 9	**Final Presentations & Reflections**			

*AI contact hours include structured, instructor-guided use of artificial intelligence tools for instructional design, content development, science communication, assessment, reflection, and evaluation.
**This schedule is tentative and subject to change – contingent upon learning progress, project milestone adjustments, and other unforeseen time circumstances.

Learner Expectations

You are expected to **attend every class and arrive on time**. If you must miss class, please keep up with the assigned readings, recordings of class meetings, and online activities, so you can make meaningful contributions. If you must miss class and are unable to speak with me in person, send me an e-mail as soon as possible. I expect all students to attend 80% of class meetings and to receive full professionalism points. However, I understand in current times that life has disruptions that sometimes we cannot avoid. You can miss **TWO** class meetings – as excused, without a deduction in professionalism points. If you miss more than two classes, you be will required to submit a one-page single spaced summary of the weekly content. This will be due by the end of the semester to be considered eligible for full professionalism credit.

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Professionalism

Penalties will be assessed for unprofessional behaviors such as unexcused absences, tardiness, lack of preparation, or inattentiveness during class lectures or discussions. You are expected to be self-directed in reviewing the weekly module content and assignments as well as to reach out to me with any questions when directions in Canvas may be unclear or information is missing.

Late Assignments

The ability to meet deadlines is one of the most basic requirements expected of professionals. Announced deadlines are firm for all graded work, unless you receive prior permission from me. Permissions for late submission are granted only for approved university functions or other unique situations that warrant an excused absence as judged by me. Late assignments will receive a 5% deduction in points per each day the assignment is late. For instance, if the assignment is worth 50 points, and you submit it late – you will lose 2.5 points (5% of the total grade) per each day it is late. Unless otherwise stated, materials are due in class on the deadline date. Computer problems are not a justification for missed deadlines.

UF's Academic Honesty Statement:

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: ***"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."*** You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: ***"On my honor, I have neither given nor received unauthorized aid in doing this assignment."***

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g., assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates dishonesty to the instructor, department chair, college dean or Student Honor Court. **It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code.** Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: UF Student Code of Conduct Webpage.

Plagiarism:

Plagiarism includes taking **verbatim phrases of *just a few words*** without permission or full attribution. It includes ***quoting too much*** from your sources, thereby substituting their expression for your own, or quoting too much from one source, effectively taking more than a *fair use* of their work. **Over quoting (direct quotes)** comprising more than 10% of any assignment will be considered plagiarism. Plagiarism includes ***unique expression***, which can be a phrase of a few words or a simple moniker. Our writing is mostly *our own expression*. When writing for science and business, we base our work on **facts** obtained from a variety of **credible sources.** We give credit where it is due. We **cite our sources** so others can access the information we present. When appropriate, we very carefully, ethically, and lawfully use others' expression of that information. We obtain permission to use our sources' expression or give full credit for a *limited, fair use,* including direct quotes.

Attendance Policies

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: UF Attendance Policies.

Institutional Policies

Recording Statement

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or guest lecturer during a class session. Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another

student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code. UF IN-CLASS RECORDING

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate. UF ACCEPTABLE USE POLICY

Course Evaluations

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at: https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens and can complete evaluations through the email, they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at: https://gatorevals.aa.ufl.edu/public-results/

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Student Services

Health & Wellness

- U Matter, We Care
  - If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit U Matter, We Care website to refer or report a concern and a team member will reach out to the student in distress.
- Counseling and Wellness Center
  - Visit the Counseling and Wellness Center website or call 352-392-1575 for information on crisis services as well as non-crisis services.
  - Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students.
- Student Health Care Center
  - Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the Student Health Care Center website.
- University Police Department
  - Visit UF Police Department website or call 352-392-1111 (or 9-1-1 for emergencies).
- GatorWell Health Promotion Services
  - For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the GatorWell website or call 352-273-4450.

Academic Resources

- E-learning technical support
  - Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at helpdesk@ufl.edu.
- Career Connections Center
  - Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.
- Library Support
  - Various ways to receive assistance with respect to using the libraries or finding resources.
- Teaching Center
  - Broward Hall, 352-392-2010 or to make an appointment 352-392-6420. General study skills and tutoring.
- Writing Studio
  - 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers.
- Student Complaints On-Campus
  - Visit the Student Honor Code and Student Conduct Code webpage for more information.
- On-Line Students Complaints
  - View the Distance Learning Student Complaint Process.

Services for Students with Disabilities

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to

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the Instructor when requesting accommodation
0001 Reid Hall, 352-392-8565, UF Disability Resource Center.
Canvas Accessibility Standards
Zoom Accessibility Information

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Explanation of Differences Between Undergraduate and Graduate Cross-Listed Courses

AEC 4036 – Advanced Agricultural Communication Production
AEC 5037 – Agricultural and Natural Resources Media Production

Both AEC 4036 (undergraduate) and AEC 5037 (graduate) are submitted simultaneously as cross-listed courses that share core instructional content, learning objectives, and project-based multimedia production experiences. Both courses emphasize science communication, multimedia storytelling, ethical and intentional use of artificial intelligence tools, and development of public engagement products designed to increase science literacy. The courses share common Essential Questions, Learning Objectives, instructional design framework, and scaffolded multimedia production sequence.
While the courses share foundational structure and content, the graduate course includes multiple additional assignments requiring theoretical integration, advanced application, and professional curriculum development, which collectively exceed the required 15% difference in graded coursework.

Substantial Assignment Differences

1. Theoretical Framework Paper (Graduate Only)
Graduate students complete a theoretical framework paper (approximately 4–5 pages) applying two to three science communication or engagement theories to the design and implementation of their multimedia project. This assignment requires students to analyze audience engagement, storytelling decisions, ethical AI implementation, and public communication strategies through a scholarly lens.
Undergraduate Level: Undergraduate students complete a Reading Check assignment focused on comprehension and application of course readings but do not engage in formal theoretical synthesis or scholarly application.
Level Distinction: This graduate-level assignment emphasizes theoretical integration, academic writing, scholarly citation, and research-informed decision making, representing deeper conceptual engagement and independent analysis beyond undergraduate expectations.

2. K-12 Educator Packet / Implementation Toolkit (Graduate Only)
Graduate students design a comprehensive educator implementation toolkit intended for K-12 or non-formal learning environments. The packet must include learning objectives, classroom or outreach activities, discussion prompts, educational standards alignment, accessibility considerations, and professional audience-specific writing.
Undergraduate Level: Undergraduate students complete an Online Promotion assignment focused on marketing, audience engagement, and dissemination of multimedia products through social media or digital outreach channels.
Level Distinction: The graduate assignment requires instructional design expertise, standards alignment, and curriculum development competencies that extend beyond undergraduate communication dissemination skills.
Quantitative Difference in Graded Material

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Both courses include 900 total possible points. Graduate students complete two distinct assignments not required for undergraduate students:

- Theoretical Framework Paper – 30 points (3.3%)
- K-12 Educator Packet – 50 points (5.6%)
- Total Additional Graduate Coursework – 80 points (8.9%)

Although the point totals replace comparable undergraduate assignments, the graduate assignments require significantly higher cognitive complexity, independent scholarly research, theoretical application, and professional curriculum design. Additionally, graduate students demonstrate advanced synthesis across course projects, which aligns with graduate-level expectations for research-informed instructional and communication design.

Summary

AEC 4036 and AEC 5037 share foundational course objectives, project-based learning design, and multimedia production outcomes. However, AEC 5037 includes additional graduate-level assignments requiring theoretical analysis and curriculum implementation design that significantly increase academic rigor, scholarly application, and professional preparation. These differences meet university curriculum standards requiring multiple assignment distinctions and exceed the minimum 15% differentiation between undergraduate and graduate course requirements.

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CALS Curriculum Committee
Submission Checklist

Updated January 2026

NOTE: This checklist must be included with all course and certificate submissions.

The checklist below is intended to facilitate course and certificate submissions to the University of Florida Academic Approval Tracking System (https://approval.ufl.edu/). The checklist consists of the most common items that can cause a submission to require changes or be recycled. Contrary to information provided on the UF approval site, the CALS Curriculum Committee requires a syllabus be submitted with each new course or course modification request. Please note that submitters are encouraged to attend the CALS CC meeting at which their item is being reviewed. This allows the submitter to answer any potential questions that may arise that could cause the item to not be approved. Also, be aware that when completing the UCC form the section Description of Request is asking for a brief statement about what you are doing. This is **not** the place for a course description. A statement such as "Proposal of a new undergraduate course" is all that is needed. Please do not submit documents in pdf format. All documents should be submitted in Word to facilitate editing on our end if necessary.

CHECKLIST: PLEASE INITIAL OR MARK N/A FOR EACH STATEMENT TO INDICATE YOUR COMPLIANCE.

SYLLABUS: You are encouraged to use the CALS ACCESSIBLE SYLLABUS TEMPLATE. Accessibility will be required by APRIL 2026.
****Use of Simple Syllabus will be required for Summer 2026 forward. It is slated to be released to faculty in late February 2026.****

__JL__ It is required when making a submission that you consult your department's representative to the CALS CC. A list of current members can be found on the committee site located at: https://cals.ufl.edu/faculty-staff/committees/.

_JL__ Submission of a course modification requires both the current version of the course syllabus and the proposed version.

_JL___ Joint course submissions must include 1) both graduate and undergraduate syllabuses and 2) a separate document outlining the substantial (more than one) differences in assignments between the two courses. These assignments must account for at least a 15% difference in graded material between the two levels. If this is a new course submission both courses must be submitted for approval simultaneously.

_JL___ The course description on the UCC form and in the syllabus must match and should be no longer than 500 characters. FOR AN EXITING COURSE, THE DESCRIPTION **MUST MATCH THE CATALOG DESCRIPTION**. Follow the **COURSE DESCRIPTION GUIDELINES** for new courses if not contraindicated by outside certification requirements. Any other information you wish to include needs to be under a different heading such as background or additional course information.

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_**JL**___ The course learning objectives must be consistent with Bloom's taxonomy. Please see the following link at the CALS Curriculum site. (https://cals.ufl.edu/content/PDF/Faculty_Staff/cals-courseobjectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

__**JL**__ The course schedule should be concise and include the appropriate number of weeks in the semester.

__**JL**__ All graduate course submissions must include a reading list if a textbook is not required. The reading list should include at least some current readings (within the last 5 years). All readings do not need to be current.

__**N/A**__ Outside consultations are required if there is a possibility of the proposed course covering a significant amount of material taught in another department or college on campus. There must be a consult form completed by the chair of the department from who you are seeking the consult. Instructors may provide additional consults. The form can be found at: https://approval.ufl.edu/policies/external-consultations/.

_**JL**___ Prerequisite courses are required for 3000 and 4000 level courses. This line of the approval form cannot be "none" or left blank. Junior or senior standing is an acceptable option. A phrase such as "a course in basic biology" is not acceptable. (Graduate courses should not have specific courses listed as prerequisites. If needed a statement of skills required prior to taking the course can be provided under other course information.)

__**JL**__ Decimal points must be included in the grading scale if grade cut-offs are based on percentages. While this is not a university policy it is a CALS standard practice to avoid any confusion when final grades for the course are determined.

__**JL**__ The attendance and make-up policy in a syllabus cannot contradict the university's policy. Do not include any additional wording to this policy. A statement and link regarding this are included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

___**JL**_ The most recent version of the UF Syllabus Statements. Using the accessible syllabus template will ensure you have the most up to date statements. Do not use boilerplate statements from an old syllabus as they are likely to be out of date.

Certificates

If proposing a new undergraduate or graduate level certificate that includes any courses outside of the submitters department a statement regarding any possible impact on those courses needs to be included. An email from the instructor is acceptable. Also, any courses required for the certificate must have permanent prefixes and course numbers. The submission must include intended catalog copy. (Contact Dr. Anne Mathews (anne.mathews@ufl.edu) for further instruction)

Original file: CALS CC Checklist_jloizzo_4036_5037.pdf

Cover Sheet: Request 22512

AEC 5541 Instructional and Communication Technologies in Agriculture and Natural Resources

Info

Process	Course|Add to Existinggrad|AI
Status	Pending at CALS - Agricultural and Life Sciences - General 60030000
Submitter	Jamie Loizzo jloizzo@ufl.edu
Created	1/29/2026 4:06:51 PM
Updated	2/16/2026 10:28:54 AM
Description of request	Add Enable-AI designation to the course.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Agricultural Education and Communication 514926000	Brian Myers		1/29/2026
No document changes					
College	Pending	CALS - Agricultural and Life Sciences - General 60030000			1/29/2026
No document changes					
AI Curriculum Committee					
No document changes					
Graduate Curriculum Committee					
No document changes					
Office of the Registrar					
No document changes					
Graduate Catalog					
No document changes					
College Notified					
No document changes					

Original file: Cover sheet.pdf

Existing AI Course (without changes) for request 22512

Info

Request: AEC 5541 Instructional and Communication Technologies in Agriculture and Natural Resources
Description of request: Add Enable-AI designation to the course.
Submitter: Jamie Loizzo jloizzo@ufl.edu
Created: 1/29/2026 4:02:59 PM
Form version: 1

Responses

Canvas Availibility Yes, I acknowledge this requirement.
Assessment Data Yes, I acknowledge this requirement.
Weekly Schedule and Assignments Yes, I acknowledge this requirement.
Course Prefix and Number AEC 5541
Course Title Instructional and Communication Technologies in Agricultural and Life Sciences
Lab Code C
Delivery Method HB - Hybrid Blend (50-79% of course content taught outside of classroom)
Effective Term Fall
Effective Year Earliest Available
Credit Hours 3
Prerequisites None
AI Percentile Designation This course contains greater than 10% and less than 50% AI-related content.

Requested AI Categories (10%-50%) Enable-AI: AI Enabled
SLO Statement Requirement I understand and agree to include the required statements in the course syllabus.
Rationale for the AI Category AI usage for instructional design, multimedia production, and participatory science engagement will account for 10–49% of the course content.

AI is making a significant impact on agricultural and natural resources (ANR) education and communication. AI tools to enhance writing, graphic design, audio, and video are widely available at a reasonable cost. Upcoming ANR professionals and researchers need to be prepared to utilize AI tools to support education and communication to positively impact audiences and to examine how AI tools impact science communication messages and education outreach programs. We have already begun investigating and applying AI in this course. We studied AI impacts during the fall 2023 and 2024 semesters. Our class collaborated with plant scientists to develop a Streaming Science EFT titled Streaming Strawberries for middle and high school students and a 4-H virtual club funded by a USDA-NIFA grant. For phase one of the research, we deliberately did NOT use AI and maintained a design document to track our human creation and decision-making. At the end of the semester, during phase two, we re-created our project artifacts including the EFT title, learning objectives, branding guide, Teacher's Guide, scientist biographies, script, website, registration form, and more with the assistance of generative AI tools such as ChatGPT, Bing Dall-E 3, Adobe Illustrator AI, Canva Magic Tools, Wix AI, and Fetchy. We compared and contrasted materials from the two phases. Results indicated the AI visual tools somewhat leaned toward stereotypical science symbols such as mathematical calculations and ChatGPT's scripting support was somewhat surface-level and included superficial details about the scientists' research. However, we overall found the AI tools beneficial as they helped generate creative title ideas and increased productivity for basic tasks such as identifying learning standards and outlining a document's design. We presented the results at the North America College Teachers of Agriculture as an oral session (2024) and CALS Teaching Enhancement Symposium (2024). AEC 5541 will integrate AI to enhance student learning in the following ways:

- Instructional Design: Students will use AI to brainstorm, outline, and script EFTs and Research Sparks.
- Multimedia Production: AI will assist in video editing, graphic design, and accessibility enhancements.

Assessment & Reflection: Students will critically evaluate AI-generated content and reflect on ethical implications.
This integration supports UF's commitment to preparing future science communicators to ethically and

Original file: Submitted form version 1.pdf

effectively use AI in real-world contexts

Course Description Planning and producing written and visual instructional and communication materials for programs in the agricultural and life sciences.

Course emphasis:
AEC 5541 will focus on writing, live web-streamed video production, instructional and communication technologies, solutions-focused science communication, and the development and implementation of a real-world electronic field trip.

You will learn skills and knowledge in the following areas:
- Working with scientists, Extension specialists, and STEM subject matter experts
- Theory and practices for PK-12 STEM engagement programming
- Instructional design for non-formal and informal engagement programming
- Mobile video production, editing, and streaming
- Project management, implementation, and evaluation

Course Objectives After this course, you will be able to:
1. Define and discuss instructional and communication technologies (ICTs), instructional design, science communication, and non-formal science engagement.
2. Create content with STEM subject matter experts to develop science engagement content.
3. Analyze and identify relevant STEM education standards for PK-12 learning.
4. Develop, implement, and assess a mobile electronic field trip.
5. Investigate and apply AI instructional and communication tools for non-formal science communication and education.
6. Determine and discuss the ethics and implications of human-AI generated science communication and education.

You will practice and demonstrate theories and skills through in-class and online discussions, literature review and analysis, and development and implementation of an electronic field trip.

Instructor(s) Jamie Loizzo
Required Links and Policies Yes

Original file: Submitted form version 1.pdf

Instructional and Communication Technologies in Agricultural and Life Sciences

AEC 5541

Fall 2026- 3 credit hours

Instructor

Jamie Loizzo, Ph.D.
Assistant Professor of Agricultural Communication
Email: jloizzo@ufl.edu
Office Location: 121D Bryant Hall
Office Hours: by appointment

Class Times	Location
Thursday: Periods 6-8 (12:50 PM – 3:50 PM)	Bryant 107

*It is important you attend as many class meetings as possible, unless you have an excused absence.

Course Description

Planning and producing written and visual instructional and communication materials for programs in the agricultural and life sciences.

Artificial Intelligence (AI) Credit

AEC 5541 is an **Enable-AI** designated course.
Enable-AI: Support AI through related knowledge and skill development, such as programming or statistics. AI course content is 10-49%.

This course accomplishes the AI Designation objective of the subject areas listed above. This course explains the definitions of AI, AI instructional and communication approaches and tools, and the ethics of human-AI generated science communication for public engagement. It also explores various AI applications for science communication such as information-seeking, writing, editing, design, non-formal engagement facilitation, and assessment.

Artificial Intelligence Student Learning Outcomes (SLO)

SLO3. Select and/or utilize AI tools and techniques appropriate to a specific context and application.

- Addressed in development and implementation of final electronic field trip (EFT).
- Assessed in Online Activity 2 (EFT planning) and final EFT.

Course Objectives

After this course, you will be able to:

1. Define and discuss instructional and communication technologies (ICTs), instructional design, science communication, and non-formal science engagement.
2. Create content with STEM subject matter experts to develop science engagement content.
3. Analyze and identify relevant STEM education standards for PK-12 learning.
4. Develop, implement, and assess a mobile electronic field trip.

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5. Investigate and apply AI instructional and communication tools for non-formal science communication and education.
6. Determine and discuss the ethics and implications of human-AI generated science communication and education.

We will focus on writing, live web-streamed video production, instructional and communication technologies, solutions-focused science communication, and the development and implementation of a real-world electronic field trip.

Course Design

This course is structured following a project-based learning (PjBL) design. Our driving question this semester will be:

How can we as science communicators and leaders research and apply information and communication technology to science engagement and learning about UF/IFAS Center for Aquatic and Invasive Plants, plant invasion science, related research, and careers?

PjBL steps include:

- Challenging problem/question
- Sustained inquiry
- Authenticity
- Student voice & choice
- Reflection
- Critique & vision
- Public Product

This class is also designed to follow the 'Partnering Pedagogy' philosophy. We are partners in your learning and will work together to develop pathways and solutions to reach course learning goals. You will also have the opportunity to publish and share your final work on *The Streaming Science Project*, if you choose.

Course Readings and Resources

Textbook:

There are **no required texts** for this course. Readings will be posted in Canvas.

Required Software:

- Adobe Creative Suite (Lightroom, Photoshop, InDesign, and Express/Spark)
- Canva
- Canvas

Technology:

To succeed in this course, you must have access to the following technology:

- Desktop Computer or Laptop
  - Audio Capabilities
  - Webcam and Microphone for synchronous sessions

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- Microsoft Word - Microsoft 365 basics video training
- Adobe Reader - Acrobat tutorials
- Zoom - Zoom Privacy Policy
- Internet Connection with access to Canvas
    - Canvas is the course management system at the University of Florida in which students will find course content, links to video lectures, assignments, quizzes, discussions, and grades. The use of this system will vary by instructor, but the following videos describe the most common tools in Canvas. The full student guide is provided if you have additional questions.
    - View Canvas Privacy Policy
- **Web Browser - Chrome** is the preferred browser for Canvas. If you do not have Chrome, you can download it.
- University of Florida Email
    - Students are expected to check their my.ufl emails daily. View the Student Computing Requirements page for information on technology requirements and expectations.

Artificial Intelligence (AI) Usage:

Within this class, we will use artificial intelligence including text, audio, and art-generating software (such as Descript, Adobe Audition Audio Essentials, ChatGPT, Canva Magic Tools, Adobe FireFly, etc.) in an unrestricted fashion to support activities such as idea generation, writing outlines, audio editing, artwork drafting, and analysis of public data sources (NOT data from private research participants). However, you should note that all large AI models still tend to make up incorrect facts and fake citations, code generation models tend to produce inaccurate outputs, and image generation models can occasionally come up with highly offensive products. You will be responsible for any inaccurate, biased, offensive, or otherwise unethical content you submit regardless of whether it originally comes from you or an AI model. As we use these models, their contribution must be acknowledged with your assignment; you will be penalized for using AI without acknowledgment. Having said all these disclaimers, the use of AI models is encouraged, as it may make it possible for us to create a higher quality multimedia production, in less time. The university's policy on plagiarism still applies to any uncited or improperly cited use of work by other human beings or submission of work by other human beings as your own.

Minimum Technical Skills:

Minimum technical skills required:

- Proficiency in utilizing Canvas and navigating the internet effectively.
- Competence in using email for communication purposes, including sending and receiving messages and managing attachments.
- Familiarity with commonly used word processing applications (such as Microsoft Word or Google Docs), including the ability to create, edit, and format documents.
- Basic computer skills, including understanding fundamental operations like file management, using menus and toolbars, and navigating between different applications.
- Ability to perform online research using a variety of search engines and library databases.
-

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Instructor Response & Feedback

I am committed to responding to your Canvas and email messages **within 24 hours** when feasible during the work week, Monday through Friday, *except holidays*. Office hours are available upon request. The major assignments will be graded, with *meaningful feedback* provided, **within one week of their submission**.

Assignments

Points & Explanation:

Instructional Goal	Assignment/Activity	Possible Points	% of Grade
1,2,3	**Multimedia Explainers**		
	• Promotion & Awareness	50	5%
	• Subject Matter Sharing	50	5%
	• Impact & Reflection	50	5%
3	**Technology Tool Review and Presentation**	100	10%
3	**Practice Production**	100	10%
	Electronic Field Trip		
1,2,3	• Development	100	10%
1,2,3	• Implementation	100	10%
1,2,3	• Assessment	100	10%
1,2,3	**Final Presentation**	100	10%
1,2,3	**Online Activities (x 4 @ 50pts ea)**	200	20%
	Attendance & Professionalism	50	5%
	TOTAL	1000	100%

Multimedia Research Explainer

You will develop multimedia explainers to promote our electronic field trip, topic, and impacts. Further instructions will be provided during class and in Canvas.

Technology Tool Review and Presentation

You will identify, research, and apply an instructional/learning/communication technology that could be used to engage audiences/learners in non-formal settings, use the tool, and demonstrate it in class.

Practice Production

You will create practice videos and test a live video stream, similar to our final electronic field trip.

Electronic Field Trip (EFT)

We will work as a class to develop, implement, and assess a pilot electronic field trip.

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Development

Capturing and editing b-roll ahead of time
Scripting
Working with scientists
Recruiting schools
Developing a Teacher's Guide
Preparing materials for Google Classroom/other platforms

Implementation

Live streaming two to three EFTs in various formats
Field observations
Questions from schools

Assessment

Develop, implement, and rough analysis of pre- post-research of EFT participants

Final Presentation

You will give a final presentation about your literature review, fieldwork observation assignment, and role/learning in the EFT.

Online Activities

You will complete up to 4 online activities throughout the semester. These will include assignments such as discussion boards, written reflections, and skills demonstrations such as video shooting and editing.

Course Grading:

Grading Scale

A = 93-100%	C+ = 76 – 79.99%	F = Below 60%
A- = 90 – 92.99%	C = 73 – 75.99%	
B+ = 86 – 89.99%	C- = 70 – 72.99%	
B = 83 – 85.99%	D+ = 66 – 69.99%	
B- = 80 – 82.99%	D = 63 – 65.99%	
	D- = 60 – 62.99%	

Further information about UF grading policies can be found here:
https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

Reading & Assignment Schedule:

Week	Topic	Assignments	Readings	*AI Contact
Background & Planning Phase				
1 Aug 22	Welcome & Overview SS EFT background AI supported creativity		• SS EFT model • Past programs	1 hour
2 Aug 26	Instructional design AI for lesson alignment Our grant context		• ID background • Grant summary	1 hour

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Week	Topic	Assignments	Readings	*AI Contact
3 Sep 2 (9/2 holiday)	Science communication Working with scientists AI for scicomm	**Multimedia Explainer (ME) 1**	• Scientists as Storytellers • NASEM Agenda	2 hours
4 Sep 9	Science engagement Working with educators AI for audience adaptation	**Online Activity (OA) 1**	• Science standards • Teacher perceptions	1 hour
5 Sep 16	Non/informal science education Mobile & AI for video production		• Science education • EDIS engagement	2 hours
Promotion & Pre-Production				
6 Sep 23	EFT site visit	**OA 2**	• Tech Tool prep • Multimedia exp. prep	
7 Sep 30	Interactivity & assessment EFT development AI for scripts & assessment	Teachers' Guide Script Drafts **ME 2**	• Conservation Conversation • Restore the Shore	2 hours
8 Oct 7	**Tech Tool Presentations**			2 hours
9 Oct 14	EFT development EFT practice AI application	Script Drafts Practice Production		1 hour
Implementation & Evaluation				
10 Oct 21	EFT development EFT practice AI application	**OA 3**		1 hour
11 Oct 28	**EFT Live #1**			1 hour
12 Nov 4	EFT development EFT practice AI application		• Recording • Analytics	1 hour
13 Nov 11	**EFT Live #2**			1 hour
Review & Reflect				
14 Nov 18	EFT & AI tools reflection	**OA 4**		2 hours
Break Nov 25	Break (no class)			
15 Dec 2	EFT / AI Synopsis *online class this week due to reading day*	**ME 3**		1 hour

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Week	Topic	Assignments	Readings	*AI Contact
FINALS Dec 9	**Final Presentations December 11 @ 8 – 10 PM**			

*AI contact hours include structured, instructor-guided use of artificial intelligence tools for instructional design, content development, science communication, assessment, reflection, and evaluation.
**This schedule is tentative and subject to change – contingent upon learning progress, project milestone adjustments, and other unforeseen time circumstances.

UF's Academic Honesty Statement:

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: ***"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."*** You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: ***"On my honor, I have neither given nor received unauthorized aid in doing this assignment."***
It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g., assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates dishonesty to the instructor, department chair, college dean or Student Honor Court. **It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code.** Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: UF Student Code of Conduct Webpage.

Plagiarism:

Plagiarism includes taking **verbatim phrases of *just a few words*** without permission or full attribution. It includes ***quoting too much*** from your sources, thereby substituting their expression for your own, or quoting too much from one source, effectively taking more than a *fair use* of their work. **Over quoting (direct quotes)** comprising more than 10% of any assignment will be considered plagiarism. Plagiarism includes ***unique expression***, which can be a phrase of a few words or a simple moniker. Our writing is mostly *our own expression*. When writing for science and business, we base our work on **facts** obtained from a variety of **credible sources.** We give credit where it is due. We **cite our sources** so others can access the information we present. When appropriate, we very carefully, ethically, and lawfully use others' expression of that information. We obtain permission to use our sources' expression or give full credit for a *limited, fair use,* including direct quotes.

Attendance Policies

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: UF Attendance Policies.

Original file: AEC5541_EnableAI_Fall2026_jloizzo.pdf

Institutional Policies

Recording Statement

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or guest lecturer during a class session. Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another

student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code. UF IN-CLASS RECORDING

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate. UF ACCEPTABLE USE POLICY

Course Evaluations

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at: https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens and can complete evaluations through the email, they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at: https://gatorevals.aa.ufl.edu/public-results/

Student Services

Health & Wellness

- U Matter, We Care
  - If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit U Matter, We Care website to refer or report a concern and a team member will reach out to the student in distress.
- Counseling and Wellness Center
  - Visit the Counseling and Wellness Center website or call 352-392-1575 for information on crisis services as well as non-crisis services.
  - Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students.
- Student Health Care Center
  - Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the Student Health Care Center website.
- University Police Department
  - Visit UF Police Department website or call 352-392-1111 (or 9-1-1 for emergencies).
- GatorWell Health Promotion Services
  - For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the GatorWell website or call 352-273-4450.

Academic Resources

- E-learning technical support
  - Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at helpdesk@ufl.edu.
- Career Connections Center
  - Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.
- Library Support
  - Various ways to receive assistance with respect to using the libraries or finding resources.
- Teaching Center
  - Broward Hall, 352-392-2010 or to make an appointment 352-392-6420. General study skills and tutoring.
- Writing Studio
  - 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers.
- Student Complaints On-Campus
  - Visit the Student Honor Code and Student Conduct Code webpage for more information.
- On-Line Students Complaints
  - View the Distance Learning Student Complaint Process.

Services for Students with Disabilities

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations

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within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation
0001 Reid Hall, 352-392-8565, UF Disability Resource Center.
Canvas Accessibility Standards
Zoom Accessibility Information

Original file: AEC5541_EnableAI_Fall2026_jloizzo.pdf

CALS Curriculum Committee
Submission Checklist

Updated January 2026

NOTE: This checklist must be included with all course and certificate submissions.

The checklist below is intended to facilitate course and certificate submissions to the University of Florida Academic Approval Tracking System (https://approval.ufl.edu/). The checklist consists of the most common items that can cause a submission to require changes or be recycled. Contrary to information provided on the UF approval site, the CALS Curriculum Committee requires a syllabus be submitted with each new course or course modification request. Please note that submitters are encouraged to attend the CALS CC meeting at which their item is being reviewed. This allows the submitter to answer any potential questions that may arise that could cause the item to not be approved. Also, be aware that when completing the UCC form the section Description of Request is asking for a brief statement about what you are doing. This is **not** the place for a course description. A statement such as "Proposal of a new undergraduate course" is all that is needed. Please do not submit documents in pdf format. All documents should be submitted in Word to facilitate editing on our end if necessary.

CHECKLIST: PLEASE INITIAL OR MARK N/A FOR EACH STATEMENT TO INDICATE YOUR COMPLIANCE.

SYLLABUS: You are encouraged to use the CALS ACCESSIBLE SYLLABUS TEMPLATE. Accessibility will be required by APRIL 2026.
****Use of Simple Syllabus will be required for Summer 2026 forward. It is slated to be released to faculty in late February 2026.****

__JL__ It is required when making a submission that you consult your department's representative to the CALS CC. A list of current members can be found on the committee site located at: https://cals.ufl.edu/faculty-staff/committees/.

_JL__ Submission of a course modification requires both the current version of the course syllabus and the proposed version.

N/A___ Joint course submissions must include 1) both graduate and undergraduate syllabuses and 2) a separate document outlining the substantial (more than one) differences in assignments between the two courses. These assignments must account for at least a 15% difference in graded material between the two levels. If this is a new course submission both courses must be submitted for approval simultaneously.

_JL___ The course description on the UCC form and in the syllabus must match and should be no longer than 500 characters. FOR AN EXITING COURSE, THE DESCRIPTION **MUST MATCH THE CATALOG DESCRIPTION**. Follow the **COURSE DESCRIPTION GUIDELINES** for new courses if not contraindicated by outside certification requirements. Any other information you wish to include needs to be under a different heading such as background or additional course information.

Original file: CALS CC Checklist_jloizzo_5541.pdf

_**JL**___ The course learning objectives must be consistent with Bloom's taxonomy. Please see the following link at the CALS Curriculum site. (https://cals.ufl.edu/content/PDF/Faculty_Staff/cals-courseobjectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

__**JL**__ The course schedule should be concise and include the appropriate number of weeks in the semester.

__**JL**__ All graduate course submissions must include a reading list if a textbook is not required. The reading list should include at least some current readings (within the last 5 years). All readings do not need to be current.

__**N/A**__ Outside consultations are required if there is a possibility of the proposed course covering a significant amount of material taught in another department or college on campus. There must be a consult form completed by the chair of the department from who you are seeking the consult. Instructors may provide additional consults. The form can be found at: https://approval.ufl.edu/policies/external-consultations/.

_**JL**___ Prerequisite courses are required for 3000 and 4000 level courses. This line of the approval form cannot be "none" or left blank. Junior or senior standing is an acceptable option. A phrase such as "a course in basic biology" is not acceptable. (Graduate courses should not have specific courses listed as prerequisites. If needed a statement of skills required prior to taking the course can be provided under other course information.)

__**JL**__ Decimal points must be included in the grading scale if grade cut-offs are based on percentages. While this is not a university policy it is a CALS standard practice to avoid any confusion when final grades for the course are determined.

__**JL**__ The attendance and make-up policy in a syllabus cannot contradict the university's policy. Do not include any additional wording to this policy. A statement and link regarding this are included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

___**JL**_ The most recent version of the UF Syllabus Statements. Using the accessible syllabus template will ensure you have the most up to date statements. Do not use boilerplate statements from an old syllabus as they are likely to be out of date.

Certificates

If proposing a new undergraduate or graduate level certificate that includes any courses outside of the submitters department a statement regarding any possible impact on those courses needs to be included. An email from the instructor is acceptable. Also, any courses required for the certificate must have permanent prefixes and course numbers. The submission must include intended catalog copy. (Contact Dr. Anne Mathews (anne.mathews@ufl.edu) for further instruction)

Original file: CALS CC Checklist_jloizzo_5541.pdf

Cover Sheet: Request 21883

ENY6166_Insect_Classification_credit_change

Info

Process	Course|Modify|Grad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Andrea Lucky alucky@ufl.edu
Created	9/5/2025 5:14:15 PM
Updated	2/18/2026 2:12:35 PM
Description of request	Change requested in number of credit hours from 3 credits to 4 credits and add C designation.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Entomology and Nematology 60140000	Jennifer Weeks		2/3/2026
Differences between Grad and UG Insect Classification.docx OLD_Insect Classification_Syllabus_2025.docx NEW_Insect Classification_ENY4161_6166_Syllabus.docx CALS CC Checklist_ENY4161_ENY6166.pdf					2/3/2026 2/3/2026 2/3/2026 2/3/2026
College	Pending	CALS - College of Agricultural and Life Sciences			2/3/2026
No document changes					
Graduate Curriculum Committee					
No document changes					
University Curriculum Committee Notified					
No document changes					
Statewide Course Numbering System					
No document changes					
Graduate School Notified					
No document changes					
Office of the Registrar					
No document changes					
College Notified					
No document changes					

Original file: Cover sheet.pdf

Course|Modify for request 21883

Info

Request: ENY6166_Insect_Classification_credit_change
Description of request: Change requested in number of credit hours from 3 credits to 4 credits and add C designation.
Submitter: Andrea Lucky alucky@ufl.edu
Created: 2/3/2026 10:01:17 AM
Form version: 2

Responses

Current Prefix ENY
Course Level 6
Number 166
Lab Code None
Course Title Insect Classification
Effective Term Earliest Available
Effective Year Earliest Available
Requested Action Other (selecting this option opens additional form fields below)
Change Course Prefix? No

Change Course Level? No

Change Course Number? No

Change Lab Code? Yes
Current Lab Code None
Proposed Lab Code C
Change Course Title? No

Change Transcript Title? No

Change Credit Hours? Yes
Current Credit Hours 3
Proposed Credit Hours 4
Change Variable Credit? No

Change S/U Only? No

Change Contact Type? No

Course Type Lecture

Change Rotating Topic Designation? No

Change Repeatable Credit? No

Multiple Offerings in a Single Semester No
Change Course Description? No

Original file: Submitted form version 2.pdf

Change Course Objectives No

Change Prerequisites? No

Change Co-requisites? No

Rationale This proposal is to change the number of credits from 3 to 4 credits and add the "C" lab designation. This course has content and work requirements equivalent to a 4 credit course. Insect Classification is a core requirement of the of the ENY graduate degree program (MS and PhD) and is an advanced course that meets for 5 contact hours of lecture and lab per week. Students have consistently provided feedback that the course credits are misaligned with the time required to successfully complete the course. As a lab-based course, it should have the C designation. The course content is not in question; students regularly describe this course as a welcome challenge. No course content changes are planned in association with the change in number of credits and "C" designation.

Original file: Submitted form version 2.pdf

CALS Curriculum Committee
Submission Checklist

Updated January 2026

NOTE: This checklist must be included with all course and certificate submissions.

The checklist below is intended to facilitate course and certificate submissions to the University of Florida Academic Approval Tracking System (https://approval.ufl.edu/). The checklist consists of the most common items that can cause a submission to require changes or be recycled. Contrary to information provided on the UF approval site, the CALS Curriculum Committee requires a syllabus be submitted with each new course or course modification request. Please note that submitters are encouraged to attend the CALS CC meeting at which their item is being reviewed. This allows the submitter to answer any potential questions that may arise that could cause the item to not be approved. Also, be aware that when completing the UCC form the section Description of Request is asking for a brief statement about what you are doing. This is **not** the place for a course description. A statement such as "Proposal of a new undergraduate course" is all that is needed. Please do not submit documents in pdf format. All documents should be submitted in Word to facilitate editing on our end if necessary.

CHECKLIST: PLEASE INITIAL OR MARK N/A FOR EACH STATEMENT TO INDICATE YOUR COMPLIANCE.

SYLLABUS: You are encouraged to use the CALS ACCESSIBLE SYLLABUS TEMPLATE. Accessibility will be required by APRIL 2026.
****Use of Simple Syllabus will be required for Summer 2026 forward. It is slated to be released to faculty in late February 2026.****

X It is required when making a submission that you consult your department's representative to the CALS CC. A list of current members can be found on the committee site located at: https://cals.ufl.edu/faculty-staff/committees/.

X Submission of a course modification requires both the current version of the course syllabus and the proposed version.

X Joint course submissions must include 1) both graduate and undergraduate syllabuses and 2) a separate document outlining the substantial (more than one) differences in assignments between the two courses. These assignments must account for at least a 15% difference in graded material between the two levels. If this is a new course submission both courses must be submitted for approval simultaneously.

X The course description on the UCC form and in the syllabus must match and should be no longer than 500 characters. FOR AN EXITING COURSE, THE DESCRIPTION **MUST MATCH THE CATALOG DESCRIPTION**. Follow the **COURSE DESCRIPTION GUIDELINES** for new courses if not contraindicated by outside certification requirements. Any other information you wish to include needs to be under a different heading such as background or additional course information.

Original file: CALS CC Checklist_ENY4161_ENY6166.pdf

X The course learning objectives must be consistent with Bloom's taxonomy. Please see the following link at the CALS Curriculum site. (https://cals.ufl.edu/content/PDF/Faculty_Staff/cals-courseobjectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

X The course schedule should be concise and include the appropriate number of weeks in the semester.

X All graduate course submissions must include a reading list if a textbook is not required. The reading list should include at least some current readings (within the last 5 years). All readings do not need to be current.

X Outside consultations are required if there is a possibility of the proposed course covering a significant amount of material taught in another department or college on campus. There must be a consult form completed by the chair of the department from who you are seeking the consult. Instructors may provide additional consults. The form can be found at: https://approval.ufl.edu/policies/external-consultations/.

X Prerequisite courses are required for 3000 and 4000 level courses. This line of the approval form cannot be "none" or left blank. Junior or senior standing is an acceptable option. A phrase such as "a course in basic biology" is not acceptable. (Graduate courses should not have specific courses listed as prerequisites. If needed a statement of skills required prior to taking the course can be provided under other course information.)

X Decimal points must be included in the grading scale if grade cut-offs are based on percentages. While this is not a university policy it is a CALS standard practice to avoid any confusion when final grades for the course are determined.

X The attendance and make-up policy in a syllabus cannot contradict the university's policy. Do not include any additional wording to this policy. A statement and link regarding this are included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

X The most recent version of the UF Syllabus Statements. Using the accessible syllabus template will ensure you have the most up to date statements. Do not use boilerplate statements from an old syllabus as they are likely to be out of date.

Certificates

If proposing a new undergraduate or graduate level certificate that includes any courses outside of the submitters department a statement regarding any possible impact on those courses needs to be included. An email from the instructor is acceptable. Also, any courses required for the certificate must have permanent prefixes and course numbers. The submission must include intended catalog copy. (Contact Dr. Anne Mathews (anne.mathews@ufl.edu) for further instruction)

Original file: CALS CC Checklist_ENY4161_ENY6166.pdf

Graduate and undergraduate differences:
Insect Classification, ENY 4161/ENY 6166

GRADING

The grading structure for this course differs for **Undergraduate** and **Graduate** students; assignment categories are weighed differently.

COURSE GRADING STRUCTURE

	Undergraduate	Undergraduate
Homework & Class Activities	15%	10%
Quizzes	20%	17%
Exam 1	18%	15%
Exam 2	18%	15%
Collection (+ associated documents)	29%	26%
Graduate Paper	N / A	17%
TOTAL	**100%**	**100%**

ASSIGNMENTS

GRADUATE PAPER (for graduate students only): Each graduate student will write a research paper in one of the following formats:

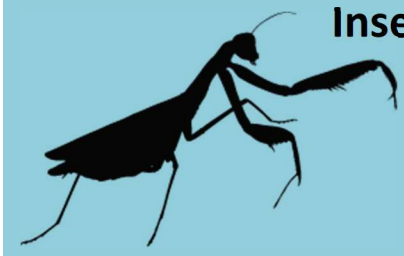
1) a Taxonomic Review of published literature covering a large insect taxon of your choice—a small order or a major subgroup within a large order, or

2) an Insect Common Name Proposal for a species lacking an official common name, following guidelines of the Entomological Society of America's Common Names of Insects Committee: https://www.entsoc.org/pubs/use-and-submission-common-names.

This assignment involves a required peer-review component for each student to give and receive feedback on an initial draft. Details about these assignments can be found on Canvas.

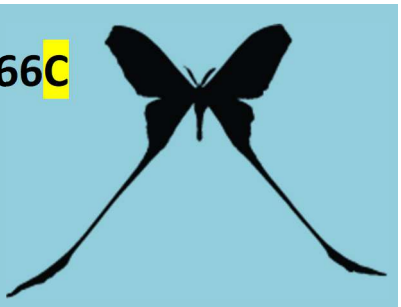
INSECT COLLECTION: The Collection requirements differ for undergraduates and graduate students. Details about each component of the collection are provided in the syllabus.

	Undergraduates:	**Graduates:**
Orders (2 pts. each)	18	22
Families (1 pt. each)	100	120
Species identifications (1 pt. each)	14	21
Total	**150**	**185**



Insect Classification, ENY 4161C/ 6166C
Fall 2025 (4 cr)

Tues 8:30-11:30am, Thurs 9:35-11:30am,
Steinmetz Hall, Rm 3118



Instructor: **Dr. Andrea Lucky** (alucky@ufl.edu)
Steinmetz 2107
Office hours: Monday 2-4pm

TA: **TBD**
Steinmetz 2125
Office hours: Thursday 2-4pm

Course Goals

The goal of this course is to provide you with a sound theoretical and practical understanding of insect diversity and the practice of classifying organisms. Lectures discuss the general principles of systematics, history of insect classification, construction and use of identification tools, nomenclature, and biology and evolutionary history of the hexapod orders. We also explore why competing classifications exist in taxonomy, and what existing classifications imply about broad patterns of evolutionary change and diversification within insects. Laboratory work focuses on recognition of the major groups of insects (order and family); in-class exercises illustrate concepts discussed in lecture. A required collection refines your ability to collect and identify insects to order, family, and species. Building an insect collection with correctly identified and curated specimens, using a variety of collecting techniques, is the best way to learn, understand, and employ the methods used by professionals to classify insects, and living organisms in general.

Student Learning Objectives

After completing this course you should be able to:

- **Identify** hexapods by sight to order and to family, for the majority of common insects
- **Navigate** dichotomous keys to accurately identify adult insects to order and family
- **Assess** the quality of reference material for insect identification
- **Collect** insects with their associated field data in different habitats using a variety of techniques
- **Curate** insect specimens properly, including labeling, pinning, point mounting, and preserving in ethanol
- **Summarize** the key steps of the taxonomic process: how species are described, named, and classified
- **Explain** how key innovations in the life history of insects led to their incredible diversity
- **Interpret** evolutionary relationships from phylogenetic trees

Course Prerequisites

Course Prerequisite: ENY 3005+3005L, Principles of Entomology, or a similar course dealing with the classification of insects. **Students are expected to be familiar with all insect orders and some families before taking this class.**

Required Textbook

Textbook: C.A. Triplehorn and N.F. Johnson. 2005. Borror and DeLong's Introduction to the Study of Insects, 7th edition. Thomson Brooks/Cole, Belmont, CA (~$150). This text is required; make sure to purchase your copy early!

Course Equipment

Equipment: This course includes an equipment loan from the Entomology and Nematology Department. Take good care of these items—the net, kill jar, spreading board, pinning block, forceps, and boxes must be returned at the end of the semester. You may keep the vials and pins. Other equipment will be available to borrow as short-term loans (1 week); just ask your instructor! Failure to return equipment can result in a hold on your record.

Course Schedule

This is a tentative schedule of topics and assignments for the semester. This semester's specific assignments and deadlines will be posted on Canvas. Note that we will do our best to adhere to this schedule, but adjustments may be necessary to accommodate opportunities or disruptions (this is hurricane season!). Any changes to our schedule, including deadlines, will be announced in class and on Canvas.

TENTATIVE COURSE SCHEDULE		
Week	**Session**	**Topic**
1	TH	Course Introduction & Identifying Insects
2	T	Reading Phylogenetic Trees & Collecting Data
	TH	Entognathous Hexapods, Early Insect Orders, & Palaeoptera
3	T	Polyneoptera
	TH	Insect Morphology: Pinning and Curation
4	T	FIELD TRIP – Austin Cary Forest
	TH	Hemipteroids + Open Lab
5	T	Hemiptera; **MINI COLLECTION DUE**
	TH	Exam review
6	T	**EXAM I**
	TH	Insect Evolution
7	T	Hymenoptera
	TH	Coleoptera, Neuroptera, & Strepsiptera
8	T	Coleoptera, cont'd
	TH	Open Lab
9	T	Diptera, Mecoptera, & Siphonaptera
	TH	Zoological Nomenclature
10	T	Lepidoptera & Trichoptera; **GRADUATE PAPER DUE**
	TH	Open lab
11	T	Speciation and Species Concepts
	TH	Classification, Taxonomy, Systematics, Phylogenetics
12	T	Homology & Homoplasy
	TH	FIELD TRIP - FL State Collection of Arthropods
13	T	NO CLASS - HOLIDAY
	TH	History of Insect Classification
14	T	Insect Declines – **COLLECTION DUE**
	TH	Equipment Return and Exam Review
15	T	NO CLASS – THANKSGIVING HOLIDAY
	TH	NO CLASS – THANKSGIVING HOLIDAY
16	T	**EXAM II**

Grading

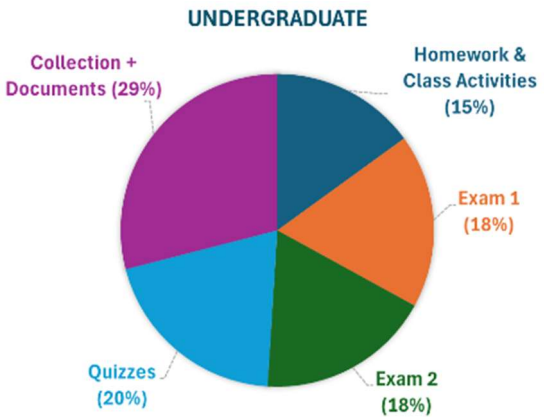
The grading structure for this course differs for **Undergraduate** and **Graduate** students; assignment categories are weighed differently. The final letter grade for all students will be determined using the scale below. There is no rounding or "bumping up" grades; requests to do so will not be considered. Current UF policies on assigning grade points can be found at the following website: https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx.

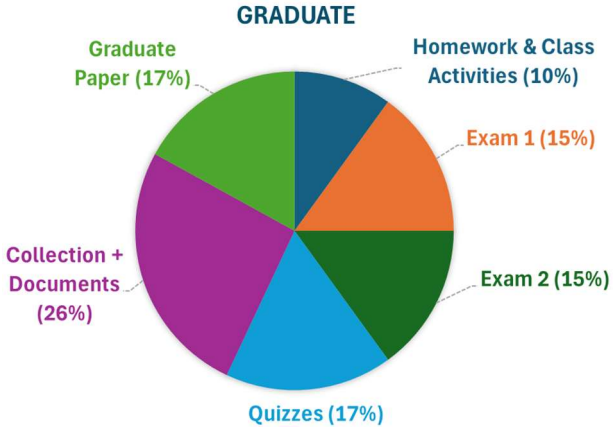
Course Grading Scale (%)

93-100	A
90-92.99	A-
87-89.99	B+
83-86.99	B
80-82.99	B-
77-79.99	C+
73-76.99	C
70-72.99	C-
67-69.99	D+
63-66.99	D
60-62.99	D-
<60	E

Course Grading Structure

	Undergraduate	Graduate
Homework & Class Activities	15%	10%
Quizzes	20%	17%
Exam 1	18%	15%
Exam 2	18%	15%
Collection (+ associated documents)	29%	26%
Graduate Paper	--	17%
TOTAL	**100%**	**100%**





Assignments

Readings: Required readings include textbook chapters and assigned articles (see references below). Students are expected to complete reading assignments before the corresponding class session and come to class prepared to engage in activities and discussions. This textbook is **required**; it is available online BUT you will need a hard copy for exams.

Activities and Homework: Several **assignments** take the form of in-class activities and/or homework, and may include lab exercises, discussions, and short-answer worksheets. These reinforce lecture and lab material and offer an opportunity to put concepts into action. Due dates will be posted on Canvas and announced in class.

Quizzes: Quizzes test your mastery of sight IDs; they will cover the taxa on the Sight-ID list. These are unannounced pop-quizzes, but you can expect them first thing in the morning in the 1-2 class periods after an order has been presented. Students arriving late to class may miss the opportunity to take a quiz. *Without a valid excuse, a missed quiz receives a grade of zero and cannot be retaken for credit.* Stuff happens, so two lowest quiz scores will be dropped for each student during the semester. Use these freebies wisely! Students may grumble about quizzes, but at the end of the semester they are universally voted "most helpful to learning the material."

Exams: There are two in-class, on-paper exams in this course, each designed to assess your mastery of the course content as well as your ability to synthesize and apply important concepts. Exams 1 and 2 focus primarily on material from the first and second half of the semester, respectively. Each exam will have three components: 1) Sight ID, 2) Key Out, and 3) Written (bring a pencil/pen!). Exams are closed-note EXCEPT for the Key out section, for which you will need

your textbook. Exams take approximately 1.5 hours to complete; up to 3 hours will be made available for exam completion (i.e. additional time is provided). Students are expected to arrive on time to exams; arriving late to an exam or missing an exam *without a valid excuse* means forfeiting the opportunity to take the exam and receiving a grade of zero. Students *with approval to miss an exam* should make alternative exam arrangements as early as possible. Note that electronic devices are not permitted in the room during exams; they must be muted and out of sight for the duration of the exam. Leave them with the instructor if you need to leave the room during the exam.

Mini- and Final Collection: The insect collection is a core element of this course. By assembling a collection, you are gaining experience in the full spectrum of understanding how valuable data associated with insect specimens are collected, preserved, and shared. The overall collection grade has several components: **the Mini Collection** is just that—a miniature version of your final collection. It is worth approximately 5% of your final collection grade. This assignment offers a low-stakes benchmark to ensure you don't leave all your collecting and curation until the end of the course and provides you with feedback early in the course. Guidelines for each component of the collection assignment are provided in detail below (see Collection Guidelines).

Graduate Paper: Each graduate student will write a research paper in one of the following formats: 1) a Taxonomic Review of published literature covering a large insect taxon of your choice—a small order or a major subgroup within a large order, or 2) an Insect Common Name Proposal for a species lacking an official common name, following guidelines of the Entomological Society of America's Common Names of Insects Committee: https://www.entsoc.org/pubs/use-and-submission-common-names. This assignment involves a required peer-review component for each student to give and receive feedback on an initial draft. Details about these assignments can be found on Canvas.

Extra Credit: Extra credit opportunities may be made available at the instructors' discretion. They will be announced in class and on Canvas. Requests for additional extra credit will not be considered.

Submitting Assignments: *All assignments must be submitted in the format noted; most will be electronic submissions on Canvas, with some paper submissions to be turned in during class. Submissions in the wrong format (i.e. emailed to instructors) will not be accepted. Some assignments will allow for multiple submissions (see Canvas for details); in this case, the instructors will only grade the latest submission that you make before the assignment's closing date. Note that you are responsible for what you turn in– that includes ensuring that all your work is uploaded correctly and completely by the closing date. Blank, corrupted, or otherwise inaccessible files will be treated as missing work (= 0 grade). If you experience technical problems when submitting your work in Canvas, contact the UF Computing Help Desk for assistance: https://helpdesk.ufl.edu. The instructors cannot provide IT support.*

Re-grade Requests

Re-Grade Requests: Instructors sometimes make mistakes! If you believe a grading error has been made, you must contact the instructors in writing within one week after the assignment is returned. Explain specifically what you think is incorrect and how you think it should be corrected. Please wait at least 24 hours before requesting a regrade; this is to give you time to review the instructors' written feedback and carefully check your work. If a regrade is warranted, the entire assignment will be reviewed and the new grade assigned shall be final. Note that this process can result in a new grade that is higher, lower, or the same as before.

Field Trips

Field Trips: During the semester, we may go to a variety of habitats to enhance your exposure to insect diversity and collecting techniques. Come prepared to collect, with your net, jars/bags/boxes, field notebook, etc. Make sure to dress for the field, with closed-toe shoes/boots, long pants, long sleeves, and a hat. Remember to bring water! There are always risks associated with outdoor activity, but being prepared will reduce them considerably. We are likely to encounter biting and stinging insects, including mosquitoes and wasps, as well as ticks, chiggers, spiders, venomous reptiles, irritating plants, and other environmental hazards. If you are allergic to any insects or other organisms that we may encounter, let the instructors know ahead of time and bring an allergy pen if needed.

Laboratory Time

Take advantage of lab time! Most class periods include time for you to work on assembling your collection; some class periods will be made available entirely for you to use at your discretion. The resources available during lab time include access to high quality stereomicroscopes, an extensive teaching collection of insect specimens, a rich library of insect identification resources, and the presence of your instructor and TA. You are encouraged to bring material to the lab to curate, as a major benefit of lab time is instructor and peer feedback on your specimens. This is a great time to request guidance as you curate and label specimens, and as you work your way through dichotomous keys. Students who regularly take advantage of lab time are more likely to complete their collections on time without a final, hectic scramble at the 11th hour. There is no guarantee of additional scope availability outside of scheduled class times.

Planning Your Time

Work Outside of Class: In addition to attending and participating in our class sessions, you will be expected to devote adequate time outside of regularly scheduled class periods to complete assignments, prepare your collection, and study the material. UF recommends devoting 2 hours out-of-class for every scheduled in-class hour. For this class, that means planning for approximately 150 hours *in addition to* class time, so plan accordingly!

In-Class Participation: You are expected to come to class **fully prepared to engage** in each session. Interactive activities with your classmates and instructors will enhance your understanding of course materials and concepts. You may be required to partner with other students for some of our in-class discussions and activities. When working with your classmates, you are expected to treat everyone with respect and professionalism.

Professionalism & Etiquette

Students are expected to behave **courteously and professionally** toward others. This includes being polite and respectful, making an honest effort to engage in all aspects of the course (including doing the required preparatory work), being on time for our class and minimizing disruptions if you arrive late or must leave early, allowing others to share perspectives even if you disagree with them, actively listening to others and showing attention as an expression of respect, being open to constructive feedback, abiding by all course and university policies, and being proactive about issues that arise during the semester. This also means avoiding talking over others, interrupting, monopolizing shared classroom resources, repeatedly distracting others, and interfering with others' learning experience (including inappropriate use of electronic devices, eating in class, packing up belongings before class is over, etc.). Disrespectful or disruptive behavior may result in **dismissal from the class session** and will be reported to the **Dean of Students Office**.

Communication

Communication: Outside of class and office hours, you can connect with us by using electronic messages in **Canvas, with messages addressed to TEACHERS** (the instructor and TA). Messages in Canvas are secure and will be prioritized; we do our best to respond within 2 days, excluding weekends and holidays. If you send a message outside of regular working hours (9:00am–5:00pm, Monday-Friday), we are unlikely to see the message until the following day. If you have not received a response after 48 hours, please send a polite reminder. Contact by other methods (i.e., direct emails, phone calls, texts) is discouraged as we may be unable to respond in a timely manner.

Canvas Announcements: Important updates will be regularly posted to the Canvas website as **Announcements**. To ensure that you do not miss anything, make sure that your Canvas profile is set to send notifications to an email inbox that you check. You are responsible for all of the information and assignments posted to our Canvas website; it is your responsibility to ensure that you are able to navigate the Canvas website and know where to find these items. If you have any questions about Canvas, please ask the instructors at the beginning of the semester. Also note that our Canvas website will be updated as the semester goes on, so be sure to check Canvas frequently!

Meetings: For quick questions, you are welcome chat with the instructor / TA after class if they are available. For more extended discussion, come to **office hours**. Office hours will be held starting on the first through the last week of class, excluding university holidays and breaks. If these times don't work for you, we can **schedule a 1-on-1 meeting**. If you schedule a meeting, you are expected to arrive on time and come prepared with specific questions. If you must cancel this meeting, please give notification as far in advance as possible.

> ***Privacy & Accountability:*** *The instructors will only discuss matters relating to your work in the course with you or with other UF faculty or staff with legitimate educational interest in your performance (e.g., your academic advisor). We will not communicate with parents or others about these matters under any circumstances, even with your permission. For this reason, it is UF policy that you use* ***Canvas*** *(or if by email, your UF email address) to contact your instructors. Emails sent from other accounts (e.g., personal Gmail, Hotmail, etc.) will not be answered as we cannot verify that those messages were sent by you.*

If you have questions or concerns, or if you're struggling to succeed in the course, please reach out to your instructor and TA. We are here to help! If an issue arises, we encourage you to contact us as early as possible. The sooner we know, the sooner we can discuss options to find a solution. Our ability to assist is limited at the end of the semester.

Accommodations for Students with Disabilities

The **Disability Resource Center (DRC)** coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations, accessing special adaptive computer equipment, providing interpretation services, and mediating faculty-student disability related issues. Students who would like to request academic accommodations must first make an appointment with an accessibility specialist at the DRC; for more information, see the *Getting Started Guide* on the DRC website: https://disability.ufl.edu/get-started. If accommodations are approved, the DRC will provide documentation (= an accommodations letter) to the student; it is the student's responsibility to then share this documentation with the instructors and discuss their access needs.

> ***Instructors' Note:*** *We want you to succeed in this course! To ensure your accommodations are in place when you need them, please have your DRC accommodation letter sent to us as early as possible–ideally at the very beginning of the semester. Please note that accommodations cannot be applied retroactively, and that accommodations will only be provided to students who have official documentation from the DRC.*

Course Feedback and Evaluations

Student assessment of instruction is an important part of efforts to improve teaching and learning. Throughout the semester you will be asked for feedback on the course. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. Please provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via **GatorEvals**. Guidance on how to give feedback in a professional and respectful manner is available at https://gatorevals.aa.ufl.edu/students. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl. Summaries of course evaluation results are available to students at: https://gatorevals.aa.ufl.edu/public-results.

Tips for Success

Success in this course is largely linked to the effort you make, and the time you spend, *early* in the semester getting outside and collecting insects in diverse environments. Keep in mind that the more orders and families you collect, the

more specimens you have at your fingertips for studying key morphological characters and practicing Sight IDs and Key-Outs. Stay on top of the course material and prepare for Sight ID quizzes.

Get outside every day. Even if the weather is not perfect, you will find a lot of diversity once you start looking, and the more you look–the more you'll see. Use diverse collecting techniques and plan to collect many more insects than the minimum number of Orders, Families, and Species required. Many of your insects will belong to the same families, but you won't know this until you have curated and identified them.

Plan ahead. Collect intensively using a variety of methods for the first third of the course, curating specimens as you go and identifying insects in the groups that you are learning about in lecture. After about one month, switch to focus on identification of specimens that you have already collected and curated. This will allow you to become familiar with the identification keys in the textbook using your own specimens. As you learn to recognize common families, your collecting can become more targeted as you search for groups not yet included in your collection. By the last third of the course, you should be finalizing your IDs and the assembly of your collection, including all the associated documents

Computing Requirement: All students must have reliable access to a **computer with a high-speed internet connection** to access assignments and other course materials on Canvas. A laptop or desktop computer running the current version of Windows or MacOS is strongly recommended. Although many aspects of the course can be completed using a smartphone or tablet, our Canvas website is not optimized for these devices. If your internet service is disrupted, or if your computer breaks / becomes unavailable during the semester, you will be responsible for finding an alternative device so that you can continue accessing course content and complete your assignments by their deadlines.

Attendance Policy

Attendance: Class attendance is required and you are expected to **stay for the entire session** unless you have a University-approved reason for not attending**.** Class sessions integrate lecture, specimen observation, peer-to-peer learning activities, and fieldwork. If you are absent, you will likely miss in-class opportunities designed to help you learn, including explanation of materials, graded activities, and quizzes. Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies.

Excused absences: If a conflict prevents you from attending class, please reach out in advance or, in case of an expected emergency, notify your instructor as soon as possible. In these cases, you must also submit **appropriate documentation** of your absence via the Dean of Students' **Instructor Notification Portal** (https://care.dso.ufl.edu/instructor-notifications). The Dean of Students Office will evaluate your documentation and then make a recommendation to the instructors; the instructors will make the final determination as to whether or not the absence is excused. Note that some types of absences (such as religious holidays) do not require documentation but you must inform the instructors in advance of your planned absence from class.

> ***Documentation:*** *In the interest of fairness to all students in the class, all documentation must be verified by the Dean of Students Office (DSO) – please do not send your documentation directly to the instructors! DSO will not share personal details of your situation when they send instructors their recommendation. See the guidelines on the* ***Instructor Notification Portal*** *for more information: https://care.dso.ufl.edu/instructor-notifications!*

Make-Up Policy

If your absence is excused, you will need to make arrangements with the instructors to make up missed work, if applicable (see below on MAKE UP ASSIGNMENTS). If you miss class for an unexcused reason, if you do not submit the required documentation through the Dean of Students portal, or if you fail to notify the instructors of your absence in a timely manner, then you will earn a 0 for any work missed that day; make-up work will not be arranged in this case. Please note that personal travel (e.g., vacations or leaving early for / returning late from university breaks) is *not* considered an excusable absence. Likewise, conflicts with other courses, employment, or extracurriculars (other than university-sponsored athletics or scholarly activities) are *not* excused absences. If an assignment is due on the day of

your absence, you must still submit that assignment on time unless you have received a due-date **extension**, in writing, from the instructors. You will also be responsible for all of the content associated with the class sessions that you missed. If you do miss a class meeting, you are encouraged to reach out to a classmate for notes from that session; the instructors and TAs will not provide notes.

Make-Up Exams: All exams must be taken at their **scheduled dates and times** (as indicated in the Course Schedule above and on Canvas) unless you have an excused absence on an exam day. In that case, the instructors will choose the date, time, and location of the make-up exam after your absence documentation is verified by the DSO. All make-up exams, like the original exams, must be completed in person under the supervision of a proctor. It will be your responsibility to attend the make-up exam at the designated time and place; if you miss your make-up exam, you will be assigned a grade of 0 for it and will not have the option to reschedule it again. Note that time may not permit a make-up of EXAM II to be scheduled before the semester ends. If necessary, you will be assigned an incomplete grade (I) and the make-up exam will be scheduled during the post-semester break or at the start of the following semester. Upon completion and grading of the make-up exam, your incomplete grade will be changed to the final grade.

Late Work & Extension Policy

Policy on Late Work: The **due dates and times** for all assignments can be found on the corresponding assignment pages in **Canvas**. The only exception to this policy is if you have received an extension in writing from your instructor. In general, late submissions after the extended deadline will not be accepted and a grade of 0 will be received for the assignment. Final Collections, if submitted late will incur a grade penalty of one letter grade per day (24 hrs).

Extensions: Extensions on assignments are reserved for students who are dealing with unforeseen emergencies or other situations beyond their control. Requests for extensions will be considered at the instructors' discretion on a case-by-case basis, and only with documentation submitted to the DSO. Note that asking for an extension does not guarantee that you will be granted one.

Academic Integrity

As a student at the University of Florida, you have committed yourself to uphold the **Honor Code**, which includes the following pledge: *"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."* You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: *"On my honor, I have neither given nor received unauthorized aid in doing this assignment."* All work must be completed independently unless the instructor provides explicit permission for you to collaborate on course tasks (e.g., assignments, papers, quizzes, exams). It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: https://sccr.dso.ufl.edu/process/student-conduct-code/.

Instructors' Note: *We take academic integrity very seriously! Any action that* ***subverts the learning goals*** *of the course (or a particular course activity) will be treated as academic misconduct, as misconduct affects all students in the class. This includes–but is not limited to–cheating or assisting others in cheating, plagiarism (i.e., misrepresenting someone else's work as your own, whether it is copied directly or paraphrased), self-plagiarism (i.e., copying/reusing work that you have submitted previously), using AI tools in a way that is inconsistent with the policies for this class, collaborating with others when it is not permitted, falsifying or fabricating data, lying to or attempting to manipulate an instructor, and bad faith attempts to undermine the intent of a learning activity. It is your responsibility to know what does and does not constitute academic misconduct.*

If the instructors find that you have engaged in academic misconduct, you will be ***reported to the Dean of***

Students Office (DSO) *immediately. The instructors will assign a grade of 0 on the assignment in question while the DSO investigates the matter. If the DSO concludes that you did engage in misconduct, you will be assigned a failing grade (E) for the entire course. If the DSO rules that you did not engage in misconduct, the instructor will regrade your assignment and replace the 0 with the grade that you have earned on it. If the investigation is ongoing by the end of semester, you will receive an incomplete (I) grade in the course, to be resolved when the investigation is concluded.*

Use of Artificial Intelligence (AI)

When used properly, **artificial intelligence (AI)** can be a helpful tool to enhance your learning. However, *improper* use of AI can impede your learning and may be considered academic dishonesty. At UF, but as at all scientific journals, funding agencies, and professional societies, there are strict rules about AI use which require authors to disclose if/how they use AI. For these reasons, it is important for students to learn how to use AI tools responsibly and ethically!

You are not permitted to use content generated by ChatGPT, Grammarly, or any other AI tool in *any assignment* in this course, unless the instructors provide written permission stating otherwise. This includes– but is not limited to– submitting AI-generated content as your own work, submitting content that was paraphrased or modified from an AI output, quoting text generated by an AI (even if it is properly cited), and using AI to generate false sources. All of your assignments should consist entirely of your own original work, created by you for this class. We are interested in assessing *your* understanding of the material and *your* ability to think critically / synthesize information– not that of an algorithm or machine! Unauthorized use of AI in an assignment will be treated as **academic misconduct** and be subject to the same disciplinary actions described above.

You are allowed to use AI tools in two ways: 1) Outside of graded assignments, e.g., to help you study or review class material. 2) To proofread or provide feedback on your original work before submitting it. Note that you aren't permitted to include the AI's output in your assignment, even if you edit it first… but you can use the AI's suggestions to refine your work yourself. If you do so, you must include an appendix with your assignment submission, in which you name the specific AI tools that you used and provide the exact prompts that you entered as well as verbatim copies of all of the AI's outputs. You must also confirm, in writing, that your assignment is written entirely in your own words, i.e., without any AI-generated content (including paraphrased content). Failure to provide all of this information when you use AI will result in a report to the Dean of Students Office. These are the *only* acceptable uses of AI in this course.

As a general rule, AI should never be your starting point– you should always start with your own original ideas and work! You should not use AI for anything that a human proofreader or study buddy could not ethically do for you. All students should also be aware of the **limitations** of AI. The material generated by these tools is often inaccurate, incomplete, misleading, or biased. It is also often overly generalized and formulaic, lacking both the depth of analysis and quality of writing that is expected in this course (and in our discipline more broadly). AI-generated content may also not align with the specific content that we cover in class. Remember, these AI tools are neither students in this course nor experts in our field– all they can do is generate statements that *sound* plausible, regardless of their accuracy. Thus, if you use AI as a study tool, you should always fact-check the outputs using your notes from class, other course materials, or credible external sources. Also note that relying too heavily on these tools may erase the individuality of your work and stifle the development of your own critical thinking skills and creativity. Outsourcing your learning to AI can thus make it difficult for you to succeed in other aspects of this course (and in your future career).
Be aware that every course at the university has its own individual policy about AI, which the instructors have implemented to maximize learning in their courses. The policy described here is for this course only and may not be the same as the policies for your other courses!

General Information

The policies in this course align with policies of the University of Florida. For more information on UF Policies, generally, as well as links to helping resources, please the following website:

https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

Student Responsibility: It is each student's responsibility to ensure that you fully understand all policies outlined in this syllabus as well as the policies of the university as they relate to this course. In the interest of fairness, all students in the class will be held accountable to these policies without exception; these policies are not negotiable. This syllabus cannot predict every possibility that could happen during the semester. At their discretion, the instructor may add, remove, or otherwise change aspects of the course during the semester to accommodate new opportunities, unforeseen disruptions, or other circumstances. By remaining enrolled in this course, you agree that you have read and understood all parts of this syllabus and that you will be held accountable to the policies within. If you have any questions, please contact your instructor as soon as possible!

Selected References

Readings will change from semester to semester. The papers listed below are foundational to insect classification and will likely be referenced during the course.

- McNeely, JA (2002). The role of taxonomy in conserving biodiversity. Journal for Nature Conservation, 10(3), 145-153.
- Harvey, J.A., Heinen, R., Armbrecht, I. et al. (2020). International scientists formulate a roadmap for insect conservation and recovery. Nat Ecol Evol 4, 174–176
- Yeates, D. K., Cameron, S. L., & Trautwein, M. (2012). A view from the edge of the forest: recent progress in understanding the relationships of the insect orders. Australian Journal of Entomology, 51(2), 79-87.
- Tihelka, E., Cai, C., Giacomelli, M., Lozano-Fernandez, J., Rota-Stabelli, O., Huang, D., ... & Pisani, D. (2021). The evolution of insect biodiversity. Current Biology, 31(19), R1299-R1311.
- Misof, B., Liu, S., Meusemann, K., Peters, R. S., Donath, A., Mayer, C., ... & Zhou, X. (2014). Phylogenomics resolves the timing and pattern of insect evolution. Science, 346(6210), 763-767.
- Peters, R. S., Krogmann, L., Mayer, C., Donath, A., Gunkel, S., Meusemann, K., ... & Niehuis, O. (2017). Evolutionary history of the Hymenoptera. Current Biology, 27(7), 1013-1018.
- Cryan, J. R., & Urban, J. M. (2012). Higher-level phylogeny of the insect order Hemiptera: is Auchenorrhyncha really paraphyletic?. Systematic entomology, 37(1), 7-21.
- Kawahara, A. Y., Storer, C., Carvalho, A. P. S., et al. (2023). A global phylogeny of butterflies reveals their evolutionary history, ancestral hosts and biogeographic origins. Nature ecology & evolution, 7(6), 903-913.
- Kawahara, A. Y., Plotkin, D., Espeland, M., Meusemann, K., Toussaint, E. F., Donath, A., ... & Breinholt, J. W. (2019). Phylogenomics reveals the evolutionary timing and pattern of butterflies and moths. *Proceedings of the National Academy of Sciences*, *116*(45), 22657-22663.
- Ribeiro, T. M., & Espíndola, A. (2024). Integrated phylogenomic approaches in insect systematics. *Current Opinion in Insect Science*, *61*, 101150.
- Sasaki, G., Ishiwata, K., Machida, R., Miyata, T., & Su, Z. H. (2013). Molecular phylogenetic analyses support the monophyly of Hexapoda and suggest the paraphyly of Entognatha. BMC evolutionary biology, 13, 1-10.
- Beutel, R. G., Yavorskaya, M. I., Mashimo, Y., Fukui, M., & Meusemann, K. (2017). The phylogeny of Hexapoda (Arthropoda) and the evolution of megadiversity. In Proc. Arthropod. Embryol. Soc. Jpn (Vol. 51, pp. 1-15).
- Simon, S., Blanke, A., & Meusemann, K. (2018). Reanalyzing the Palaeoptera problem–the origin of insect flight remains obscure. Arthropod structure & development, 47(4), 328-338.
- Johnson, K. P., Dietrich, C. H., Friedrich, F., Beutel, R. G., Wipfler, B., Peters, R. S., ... & Yoshizawa, K. (2018). Phylogenomics and the evolution of hemipteroid insects. PNAS, 115(50), 12775-12780.
- Johnson, K. P. (2019). Putting the genome in insect phylogenomics. Current opinion in insect science, 36, 111-117.
- McKenna, D. D., Shin, S., Ahrens, D., Balke, M., Beza-Beza, C., Clarke, D. J., ... & Beutel, R. G. (2019). The evolution and genomic basis of beetle diversity. Proceedings of the National Academy of Sciences, 116(49), 24729-24737.
- Zhang, S. Q., Che, L. H., Li, Y., Liang, D., Pang, H., Ślipiński, A., & Zhang, P. (2018). Evolutionary history of Coleoptera revealed by extensive sampling of genes and species. Nature communications, 9(1), 205.
- Yeates, D. K., & Wiegmann, B. M. (2005). Phylogeny and evolution of Diptera: recent insights and new perspectives. The evolutionary biology of flies, 14-44.
- Shin, S., Bayless, K. M., Winterton, S. L., Dikow, T., Lessard, B. D., Yeates, D. K., ... & Trautwein, M. D. (2018). Taxon sampling to address an ancient rapid radiation: a supermatrix phylogeny of early brachyceran flies (Diptera). *Systematic entomology*, *43*(2), 277-289.

INSECT COLLECTION GUIDELINES

The Mini Collection is just that—a miniature version of your final collection. This assignment offers a low-stakes benchmark to ensure you don't leave all your collecting and curation until the end of the semester and provides you with feedback early in the course. It is worth approximately 5% of your final collection grade. You will turn in specimens representing *at least* **10 orders, 5 families and 2 species, all correctly identified, curated and labeled**. In addition to pinned insects, your collection must include at least one point-mounted or double mounted specimen and one specimen with the wings spread. As with your full collection, the Mini Collection must include your **Collection Contents List, Field Notes, Citations, and Key Characters for species-level IDs.** Make sure to order your specimen Orders phylogenetically (i.e., in the order found in the textbook) and include Order-level header labels pinned to the bottom of your box. Details about each component of the collection are provided below.

The Final Collection should include **adult insects only** and should have at least 5 point-mounted and 5 spread-winged insects. You can earn extra credit for the quality and organization of the collection and associated documents, as well as for extra orders. Incorrect order IDs incur a penalty of 2 pts each. No credit is given for specimens in such bad shape that we cannot identify them! Due dates are firm - *late submissions incur a penalty of one letter grade per day*.

		Undergraduates:	Graduates:
Orders (2 pts. each)		18	22
Families (1 pt. each)		100	120
Species identifications (1 pt. each)		14	21
	Total	**150**	**185**

Additional Points: Up to 2 points awarded for quality in each of the following:
(1 = very good, 2 = wow! above and beyond)

- Collection Contents List
- Citations
- Species' Key Characters
- Field notes & collection data
- Diversity within families
- Organization (phylogenetic order)
- Data Labels
- Order header labels
- General appearance of specimens
- Overall appearance of collection

COLLECTION COMPONENTS:

1) Collection Contents List must be submitted with the insect collection (see example below). This should list names and numbers of the following: Orders, Families, Species, as well as number of specimens overall and a reference for each determination. Specimens should be listed in phylogenetic order, i.e. the order in which they appear in the textbook (Orders only, for example from Protura to Diptera). This allows students to see a progression of morphological specialization across Insecta and helps when grading collections. **If no "Collection Contents List" is turned in with the collection, the collection will not be graded and the assignment grade will be zero.**

Note: The spelling of names on Collection Contents List is important – use care and be accurate!

Order	# fam.	Family	# ind.	Species ID	Reference
Blattodea	2	Blaberidae	1		*Triplehorn, C.A. and N.F. Johnson. 2005. Borror and DeLong's Introduction to the Study of Insects, 7th edition. Thomson Brooks/Cole, Blemont, CA. ** below referred to as T&J 2005*
		Blattidae	2		*T&J 2005*
				Eurycotis floridana	Bibbs, C.S. and Baldwin, R.B. 2011. Featured Creatures: Florida woods cockroach *Eurycotis floridana* (Walker). Retrieved from: https://entnemdept.ufl.edu/creatures/urban/roaches/florida_woods_cockroach.htm
Hymenoptera	5	Formicidae	1		*T&J 2005*
				Camponotus floridanus	Warner, J. and Scheffrahn, R.H. 2004. Featured Creatures: Florida carpenter ant, bull ant, Tortugas carpenter ant, *Camponotus floridanus* (Buckley) and *Camponotus tortuganus* (Emery). Retrieved from: https://entnemdept.ufl.edu/creatures/urban/ants/fl_carpenter_ants.htm
		Apidae	3		Carril, O.M., & Wilson, J.S. 2021. *Common Bees of Eastern North America*. Princeton University Press. Princeton, NJ.
		Sphecidae			*T&J 2005*
		Ichneumonidae			*T&J 2005*
		Vespidae			Goulet, H. and Huber, J.T. 1993. Hymenoptera of the world: an identification guide to families.
TOTAL: 2	**7**			**2**	

2) A Citation List is required with every collection and should include full citations for all of references used to ID specimens to family or species. This list can be included in your Collection Contents list or in a separate document. Most references should be from published books and scientific journals. If you use an online reference, choose only authoritative sources (i.e. not www.insectidentification.org/) and include ALL of the following in your citation: website URL, article name, author, date accessed. Sites like BugGuide should NOT be your main source - they are not always reliable.

3) Key Characters must be presented for each species-level determination. Key characters identify the most important features that distinguish this species from other similar species, and especially those most closely related to it. These can be presented as a summary list of characters for each species, with references cited (*example below). Alternatively, you may submit copies of keys or authoritative articles with relevant characters highlighted. **ID points will be awarded only to those species for which valid key characters are presented.** Vague key characters do not merit points.

Examples of key characters:

Monomorium emarginatum (an ant that is not especially distinctive = needs more detail)

- Sm. black ant; petiole and post-petiole; lacks propodeal spines; 12-seg antennae = genus *Monomorium*
- One of 4 sp. in this genus in New England (specimen collected in Maine)
- Uniform black; sloping posterior surface of propodeum longer than dorsal surface; found in loamy soil (distinguishes this species from *M. viride*). Two other species are exotics only found indoors.
- Ref: Ellison, AM, Gotelli, NJ, Farnsworth, EJ and Alpert, GA. 2012. *A Field Guide to the Ants of New England*. Yale University Press. New Haven CT, USA.

Actias Luna

(a very distinctive species!)

- Distinctive large, green moth with a long tail on each hind wing and distinctive purple/ yellow eyespots on both fore and hind wings. Nearctic.
- No other moth in the Saturniidae presents this coloration at this size (adult wingspan 75-105 mm).
- Refs: 1) Hall, DW. Featured Creatures. 2007. Publication #EENY-411. *http://entnemdept.ufl.edu/creatures/misc/moths/luna_moth.htm*. Accessed Sept. 1, 2016. 2) and Covell, CV. *A Field Guide to Moths of Eastern North America*. 1984. VA Museum of Natural History. VA, USA. 518 pp.

4) Field Notes must accompany each insect collection. These can be in the format of your choosing (e.g. in a notebook, word document or spreadsheet – see below), organized chronologically so any specimen can be referenced by collection date. Each collection event should include *at minimum* date, locality, habitat type, collection method and collector. Good field notes also include some or all of the following: Accession numbers, season, time of day, weather, detailed habitat characteristics, behavioral/ecological notes and tentative IDs. **Collections without field notes will not be graded.**

Date	Country	State	City/Co.	Specific location	General Habitat	Specific Habitat	Coll. method	Collector	Notes
08-Aug-2017	USA	FL	Gainesville, Alachua Co.	Lake Alice woods, UF	Mixed pine/ oak forest	Lakeside grasses	Sweep net	A. Lucky	Mayflies, flies, hemipteran. Warm afternoon
10-Aug-2017	USA	FL	Gainesville, Alachua Co.	Lake Alice woods, UF	Mixed pine/ oak forest	Under pine bark	Hand coll.	A. Lucky	Beetles & termites. Carabidae? Collected soldiers & workers.
13-Aug-2017	USA	FL	Gainesville, Alachua Co.	NATL, UF	Recently burned pine forest	Standing dead stump	Leaf litter / berlese	A. Lucky	Cockroach, thrips, ants. Sample from base of stump.

5) Labels. In addition to a locality label, each specimen needs an identification label indicating the Order to which it belongs, as well as Family and Species, where appropriate. For species determinations, the borders of the ID label are to be colored green. The green borders help in finding the species determinations while grading your collection.

6) Organization. Orders should be arranged in the phylogenetic order presented in the textbook. All specimens in an Order should be grouped under a header label, which can be pinned to the bottom of the box. NOTE: A specimen placed with the wrong Order results in a 2 pt. deduction from the collection score, even if the ID on the specimen is correct.

Specimen Guidelines

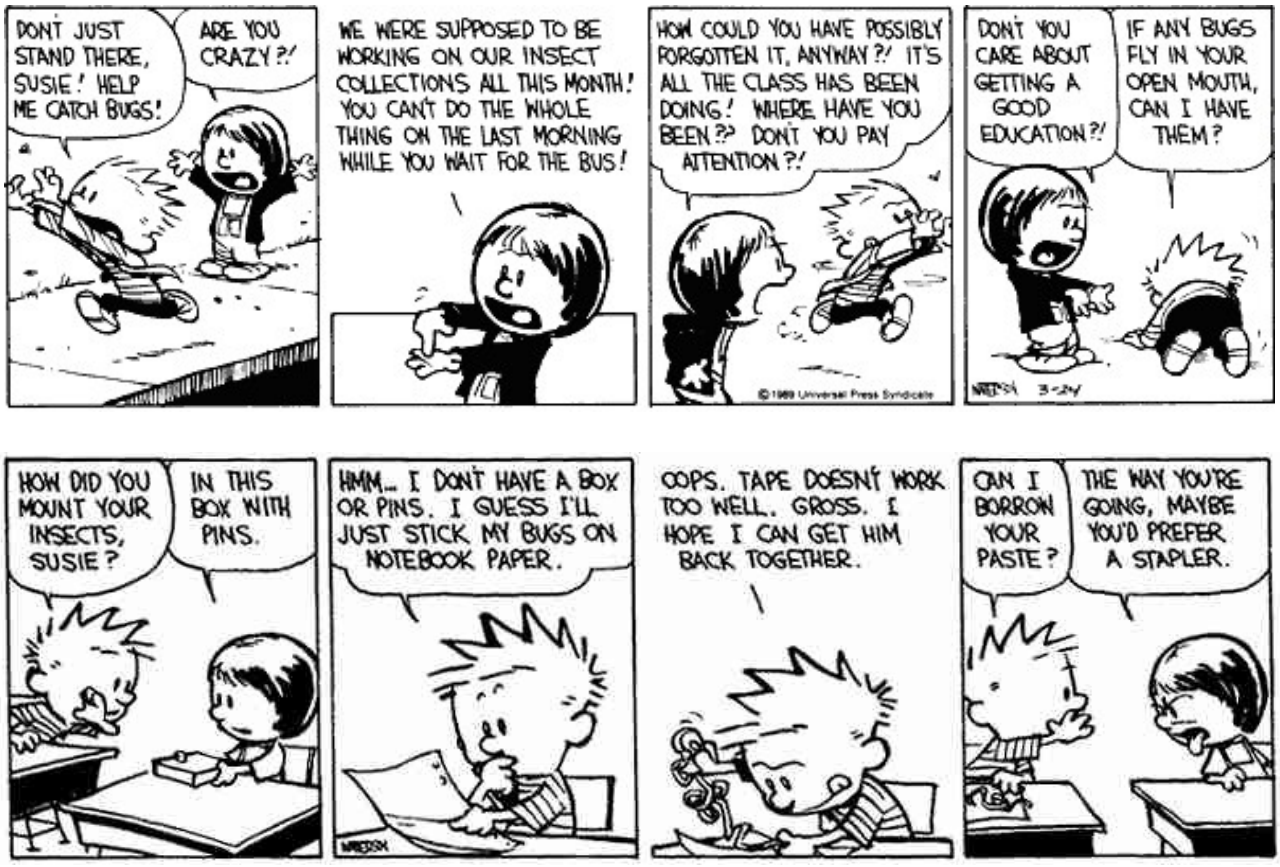
- Insects that were previously submitted for the requirement of another course **may not be included** in the collection for this class.
- Specimens included in the insect collection **must have been collected by the student** turning in the collection or another student in this in-person class this semester. I.e., no specimen trading outside of the class.
- All specimen identifications must be made by the **owner** of the collection.
- No insects may be collected from protected areas without permission. These include City Parks, State Parks, National Parks, Preserves, Reserves, Private Forests, etc. *If you are unsure, it is your responsibility to find out if collecting is permitted!*
- Rules concerning academic honesty apply to specimens, specimen labels, and field notes submitted for the collection. If you are not sure whether something is allowed, just ask!!

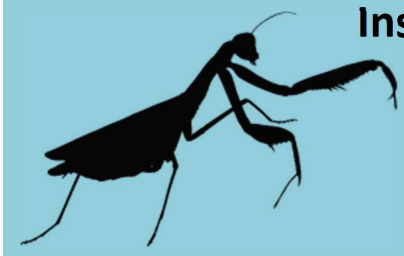
Submitting Your Collection

Before submitting your collection, **take a photo** for your records, then deliver it to our classroom on the due date or, if needed, arrange to deliver it to us at another time. Specimen boxes must be well sealed and pest-free; 10 points will be deducted if your collection arrives with *live* insects, such as ants or dermestid beetles, or a specimen that has not been properly killed! Make sure that EVERY item you submit has your name on it. Each box, each paper, etc.

Would you like to KEEP or DONATE your collection?

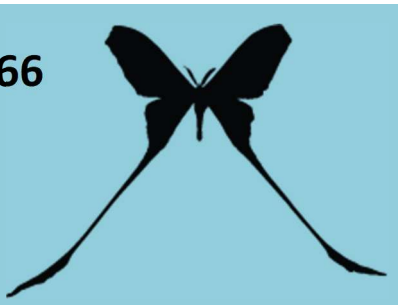
Note clearly on your collection contents list whether you would like to **KEEP** or to **DONATE** your collection. If you don't specify, your specimens will be considered a donation and be used for education and outreach. If you would like to keep your collection, you must pick it up in a reasonable time frame–no later than the first few weeks of the semester following course completion.





Insect Classification, ENY 4161/ 6166
Fall 2025 (3 cr)

Tues 8:30-11:30am, Thurs 9:35-11:30am,
Steinmetz Hall, Rm 3118



Instructor: **Dr. Andrea Lucky** (alucky@ufl.edu)
Steinmetz 2107
Office hours: Monday 2-4pm

TA: **Aswaj (Ash) Punnath**
Steinmetz 2125
Office hours: Thursday 2-4pm

Course Goals

The goal of this course is to provide you with a sound theoretical and practical understanding of insect diversity and the practice of classifying organisms. Lectures discuss the general principles of systematics, history of insect classification, construction and use of identification tools, nomenclature, and biology and evolutionary history of the hexapod orders. We also explore why competing classifications exist in taxonomy, and what existing classifications imply about broad patterns of evolutionary change and diversification within insects. Laboratory work focuses on recognition of the major groups of insects (order and family); in-class exercises illustrate concepts discussed in lecture. A required collection refines your ability to collect and identify insects to order, family, and species. Building an insect collection with correctly identified and curated specimens, using a variety of collecting techniques, is the best way to learn, understand, and employ the methods used by professionals to classify insects, and living organisms in general.

Student Learning Objectives

After completing this course you should be able to:

- **Identify** hexapods by sight to order and to family, for the majority of common insects
- **Navigate** dichotomous keys to accurately identify adult insects to order and family
- **Assess** the quality of reference material for insect identification
- **Collect** insects with their associated field data in different habitats using a variety of techniques
- **Curate** insect specimens properly, including labeling, pinning, point mounting, and preserving in ethanol
- **Summarize** the key steps of the taxonomic process: how species are described, named, and classified
- **Explain** how key innovations in the life history of insects led to their incredible diversity
- **Interpret** evolutionary relationships from phylogenetic trees

Course Prerequisites

Course Prerequisite: ENY 3005+3005L, Principles of Entomology, or a similar course dealing with the classification of insects. **Students are expected to be familiar with all insect orders and some families before taking this class.**

Required Textbook

Textbook: C.A. Triplehorn and N.F. Johnson. 2005. Borror and DeLong's Introduction to the Study of Insects, 7th edition. Thomson Brooks/Cole, Belmont, CA (~$150). This text is required; make sure to purchase your copy early!

Course Equipment

Equipment: This course includes an equipment loan from the Entomology and Nematology Department. Take good care of these items—the net, kill jar, spreading board, pinning block, forceps, and boxes must be returned at the end of the semester. You may keep the vials and pins. Other equipment will be available to borrow as short-term loans (1 week); just ask your instructor! Failure to return equipment can result in a hold on your record.

Course Schedule

This is a tentative schedule of topics and assignments for the semester. This semester's specific assignments and deadlines will be posted on Canvas. Note that we will do our best to adhere to this schedule, but adjustments may be necessary to accommodate opportunities or disruptions (this is hurricane season!). Any changes to our schedule, including deadlines, will be announced in class and on Canvas.

TENTATIVE COURSE SCHEDULE		
Week	**Session**	**Topic**
1	TH	Course Introduction & Identifying Insects
2	T	Reading Phylogenetic Trees & Collecting Data
	TH	Entognathous Hexapods, Early Insect Orders, & Palaeoptera
3	T	Polyneoptera
	TH	Insect Morphology: Pinning and Curation
4	T	FIELD TRIP – Austin Cary Forest
	TH	Hemipteroids + Open Lab
5	T	Hemiptera; **MINI COLLECTION DUE**
	TH	Exam review
6	T	**EXAM I**
	TH	Insect Evolution
7	T	Hymenoptera
	TH	Coleoptera, Neuroptera, & Strepsiptera
8	T	Coleoptera, cont'd
	TH	Open Lab
9	T	Diptera, Mecoptera, & Siphonaptera
	TH	Zoological Nomenclature
10	T	Lepidoptera & Trichoptera; **GRADUATE PAPER DUE**
	TH	Open lab
11	T	Speciation and Species Concepts
	TH	Classification, Taxonomy, Systematics, Phylogenetics
12	T	Homology & Homoplasy
	TH	FIELD TRIP - FL State Collection of Arthropods
13	T	NO CLASS - HOLIDAY
	TH	History of Insect Classification
14	T	Insect Declines – **COLLECTION DUE**
	TH	Equipment Return and Exam Review
15	T	NO CLASS – THANKSGIVING HOLIDAY
	TH	NO CLASS – THANKSGIVING HOLIDAY
16	T	**EXAM II**

Grading

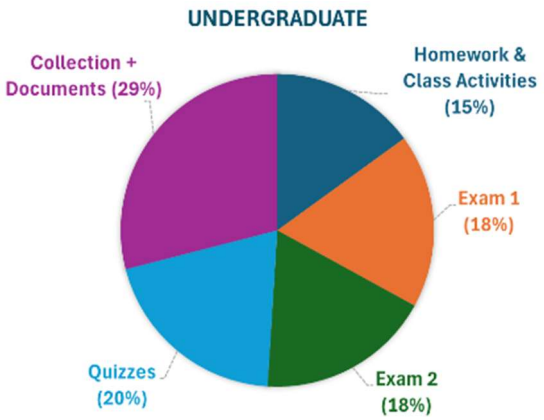
The grading structure for this course differs for **Undergraduate** and **Graduate** students; assignment categories are weighed differently. The final letter grade for all students will be determined using the scale below. There is no rounding or "bumping up" grades; requests to do so will not be considered. Current UF policies on assigning grade points can be found at the following website: https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx.

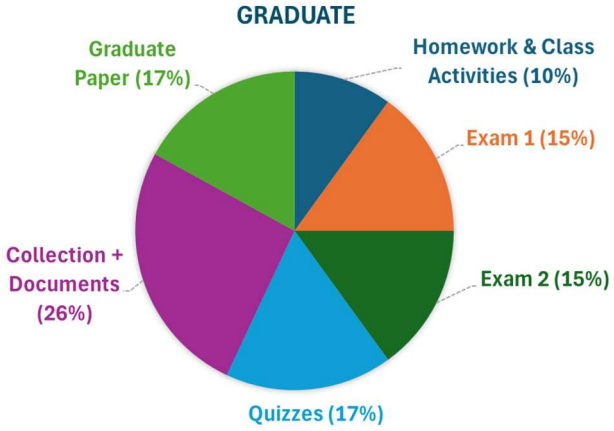
Course Grading Scale (%)

93-100	A
90-92.99	A-
87-89.99	B+
83-86.99	B
80-82.99	B-
77-79.99	C+
73-76.99	C
70-72.99	C-
67-69.99	D+
63-66.99	D
60-62.99	D-
<60	E

Course Grading Structure

	Undergraduate	Graduate
Homework & Class Activities	15%	10%
Quizzes	20%	17%
Exam 1	18%	15%
Exam 2	18%	15%
Collection (+ associated documents)	29%	26%
Graduate Paper	--	17%
TOTAL	**100%**	**100%**





Assignments

Readings: Required readings include textbook chapters and assigned articles (see references below). Students are expected to complete reading assignments before the corresponding class session and come to class prepared to engage in activities and discussions. This textbook is **required**; it is available online BUT you will need a hard copy for exams.

Activities and Homework: Several **assignments** take the form of in-class activities and/or homework, and may include lab exercises, discussions, and short-answer worksheets. These reinforce lecture and lab material and offer an opportunity to put concepts into action. Due dates will be posted on Canvas and announced in class.

Quizzes: Quizzes test your mastery of sight IDs; they will cover the taxa on the Sight-ID list. These are unannounced pop-quizzes, but you can expect them first thing in the morning in the 1-2 class periods after an order has been presented. Students arriving late to class may miss the opportunity to take a quiz. *Without a valid excuse, a missed quiz receives a grade of zero and cannot be retaken for credit.* Stuff happens, so two lowest quiz scores will be dropped for each student during the semester. Use these freebies wisely! Students may grumble about quizzes, but at the end of the semester they are universally voted "most helpful to learning the material."

Exams: There are two in-class, on-paper exams in this course, each designed to assess your mastery of the course content as well as your ability to synthesize and apply important concepts. Exams 1 and 2 focus primarily on material from the first and second half of the semester, respectively. Each exam will have three components: 1) Sight ID, 2) Key Out, and 3) Written (bring a pencil/pen!). Exams are closed-note EXCEPT for the Key out section, for which you will need

your textbook. Exams take approximately 1.5 hours to complete; up to 3 hours will be made available for exam completion (i.e. additional time is provided). Students are expected to arrive on time to exams; arriving late to an exam or missing an exam *without a valid excuse* means forfeiting the opportunity to take the exam and receiving a grade of zero. Students *with approval to miss an exam* should make alternative exam arrangements as early as possible. Note that electronic devices are not permitted in the room during exams; they must be muted and out of sight for the duration of the exam. Leave them with the instructor if you need to leave the room during the exam.

Mini- and Final Collection: The insect collection is a core element of this course. By assembling a collection, you are gaining experience in the full spectrum of understanding how valuable data associated with insect specimens are collected, preserved, and shared. The overall collection grade has several components: **the Mini Collection** is just that—a miniature version of your final collection. It is worth approximately 5% of your final collection grade. This assignment offers a low-stakes benchmark to ensure you don't leave all your collecting and curation until the end of the course and provides you with feedback early in the course. Guidelines for each component of the collection assignment are provided in detail below (see Collection Guidelines).

Graduate Paper: Each graduate student will write a research paper in one of the following formats: 1) a Taxonomic Review of published literature covering a large insect taxon of your choice—a small order or a major subgroup within a large order, or 2) an Insect Common Name Proposal for a species lacking an official common name, following guidelines of the Entomological Society of America's Common Names of Insects Committee: https://www.entsoc.org/pubs/use-and-submission-common-names. This assignment involves a required peer-review component for each student to give and receive feedback on an initial draft. Details about these assignments can be found on Canvas.

Extra Credit: Extra credit opportunities may be made available at the instructors' discretion. They will be announced in class and on Canvas. Requests for additional extra credit will not be considered.

Submitting Assignments: *All assignments must be submitted in the format noted; most will be electronic submissions on Canvas, with some paper submissions to be turned in during class. Submissions in the wrong format (i.e. emailed to instructors) will not be accepted. Some assignments will allow for multiple submissions (see Canvas for details); in this case, the instructors will only grade the latest submission that you make before the assignment's closing date. Note that you are responsible for what you turn in– that includes ensuring that all your work is uploaded correctly and completely by the closing date. Blank, corrupted, or otherwise inaccessible files will be treated as missing work (= 0 grade). If you experience technical problems when submitting your work in Canvas, contact the UF Computing Help Desk for assistance: https://helpdesk.ufl.edu. The instructors cannot provide IT support.*

Re-grade Requests

Re-Grade Requests: Instructors sometimes make mistakes! If you believe a grading error has been made, you must contact the instructors in writing within one week after the assignment is returned. Explain specifically what you think is incorrect and how you think it should be corrected. Please wait at least 24 hours before requesting a regrade; this is to give you time to review the instructors' written feedback and carefully check your work. If a regrade is warranted, the entire assignment will be reviewed and the new grade assigned shall be final. Note that this process can result in a new grade that is higher, lower, or the same as before.

Field Trips

Field Trips: During the semester, we may go to a variety of habitats to enhance your exposure to insect diversity and collecting techniques. Come prepared to collect, with your net, jars/bags/boxes, field notebook, etc. Make sure to dress for the field, with closed-toe shoes/boots, long pants, long sleeves, and a hat. Remember to bring water! There are always risks associated with outdoor activity, but being prepared will reduce them considerably. We are likely to encounter biting and stinging insects, including mosquitoes and wasps, as well as ticks, chiggers, spiders, venomous reptiles, irritating plants, and other environmental hazards. If you are allergic to any insects or other organisms that we may encounter, let the instructors know ahead of time and bring an allergy pen if needed.

Laboratory Time

Take advantage of lab time! Most class periods include time for you to work on assembling your collection; some class periods will be made available entirely for you to use at your discretion. The resources available during lab time include access to high quality stereomicroscopes, an extensive teaching collection of insect specimens, a rich library of insect identification resources, and the presence of your instructor and TA. You are encouraged to bring material to the lab to curate, as a major benefit of lab time is instructor and peer feedback on your specimens. This is a great time to request guidance as you curate and label specimens, and as you work your way through dichotomous keys. Students who regularly take advantage of lab time are more likely to complete their collections on time without a final, hectic scramble at the 11th hour. There is no guarantee of additional scope availability outside of scheduled class times.

Planning Your Time

Work Outside of Class: In addition to attending and participating in our class sessions, you will be expected to devote adequate time outside of regularly scheduled class periods to complete assignments, prepare your collection, and study the material. UF recommends devoting 2 hours out-of-class for every scheduled in-class hour. For this class, that means planning for approximately 150 hours *in addition to* class time, so plan accordingly!

In-Class Participation: You are expected to come to class **fully prepared to engage** in each session. Interactive activities with your classmates and instructors will enhance your understanding of course materials and concepts. You may be required to partner with other students for some of our in-class discussions and activities. When working with your classmates, you are expected to treat everyone with respect and professionalism.

Professionalism & Etiquette

Students are expected to behave **courteously and professionally** toward others. This includes being polite and respectful, making an honest effort to engage in all aspects of the course (including doing the required preparatory work), being on time for our class and minimizing disruptions if you arrive late or must leave early, allowing others to share perspectives even if you disagree with them, actively listening to others and showing attention as an expression of respect, being open to constructive feedback, abiding by all course and university policies, and being proactive about issues that arise during the semester. This also means avoiding talking over others, interrupting, monopolizing shared classroom resources, repeatedly distracting others, and interfering with others' learning experience (including inappropriate use of electronic devices, eating in class, packing up belongings before class is over, etc.). Disrespectful or disruptive behavior may result in **dismissal from the class session** and will be reported to the **Dean of Students Office**.

Communication

Communication: Outside of class and office hours, you can connect with us by using electronic messages in **Canvas, with messages addressed to TEACHERS** (the instructor and TA). Messages in Canvas are secure and will be prioritized; we do our best to respond within 2 days, excluding weekends and holidays. If you send a message outside of regular working hours (9:00am–5:00pm, Monday-Friday), we are unlikely to see the message until the following day. If you have not received a response after 48 hours, please send a polite reminder. Contact by other methods (i.e., direct emails, phone calls, texts) is discouraged as we may be unable to respond in a timely manner.

Canvas Announcements: Important updates will be regularly posted to the Canvas website as **Announcements**. To ensure that you do not miss anything, make sure that your Canvas profile is set to send notifications to an email inbox that you check. You are responsible for all of the information and assignments posted to our Canvas website; it is your responsibility to ensure that you are able to navigate the Canvas website and know where to find these items. If you have any questions about Canvas, please ask the instructors at the beginning of the semester. Also note that our Canvas website will be updated as the semester goes on, so be sure to check Canvas frequently!

Meetings: For quick questions, you are welcome chat with the instructor / TA after class if they are available. For more extended discussion, come to **office hours**. Office hours will be held starting on the first through the last week of class, excluding university holidays and breaks. If these times don't work for you, we can **schedule a 1-on-1 meeting**. If you schedule a meeting, you are expected to arrive on time and come prepared with specific questions. If you must cancel this meeting, please give notification as far in advance as possible.

> ***Privacy & Accountability:*** *The instructors will only discuss matters relating to your work in the course with you or with other UF faculty or staff with legitimate educational interest in your performance (e.g., your academic advisor). We will not communicate with parents or others about these matters under any circumstances, even with your permission. For this reason, it is UF policy that you use* ***Canvas*** *(or if by email, your UF email address) to contact your instructors. Emails sent from other accounts (e.g., personal Gmail, Hotmail, etc.) will not be answered as we cannot verify that those messages were sent by you.*

If you have questions or concerns, or if you're struggling to succeed in the course, please reach out to your instructor and TA. We are here to help! If an issue arises, we encourage you to contact us as early as possible. The sooner we know, the sooner we can discuss options to find a solution. Our ability to assist is limited at the end of the semester.

Accommodations for Students with Disabilities

The **Disability Resource Center (DRC)** coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations, accessing special adaptive computer equipment, providing interpretation services, and mediating faculty-student disability related issues. Students who would like to request academic accommodations must first make an appointment with an accessibility specialist at the DRC; for more information, see the *Getting Started Guide* on the DRC website: https://disability.ufl.edu/get-started. If accommodations are approved, the DRC will provide documentation (= an accommodations letter) to the student; it is the student's responsibility to then share this documentation with the instructors and discuss their access needs.

> ***Instructors' Note:*** *We want you to succeed in this course! To ensure your accommodations are in place when you need them, please have your DRC accommodation letter sent to us as early as possible–ideally at the very beginning of the semester. Please note that accommodations cannot be applied retroactively, and that accommodations will only be provided to students who have official documentation from the DRC.*

Course Feedback and Evaluations

Student assessment of instruction is an important part of efforts to improve teaching and learning. Throughout the semester you will be asked for feedback on the course. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. Please provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via **GatorEvals**. Guidance on how to give feedback in a professional and respectful manner is available at https://gatorevals.aa.ufl.edu/students. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl. Summaries of course evaluation results are available to students at: https://gatorevals.aa.ufl.edu/public-results.

Tips for Success

Success in this course is largely linked to the effort you make, and the time you spend, *early* in the semester getting outside and collecting insects in diverse environments. Keep in mind that the more orders and families you collect, the

more specimens you have at your fingertips for studying key morphological characters and practicing Sight IDs and Key-Outs. Stay on top of the course material and prepare for Sight ID quizzes.

Get outside every day. Even if the weather is not perfect, you will find a lot of diversity once you start looking, and the more you look–the more you'll see. Use diverse collecting techniques and plan to collect many more insects than the minimum number of Orders, Families, and Species required. Many of your insects will belong to the same families, but you won't know this until you have curated and identified them.

Plan ahead. Collect intensively using a variety of methods for the first third of the course, curating specimens as you go and identifying insects in the groups that you are learning about in lecture. After about one month, switch to focus on identification of specimens that you have already collected and curated. This will allow you to become familiar with the identification keys in the textbook using your own specimens. As you learn to recognize common families, your collecting can become more targeted as you search for groups not yet included in your collection. By the last third of the course, you should be finalizing your IDs and the assembly of your collection, including all the associated documents

Computing Requirement: All students must have reliable access to a **computer with a high-speed internet connection** to access assignments and other course materials on Canvas. A laptop or desktop computer running the current version of Windows or MacOS is strongly recommended. Although many aspects of the course can be completed using a smartphone or tablet, our Canvas website is not optimized for these devices. If your internet service is disrupted, or if your computer breaks / becomes unavailable during the semester, you will be responsible for finding an alternative device so that you can continue accessing course content and complete your assignments by their deadlines.

Attendance Policy

Attendance: Class attendance is required and you are expected to **stay for the entire session** unless you have a University-approved reason for not attending**.** Class sessions integrate lecture, specimen observation, peer-to-peer learning activities, and fieldwork. If you are absent, you will likely miss in-class opportunities designed to help you learn, including explanation of materials, graded activities, and quizzes. Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies.

Excused absences: If a conflict prevents you from attending class, please reach out in advance or, in case of an expected emergency, notify your instructor as soon as possible. In these cases, you must also submit **appropriate documentation** of your absence via the Dean of Students' **Instructor Notification Portal** (https://care.dso.ufl.edu/instructor-notifications). The Dean of Students Office will evaluate your documentation and then make a recommendation to the instructors; the instructors will make the final determination as to whether or not the absence is excused. Note that some types of absences (such as religious holidays) do not require documentation but you must inform the instructors in advance of your planned absence from class.

> ***Documentation:*** *In the interest of fairness to all students in the class, all documentation must be verified by the Dean of Students Office (DSO) – please do not send your documentation directly to the instructors! DSO will not share personal details of your situation when they send instructors their recommendation. See the guidelines on the* ***Instructor Notification Portal*** *for more information: https://care.dso.ufl.edu/instructor-notifications!*

Make-Up Policy

If your absence is excused, you will need to make arrangements with the instructors to make up missed work, if applicable (see below on MAKE UP ASSIGNMENTS). If you miss class for an unexcused reason, if you do not submit the required documentation through the Dean of Students portal, or if you fail to notify the instructors of your absence in a timely manner, then you will earn a 0 for any work missed that day; make-up work will not be arranged in this case. Please note that personal travel (e.g., vacations or leaving early for / returning late from university breaks) is *not* considered an excusable absence. Likewise, conflicts with other courses, employment, or extracurriculars (other than university-sponsored athletics or scholarly activities) are *not* excused absences. If an assignment is due on the day of

your absence, you must still submit that assignment on time unless you have received a due-date **extension**, in writing, from the instructors. You will also be responsible for all of the content associated with the class sessions that you missed. If you do miss a class meeting, you are encouraged to reach out to a classmate for notes from that session; the instructors and TAs will not provide notes.

Make-Up Exams: All exams must be taken at their **scheduled dates and times** (as indicated in the Course Schedule above and on Canvas) unless you have an excused absence on an exam day. In that case, the instructors will choose the date, time, and location of the make-up exam after your absence documentation is verified by the DSO. All make-up exams, like the original exams, must be completed in person under the supervision of a proctor. It will be your responsibility to attend the make-up exam at the designated time and place; if you miss your make-up exam, you will be assigned a grade of 0 for it and will not have the option to reschedule it again. Note that time may not permit a make-up of EXAM II to be scheduled before the semester ends. If necessary, you will be assigned an incomplete grade (I) and the make-up exam will be scheduled during the post-semester break or at the start of the following semester. Upon completion and grading of the make-up exam, your incomplete grade will be changed to the final grade.

Late Work & Extension Policy

Policy on Late Work: The **due dates and times** for all assignments can be found on the corresponding assignment pages in **Canvas**. The only exception to this policy is if you have received an extension in writing from your instructor. In general, late submissions after the extended deadline will not be accepted and a grade of 0 will be received for the assignment. Final Collections, if submitted late will incur a grade penalty of one letter grade per day (24 hrs).

Extensions: Extensions on assignments are reserved for students who are dealing with unforeseen emergencies or other situations beyond their control. Requests for extensions will be considered at the instructors' discretion on a case-by-case basis, and only with documentation submitted to the DSO. Note that asking for an extension does not guarantee that you will be granted one.

Academic Integrity

As a student at the University of Florida, you have committed yourself to uphold the **Honor Code**, which includes the following pledge: *"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."* You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: *"On my honor, I have neither given nor received unauthorized aid in doing this assignment."* All work must be completed independently unless the instructor provides explicit permission for you to collaborate on course tasks (e.g., assignments, papers, quizzes, exams). It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: https://sccr.dso.ufl.edu/process/student-conduct-code/.

Instructors' Note: *We take academic integrity very seriously! Any action that* ***subverts the learning goals*** *of the course (or a particular course activity) will be treated as academic misconduct, as misconduct affects all students in the class. This includes–but is not limited to–cheating or assisting others in cheating, plagiarism (i.e., misrepresenting someone else's work as your own, whether it is copied directly or paraphrased), self-plagiarism (i.e., copying/reusing work that you have submitted previously), using AI tools in a way that is inconsistent with the policies for this class, collaborating with others when it is not permitted, falsifying or fabricating data, lying to or attempting to manipulate an instructor, and bad faith attempts to undermine the intent of a learning activity. It is your responsibility to know what does and does not constitute academic misconduct.*

If the instructors find that you have engaged in academic misconduct, you will be ***reported to the Dean of***

Students Office (DSO) *immediately. The instructors will assign a grade of 0 on the assignment in question while the DSO investigates the matter. If the DSO concludes that you did engage in misconduct, you will be assigned a failing grade (E) for the entire course. If the DSO rules that you did not engage in misconduct, the instructor will regrade your assignment and replace the 0 with the grade that you have earned on it. If the investigation is ongoing by the end of semester, you will receive an incomplete (I) grade in the course, to be resolved when the investigation is concluded.*

Use of Artificial Intelligence (AI)

When used properly, **artificial intelligence (AI)** can be a helpful tool to enhance your learning. However, *improper* use of AI can impede your learning and may be considered academic dishonesty. At UF, but as at all scientific journals, funding agencies, and professional societies, there are strict rules about AI use which require authors to disclose if/how they use AI. For these reasons, it is important for students to learn how to use AI tools responsibly and ethically!

You are not permitted to use content generated by ChatGPT, Grammarly, or any other AI tool in *any assignment* in this course, unless the instructors provide written permission stating otherwise. This includes– but is not limited to– submitting AI-generated content as your own work, submitting content that was paraphrased or modified from an AI output, quoting text generated by an AI (even if it is properly cited), and using AI to generate false sources. All of your assignments should consist entirely of your own original work, created by you for this class. We are interested in assessing *your* understanding of the material and *your* ability to think critically / synthesize information– not that of an algorithm or machine! Unauthorized use of AI in an assignment will be treated as **academic misconduct** and be subject to the same disciplinary actions described above.

You are allowed to use AI tools in two ways: 1) Outside of graded assignments, e.g., to help you study or review class material. 2) To proofread or provide feedback on your original work before submitting it. Note that you aren't permitted to include the AI's output in your assignment, even if you edit it first… but you can use the AI's suggestions to refine your work yourself. If you do so, you must include an appendix with your assignment submission, in which you name the specific AI tools that you used and provide the exact prompts that you entered as well as verbatim copies of all of the AI's outputs. You must also confirm, in writing, that your assignment is written entirely in your own words, i.e., without any AI-generated content (including paraphrased content). Failure to provide all of this information when you use AI will result in a report to the Dean of Students Office. These are the *only* acceptable uses of AI in this course.

As a general rule, AI should never be your starting point– you should always start with your own original ideas and work! You should not use AI for anything that a human proofreader or study buddy could not ethically do for you. All students should also be aware of the **limitations** of AI. The material generated by these tools is often inaccurate, incomplete, misleading, or biased. It is also often overly generalized and formulaic, lacking both the depth of analysis and quality of writing that is expected in this course (and in our discipline more broadly). AI-generated content may also not align with the specific content that we cover in class. Remember, these AI tools are neither students in this course nor experts in our field– all they can do is generate statements that *sound* plausible, regardless of their accuracy. Thus, if you use AI as a study tool, you should always fact-check the outputs using your notes from class, other course materials, or credible external sources. Also note that relying too heavily on these tools may erase the individuality of your work and stifle the development of your own critical thinking skills and creativity. Outsourcing your learning to AI can thus make it difficult for you to succeed in other aspects of this course (and in your future career).
Be aware that every course at the university has its own individual policy about AI, which the instructors have implemented to maximize learning in their courses. The policy described here is for this course only and may not be the same as the policies for your other courses!

General Information

The policies in this course align with policies of the University of Florida. For more information on UF Policies, generally, as well as links to helping resources, please the following website:

https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

Student Responsibility: It is each student's responsibility to ensure that you fully understand all policies outlined in this syllabus as well as the policies of the university as they relate to this course. In the interest of fairness, all students in the class will be held accountable to these policies without exception; these policies are not negotiable. This syllabus cannot predict every possibility that could happen during the semester. At their discretion, the instructor may add, remove, or otherwise change aspects of the course during the semester to accommodate new opportunities, unforeseen disruptions, or other circumstances. By remaining enrolled in this course, you agree that you have read and understood all parts of this syllabus and that you will be held accountable to the policies within. If you have any questions, please contact your instructor as soon as possible!

Selected References

Readings will change from semester to semester. The papers listed below are foundational to insect classification and will likely be referenced during the course.

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- Harvey, J.A., Heinen, R., Armbrecht, I. et al. (2020). International scientists formulate a roadmap for insect conservation and recovery. Nat Ecol Evol 4, 174–176
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- Cryan, J. R., & Urban, J. M. (2012). Higher-level phylogeny of the insect order Hemiptera: is Auchenorrhyncha really paraphyletic?. Systematic entomology, 37(1), 7-21.
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- Johnson, K. P. (2019). Putting the genome in insect phylogenomics. Current opinion in insect science, 36, 111-117.
- McKenna, D. D., Shin, S., Ahrens, D., Balke, M., Beza-Beza, C., Clarke, D. J., ... & Beutel, R. G. (2019). The evolution and genomic basis of beetle diversity. Proceedings of the National Academy of Sciences, 116(49), 24729-24737.
- Zhang, S. Q., Che, L. H., Li, Y., Liang, D., Pang, H., Ślipiński, A., & Zhang, P. (2018). Evolutionary history of Coleoptera revealed by extensive sampling of genes and species. Nature communications, 9(1), 205.
- Yeates, D. K., & Wiegmann, B. M. (2005). Phylogeny and evolution of Diptera: recent insights and new perspectives. The evolutionary biology of flies, 14-44.
- Shin, S., Bayless, K. M., Winterton, S. L., Dikow, T., Lessard, B. D., Yeates, D. K., ... & Trautwein, M. D. (2018). Taxon sampling to address an ancient rapid radiation: a supermatrix phylogeny of early brachyceran flies (Diptera). *Systematic entomology*, *43*(2), 277-289.

INSECT COLLECTION GUIDELINES

The Mini Collection is just that—a miniature version of your final collection. This assignment offers a low-stakes benchmark to ensure you don't leave all your collecting and curation until the end of the semester and provides you with feedback early in the course. It is worth approximately 5% of your final collection grade. You will turn in specimens representing *at least* **10 orders, 5 families and 2 species, all correctly identified, curated and labeled**. In addition to pinned insects, your collection must include at least one point-mounted or double mounted specimen and one specimen with the wings spread. As with your full collection, the Mini Collection must include your **Collection Contents List, Field Notes, Citations, and Key Characters for species-level IDs.** Make sure to order your specimen Orders phylogenetically (i.e., in the order found in the textbook) and include Order-level header labels pinned to the bottom of your box. Details about each component of the collection are provided below.

The Final Collection should include **adult insects only** and should have at least 5 point-mounted and 5 spread-winged insects. You can earn extra credit for the quality and organization of the collection and associated documents, as well as for extra orders. Incorrect order IDs incur a penalty of 2 pts each. No credit is given for specimens in such bad shape that we cannot identify them! Due dates are firm - *late submissions incur a penalty of one letter grade per day*.

COLLECTION COMPONENTS:

1) Collection Contents List must be submitted with the insect collection (see example below). This should list names and numbers of the following: Orders, Families, Species, as well as number of specimens overall and a reference for each determination. Specimens should be listed in phylogenetic order, i.e. the order in which they appear in the textbook (Orders only, for example from Protura to Diptera). This allows students to see a progression of morphological specialization across Insecta and helps when grading collections. **If no "Collection Contents List" is turned in with the collection, the collection will not be graded and the assignment grade will be zero.**

Note: The spelling of names on Collection Contents List is important – use care and be accurate!

	Undergraduates:	**Graduates:**
Orders (2 pts. each)	18	22
Families (1 pt. each)	100	120
Species identifications (1 pt. each)	14	21
Total	**150**	**185**

Additional Points: Up to 2 points awarded for quality in each of the following:
(1 = very good, 2 = wow! above and beyond)

- Collection Contents List
- Citations
- Species' Key Characters
- Field notes & collection data
- Diversity within families
- Organization (phylogenetic order)
- Data Labels
- Order header labels
- General appearance of specimens
- Overall appearance of collection

Order	# fam.	Family	# ind.	Species ID	Reference
Blattodea	2	Blaberidae	1		*Triplehorn, C.A. and N.F. Johnson. 2005. Borror and DeLong's Introduction to the Study of Insects, 7th edition. Thomson Brooks/Cole, Blemont, CA. ** below referred to as T&J 2005*
		Blattidae	2		*T&J 2005*
				Eurycotis floridana	Bibbs, C.S. and Baldwin, R.B. 2011. Featured Creatures: Florida woods cockroach *Eurycotis floridana* (Walker). Retrieved from: https://entnemdept.ufl.edu/creatures/urban/roaches/florida_woods_cockroach.htm
Hymenoptera	5	Formicidae	1		*T&J 2005*
				Camponotus floridanus	Warner, J. and Scheffrahn, R.H. 2004. Featured Creatures: Florida carpenter ant, bull ant, Tortugas carpenter ant, *Camponotus floridanus* (Buckley) and *Camponotus tortuganus* (Emery). Retrieved from: https://entnemdept.ufl.edu/creatures/urban/ants/fl_carpenter_ants.htm
		Apidae	3		Carril, O.M., & Wilson, J.S. 2021. *Common Bees of Eastern North America*. Princeton University Press. Princeton, NJ.
		Sphecidae			*T&J 2005*
		Ichneumonidae			*T&J 2005*
		Vespidae			Goulet, H. and Huber, J.T. 1993. Hymenoptera of the world: an identification guide to families.
TOTAL: 2	**7**			**2**	

2) A Citation List is required with every collection and should include full citations for all of references used to ID specimens to family or species. This list can be included in your Collection Contents list or in a separate document. Most references should be from published books and scientific journals. If you use an online reference, choose only authoritative sources (i.e. not www.insectidentification.org/) and include ALL of the following in your citation: website URL, article name, author, date accessed. Sites like BugGuide should NOT be your main source - they are not always reliable.

3) Key Characters must be presented for each species-level determination. Key characters identify the most important features that distinguish this species from other similar species, and especially those most closely related to it. These can be presented as a summary list of characters for each species, with references cited (*example below). Alternatively, you may submit copies of keys or authoritative articles with relevant characters highlighted. **ID points will be awarded only to those species for which valid key characters are presented.** Vague key characters do not merit points.

Examples of key characters:

Monomorium emarginatum (an ant that is not especially distinctive = needs more detail)

- Sm. black ant; petiole and post-petiole; lacks propodeal spines; 12-seg antennae = genus *Monomorium*
- One of 4 sp. in this genus in New England (specimen collected in Maine)
- Uniform black; sloping posterior surface of propodeum longer than dorsal surface; found in loamy soil (distinguishes this species from *M. viride*). Two other species are exotics only found indoors.
- Ref: Ellison, AM, Gotelli, NJ, Farnsworth, EJ and Alpert, GA. 2012. *A Field Guide to the Ants of New England*. Yale University Press. New Haven CT, USA.

Actias Luna

(a very distinctive species!)

- Distinctive large, green moth with a long tail on each hind wing and distinctive purple/ yellow eyespots on both fore and hind wings. Nearctic.
- No other moth in the Saturniidae presents this coloration at this size (adult wingspan 75-105 mm).
- Refs: 1) Hall, DW. Featured Creatures. 2007. Publication #EENY-411. *http://entnemdept.ufl.edu/creatures/misc/moths/luna_moth.htm*. Accessed Sept. 1, 2016. 2) and Covell, CV. *A Field Guide to Moths of Eastern North America*. 1984. VA Museum of Natural History. VA, USA. 518 pp.

4) Field Notes must accompany each insect collection. These can be in the format of your choosing (e.g. in a notebook, word document or spreadsheet – see below), organized chronologically so any specimen can be referenced by collection date. Each collection event should include *at minimum* date, locality, habitat type, collection method and collector. Good field notes also include some or all of the following: Accession numbers, season, time of day, weather, detailed habitat characteristics, behavioral/ecological notes and tentative IDs. **Collections without field notes will not be graded.**

Date	Country	State	City/Co.	Specific location	General Habitat	Specific Habitat	Coll. method	Collector	Notes
08-Aug-2017	USA	FL	Gainesville, Alachua Co.	Lake Alice woods, UF	Mixed pine/ oak forest	Lakeside grasses	Sweep net	A. Lucky	Mayflies, flies, hemipteran. Warm afternoon
10-Aug-2017	USA	FL	Gainesville, Alachua Co.	Lake Alice woods, UF	Mixed pine/ oak forest	Under pine bark	Hand coll.	A. Lucky	Beetles & termites. Carabidae? Collected soldiers & workers.
13-Aug-2017	USA	FL	Gainesville, Alachua Co.	NATL, UF	Recently burned pine forest	Standing dead stump	Leaf litter / berlese	A. Lucky	Cockroach, thrips, ants. Sample from base of stump.

5) Labels. In addition to a locality label, each specimen needs an identification label indicating the Order to which it belongs, as well as Family and Species, where appropriate. For species determinations, the borders of the ID label are to be colored green. The green borders help in finding the species determinations while grading your collection.

6) Organization. Orders should be arranged in the phylogenetic order presented in the textbook. All specimens in an Order should be grouped under a header label, which can be pinned to the bottom of the box. NOTE: A specimen placed with the wrong Order results in a 2 pt. deduction from the collection score, even if the ID on the specimen is correct.

Specimen Guidelines

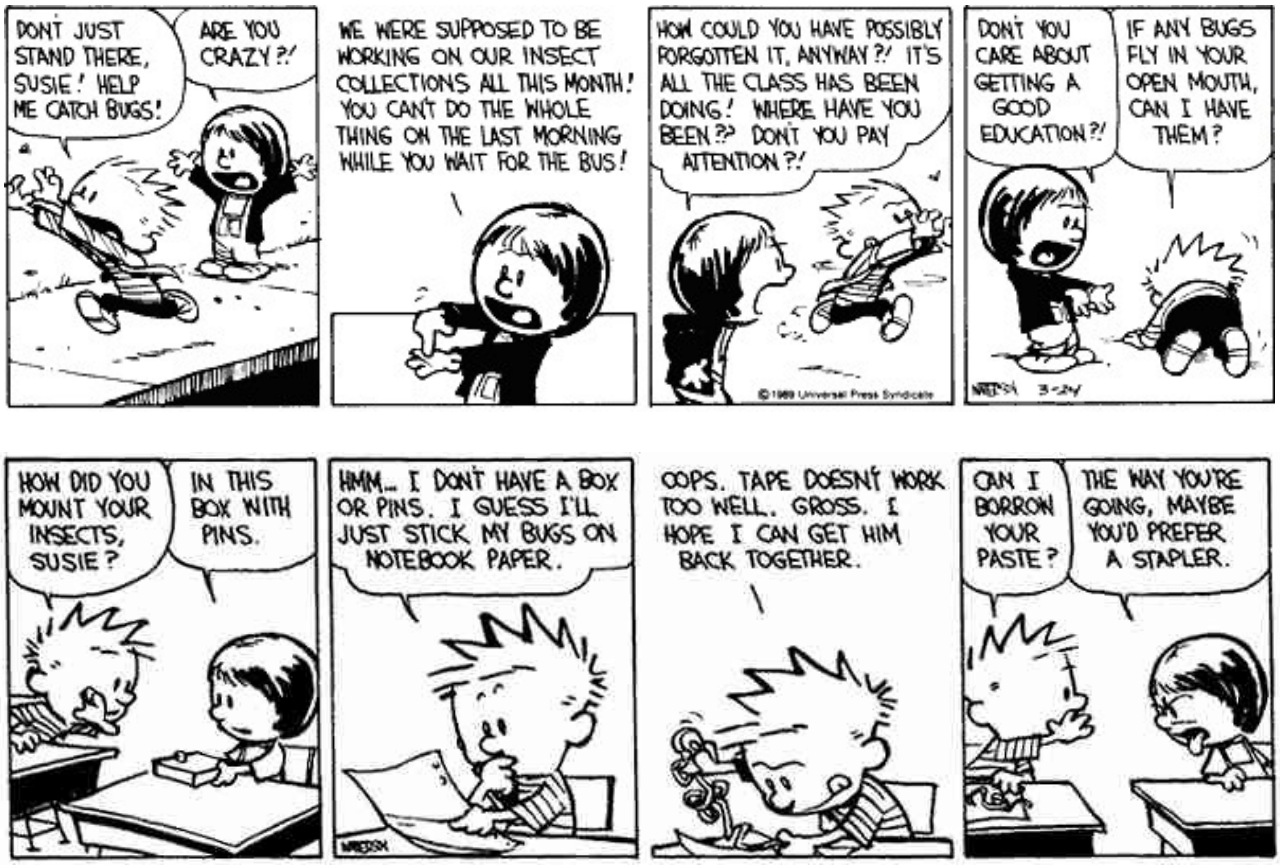
- Insects that were previously submitted for the requirement of another course **may not be included** in the collection for this class.
- Specimens included in the insect collection **must have been collected by the student** turning in the collection or another student in this in-person class this semester. I.e., no specimen trading outside of the class.
- All specimen identifications must be made by the **owner** of the collection.
- No insects may be collected from protected areas without permission. These include City Parks, State Parks, National Parks, Preserves, Reserves, Private Forests, etc. *If you are unsure, it is your responsibility to find out if collecting is permitted!*
- Rules concerning academic honesty apply to specimens, specimen labels, and field notes submitted for the collection. If you are not sure whether something is allowed, just ask!!

Submitting Your Collection

Before submitting your collection, **take a photo** for your records, then deliver it to our classroom on the due date or, if needed, arrange to deliver it to us at another time. Specimen boxes must be well sealed and pest-free; 10 points will be deducted if your collection arrives with *live* insects, such as ants or dermestid beetles, or a specimen that has not been properly killed! Make sure that EVERY item you submit has your name on it. Each box, each paper, etc.

Would you like to KEEP or DONATE your collection?

Note clearly on your collection contents list whether you would like to **KEEP** or to **DONATE** your collection. If you don't specify, your specimens will be considered a donation and be used for education and outreach. If you would like to keep your collection, you must pick it up in a reasonable time frame–no later than the first few weeks of the semester following course completion.



ENY 4161 / ENY 6166 Insect Classification

Fall, 2026
In-Person, 4 credits
T 8:30-11:30, TH 9:35-11:30

Instructor

Office: Steinmetz Hall 2107
Phone: 352-273-3952
Email address: alucky@ufl.edu
Office hours: Mondays 2-4pm

Teaching Assistant

TBD

Course Description

A practical understanding of the classification of major insect lineages, with emphasis on the identification of adult insects to family and species level. A properly curated collection is required.

Course Learning Objectives

After completing this course you should be able to:

- Identify hexapods by sight to order and to family, for the majority of common insects
- Navigate dichotomous keys to accurately identify adult insects to order and family
- Assess the quality of reference material for insect identification
- Collect insects with their associated field data in different habitats using a variety of techniques
- Curate insect specimens properly, including labeling, pinning, point mounting, and preserving in ethanol
- Summarize the key steps of the taxonomic process: how species are described, named, and classified
- Explain how key innovations in the life history of insects led to their incredible diversity
- Interpret evolutionary relationships from phylogenetic trees

Course Overview and Purpose

The goal of this course is to provide you with a sound theoretical and practical understanding of insect diversity and the practice of classifying organisms. Lectures discuss the general principles of systematics, history of insect classification, construction and use of identification tools, nomenclature, and biology and evolutionary history of the hexapod orders. We also explore why competing classifications exist in taxonomy, and what existing classifications imply about broad patterns of evolutionary change and diversification within insects. Laboratory work focuses on recognition of the major groups of insects (order and family); in-class exercises illustrate concepts discussed in lecture. A required collection refines your ability to collect and identify insects to order, family, and species. Building an insect collection with correctly identified and curated specimens, using a variety of collecting techniques, is the best way to learn, understand, and employ the methods used by professionals to classify insects, and living organisms in general.

Course Prerequisites

ENY 3005 and ENY 3005L (Principles of Entomology and Lab), or an equivalent course covering basic insect biology and classification. Students should enter this course with a solid understanding of all insect orders and familiarity with some families.

Textbooks, Learning Materials, and Supply Fees

Required textbook: C.A. Triplehorn and N.F. Johnson. 2005. Borror and DeLong's Introduction to the Study of Insects, 7th edition. Thomson Brooks/Cole, Belmont, CA.

Supply Fees: $30 for insect collecting and curation equipment.

Technical Support

UF Computing Help Desk & Ticket Number: All technical issues require a UF Helpdesk Ticket Number. The UF Helpdesk is available 24 hours a day, 7 days a week. https://helpdesk.ufl.edu/ | 352-392-4357

Weekly Course Schedule

Week	Day	Topic	Assessment
1	TH	Course Introduction & Identifying Insects	
2	T	Reading Phylogenetic Trees & Collecting Data	
	TH	Entognathous Hexapods, Early Insect Orders, & Palaeoptera	
3	T	Polyneoptera	Quiz
	TH	Insect Morphology: Pinning and Curation	Quiz
4	T	FIELD TRIP – Austin Cary Forest	
	TH	Hemipteroids + Open Lab	Quiz
5	T	Hemiptera; MINI COLLECTION DUE	Mini Collection
	TH	Exam review	
6	T	EXAM I	Exam I
	TH	Insect Evolution	
7	T	Hymenoptera	
	TH	Coleoptera, Neuroptera, & Strepsiptera	Quiz
8	T	Coleoptera, cont'd	
	TH	Open Lab	Quiz
9	T	Diptera, Mecoptera, & Siphonaptera	
	TH	Zoological Nomenclature	Quiz
10	T	Lepidoptera & Trichoptera; GRADUATE PAPER DUE	Quiz, Graduate Paper
	TH	Open lab	
11	T	Speciation and Species Concepts	Quiz
	TH	Classification, Taxonomy, Systematics, Phylogenetics	
12	T	Homology & Homoplasy	
	TH	FIELD TRIP - FL State Collection of Arthropods	
13	T	NO CLASS - HOLIDAY	
	TH	History of Insect Classification	
14	T	Insect Declines – COLLECTION DUE	Collection
	TH	Equipment Return and Exam Review	
15	T	NO CLASS – THANKSGIVING HOLIDAY	
	TH	NO CLASS – THANKSGIVING HOLIDAY	
16	T	EXAM II	Exam II

Grading Policy

The grading structure for this course differs for Undergraduate and Graduate students; assignment categories are weighed differently. There is no rounding or "bumping up" grades; requests to do so will not be considered. Course grading is consistent with UF grading policies.

Course Grading Structure

Assignment Type	Percent of Final Grade: Undergraduates	Percent of Final Grade: Graduates
Homework & Class Activities	15%	10%
Quizzes	20%	17%
Exam 1	18%	15%
Exam 2	18%	15%
Collection (+ associated documents)	29%	26%
Graduate Paper	N/A	17%
TOTAL	100%	100%

Grading Scale

Grade	Percentage
A	93-100
A-	90-92.99
B+	87-89.99
B	83-86.99
B-	80-82.99
C+	77-79.99
C	73-76.99
C-	70-72.99
D+	67-69.99
D	63-66.99
D-	60-62.99
S	<60

Academic Policies and Resources

Academic policies for this course are consistent with university policies. See https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

Campus Health and Wellness Resources

Visit https://one.uf.edu/whole-gator/topics for resources that are designed to help you thrive physically, mentally, and emotionally at UF.

Please contact UMatterWeCare for additional and immediate support.

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Attendance and Make-Up Work

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/.

Accommodations for Students with Disabilities

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center. See the "Get Started With the DRC" webpage on the Disability Resource Center site. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

In-Class Recording:

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal education use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and deliver by an instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentation such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private 3 Revised: September 2024 conversations between students in the class or between a student and the faculty or guest lecturer during a class session.

Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless, of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book,

magazine, newspaper, leaflet, or third-party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Online Course Evaluation Process

Student assessment of instruction is an important part of efforts to improve teaching and learning. Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online. Students can complete evaluations in three ways:

1. The email they receive from GatorEvals,
2. Their Canvas course menu under GatorEvals, or
3. The central portal at https://my-ufl.bluera.com

Guidance on how to provide constructive feedback is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

Academic Honesty

UF students are bound by The Honor Pledge which states "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Conduct Code specifies a number of behaviors that are in violation of this code and the possible sanctions. See the *UF Conduct Code website for more information*. If you have any questions or concerns, please consult with the instructor or TAs in this class.

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: (New Link: https://policy.ufl.edu/regulation/4-040/)

Software Use:

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Campus Helping Resources

Students experiencing crises or personal problems that interfere with their general wellbeing are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

Whole Gator App and website connects UF students with resources dedicated to supporting overall health and well-being. In addition to many of the resources below it also has strategies to practice self-care. https://one.uf.edu/whole-gator/topics

Health and Wellness

- U Matter, We Care: If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit U Matter, We Care website to refer or report a concern and a team member will reach out to the student in distress.

- Counseling and Wellness Center: Visit the Counseling and Wellness Center website or call 352-392-1575 for information on crisis services as well as non-crisis services.

- Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the Student Health Care Center website.

- University Police Department: Visit UF Police Department website or call 352-392-1111 (or 9-1-1 for emergencies).

- UF Health Shands Emergency Room / Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; Visit the UF Health Emergency Room and Trauma Center website.

- GatorWell Health Promotion Services: For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the GatorWell website or call 352-273-4450.

- Hitchcock Field and Fork Pantry. Food and toiletries for those experiencing food insecurity.

- Student Success Initiative, http://studentsuccess.ufl.edu.

Academic Resources

- E-learning technical support: Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at helpdesk@ufl.edu.

- Career Connections Center: Reitz Union Suite 1300, 352-392- 1601. Career assistance and counseling services.

- Library Support: Various ways to receive assistance with respect to using the libraries or finding resources. Call 866-281-6309 or email ask@ufl.libanswers.com for more information.

- Teaching Center: 1317 Turlington Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.

- Writing Studio: Daytime (9:30am-3:30pm): 2215 Turlington Hall, 352-846-1138 | Evening (5:00pm-7:00pm): 1545 W University Avenue (Library West, Rm. 339). Help brainstorming, formatting, and writing papers.

- Academic Complaints: Office of the Ombuds; Visit the Complaint Portal webpage for more information.

- Enrollment Management Complaints (Registrar, Financial Aid, Admissions): View the Student Complaint Procedure webpage for more information.

- *Dean of Students Office*. 202 Peabody Hall, 392-1261. Among other services, the DSO assists students who are experiencing situations that compromise their ability to attend classes. This includes family emergencies and medical issues.

Student Complaints:

- Residential Course: https://www.ombuds.ufl.edu/complaint-portal/
- Online Course: https://pfs.tnt.aa.ufl.edu/state-authorization-status/#student-complaint

Cover Sheet: Request 22276

Adding an undergraduate section to MCB6318

Info

Process	Course|New|Ugrad/Pro
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Valerie De Crecy vcrecy@ufl.edu
Created	12/11/2025 4:20:05 PM
Updated	2/17/2026 7:55:14 AM
Description of request	I have three files to submit. The syllabus of MCB6318, the syllabus of the requested new undergraduates section and a file that explains the difference between the two classes, but the system did not let upload anything

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Microbiology and Cell Science 60100000	Eric Triplett		2/9/2026
No document changes					
College	Pending	CALS - College of Agricultural and Life Sciences			2/9/2026
No document changes					
University Curriculum Committee					
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Catalog					
No document changes					
Student Academic Support System					
No document changes					
College Notified					
No document changes					

Original file: Cover sheet.pdf

Course|New for request 22276

Info

Request: Adding an undergraduate section to MCB6318
Description of request: I have three files to submit.
The syllabus of MCB6318, the syllabus of the requested new undergraduates section and a file that explains the difference between the two classes, but the system did not let upload anything
Submitter: Valerie De Crecy vcrecy@ufl.edu
Created: 12/11/2025 4:22:02 PM
Form version: 2

Responses

Recommended Prefix BSC
Course Level 4

Course Number XXX
Lab Code None
Course Title Comparative Microbial Genomics
Transcript Title Comparative Microbial Genomics
Delivery Method HB - Hybrid Blend (50-79% of course content taught outside of classroom)
Effective Term Spring
Effective Year 2027
Rotating Topic No
Repeatable Credit? No

Amount of Credit 3

S/U Only? No
Contact Type Regularly Scheduled
Course Type Lecture
Weekly Contact Hours 3
Course Description Acquisition of methods to allow experimental scientists lacking computer programming skills to efficiently use the genomic and post-genomic data that is freely available over the web to predict protein function. Examples will be mainly taken from the field of microbial metabolism and regulation.
Prerequisites Grade A-/A in BSC4434c
Co-requisites N/A
Rationale for Placement in the Curriculum This class will add an additional elective for students in the Bioinformatic minor
Syllabus Content Requirements All Items Included

Original file: Submitted form version 2.pdf

CALS Curriculum Committee
Submission Checklist

Updated January 2026

NOTE: This checklist must be included with all course and certificate submissions.

The checklist below is intended to facilitate course and certificate submissions to the University of Florida Academic Approval Tracking System (https://approval.ufl.edu/). The checklist consists of the most common items that can cause a submission to require changes or be recycled. Contrary to information provided on the UF approval site, the CALS Curriculum Committee requires a syllabus be submitted with each new course or course modification request. Please note that submitters are encouraged to attend the CALS CC meeting at which their item is being reviewed. This allows the submitter to answer any potential questions that may arise that could cause the item to not be approved. Also, be aware that when completing the UCC form the section Description of Request is asking for a brief statement about what you are doing. This is **not** the place for a course description. A statement such as "Proposal of a new undergraduate course" is all that is needed. Please do not submit documents in pdf format. All documents should be submitted in Word to facilitate editing on our end if necessary.

CHECKLIST: PLEASE INITIAL OR MARK N/A FOR EACH STATEMENT TO INDICATE YOUR COMPLIANCE.

SYLLABUS: You are encouraged to use the CALS ACCESSIBLE SYLLABUS TEMPLATE. Accessibility will be required by APRIL 2026.
****Use of Simple Syllabus will be required for Summer 2026 forward. It is slated to be released to faculty in late February 2026.****

✓ It is required when making a submission that you consult your department's representative to the CALS CC. A list of current members can be found on the committee site located at: https://cals.ufl.edu/faculty-staff/committees/.

✓ Submission of a course modification requires both the current version of the course syllabus and the proposed version.

✓ Joint course submissions must include 1) both graduate and undergraduate syllabuses and 2) a separate document outlining the substantial (more than one) differences in assignments between the two courses. These assignments must account for at least a 15% difference in graded material between the two levels. If this is a new course submission both courses must be submitted for approval simultaneously.

✓ The course description on the UCC form and in the syllabus must match and should be no longer than 500 characters. FOR AN EXITING COURSE, THE DESCRIPTION **MUST MATCH THE CATALOG DESCRIPTION**. Follow the **COURSE DESCRIPTION GUIDELINES** for new courses if not contraindicated by outside certification requirements. Any other information you wish to include needs to be under a different heading such as background or additional course information.

Original file: CALS CC Checklist_VDC.pdf

✓ The course learning objectives must be consistent with Bloom's taxonomy. Please see the following link at the CALS Curriculum site. (https://cals.ufl.edu/content/PDF/Faculty_Staff/cals-courseobjectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

✓ The course schedule should be concise and include the appropriate number of weeks in the semester.

✓ All graduate course submissions must include a reading list if a textbook is not required. The reading list should include at least some current readings (within the last 5 years). All readings do not need to be current.

✓ Outside consultations are required if there is a possibility of the proposed course covering a significant amount of material taught in another department or college on campus. There must be a consult form completed by the chair of the department from who you are seeking the consult. Instructors may provide additional consults. The form can be found at: https://approval.ufl.edu/policies/external-consultations/.

✓ Prerequisite courses are required for 3000 and 4000 level courses. This line of the approval form cannot be "none" or left blank. Junior or senior standing is an acceptable option. A phrase such as "a course in basic biology" is not acceptable. (Graduate courses should not have specific courses listed as prerequisites. If needed a statement of skills required prior to taking the course can be provided under other course information.)

✓ Decimal points must be included in the grading scale if grade cut-offs are based on percentages. While this is not a university policy it is a CALS standard practice to avoid any confusion when final grades for the course are determined.

✓ The attendance and make-up policy in a syllabus cannot contradict the university's policy. Do not include any additional wording to this policy. A statement and link regarding this are included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

✓ The most recent version of the UF Syllabus Statements. Using the accessible syllabus template will ensure you have the most up to date statements. Do not use boilerplate statements from an old syllabus as they are likely to be out of date.

Certificates

If proposing a new undergraduate or graduate level certificate that includes any courses outside of the submitters department a statement regarding any possible impact on those courses needs to be included. An email from the instructor is acceptable. Also, any courses required for the certificate must have permanent prefixes and course numbers. The submission must include intended catalog copy. (Contact Dr. Anne Mathews (anne.mathews@ufl.edu) for further instruction)

Original file: CALS CC Checklist_VDC.pdf

Creation of an undergraduate section for the existing MCB6318 "Comparative Microbial Genomics" class

The proposed undergraduate course (MCB4XXX) and the graduate course (MCB6318) share the same core objectives and modular content, focusing on comparative microbial genomics and bioinformatic approaches for functional prediction. However, they differ significantly in structure and delivery. MCB6318 is a 2-credit, intensive 8-week graduate-level course offered fully online and asynchronous, designed for students with prior advanced coursework (BSC6459). In contrast, MCB4XXX is a 3-credit, full-semester undergraduate course that begins asynchronously but transitions to a hybrid format with mandatory synchronous sessions for Q&A and draft reviews, but they have equivalent prereqs with BSC4434c completion. While both courses use similar grading components—assignments, project updates, peer reviews, a final project, and an exam—the undergraduate version provides extended timelines, iterative drafts of the final paper, and more structured support to scaffold writing and analysis skills. These adjustments accommodate undergraduate needs for deeper engagement and gradual mastery, while the graduate course assumes higher autonomy and accelerates the pace for experienced learners.

Summary table of proposed changes

Aspect	**MCB6318 (Graduate)**	**MCB4XXX (Undergraduate)**
Credits	2	3
Level	Graduate	Undergraduate
Prerequisite	A- or higher in BSC6459	A-/A in MCB4434c
Delivery Format	Fully online, asynchronous	Online until March, then hybrid with mandatory synchronous sessions (Wed Period 2)
Course Duration	8 weeks	15 weeks (full semester)
Schedule Highlights	Final exam & paper due Week 8 (March 4–5)	Multiple Q&A and draft review sessions; final paper due Week 15
Evaluation	Assignments 25%, Updates 15%, Peer Reviews 10%, Final Project 35%, Final Exam 15%	Same percentages, extended timeline and structured review process
Final Project	One paper after updates and peer reviews	Iterative drafts: first draft (Week 12), second draft (Week 14), final submission (Week 15)
Support	Mandatory individual meeting Week 7	Multiple mandatory synchronous sessions for feedback

Workload & Depth	Intensive, fast-paced, assumes prior experience	Slower pace, more scaffolding for writing and analysis

MCB#### Comparative Microbial Genomics

Online/Asynchronous until beginning of March, then hybrid asynchronous/synchronous (Wednesday second period) until end of Semester, 3 credits

Dr. Valérie de Crécy-Lagard

Office: MCS 1254

Phone: 352-392 9416

e-mail: vcrecy@ufl.edu

Office hour: Every Monday 5h30-6h30PM EST through the Canvas ZOOM

Course Description

Acquisition of methods to allow experimental scientists lacking computer programming skills to efficiently use the genomic and post-genomic data that is freely available over the web to predict protein function. Examples will be mainly taken from the field of microbial metabolism and regulation.

Course Learning Objectives

- Understand how proteins are functionally annotated and the current issues in the accuracy and completeness of these annotations.
- Predict if a metabolic pathway is present in a given organism.
- Perform database searches to identify genes that are physically linked or that follow specific phylogenetic distribution patterns.
- Extract information related to genome-wide experimental data (gene or protein expression, phenotype, interaction data) gene or protein expression from databases and use this as building blocks or input for research projects
- Use databases to search and identify structural homolog or catalytic domains in proteins to elaborate upon the function of unknown proteins.
- Use databases that integrate different types of data and use advanced visualization tools.
- Apply these methods to current issues in microbial physiology and metabolism.

Course Prerequisites

Grade A-/A in BSC4434c

Textbooks, Learning Materials, and Supply Fees

These books are not required but cover many of the topics we will discuss in class:

Bioinformatics. A practical guide to the analysis of genes and proteins (Third Edition). Editors A.D. Baxevanis and B.F.F. Ouellette. 2004. John Wiley & Sons, Inc., Hoboken, New Jersey. ISBN 0-471-47878-4

Bioinformatics: Genes, Proteins and Computers (First edition). Editors C.A. Orengo, D. Jones , J. Thornton. 2003. Bios Scientific Publisher, Oxford, UK. ISBN-10: 1859960545. required]

Communication Guidelines

Use the CANVAS email for all communications about the class. For emergencies you can email us to vcrecy@ufl.edu

Class Demeanor/Expectations

Students are expected to meet the deadlines for their assignments, project updates, peer reviews and final project. No extension for the module assignments will be given without prior approval by the instructor and only for catastrophic events (such as hurricanes). Because of the peer review process and the tight deadline for course grade submission, all deadlines for the Final project (four updates, 3 peer reviews and final submission) will be strictly enforced with NO possibilities of extension.

Technical Support

UF Computing Help Desk & Ticket Number: All technical issues require a UF Helpdesk Ticket Number. The UF Helpdesk is available 24 hours a day, 7 days a week. https://helpdesk.ufl.edu/ | 352-392-4357

Weekly Course Schedule (to be modified with actual dates)

Module 1 Dealing with the avalanche of data

Week 1: Extracting genomes and proteins from databases

Module 2 Linking gene and function

Week 2: From gene to pathway and from pathway to gene

Week 3: Using comparative genomic methods to identify missing genes

Module 3 Genome-wide analysis of experimental data & data Integration

Week 4: Techniques to study global gene expression. Mining gene expression databases and regulatory sites identifications

Week 5: Analyzing fitness and phenotype data, data integration, mapping data to pathway

Module 4 Mining and predicting 3D structures

Week 6: 3D structure visualization and mining and predicting of protein-protein, protein-ligand and protein nucleic acid interactions

Module 5 Data Visualization

Week 7: Visualization tools (Mapping data to phylogenetic trees, comparing logos, etc)

Final Exam, week 8

Final exam deadline

Spring Break, week 9

Final paper, week 10

Wednesday Period 2 remote mandatory attendance final paper Q & A

Final paper, week 11

Wednesday Period 2 remote mandatory attendance final paper Q & A

Final paper, week 12

Final paper first draft submission

Wednesday Period 2 remote mandatory attendance first draft review

Final paper, week 13

Wednesday Period 2 remote mandatory attendance final paper Q & A

Final paper, week 14

Final paper second draft submission

Wednesday Period 2 remote mandatory attendance first draft review

Final paper, week 15

Final paper Final paper submission

Wednesday Period 2 remote mandatory attendance Final paper grade review

Grading Policy

Course grading is consistent with UF grading policies.

Course Grading Structure

[Required, methods by which students will be evaluated and their grade determined.]

Assignment Type	Percent of Final Grade
Assignments	25%
Final Project Updates	15%
Final Project Peer reviews	10%
Final Project Paper	35%
Final Exam	15%

ASSIGNMENTS (total 25% of the grade): For each module, the student will complete between 4 and 9 assignments. Each assignment is designed to apply the concepts, methods or websites covered during the lectures.

FINAL EXAM (15% of the grade):

This is the only proctored assignment that will use the Honorlock Test Management System. It will cover all the material taught in class in small application exercises. Students must abide by the Honorlock proctoring rules and regulations. Cameras must be turned ON and the student's face must be visible

throughout the entire duration of the exam. The students are expected to provide their own computer/laptop and secure a testing location that meets the Honorlock standards.

FINAL PROJECT (total 60 % of the grade): At the end of the course, the student is required to submit a final project in which the goal is to make a hypothesis of the function of a hypothetical protein/family of proteins by applying the knowledge gained during the course. The student will be given a gene family and using a combination of data-mining, comparative genomic analysis, phylogenomics and protein sequence and structure analysis tools the student will have to present what can be inferred about the protein family and a prediction of function or a link to a pathway or a specific metabolic area.

The final project has 3 components that will be graded individually.

1. Weekly updates (15% of the grade). To help the student organize the information gathered, three updates are required.

Update 1: Summarize the results of a literature search you did on your family. Summarize the blast and family searches you did on this family Show a multiple alignment, a phylogenetic tree of the family and potential active sites visualized using Logos. What associations can you find using the String database. Any physical clustering with genes of known function? Any gene fusions?

Update 2: Can you find any associations with other genes using Microarray or RNA seq databases? Did you find binding sites for known transcription factors? Did you find any associations using other types of experimental data (fitness, phenotypes, physical interactions)?

Update 3: What structural information is there about members of your family? Were you able to build a structural model? Did you find or can you predict any ligand bound in the structure? Is this ligand biologically relevant or not? Can you predict interactions with nucleic acids or other proteins?

Mandatory office hour: I will meet with every student individually during week 7 to discuss the final project. Time slots will be organized the week before.

Update 4: Explore advanced tools that you can use on your family and present at least two. These can be: compare logos, Itol tree or mapping transcriptomic data (or metabolomic) to pathway maps.

IMPORTANT: The updates have to be submitted on time, or you will not be able to participate in the peer-reviews assignments. I will be very strict on enforcing the deadlines with 50% off the Update grade when submitted 12 hours late, and a zero on the assignment after 24H (plus a zero on the peer-review grade).

2. Peer review (10% of the grade)

The student will be assigned to two peer-reviews for each update (a total of 6). The student will need to complete the rubric provided as well as the feedback section. The grading performed by the student is only part of the author's feedback and will not affect the grade of the author. The feedback and analysis of the updates will be graded by the instructors (15% of the grade).

3. <u>Written component individual assignment - Final Paper</u> (35% of the grade)

The student will need to propose a functional hypothesis for your "unknown" and defend it in the paper using bioinformatic evidence. I **<u>do not</u>** expect a concatenation of the updates. An example of the type of work expected is the DUF71 paper that student will read in Module 4. The evaluation will be based on the clarity and the logic of your argumentation as well as the quality of the bioinformatic data presented. Finally, the adherence to correct scientific writing style will be evaluated.

STEPS:

1. Initial submission for per review
2. Peer review
3. Submission of final paper

Grading Scale

Grade	Percentage
A	92.0-100%
A-	< 92.0 %
B+	< 88.0 %
B	< 85.0 %
B-	< 82.0 %
C+	< 78.0 %
C	< 75.0 %
C-	< 70.0 %
D+	< 68.0 %
D	< 65.0 %
D-	< 60.0 %
S	< 58.0 %

Academic Policies and Resources

Academic policies for this course are consistent with university policies. See https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

Campus Health and Wellness Resources

Visit https://one.uf.edu/whole-gator/topics for resources that are designed to help you thrive physically, mentally, and emotionally at UF.

Please contact UMatterWeCare for additional and immediate support.

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Privacy and Accessibility Policies

[required for online courses, list all technology used]

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  - Instructure Privacy Policy
  - Instructure Accessibility
- Zoom
  - Zoom Privacy Policy
  - Zoom Accessibility

Comparative Microbial Genomics
MCB 6318 Section 162B (2 credits)
MCB 6318 Section 069F (2 credits)

Online/Asynchronous 2 credits

Dr. Valérie de Crécy-Lagard
Office: MCS 1254

Phone: 352-392 9416

e-mail: vcrecy@ufl.edu

Office hour: Every Monday 5h30-6h30PM EST through the Canvas ZOOM

Course Description
Acquisition of methods to allow experimental scientists lacking computer programming skills to efficiently use the genomic and post-genomic data that is freely available over the web to predict protein function. Examples will be mainly taken from the field of microbial metabolism and regulation. required: This description must match the catalog description and can be no more than 500 characters.]

Course Learning Objectives

- The students will be able to understand how proteins are functionally annotated and the current issues in the accuracy and completeness of these annotations.
- The students will be able to predict if a metabolic pathway is present in a given organism.
- The students will be able to perform database searches to identify genes that are physically linked or that follow specific phylogenetic distribution patterns.
- The students will be able to extract information related to genome-wide experimental data (gene or protein expression, phenotype, interaction data) gene or protein expression from databases and use this as building blocks or input for research projects
- The students will be able to use databases to search and identify structural homolog or catalytic domains in proteins to elaborate upon the function of unknown proteins.
- The students will be able to use databases that integrate different types of data and use advanced visualization tools.
- The students will apply these methods to current issues in microbial physiology and metabolism.

Course Prerequisites

Grade A- or higher in BSC6459

Textbooks, Learning Materials, and Supply Fees
These books are not required but cover many of the topics we will discuss in class:

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Week 6: 3D structure visualization and mining and predicting of protein-protein, protein-ligand and protein nucleic acid interactions

Module 5 Data Visualization

Week 7: Visualization tools (Mapping data to phylogenetic trees, comparing logos, etc)

Final Exam, week 8

Final exam deadline

Final paper submission

Grading Policy

Course grading is consistent with UF grading policies.

Course Grading Structure

[Required, methods by which students will be evaluated and their grade determined.]

Assignment Type	Percent of Final Grade
Assignments	25%
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Final Project	35%
Final Exam	15%

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The final project has 3 components that will be graded individually.

1. **Weekly updates (15% of the grade).** To help the student organize the information gathered, three updates are required.

Update 1: Summarize the results of a literature search you did on your family. Summarize the blast and family searches you did on this family Show a multiple alignment, a phylogenetic tree of the family and potential active sites visualized using Logos. What associations can you find using the String database. Any physical clustering with genes of known function? Any gene fusions?

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3. Written component individual assignment - Final Paper (35% of the grade)

The student will need to propose a functional hypothesis for your "unknown" and defend it in the paper using bioinformatic evidence. I **do not** expect a concatenation of the updates. An example of the type of work expected is the DUF71 paper that student will read in Module 4. The evaluation will be based on the clarity and the logic of your argumentation as well as the quality of the bioinformatic data presented. Finally, the adherence to correct scientific writing style will be evaluated.

STEPS:

1. Initial submission for per review
2. Peer review
3. Submission of final paper

Grading Scale

Grade	Percentage
A	92-100%
A-	< 92%
B+	< 88%
B	< 85%
B-	< 82%
C+	< 78%
C	< 75%
C-	< 70%
D+	< 68%
D	< 65%
D-	< 60%
S	< 58%

Academic Policies and Resources

Academic policies for this course are consistent with university policies. See https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

Campus Health and Wellness Resources

Visit https://one.uf.edu/whole-gator/topics for resources that are designed to help you thrive physically, mentally, and emotionally at UF.

Please contact UMatterWeCare for additional and immediate support.

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

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[required for online courses, list all technology used]

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  - Instructure Privacy Policy
  - Instructure Accessibility
- Zoom
  - Zoom Privacy Policy
  - Zoom Accessibility

Cover Sheet: Request 22383

ENY4XXX The Business of Beekeeping

Info

Process	Course|New|Ugrad/Pro
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Cameron Jack cjack@ufl.edu
Created	1/12/2026 11:35:38 AM
Updated	2/17/2026 10:45:50 AM
Description of request	I am seeking approval for a new course offered in the Entomology and Nematology Department called The Business of Beekeeping. This course will be an essential part of our beekeeping certificate program.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Entomology and Nematology 60140000	Jennifer Weeks		1/28/2026
No document changes					
College	Pending	CALS - College of Agricultural and Life Sciences			1/28/2026
No document changes					
University Curriculum Committee					
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Catalog					
No document changes					
Student Academic Support System					
No document changes					
College Notified					
No document changes					

Original file: Cover sheet.pdf

Course|New for request 22383

Info

Request: ENY4XXX The Business of Beekeeping
Description of request: I am seeking approval for a new course offered in the Entomology and Nematology Department called The Business of Beekeeping. This course will be an essential part of our beekeeping certificate program.
Submitter: Cameron Jack cjack@ufl.edu
Created: 1/28/2026 11:57:23 AM
Form version: 2

Responses

Recommended Prefix ENY
Course Level 4

Course Number XXX
Lab Code None
Course Title The Business of Beekeeping
Transcript Title The Business of Beekeeping
Delivery Method AD - All Distance Learning (100% of course content taught outside of classroom)
Effective Term Fall
Effective Year 2026
Rotating Topic No
Repeatable Credit? No

Amount of Credit 3

S/U Only? No
Contact Type Regularly Scheduled
Course Type Lecture
Weekly Contact Hours Students will have about 3 hours of contact with instructor each week, on average.
Course Description Provides an overview related to the management of a commercial beekeeping operation. This course will provide an overview of the ways to generate revenue in beekeeping, the steps of creating an effective business plan and many of the rules and regulations of which beekeepers should be aware.
Prerequisites ENY4573 Beekeeping I
Co-requisites N/A
Rationale for Placement in the Curriculum The Business of Beekeeping course will be an undergraduate elective course within the Entomology and Nematology Department. This course will become a popular elective within the rapidly growing Beekeeping certificate program. This course is unique as it is not as focused on the scientific understanding of the organism (honey bee) but is focused on assisting those who desire to create a beekeeping business. This is the only university course on beekeeping businesses in the country and is essential for our beekeeping education program at UF.
Syllabus Content Requirements All Items Included

Original file: Submitted form version 2.pdf

CALS Curriculum Committee
Submission Checklist

Updated January 2026

NOTE: This checklist must be included with all course and certificate submissions.

The checklist below is intended to facilitate course and certificate submissions to the University of Florida Academic Approval Tracking System (https://approval.ufl.edu/). The checklist consists of the most common items that can cause a submission to require changes or be recycled. Contrary to information provided on the UF approval site, the CALS Curriculum Committee requires a syllabus be submitted with each new course or course modification request. Please note that submitters are encouraged to attend the CALS CC meeting at which their item is being reviewed. This allows the submitter to answer any potential questions that may arise that could cause the item to not be approved. Also, be aware that when completing the UCC form the section Description of Request is asking for a brief statement about what you are doing. This is **not** the place for a course description. A statement such as "Proposal of a new undergraduate course" is all that is needed. Please do not submit documents in pdf format. All documents should be submitted in Word to facilitate editing on our end if necessary.

CHECKLIST: PLEASE INITIAL OR MARK N/A FOR EACH STATEMENT TO INDICATE YOUR COMPLIANCE.

SYLLABUS: You are encouraged to use the CALS ACCESSIBLE SYLLABUS TEMPLATE. Accessibility will be required by APRIL 2026.
****Use of Simple Syllabus will be required for Summer 2026 forward. It is slated to be released to faculty in late February 2026.****

X It is required when making a submission that you consult your department's representative to the CALS CC. A list of current members can be found on the committee site located at: https://cals.ufl.edu/faculty-staff/committees/.

X Submission of a course modification requires both the current version of the course syllabus and the proposed version.

X Joint course submissions must include 1) both graduate and undergraduate syllabuses and 2) a separate document outlining the substantial (more than one) differences in assignments between the two courses. These assignments must account for at least a 15% difference in graded material between the two levels. If this is a new course submission both courses must be submitted for approval simultaneously.

X The course description on the UCC form and in the syllabus must match and should be no longer than 500 characters. FOR AN EXITING COURSE, THE DESCRIPTION **MUST MATCH THE CATALOG DESCRIPTION**. Follow the **COURSE DESCRIPTION GUIDELINES** for new courses if not contraindicated by outside certification requirements. Any other information you wish to include needs to be under a different heading such as background or additional course information.

Original file: CALS CC Checklist_CJ Completed.pdf

X The course learning objectives must be consistent with Bloom's taxonomy. Please see the following link at the CALS Curriculum site. (https://cals.ufl.edu/content/PDF/Faculty_Staff/cals-courseobjectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

X The course schedule should be concise and include the appropriate number of weeks in the semester.

X All graduate course submissions must include a reading list if a textbook is not required. The reading list should include at least some current readings (within the last 5 years). All readings do not need to be current.

X Outside consultations are required if there is a possibility of the proposed course covering a significant amount of material taught in another department or college on campus. There must be a consult form completed by the chair of the department from who you are seeking the consult. Instructors may provide additional consults. The form can be found at: https://approval.ufl.edu/policies/external-consultations/.

X Prerequisite courses are required for 3000 and 4000 level courses. This line of the approval form cannot be "none" or left blank. Junior or senior standing is an acceptable option. A phrase such as "a course in basic biology" is not acceptable. (Graduate courses should not have specific courses listed as prerequisites. If needed a statement of skills required prior to taking the course can be provided under other course information.)

X Decimal points must be included in the grading scale if grade cut-offs are based on percentages. While this is not a university policy it is a CALS standard practice to avoid any confusion when final grades for the course are determined.

X The attendance and make-up policy in a syllabus cannot contradict the university's policy. Do not include any additional wording to this policy. A statement and link regarding this are included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

X The most recent version of the UF Syllabus Statements. Using the accessible syllabus template will ensure you have the most up to date statements. Do not use boilerplate statements from an old syllabus as they are likely to be out of date.

Certificates

If proposing a new undergraduate or graduate level certificate that includes any courses outside of the submitters department a statement regarding any possible impact on those courses needs to be included. An email from the instructor is acceptable. Also, any courses required for the certificate must have permanent prefixes and course numbers. The submission must include intended catalog copy. (Contact Dr. Anne Mathews (anne.mathews@ufl.edu) for further instruction)

Original file: CALS CC Checklist_CJ Completed.pdf

ENY#### The Business of Beekeeping

Fall 2026
Online Asynchronous, 3 credits

Instructor

Cameron Jack, PhD
Office Room #: ENY (Bldg 964), room 114
Office Address: Steinmetz Hall, Natural Area Drive, P.O. Box 110620, Gainesville, FL 32611
Office Phone #: 352-294-6926
E-mail: cjack@ufl.edu
Office Hours: Tuesdays 2 – 4 pm at my office or online by appointment.

Teaching Assistant

Tim Liptak
Office Phone #: 843-276-2938
E-mail: tliptak@ufl.edu
Office Hours: Thursdays 6 – 7 pm via Zoom (link will be provided).

Course Description

An overview of managing commercial beekeeping operations. Topics include revenue generation through beekeeping, effective business plan development, and beekeeping rules and regulations.

Course Learning Objectives

1. Identify the federal and state requirements associated with operating a beekeeping business.
2. Describe the transportation requirements of hauling honey bee colonies and the considerations for commercial pollination services.
3. Compare the types of beekeeping operations and the different ways to generate revenue in beekeeping.
4. Summarize the steps of hiring and managing employees.
5. Create a business plan according to the goals, revenue streams and interests of the beekeeper.

Course Prerequisites

ENY4573 Beekeeping I

Textbooks, Learning Materials, and Supply Fees

Textbook: (Recommended): Flotum, K. 2018 (revised from 2011). In Business with Bees: How to expand, sell and market honey bee products and services including pollination, bees and queens, beeswax, honey and more. Quarry Books. Beverly, MA, 158 pp.

Required Readings:

1. Evans, E. A. 2024. Primer for Developing a Farm Business Plan. University of Florida EDIS. FE720
2. Ahn, S., O'Donougue, A., House, L., and R. Goodrich-Schneider. 2021. How to Start a Food Business: Writing a Business Plan. University of Florida EDIS. FSHN14-12
3. Lewis, H. 2012. Basic Accounting: Guidance for Beginning Farmers. National Sustainable Agriculture Information Service.

4. Lewis, H. 2012. Financing Your Farm: Guidance for Beginning Farmers. National Sustainable Agriculture Information Service.
5. United States Department of Labor. Cultivating Compliance: An Agricultural Guide to Federal Labor Law. WH15220714
6. Zettel-Nalen, C. M. and J. D. Ellis. 2021. Theft, Vandalism, and Other Related Crimes in the Beekeeping Industry: A Guide for Beekeepers. University of Florida EDIS. ENY157

Instructor Interaction Plan

All course communications (assignments, announcements, test information, etc.) will be made via the Announcements in Canvas. Please ensure that your Canvas profile is set to receive notifications (i.e. please check the appropriate box to receive all notifications). To do this, click on your name in the upper right corner of the Canvas homepage after logging into Canvas. Next, click "notifications" on the left. This will take you to the Notification Preferences page. Then, click the check symbol for at least the following notifications: Due Date, Course Content, Announcement, and Grading.

Students are encouraged to post general questions on topics taught in the class under the General Questions thread. The instructor and/or the TAs will respond to the questions. Other students are also encouraged to respond to the questions. Private questions should be sent to the TAs via e-mail.

The instructor and TAs will do our best to respond within **24 hours during the week and 48 hours on weekends**. We will also do our best to grade assignments within one week of the due date.

Technical Support

UF Computing Help Desk & Ticket Number: All technical issues require a UF Helpdesk Ticket Number. The UF Helpdesk is available 24 hours a day, 7 days a week. https://helpdesk.ufl.edu/ | 352-392-4357

Weekly Course Schedule

This course is offered via Canvas as a distance education course. To stay on track, students must adhere to the course schedule.

Module	Video Content	Weekly Readings	Module Assessments	Critical Thinking Exercises	Interview with Beekeeper	Business Plan Assignments
Getting Started	Welcome video; How to be successful in this course	Course syllabus; Tips for success	Aug. 28th			
Types of Beekeeping Operations	Backyard; Sideliner; Commercial; Transition and effort	Textbook: 8-16	Sep. 4th			
Ways to Generate Revenue in Beekeeping	Bee production; Honey producers/packers; Queen producers; Bee removal; Beekeeping supplies distributors, Commercial pollination; Regulatory	Textbook: 66-90	Sep. 11th	Sep. 11th	Identify Commercial Beekeeper Sep. 11th	
Creating a Business Plan	Assistance and training; Goal setting; Business planning; Writing a business plan	EDIS: Developing a Business Plan; Writing a Business Plan	Sep. 18th			
Starting a Business	Selecting a legal structure; Registering name and taxes; Licenses and permits	Textbook: 17-35	Sep. 25th	Sep. 25th		
Financial Structure	Financial advisor; Bookkeeping basics; Financial statements; Budgeting; Making money with bees	Basic Accounting; Financing your Farm	Oct. 2nd			
Federal and State Requirements	Rules and regulations for keeping honey bees; Federal taxes, State and local taxes; Labor laws	Cultivating compliance	Oct. 9th	Oct. 9th		

Hiring and Managing Employees	Contractor or employer; Steps for hiring an employee; Hiring foreign employees; Employee rights and benefits		Oct. 23rd		Beekeeper Interview Report Oct. 23rd	
Insurance	Overview of insurance types; Liability; Farm insurance		Oct. 30th	Oct. 30th		1st Submission Oct. 30th
Transportation Requirements	Moving colonies; State regulations; License and weight requirements; Commercial bee hauling and subcontracting		Nov. 6th			Peer Review Nov. 6th
Almond Pollination	Finding an almond grower; Preparing bees for almond pollination; During pollination contract; End of pollination contract	EDIS: Crimes in Beekeeping Industry Textbook: 104-109	Nov. 13th			
Bottling Honey and Food Safety	Bottling honey; Commercial honey house requirements; Commercial honey labeling requirements	Textbook: 43-65	Nov. 20th	Nov. 20th		Final Submission Nov. 20th

Grading Policy

Course grading is consistent with UF grading policies.

Course Grading Structure

The course grade is based on total points earned out of 550 possible points.

Module assessments	15 points each × 10 assessments	150 points
Section critical thinking exercises	35 points each × 5 exercises	175 points
Identify commercial beekeeper to interview	15 points	15 points
Commercial Beekeeper interview report	75 points	75 points
1st Submission of Business Plan	15 points	15 points
Submission of your peer evaluations of two of your peers' Business Plans	10 points × 2 peer reviews	20 points
Final draft of your Business Plan	100 points	100 points
	Total Course Points	550 points

Grading Scale

Grade	Points
A	≥ 512
A-	$495 - 511.99$
B+	$479 - 494.99$
B	$457 - 478.99$
B-	$440 - 456.99$
C+	$424 - 439.99$
C	$402 - 423.99$
C-	$385 - 401.99$
D+	$369 - 384.99$
D	$347 - 368.99$
D-	$330 - 346.99$
S	$0 - 329.99$

Assignments:

(1) **Module Assessments:** There is a 15-point assessment associated with each of the eleven modules in this course. The lowest assessment grade will be dropped. These assessments are *open note* (i.e. you

are allowed to use class lectures, books, websites, etc. while taking the assessments). The assessments will be composed of true/false and multiple choice questions. The assessments 1) open the Saturday morning after the previous section ends, 2) are timed (30 minutes each), and 3) are due on the following Friday at 11:59 pm on the date listed in the course schedule. These are individual assessments so please do your own work and do not work in groups or share your answers. There is a large bank of test questions for each assessment and the assessment questions are selected randomly for each student. **You will receive a 5-point deduction for each day a module assessment is late**.

The first module assessment is an ungraded syllabus quiz on the "Getting Started" module. You need to read the syllabus and answer quiz questions related to it before you are able to advance to the next module. This quiz will show you how your online assessments will be formatted as well as allow you to demonstrate that you understand how this course works and important due dates.

(2) Critical Thinking Exercises: The exercises are designed to encourage you to think critically about the content presented in the module lectures. The critical thinking exercises are worth 35 points each. There are separate exercises designed for honors and graduate students incorporating additional questions from the scientific journal articles assigned to that section. These are individual exercises so please do your own work and do not work in groups or share your answers. All of the critical thinking exercises are open note and untimed. You can close and reopen the exercise as many times as you would like until the due date (see course schedule), but you will not be able to make any changes once you have officially submitted your final exercise. **The exercises are due at 11:59 pm on the date listed in the course schedule.** You will receive a 5 point deduction for each day a module assessment is late.

(3) Commercial Beekeeper Interviews: One of the best ways to learn about commercial beekeeping is to talk to actual commercial beekeepers! This semester, you will have the opportunity to find a commercial beekeeper and talk to them about their own operation. Find out how they diversify their operation, what challenges they face and what advice they would give to someone starting out their beekeeping enterprise. Commercial beekeepers are incredibly busy and may not always be the easiest people to reach. However, at the end of the day, you have the same resources available to find commercial beekeepers that the Instructor and TAs have. Thus, the responsibility of finding a beekeeper lies with the student. That said, please contact the Instructor or TA if you need help finding a commercial beekeeper after doing your best to locate one yourself.

The Commercial Beekeeper Interview grade is composed of two components.

1) Identifying a commercial beekeeper to interview (15 points) – We want to know who you plan to interview and see a written confirmation that the beekeeper has agreed to be interviewed. To complete this part of the assignment, please provide 1) the name of the beekeeper, 2) when you plan to interview the beekeeper, 3) contact information for the beekeeper (phone number/email), and 4) proof of consent (can be an image of text message or screenshot of email) by the due date noted in the course schedule.

2) Interview Report (75 points) – You are expected to produce a written report containing the notes and highlights of the interview. During the interview you can discuss how their operation is managed, what the main revenue stream of their operation is (pollination, honey production, etc.), key obstacles the

beekeeper must overcome in his/her operation, etc. **Your visit with the beekeeper should help you write your own business plan**, so keep that in mind as you are talking with the beekeeper.

A grading rubric will be provided in Canvas to facilitate development of your commercial beekeeper interview report. **Five points will be deducted from reports every day past the due date (see the course schedule) that the report is submitted.** Please do not wait until the last minute to schedule your interview.

(4) Business Plan: An effective business plan is at the heart of any successful business. We've all heard the adage, "If you fail to plan, you plan to fail." Well, this semester we are going to prepare for your future by creating an effective business plan. Regardless of whether you actually start a beekeeping business in the future, the concepts of a good business plan are transferable to many other parts of life.

Your Business Plan must include:

- Executive summary
- Company description
- Products and services
- Marketing plan
    - An image of your logo (It's OK if you do not have amazing graphic design skills, just make sure it is neat and you do your best.)
- Operational plan
- Human Resource Plan
- Financial plan
- Subheadings to differentiate between activities or meetings you experienced
- Page numbers
- 12-point, professional font
- Double spaced
- 4-5 pages long (including pictures and/or figures)

A grading rubric will be provided in Canvas to facilitate development and peer review of the beekeeping experience report. **Five points will be deducted from reports every day past the due date (see the course schedule) that the report is submitted.** Please do not wait until the last minute to produce your business plan.

The business plan grade (up to 135 pts) is composed of three components.

1) 15 points for the Business Plan 1st Submission – In this assignment, you will submit the first draft of your business plan. This submission should be as close to a final version as possible (i.e., **do not submit an outline**).

2) 20 points for submitting your peer evaluations of two other students' business plans (10 points per report) – After submission of all students' business plans, you will be randomly assigned two other students' business plans to peer evaluate using the rubric at the end of this

syllabus. You will be awarded 0, 10, and 20 points for submitting zero, one or two peer reviews respectively. Your evaluations of two of your peer's business plans are due by the date listed in the course schedule. This is your chance to help your fellow students, so please offer a respectful and useful critique of their work.

3) 100 points from the Instructor and TA's reviews of your business plan – The two peer reviews offered by the two students in the class based on the business plan rubric will help serve as a reviewing guide. The Instructor or TA will see if you made the appropriate or necessary changes to your plan suggested by your reviewers and also read your plan to assign the final grades based on the rubric provided in the Final Business Plan page.

Optional content: In addition to the assignments above, optional resources are provided throughout the course modules, labeled as "supplemental content." These resources are not required for course completion and are solely included for enrichment opportunities.

AI Use Policy for this course:

Artificial Intelligence (AI) tools, including but not limited to ChatGPT, Gemini, Claude, Copilot, and other generative AI systems, can be powerful aids for learning, writing, and problem-solving. In this course, **you are permitted to use AI to support your writing and coursework**, provided that you do so **responsibly, transparently, and in ways that uphold the UF Student Honor Code**.

Your work must always reflect **your own thinking, learning, and personal experiences**. AI may assist you, but it should not replace you.

What Is Allowed

You *may* use generative AI tools for tasks such as:

- brainstorming ideas
- outlining or organizing your thoughts
- revising for clarity and grammar
- generating practice questions or study guides
- suggesting alternative phrasing

AI may also be used at specific assignment stages when noted in the instructions.

What Is Not Allowed

You *may not*:

- submit AI-generated text **as your own original work**
- use AI to fabricate personal experiences, reflections, or observations
- use AI to complete tasks that specifically require *your own* interpretation, analysis, or judgment
- input any **restricted, sensitive, or personal data** into external AI tools (per UF Data Security and Privacy guidance)

Misuse of AI—including unacknowledged AI assistance—will be treated as a violation of the UF Student Honor Code.

Required Citation of AI Use

Any use of AI tools in your work must be **clearly cited**. At minimum, include:

1. The tool used (e.g., ChatGPT)
2. The purpose (e.g., "to generate an outline," "to suggest revisions")
3. The exact prompt(s) you used, either in an appendix or assignment note

Example Citation (APA style)

ChatGPT (2025, January 12). Response to the prompt: *"Suggest three ways to reorganize this paragraph for clarity."* OpenAI. https://chat.openai.com/

Academic Policies and Resources

Academic policies for this course are consistent with university policies. See https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

Campus Health and Wellness Resources

Visit https://one.uf.edu/whole-gator/topics for resources that are designed to help you thrive physically, mentally, and emotionally at UF.

Please contact UMatterWeCare for additional and immediate support.

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Privacy and Accessibility Policies

[required for online courses, list all technology used]

- Instructure (Canvas)
  - Instructure Privacy Policy
  - Instructure Accessibility
- Zoom
  - Zoom Privacy Policy
  - Zoom Accessibility

Cover Sheet: Request 22511

AEC 4036 Advanced Agricultural Communication Production

Info

Process	Course|Add to ExistingUgrad|AI
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Jamie Loizzo jloizzo@ufl.edu
Created	1/29/2026 4:00:27 PM
Updated	2/11/2026 7:26:17 PM
Description of request	Request to update course title to include natural resources: AEC 3036 Advanced Agricultural and Natural Resources Communication Production *could be ANR to shorten Request to add Enable AI designation to the course.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Agricultural Education and Communication 514926000	Brian Myers		1/29/2026
No document changes					
College	Pending	CALS - College of Agricultural and Life Sciences			1/29/2026
No document changes					
AI Curriculum Committee					
No document changes					
Office of the Registrar					
No document changes					
Catalog					
No document changes					
Student Academic Support System					
No document changes					
College Notified					
No document changes					

Original file: Cover sheet.pdf

Existing AI Course (without changes) for request 22511

Info

Request: AEC 4036 Advanced Agricultural Communication Production
Description of request: Request to update course title to include natural resources:
AEC 3036 Advanced Agricultural and Natural Resources Communication Production
*could be ANR to shorten

Request to add Enable AI designation to the course.
Submitter: Jamie Loizzo jloizzo@ufl.edu
Created: 1/29/2026 3:52:06 PM
Form version: 1

Responses

Canvas Availibility Yes, I acknowledge this requirement.
Assessment Data Yes, I acknowledge this requirement.
Weekly Schedule and Assignments Yes, I acknowledge this requirement.
Course Prefix and Number AEC 4036
Course Title Advanced Agricultural Communication Production
Lab Code C
Delivery Method HB - Hybrid Blend (50-79% of course content taught outside of classroom)
Effective Term Fall
Effective Year Earliest Available
Credit Hours 3
Prerequisites AEC 3070
AI Percentile Designation This course contains greater than 10% and less than 50% AI-related content.

Requested AI Categories (10%-50%) Enable-AI: AI Enabled
SLO Statement Requirement I understand and agree to include the required statements in the course syllabus.
Rationale for the AI Category AI usage for advanced multimedia agricultural and natural resources communication project research, development, and implementation as well as reflective learning will account for 10-49% of the course content. AI tools and practices such as ChatGPT, Microsoft CoPilot, Adobe Creative Cloud, Adobe Firefly, Descript, Synthesia, and more are revolutionizing agricultural and natural resources communication. Land grant universities must prepare the next generation of science communicators and scientists to harness and apply these tools in ethical and effective ways. AEC 4036 will leverage a project-based learning instructional design to simultaneously teach AI literacy, practical AI tool application for public communication and engagement, and AI ethics. Students will use AI for brainstorming, outlining, issue and source research, and multimedia production, implementation, accessibility, and assessment. They will also apply critical thinking and human-AI judgment to shape their final work. We have already begun Enable-AI pedagogical approaches and activities into AEC 4036. For instance, through an Association of Public Land Grant Universities Innovative Teaching Award (2024), we implemented and evaluated AI-human podcasting tactics and tools. Pre/post-student survey results indicated students AI perceptions and podcasting self-efficacy increased. AI self-efficacy had the greatest increase (pre-M 2.46 pre-SD 1.08/ post-M 3.88 / post-SD 0.73), while AI trust had a slight decrease (pre-M 3.55 pre-SD 0.43/ post-M 3.57 / post-SD 0.45). Qualitative results revealed students foresee the future uses of AI to include creative ideation and task efficiency in ANR communication careers, as well as writing and graphic design enhancement. The project won the ‘High Impact Research’ poster award at the UF Research in Teaching and Learning (RiTL; 2025) Symposium and was presented at the North America College Teachers of Agriculture as an oral session (2025).
Course Description Provides directed experience in the following areas of agricultural and natural resources communication: video and audio production, graphic design, visual composition, desktop publishing and multimedia development. Prereq: AEC 3070.

Course Emphasis: Agricultural and natural resources communicators must understand the concepts and theories of science literacy, national standards for what it means to be a scientifically literate citizen, and how to connect scientists and the public through a variety of communication channels.

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This is an undergraduate/ graduate cross-listed college course designed to raise your awareness of science literacy concepts, how to engage in public conversations about controversial issues, how to interview scientists, how to edit scientific multimedia interviews, and how to ultimately produce a multimedia series with the goal to increase the public's science literacy. We will use multimedia and AI communication tools to create science communication and engagement projects such as high-end videos, podcasts, virtual reality (VR) tours, and/or social media campaigns. Some multimedia projects may be published in partnership with The Streaming Science Project, UF Research, Florida of Natural History (FMNH), and/or UF/IFAS Research. Completed high-quality multimedia projects could be shown in a museum display, on partners' YouTube channels and social media, and/or on WUFT-TV.

Course Objectives Essential Questions (EQs) and Learning Objectives (LOs)
EQ1: How can science communicators design a multimedia series with the overarching goal of increasing public science engagement and literacy?
LO1: Describe science engagement and literacy.
LO2: Research scientific concepts.
LO3: Contact and engage with scientists in a variety of research settings.
LO4: Create communication and instructional plans for partners to implement completed multimedia projects.
EQ2: What are methods for conducting and facilitating informational interviews with scientists that public audiences will find engaging?
LO5: Develop multimedia interview outlines and questions.
LO6. Conduct scientific multimedia interviews.
EQ3: How can science communicators leverage a variety of audio hardware and software (including AI) to produce professional multimedia to share with public audiences?
LO7. Edit scientific interviews.
LO8. Produce online multimedia series.
LO9. Write multimedia descriptions.
LO10. Use social media to share the final projects.

Instructor(s) Jamie Loizzo and Shane White
Required Links and Policies Yes

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Advanced Agricultural Communication Production
AEC 4036
Fall 2026 – 3 Credit Hours

Instructors

Jamie Loizzo, Ph.D.
Assistant Professor
Email: jloizzo@ufl.edu
Office Location: 121D Bryant Hall
Office Hours: by appointment

Shane White, Ph.D.
Instructional Assistant Professor
Email: shanewhite@ufl.edu
Office Location: UF/IFAS Plant City
Office Hours: by appointment

Teaching Assistants

TBD

Class Times	Location
Mondays 8:30-11:30am (Loizzo/**Gainesville**)	Bryant 107
Tuesdays 12:50-3:50pm (White/**Plant City**)	Plant City Mac Lab 117

This is a flipped class. You are expected to actively participate in face-to-face and online activities. *It is important you attend as many class meetings as possible unless you have an excused absence.

Course Description

Provides directed experience in the following areas of agricultural and natural resources communication: video and audio production, graphic design, visual composition, desktop publishing and multimedia development. Prereq: AEC 3070.

Course Emphasis: Agricultural and natural resources communicators must understand the concepts and theories of science literacy, national standards for what it means to be a scientifically literate citizen, and how to connect scientists and the public through a variety of communication channels. This is an undergraduate/ graduate cross-listed college course designed to raise your awareness of science literacy concepts, how to engage in public conversations about controversial issues, how to interview scientists, how to edit scientific multimedia interviews, and how to ultimately produce a multimedia series with the goal to increase the public's science literacy. We will use multimedia and AI communication tools to create science communication and engagement projects such as high-end videos, podcasts, virtual reality (VR) tours, and/or social media campaigns. Some multimedia projects may be published in partnership with The Streaming Science Project, UF Research, Florida of Natural History (FMNH), and/or UF/IFAS Research. Completed high-quality multimedia projects could be shown in a museum display, on partners' YouTube channels and social media, and/or on WUFT-TV.

Artificial Intelligence (AI) Credit

AEC 4036 is an **Enable-AI** designated course.
Enable-AI: Support AI through related knowledge and skill development, such as programming or statistics. AI course content is 10-49%.

This course accomplishes the AI Designation objective of the subject areas listed above. This course explains the definitions of AI, AI instructional and communication approaches and tools, and the ethics of human-AI generated science communication for public engagement. It also

explores various AI applications for science communication such as information-seeking, writing, editing, design, non-formal engagement facilitation, and assessment.

Artificial Intelligence Student Learning Outcomes (SLO)

SLO3. Select and/or utilize AI tools and techniques appropriate to a specific context and application.

- Assessed in lectures, weekly discussion, and scaffolded assignments for multimedia science project development.
- Addressed in development and implementation of final multimedia science communication project.

Essential Questions (EQs) and Learning Objectives (LOs)

EQ1: How can science communicators design a multimedia series with the overarching goal of increasing public science engagement and literacy?

LO1: Describe science engagement and literacy.
LO2: Research scientific concepts.
LO3: Contact and engage with scientists in a variety of research settings.
LO4: Create communication and instructional plans for partners to implement completed multimedia projects.

EQ2: What are methods for conducting and facilitating informational interviews with scientists that public audiences will find engaging?

LO5: Develop multimedia interview outlines and questions.
LO6. Conduct scientific multimedia interviews.

EQ3: How can science communicators leverage a variety of audio hardware and software (including AI) to produce professional multimedia to share with public audiences?

LO7. Edit scientific interviews.
LO8. Produce online multimedia series.
LO9. Write multimedia descriptions.
LO10. Use social media to share the final projects.

You will practice and demonstrate theories and skills through in-class and online discussions and project-based assignments.

Course Design

This course is structured following a project-based learning (PjBL) design. Our driving question this semester will be: *How can we as science communicators and leaders utilize multimedia to educate online audiences about sustainable agriculture and natural resources topics?*

PjBL steps include:

- Challenging problem/question
- Sustained inquiry
- Authenticity
- Student voice & choice
- Reflection
- Critique & vision
- Public Product

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This class is also designed to follow the 'Partnering Pedagogy' philosophy. We are partners in your learning and will work together to develop pathways and solutions to reach course learning goals.

Requirements

Textbook:

Strategic Science Communication by John C. Besley and Anthony Dudo

Technology:

To succeed in this course, you must have access to the following technology:

- Desktop Computer or Laptop
  - Audio Capabilities
  - Webcam and Microphone for synchronous sessions
- Microsoft Word - Microsoft 365 basics video training
- Adobe Audition – UF IT Student Discount Options
- Adobe Reader - Acrobat tutorials
- Zoom - Zoom Privacy Policy
- Internet Connection with access to Canvas
  - Canvas is the course management system at the University of Florida in which students will find course content, links to video lectures, assignments, quizzes, discussions, and grades. The use of this system will vary by instructor, but the following videos describe the most common tools in Canvas. The full student guide is provided if you have additional questions.
  - View Canvas Privacy Policy
- **Web Browser - Chrome** is the preferred browser for Canvas. If you do not have Chrome, you can download it.
- University of Florida Email
  - Students are expected to check their my.ufl emails daily. View the Student Computing Requirements page for information on technology requirements and expectations.

Artificial Intelligence (AI) Usage:

Within this class, we will use artificial intelligence including text, audio, and art-generating software (such as Descript, Adobe Audition Audio Essentials, ChatGPT, Canva Magic Tools, Adobe FireFly, etc.) in an unrestricted fashion to support activities such as idea generation, writing outlines, audio editing, artwork drafting, and analysis of public data sources (NOT data from private research participants). However, you should note that all large AI models still tend to make up incorrect facts and fake citations, code generation models tend to produce inaccurate outputs, and image generation models can occasionally come up with highly offensive products. You will be responsible for any inaccurate, biased, offensive, or otherwise unethical content you submit regardless of whether it originally comes from you or an AI model. If you use these models, their contribution must be acknowledged with your assignment; you will be penalized for using AI without acknowledgment. Having said all these disclaimers, the use of AI models is encouraged, as it may make it possible for you to submit assignments with higher quality, in less time.

The university's policy on plagiarism still applies to any uncited or improperly cited use of work by other human beings or submission of work by other human beings as your own. Some student work may be submitted to AI or plagiarism detection tools to ensure that student work is predominantly human created.

Minimum Technical Skills:

Minimum technical skills required:

- Proficiency in utilizing Canvas and navigating the internet effectively.
- Competence in using email for communication purposes, including sending and receiving messages and managing attachments.
- Familiarity with commonly used word processing applications (such as Microsoft Word or Google Docs), including the ability to create, edit, and format documents.
- Basic computer skills, including understanding fundamental operations like file management, using menus and toolbars, and navigating between different applications.
- Ability to perform online research using a variety of search engines and library databases.

Instructor Response & Feedback

We are committed to responding to your Canvas and email messages **within 24 hours** when feasible during the work week, Monday through Friday, *except holidays*. The major assignments will be graded, with *meaningful feedback* provided, **within one week of their submission**.

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Assignments

Learning Objective	Assignment/Activity	Possible Points	% of Grade
5	Practice Interview	20	2.2%
7,8	Human-AI Ethics Code	20	2.2%
1	Reading Check	30	3.3%
7,8	Human-AI Usage Log	50	5.6%
4,8	Final Presentation & Reflection	30	3.3%
3,6	Professionalism & Attendance	50	5.6%
	Pre-Production		
5	• Practice Video Draft	50	5.6%
5,7	• Practice Video Review	30	3.3%
7,8	• Practice Video Final	100	11.1%
2,3	• Topic Research & Expert Contact	40	4.4%
4,5	• Interview & B-Roll Plan	40	4.4%
	Production		
6	• Raw Interview(s)	40	4.4%
6,7	• Rough Cut	50	5.6%
7	• Rough Cut Review	30	3.3%
7,8	• Source Checks	50	5/6%
	Post-Production		
10	• Online Promotion	50	5.6%
7,8,9	• Final Video	100	11.1%
	Total	**900**	**100%**

Practice Interview You will conduct a short practice interview to develop foundational skills in question design, active listening, and communicating scientific topics for public audiences.

Human–AI Ethics Code You will create a personal ethics code outlining responsible and transparent use of AI tools in science communication and multimedia production.

Reading Check You will demonstrate understanding of assigned readings related to science engagement, literacy, and multimedia communication practices.

Human–AI Usage Log You will document and reflect on how AI tools were used throughout the course to support ethical, intentional, and transparent multimedia production.

Scaffolded Multimedia Production Series Throughout the semester, you will complete a sequenced set of assignments that guide you through the full multimedia production process, including topic research, expert outreach, interview planning, practice video development, raw interviews, rough cuts, source verification, final video production, and online promotion, allowing students to progressively build skills while receiving feedback at each stage.

Final Presentation & Reflection You will present your completed multimedia project and reflect on learning outcomes, production challenges, and professional growth.

Professionalism & Attendance You are evaluated on participation, communication, collaboration, timeliness, and professional conduct throughout the semester.

Course Grading:

The course grading scale is provided below. Papers and out-of-class assignments must be typed and formatted according to the instructions I provide in Canvas.

Grading Scale

A = 93-100%	C+ = 76 – 79.99%	F = Below 60%
A- = 90 – 92.99%	C = 73 – 75.99%	
B+ = 86 – 89.99%	C- = 70 – 72.99%	
B = 83 – 85.99%	D+ = 66 – 69.99%	
B- = 80 – 82.99%	D = 63 – 65.99%	
	D- = 60 – 62.99%	

Further information about UF grading policies can be found here:
https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

Reading & Assignment Schedule:

Week	Topic	Readings	Assignments	*AI Contact
Practice & Pre-Production				
1 Aug 22	Strategic SciComm Multimedia Production Human-AI Creativity	Chapters 1 & 2	Practice Interview	1 hour
2 Aug 26	Conducting Interviews Case Study Video Edit AI Workflow & Prompting	Ch 3 & 4	Human-AI Ethics	1 hour
3 Sep 2	Collaborating w/Scientists Case Study Video Edit AI Prompting	Ch 5 & 6	Practice Video Draft	2 hours
4 Sep 9	SciComm Models Topic Research AI Planning Tools	Ch 7 & 8	Topic Research Practice Video Review	1 hour
5 Sep 16	Expert Contacts AI Planning Tools	Ch 9 & 10	Expert Contact Practice Video Review	2 hours
6 Sep 23	SciComm Narratives Interview Questions AI & Audiences	Ch 11 & 12	Final Practice Video	1 hour
7 Sep 30	B-Roll Plan AI & Authenticity		Interview/B-Roll Plan Reading Check	1 hour
Production				
8 Oct 7	Video Interviews AI & Accessibility			1 hour
9 Oct 14	Video Interviews AI Multimedia Editing		Raw Interviews	1 hour
10 Oct 21	Video Editing AI Multimedia Editing		Raw Interviews	1 hour

Original file: AEC 4036_AdvAgComProd_AIEnable_jloizzo_swhite.pdf

Week	Topic	Readings	Assignments	*AI Contact
11 Oct 28	Rough Cuts Online Promotion Plan AI Audience Engagement		Rough Cuts	1 hour
12 Nov 4	Rough Cut Review Online Promotion Plan AI Audience Engagement		Rough Cut Review	1 hour
Post-Production & Reflection				
13 Nov 11	Final Video Editing Captions AI Iterative Improvement			2 hours
14 Nov 18	Final Video Editing Captions AI Iterative Improvement		Online Promotion	2 hours
Break Nov 25	**Break**			
15 Dec 2	Final Video AI Professional Practice		Source Check Human-AI Usage Log	2 hours
FINALS Dec 9	**Final Presentations & Reflections**			

*AI contact hours include structured, instructor-guided use of artificial intelligence tools for instructional design, content development, science communication, assessment, reflection, and evaluation.
**This schedule is tentative and subject to change – contingent upon learning progress, project milestone adjustments, and other unforeseen time circumstances.

Learner Expectations

You are expected to **attend every class and arrive on time**. If you must miss class, please keep up with the assigned readings, recordings of class meetings, and online activities, so you can make meaningful contributions. If you must miss class and are unable to speak with me in person, send me an e-mail as soon as possible. I expect all students to attend 80% of class meetings and to receive full professionalism points. However, I understand in current times that life has disruptions that sometimes we cannot avoid. You can miss **TWO** class meetings – as excused, without a deduction in professionalism points. If you miss more than two classes, you be will required to submit a one-page single spaced summary of the weekly content. This will be due by the end of the semester to be considered eligible for full professionalism credit.

Professionalism

Penalties will be assessed for unprofessional behaviors such as unexcused absences, tardiness, lack of preparation, or inattentiveness during class lectures or discussions. You are expected to be self-directed in reviewing the weekly module content and assignments as well as to reach out to me with any questions when directions in Canvas may be unclear or information is missing.

Original file: AEC 4036_AdvAgComProd_AIEnable_jloizzo_swhite.pdf

Late Assignments

The ability to meet deadlines is one of the most basic requirements expected of professionals. Announced deadlines are firm for all graded work, unless you receive prior permission from me. Permissions for late submission are granted only for approved university functions or other unique situations that warrant an excused absence as judged by me. Late assignments will receive a 5% deduction in points per each day the assignment is late. For instance, if the assignment is worth 50 points, and you submit it late – you will lose 2.5 points (5% of the total grade) per each day it is late. Unless otherwise stated, materials are due in class on the deadline date. Computer problems are not a justification for missed deadlines.

UF's Academic Honesty Statement:

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: ***"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."*** You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: ***"On my honor, I have neither given nor received unauthorized aid in doing this assignment."***

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g., assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates dishonesty to the instructor, department chair, college dean or Student Honor Court. **It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code.** Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: UF Student Code of Conduct Webpage.

Plagiarism:

Plagiarism includes taking **verbatim phrases of *just a few words*** without permission or full attribution. It includes ***quoting too much*** from your sources, thereby substituting their expression for your own, or quoting too much from one source, effectively taking more than a *fair use* of their work. **Over quoting (direct quotes)** comprising more than 10% of any assignment will be considered plagiarism. Plagiarism includes ***unique expression***, which can be a phrase of a few words or a simple moniker. Our writing is mostly *our own expression*. When writing for science and business, we base our work on **facts** obtained from a variety of **credible sources.** We give credit where it is due. We **cite our sources** so others can access the information we present. When appropriate, we very carefully, ethically, and lawfully use others' expression of that information. We obtain permission to use our sources' expression or give full credit for a *limited, fair use,* including direct quotes.

Attendance Policies

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: UF Attendance Policies.

Institutional Policies

Recording Statement

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1)

for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.
A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or guest lecturer during a class session. Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another
student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code. UF IN-CLASS RECORDING

Software Use
All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate. UF ACCEPTABLE USE POLICY

Course Evaluations
Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available
at: https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens and can complete evaluations through the email, they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at: https://gatorevals.aa.ufl.edu/public-results/

Student Services

Health & Wellness

- U Matter, We Care
  - If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit U Matter, We Care website to refer or report a concern and a team member will reach out to the student in distress.
- Counseling and Wellness Center
  - Visit the Counseling and Wellness Center website or call 352-392-1575 for information on crisis services as well as non-crisis services.
  - Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students.
- Student Health Care Center
  - Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the Student Health Care Center website.
- University Police Department
  - Visit UF Police Department website or call 352-392-1111 (or 9-1-1 for emergencies).
- GatorWell Health Promotion Services
  - For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the GatorWell website or call 352-273-4450.

Academic Resources

- E-learning technical support
  - Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at helpdesk@ufl.edu.
- Career Connections Center
  - Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.
- Library Support
  - Various ways to receive assistance with respect to using the libraries or finding resources.
- Teaching Center
  - Broward Hall, 352-392-2010 or to make an appointment 352-392-6420. General study skills and tutoring.
- Writing Studio
  - 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers.
- Student Complaints On-Campus
  - Visit the Student Honor Code and Student Conduct Code webpage for more information.
- On-Line Students Complaints
  - View the Distance Learning Student Complaint Process.

Services for Students with Disabilities

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to

the Instructor when requesting accommodation
0001 Reid Hall, 352-392-8565, UF Disability Resource Center.
Canvas Accessibility Standards
Zoom Accessibility Information

Original file: AEC 4036_AdvAgComProd_AIEnable_jloizzo_swhite.pdf

CALS Curriculum Committee
Submission Checklist

Updated January 2026

NOTE: This checklist must be included with all course and certificate submissions.

The checklist below is intended to facilitate course and certificate submissions to the University of Florida Academic Approval Tracking System (https://approval.ufl.edu/). The checklist consists of the most common items that can cause a submission to require changes or be recycled. Contrary to information provided on the UF approval site, the CALS Curriculum Committee requires a syllabus be submitted with each new course or course modification request. Please note that submitters are encouraged to attend the CALS CC meeting at which their item is being reviewed. This allows the submitter to answer any potential questions that may arise that could cause the item to not be approved. Also, be aware that when completing the UCC form the section Description of Request is asking for a brief statement about what you are doing. This is **not** the place for a course description. A statement such as "Proposal of a new undergraduate course" is all that is needed. Please do not submit documents in pdf format. All documents should be submitted in Word to facilitate editing on our end if necessary.

CHECKLIST: PLEASE INITIAL OR MARK N/A FOR EACH STATEMENT TO INDICATE YOUR COMPLIANCE.

SYLLABUS: You are encouraged to use the CALS ACCESSIBLE SYLLABUS TEMPLATE. Accessibility will be required by APRIL 2026.
****Use of Simple Syllabus will be required for Summer 2026 forward. It is slated to be released to faculty in late February 2026.****

__JL__ It is required when making a submission that you consult your department's representative to the CALS CC. A list of current members can be found on the committee site located at: https://cals.ufl.edu/faculty-staff/committees/.

_JL__ Submission of a course modification requires both the current version of the course syllabus and the proposed version.

_JL___ Joint course submissions must include 1) both graduate and undergraduate syllabuses and 2) a separate document outlining the substantial (more than one) differences in assignments between the two courses. These assignments must account for at least a 15% difference in graded material between the two levels. If this is a new course submission both courses must be submitted for approval simultaneously.

_JL___ The course description on the UCC form and in the syllabus must match and should be no longer than 500 characters. FOR AN EXITING COURSE, THE DESCRIPTION **MUST MATCH THE CATALOG DESCRIPTION**. Follow the **COURSE DESCRIPTION GUIDELINES** for new courses if not contraindicated by outside certification requirements. Any other information you wish to include needs to be under a different heading such as background or additional course information.

Original file: CALS CC Checklist_jloizzo_4036_5037.pdf

_**JL**___ The course learning objectives must be consistent with Bloom's taxonomy. Please see the following link at the CALS Curriculum site. (https://cals.ufl.edu/content/PDF/Faculty_Staff/cals-courseobjectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

__**JL**__ The course schedule should be concise and include the appropriate number of weeks in the semester.

__**JL**__ All graduate course submissions must include a reading list if a textbook is not required. The reading list should include at least some current readings (within the last 5 years). All readings do not need to be current.

__**N/A**__ Outside consultations are required if there is a possibility of the proposed course covering a significant amount of material taught in another department or college on campus. There must be a consult form completed by the chair of the department from who you are seeking the consult. Instructors may provide additional consults. The form can be found at: https://approval.ufl.edu/policies/external-consultations/.

_**JL**___ Prerequisite courses are required for 3000 and 4000 level courses. This line of the approval form cannot be "none" or left blank. Junior or senior standing is an acceptable option. A phrase such as "a course in basic biology" is not acceptable. (Graduate courses should not have specific courses listed as prerequisites. If needed a statement of skills required prior to taking the course can be provided under other course information.)

__**JL**__ Decimal points must be included in the grading scale if grade cut-offs are based on percentages. While this is not a university policy it is a CALS standard practice to avoid any confusion when final grades for the course are determined.

__**JL**__ The attendance and make-up policy in a syllabus cannot contradict the university's policy. Do not include any additional wording to this policy. A statement and link regarding this are included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

___**JL**_ The most recent version of the UF Syllabus Statements. Using the accessible syllabus template will ensure you have the most up to date statements. Do not use boilerplate statements from an old syllabus as they are likely to be out of date.

Certificates

If proposing a new undergraduate or graduate level certificate that includes any courses outside of the submitters department a statement regarding any possible impact on those courses needs to be included. An email from the instructor is acceptable. Also, any courses required for the certificate must have permanent prefixes and course numbers. The submission must include intended catalog copy. (Contact Dr. Anne Mathews (anne.mathews@ufl.edu) for further instruction)

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Cover Sheet: Request 22540

Insect Research CURE (ENY 2890C): Upgrade to 3000-Level Course

Info

Process	Course|Modify|Ugrad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Anthony Auletta anthonyauletta@ufl.edu
Created	2/2/2026 12:26:51 AM
Updated	2/16/2026 4:39:04 PM
Description of request	We are requesting that ENY 2890C: Insect Research CURE be upgraded from a 2000-level course to a 3000-level course, to more accurately reflect the content and expectations of the course.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Entomology and Nematology 60140000	Jennifer Weeks		2/2/2026
Old Syllabus- ENY 2890C (Insect Research CURE).docx CALS CC Checklist- Insect Research CURE 2026.pdf					2/2/2026 2/2/2026
College	Pending	CALS - College of Agricultural and Life Sciences			2/2/2026
No document changes					
University Curriculum Committee					
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Catalog					
No document changes					
Student Academic Support System					
No document changes					
College Notified					
No document changes					

Original file: Cover sheet.pdf

Course|Modify for request 22540

Info

Request: Insect Research CURE (ENY 2890C): Upgrade to 3000-Level Course
Description of request: We are requesting that ENY 2890C: Insect Research CURE be upgraded from a 2000-level course to a 3000-level course, to more accurately reflect the content and expectations of the course.
Submitter: Anthony Auletta anthonyauletta@ufl.edu
Created: 2/2/2026 12:18:45 AM
Form version: 1

Responses

Current Prefix ENY
Course Level 2
Number 890
Lab Code C
Course Title Insect Research CURE
Effective Term Earliest Available
Effective Year Earliest Available
Requested Action Other (selecting this option opens additional form fields below)
Change Course Prefix? No

Change Course Level? Yes
Current Level 2
Proposed Level 3
Change Course Number? No

Change Lab Code? No

Change Course Title? No

Change Transcript Title? No

Change Credit Hours? No

Change Variable Credit? No

Change S/U Only? No

Change Contact Type? No

Course Type Lecture

Change Rotating Topic Designation? No

Change Repeatable Credit? No

Multiple Offerings in a Single Semester No
Change Course Description? No

Original file: Submitted form version 1.pdf

Change Course Objectives No

Change Prerequisites? Yes
Current Prerequisites None
Proposed Prerequisites Sophomore standing or above
Change Co-requisites? No

Rationale Upon review by the Entomology & Nematology Undergraduate Committee, it was determined that the content of this course and the depth of engagement / understanding expected from students are more appropriate for an upper-level course (3000-level). In this course, students are required to engage deeply with the scientific literature and conduct a research project that involves data collection, analysis, and interpretation.

Original file: Submitted form version 1.pdf

CALS Curriculum Committee
Submission Checklist

Updated January 2026

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Original file: CALS CC Checklist- Insect Research CURE 2026.pdf

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Original file: CALS CC Checklist- Insect Research CURE 2026.pdf

Insect Research CURE
ENY 3XXXC
Spring 2026 (3 credits)

This is a **course-based undergraduate research experience (CURE)** that bridges the gap between the classroom & research lab. You will become part of a collaborative research team to investigate an open question in insect science. Our research project changes each semester; in Spring 2026, we'll explore the **biodiversity of soil and leaf litter-dwelling arthropods in North-Central Florida**, which are poorly documented despite their great ecological importance. Through this immersive, hands-on experience, students may generate publishable data & contribute new knowledge to the field of entomology. We'll also consider what it means to do *good* science, by discussing research ethics, objectivity & bias, the use of AI in research, effective science communication, international collaborations & more. This course is an excellent introduction to research, especially for students interested in entomology / arachnology, biodiversity, ecology, and/or taxonomy. Committed, hard-working students will leave the course well-prepared for additional research opportunities at UF & beyond.

This course fulfills a curriculum requirement for the **International Scholars Program:** internationalcenter.ufl.edu/international-scholars-program

Catalog description: Course-based Undergraduate Research Experience (CURE) which bridges the divide between the classroom and research laboratory. Become part of a collaborative research team and work with faculty mentors to collect publishable data that address pressing questions in the field of entomology. The specific research project changes each semester.

Tuesdays & Thursdays, Periods 6 - 7 (12:50pm – 2:45pm)

2218 Steinmetz Hall

Prerequisites: Sophomore standing or above. No prior experience in research or entomology is required!

Canvas: ufl.instructure.com/courses/553872

Instructor:

Dr. Anthony Auletta (he/him)

Course Coordinator & Research Project Supervisor

anthonyauletta@ufl.edu

(352) 273-3954

Office: 3102 Steinmetz Hall

Office Hours: Tuesdays, 11:00am – 12:00pm and Wednesdays, 1:00pm – 2:00pm (or by appointment via Calendly: calendly.com/anthonyauletta

Student Learning Outcomes

By the end of the course, students will be able to:

- **Explain** the scientific method and best practices for conducting scientific research.
- **Identify** key challenges that scientists encounter when conducting research and **assess** strategies to mitigate them.
- **Critically read** and **evaluate** primary scientific literature.
- Accurately **collect**, **analyze**, and **interpret** scientific data.
- Effectively **communicate** the findings of their research to both the scientific community and general public.
- **Explain** the benefits of international research and strategies for effectively working with scientists from other cultures.
- **Reflect** on their personal career goals and **identify** resources & opportunities for future research on campus and beyond.
- **Work productively** in small groups towards a common goal.

Course Format

This is an **in-person course** that is structured as a **CURE** (or Course-based Undergraduate Research Experience), which means that we will work together as a class to complete a **novel research project** over the span of the semester. A summary of our project can be found below, and more details will be shared in class at the start of the semester. Our first few weeks of class will consist of lectures that are designed to provide everyone with the essential background information and methodology needed to succeed in the project. After that, most of our class sessions will be **hands-on working days** devoted to **collecting, analyzing, and interpreting data** for the project. **Groupwork** is an essential part of this course; you will work in small teams of 3 -4 students on all steps of the research project. As such, it is crucial that everyone attend class regularly so that they can work with their teammates and make progress in their research! At the end of the semester, each group will present a poster of their findings at a **public symposium**. We will also have several **in-class discussions** in the course on topics such as research ethics, science communication, international collaborations in research, and more; these discussions are designed to help you grow as professionals and place our research in a broader context. We encourage you to **ask questions** throughout the course (as long as they are germane to our project or discussions); lively discussion will enhance the learning experience for everyone!

Our Research Project

Leaf litter and the soil underneath it can be home to astoundingly diverse communities of organisms! Some of the most abundant animals in these microhabitats are **arthropods**– including multiple orders and families of arachnids (such spiders, mites, and pseudoscorpions), insects (such as ants, beetles, fly larvae, thrips, and more), non-insect hexapods (such as springtails and bristletails), myriapods (centipedes, millipedes, and relatives), and even crustaceans (such as woodlice). These litter-dwelling arthropods drive many important ecological processes including decomposition, nutrient cycling, and bioturbation, and they are also key components of food webs. For all of these reasons, they are crucial for the functioning of forest ecosystems and can even serve as bioindicators of forest health! However, due to their small size and cryptic habits, leaf litter arthropods are seldomly collected, and as a result many of them are poorly understood and their true diversity in many areas is unknown. To address this gap in knowledge, we will sample leaf litter from a variety of habitats in Alachua County and assess the diversity of litter-dwelling arthropods at each collection site. Such biodiversity surveys are an important first step in helping us better understand how these ecological communities are structured as well as the specific factors impacting the diversity of different litter-dwelling taxa. Our findings can also inform future studies about the relationship between these litter-dwelling organisms and forest health in a rapidly changing world.

Teaching Assistants & Collaborators

We are fortunate to have an excellent **teaching assistant (TA)** on the instructor team this semester; do not hesitate to contact your TA if you have any questions about the course! Your TA will hold office hours by email appointment only:

Maria Fiorta (she/her)
Graduate Teaching Assistant

Email: mfiorta@ufl.edu

For our research project, we may also collaborate with other researchers in the UF Entomology & Nematology Department and beyond. At several points during the semester, these collaborators may join our class sessions and share their expertise with us.

Meeting & Communication Policies

If you have any questions or concerns about the course, or if you're experiencing difficulties that are impacting your ability to succeed, please don't hesitate to **reach out to your professor and TA**. We are here to help! If an issue arises, we encourage you to contact us as early as possible– the sooner we know about the issue, the sooner we can discuss your options and try to find a solution! Our options for assisting you may become more limited as we get closer to the end of the semester….

Meeting Policy: For quick questions, you are welcome chat with the professor / TA after class if they are available. For items that need more discussion, we encourage you to come to the professor's **drop-in office hours** (details on Page 1 of this syllabus). Office hours will be held starting on the first day of class through the date of our final class session, excluding university holidays and breaks. You are also welcome to **schedule a 1-on-1 meeting** with any of the instructors; you can request a meeting with Dr. Auletta via Calendly (http://calendly.com/anthonyauletta) or with your TA via email. If you schedule a meeting, you are expected to keep it or to let us know reasonably far in advance that you cannot make it; if you are a no-show to your appointment, the instructors reserve the right to limit you to meetings during regularly scheduled office hours only.

Email Policy: Outside of class and office hours, **email** is our preferred method of contact; you can email us using your **GatorLink account** or the **Canvas messaging system**. Note that we will not respond to any method of contact other than those listed in this syllabus. We will do our best to respond to messages within 48 hours, not including weekends or holidays. If you have not received a response, you may send a polite follow-up message after that 48 hour period (but not before that– please give the instructors adequate time to respond!). Note that we check our email occasionally during the day and will not necessarily view a message as soon as you send it; you should also not expect a response from the instructors outside of standard working hours (9:00am – 5:00pm, Monday - Friday).

Canvas: Important announcements and updates will be regularly posted to the **course Canvas website**. To ensure that you do not miss anything, make sure that your Canvas profile is set to send notifications to your email inbox. You are responsible for all of the information and assignments posted to our Canvas website, even if they do not appear in your Canvas To-Do List; it is your responsibility to ensure that you are able to navigate the Canvas website and know where to find these items. If you have any questions about Canvas, please ask the instructors at the beginning of the semester. Also note that our Canvas website will be updated as the semester goes on, so be sure to check Canvas frequently!

Readings & Course Materials

Readings & Videos: There is no textbook for this course; instead, selected articles from the primary literature and other readings will be **posted on Canvas**. Students are expected to complete all required readings before the corresponding class session. You may also be required to watch videos or view other resources before class, which will be posted on Canvas as well.

Computing Requirement: All students must have reliable access to a **computer with a high-speed internet connection** to access assignments and other course materials on Canvas, as well as to run software for data analysis and to create their research poster. A laptop computer running the current version of Windows or MacOS is strongly recommended so that you may work on your analyses and poster during class. Note that although some aspects of the course can be completed using a tablet or smartphone, our Canvas website is *not* optimized for these devices. Additionally, while the data analysis software may run on a tablet, it performs much better on a laptop or desktop computer.

If your internet service is disrupted, or if your computer breaks / becomes unavailable during the semester, you will be responsible for finding an alternative device so that you can continue to access course content and complete your assignments by their deadlines. You may, for example, use the computers that are freely available at public libraries, campus libraries, or university computer labs. For a list of on-campus computing locations, please see here: https://it.ufl.edu/learning-spaces/

Projects & Assignments

*There are **no exams** in this course!* Instead, we will assess your learning and completion of your research project in the following ways:

Prep Assignments: There will be several **online preparatory assignments** throughout the semester (see Canvas for dates). Some of these assignments will review important concepts that we've covered in class, while others will be based on the required readings / videos. These assignments are designed to help prepare you to work on our project and participate in our in-class discussions.

Reflections: Throughout the semester, you will be required to submit several **written reflections** via Canvas. The goal of these assignments is to help you expand on our class discussions and think deeply about what it means to be a good scientist. For some reflections, you may be asked to analyze a scientific paper relating to our research or to write up a short progress report on your project. See the Course Schedule below and Canvas for reflection due dates.

Lab Notebook: All students will be required to maintain a **digital lab notebook** throughout the semester, in which they will record their methods, data, analyses, and other notes related to our research. Instructions for how to access your lab notebook via Canvas will be discussed in class, as will proper lab notebook protocol and best practices. Your notebook will be graded for completeness and accuracy three times during the semester (two preliminary checks and one final evaluation).

Research Poster: As a capstone project, each research group will design a **scientific poster** that highlights the rationale, methods, results, and conclusions of their research project. Specific poster guidelines will be discussed in class. Students will present their posters to the Entomology & Nematology Department at a public symposium on the last day of class.

Science Across Borders Assignment: One of the major themes in this course is the value of global collaborations in science. To explore this topic in more depth, you will conduct an **interview with an international researcher** and use that interview to write a **reflective essay** on the benefits and challenges of conducting research across borders. Detailed information about this assignment will be discussed in class, and the instructors will connect you with a researcher for the interview.

Group Agreement & Evaluations: Early in the semester, each research group will submit a **written agreement** that outlines their shared expectations for groupwork. Then, three times during the course, you will **evaluate** your group members (including yourself!) based on how well they are following the agreement and contributing to the project. This will allow the instructors to assess how well each group is functioning and ensure that each person is doing their fair share of the work. The agreement and evaluations will not factor into your course grade, but you *cannot* earn a grade for your research poster or Science Across Borders project if you do not submit a group agreement and all of the evaluations!

In-Class Assignments: You will occasionally be required to complete **short assignments during class** (e.g., discussion worksheets, brainstorming activities, etc.), which are designed to guide you through our discussions and help you review / apply important information. These in-class assignments will not be graded directly, but the instructors will collect them at the end of class and use them to determine your Attendance & Participation grade. See the attendance policy below for more details.

Extra Credit: Extra credit opportunities may be posted at the **instructors' discretion only**. Any other extra work submitted in order to raise a grade will not be accepted and requests for additional extra credit will not be considered.

Submitting Assignments: *All assignments must be submitted electronically via their designated assignment pages on Canvas unless otherwise noted in writing by an instructor. Emailed or paper submissions for Canvas assignments will not be accepted. Some assignments will allow for multiple submissions (see Canvas for details); in that case, the instructors will only grade the latest submission that you make before the assignment closes. Note that you are responsible for everything you turn in– that includes ensuring that all your work is uploaded correctly and completely by the due date. Blank, corrupted, or otherwise inaccessible files will be treated as missing work (= 0 grade) until they are reuploaded correctly, and the late work policy (detailed later in this syllabus) will apply if your resubmission is past the deadline. So, always preview your files right after you upload them! If you experience technical problems when submitting your work in Canvas, contact the UF Computing Help Desk for assistance: https://helpdesk.ufl.edu. The instructors cannot provide IT support.*

Alternative Assignments: *You are expected to follow all of the instructions for every assignment; you cannot earn credit if you do not turn in the specific work that was assigned. Remember, your professors have carefully designed each assignment in this course to help you meet the learning objectives and demonstrate your mastery of the content. And so, requests for alternative assignments will not be considered. If you have approved reasonable accommodations from the Disability Resource Center (DRC), the instructors will discuss with you how to implement those accommodations so that you can complete the assignments.*

Pre-Grading: *Please note that instructors will not "pre-grade" an assignment– i.e., we will not review or grade a preliminary version of your assignment before you submit it. You are, however, welcome– and encouraged– to meet with an instructor in person (e.g., during office hours) to discuss specific questions that you have as you work on an assignment!*

Re-Dos / Corrections: *Once an assignment has been graded, it cannot be resubmitted for a different grade (unless stated otherwise on Canvas). In other words, there are no re-dos or assignment corrections in this course unless the instructors explicitly indicate otherwise.*

Course Schedule

Below is a tentative* schedule of topics & assignments for the semester. The dates of the preliminary lab notebook checks will be unannounced (so make sure that your notebook is always current!). Readings and other materials for each session will be posted on Canvas and must be completed before the start of class. All assignments must be submitted via Canvas by the due dates listed below; prep assignments are due by the start of class (12:50pm) and all other assignments are due by 11:59pm unless otherwise noted. Make sure to check Canvas for the most up-to-date deadlines for assignments, as they may change during the semester!

Week	Dates	Topics	Assignments Due
1	Jan. 12 – Jan. 17	Intro to the Course & Our Research Research Background: Who's in the Leaf Litter?	
2	Jan. 18 – Jan. 24	Research Background: Leaf Litter-Dwelling Spiders Research Background: Sampling Methods	Reflection 1 (Su)
3	Jan. 25 – Jan. 31	Research Background: Identification Methods Dichotomous Key Practice Paper Discussion #1	Reflection 2 (Su) Prep 1 (Th) Group Agreement (Th)
4	Feb. 1 – Feb. 7	Science Across Borders Data Collection & Analysis	Reflection 3 (Su)
5	Feb. 8 – Feb. 14	Data Collection & Analysis	Science Across Borders Interview Questions (Th)
6	Feb. 15 – Feb. 21	How to Design an Effective Research Poster Data Collection & Analysis	Reflection 4 (Su) Prep 2 (Tu)
7	Feb. 22 – Feb. 28	Data Collection & Analysis Paper Discussion #2	Poster Abstract (Tu) Prep 3 (Th) Group Evaluation 1 (F)
8	Mar. 1 – Mar. 7	Data Collection & Analysis Discussion: Objectivity & Bias in Research	Prep 4 (Th)
9	Mar. 8 – Mar. 14	Data Collection & Analysis Discussion: Use of AI in Research	Reflection 5 (Su) Prep 5 (Th) Reflection 6 (F)
10	Mar. 15 – Mar. 21	No Class (Spring Break)	

Week	Dates	Topics	Assignments Due
11	Mar. 22 – Mar. 28	**Discussion: Research Ethics** **Data Collection & Analysis**	Prep 7 (Tu) Poster Draft (Th) Group Evaluation 2 (F)
12	Mar. 29 – Apr. 4	**Data Collection & Analysis**	Reflection 7 (Su) Science Across Borders Interview Transcript (Tu)
13	Apr. 5 – Apr. 11	**Data Collection & Analysis**	Science Across Borders Final Paper (Th)
14	Apr. 12 – Apr. 18	**Panel Discussion with Visiting Researchers** **Practice Poster Presentations**	Final Poster (Tu, 12:00pm) Prep 8 (Tu)
15	Apr. 19 – Apr. 22	**Poster Symposium** **Reflecting on our Research Experience**	Reflection 8 (Su) Lab Notebook Final Evaluation (Tu) Group Evaluation 3 (W)

** Although we will do our best to adhere to this schedule, it may be adjusted during the semester to accommodate opportunities, disruptions, and other circumstances. Note that this includes assignment deadlines, which the instructors may change as needed during the semester. All of these changes will be communicated clearly via Canvas as far in advance as possible.*

List of Important Dates

Key dates to remember are below– be sure to add them to your calendar now, and make sure that you take them into consideration when scheduling your travel and other obligations this semester! Due dates for other assignments are listed in the Course Schedule above and/or on Canvas.

- **January 13 (Tu):** First Day of Class
- **February 24 (Tu):** Research Poster Abstract due
- **March 14 (Sa) – March 21 (Sa):** Spring Break (no class)
- **March 26 (Th):** First Draft of Research Poster due
- **March 31 (Tu):** Science Across Borders Interview Transcript due
- **April 9 (Th):** Science Across Borders Final Paper due
- **April 14 (Tu):** Final Research Poster due for printing (by 12:00pm)
- **April 21 (Tu):** Research Poster Symposium / Final Notebook Evaluation / Last Day of Class
- Note that there are no exams or assignments during Finals Week for this course!

Academic Policies & Resources

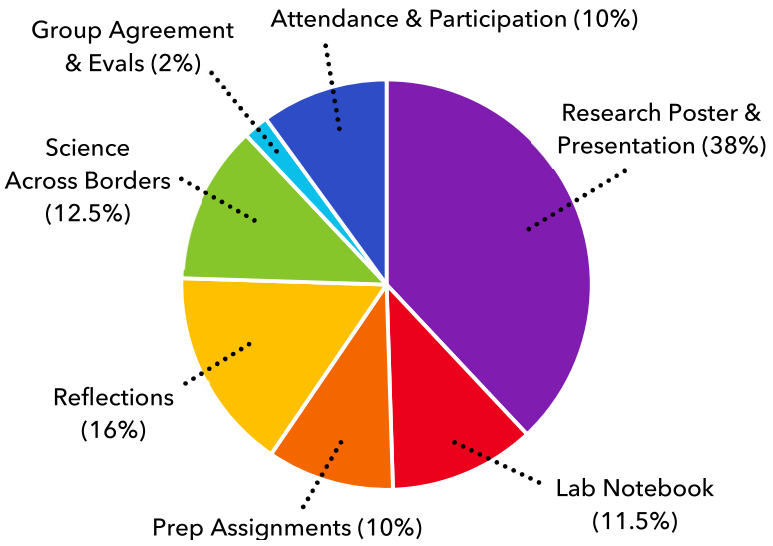
Academic policies for this course are consistent with the university policies that are outlined here: https://go.ufl.edu/syllabuspolicies. Later in this syllabus, you will find additional policies, which are specific to this course and intended to supplement (not replace) the university policies. Every student in this course will be held accountable to *all* university policies as well as the additional policies in this syllabus. It is your responsibility to ensure that you are familiar with and adhere to all of them! If you have any questions, please do not hesitate to reach out to an instructor.

For a list of helpful campus resources, please visit https://one.uf.edu/whole-gator/topics. These resources are designed to help you thrive physically, mentally, and emotionally as a student at UF! If you require additional and immediate support, please don't hesitate to contact the Campus Assistance & Resources for Empowerment (CARE) Team: https://umatter.ufl.edu/, 352-294-2273.

Grading Policies

This course uses a points system for grading. The anticipated maximum (excluding extra credit) that can be earned in the course is **1,000 points**, distributed as follows:

- **Research Poster & Presentation: 380 pts**
- **Lab Notebook: 115 pts**
- **Prep Assignments: 100 pts**
- **Reflections: 160 pts**
- **Science Across Borders: 125 pts**
- **Group Agreement & Evaluations: 20 pts**
- **Attendance & Participation: 100 pts**



At the end of the semester the end of the semester, your total course grade will be converted to a letter grade using the scale below:

93 – 100% (930 - 1000 pts) = **A**	80 – 82.99% (800 – 829 pts) = **B-**	67 – 69.99% (670 – 699 pts) = **D+**
90 – 92.99% (900 – 929 pts) = **A-**	77 – 79.99% (770 – 799 pts) = **C+**	63 – 66.99% (630 – 699 pts) = **D**
87 – 89.99% (870 – 899 pts) = **B+**	73 – 76.99% (730 – 769 pts) = **C**	60 – 62.99% (600 – 629 pts) = **D-**
83 – 86.99% (830 – 869 pts) = **B**	70 – 72.99% (700 – 729 pts) = **C-**	below 60% (0 – 599 pts) = **E**

The instructors **do not round or "bump up" grades**; requests to do so will not be considered.

The instructors may add, remove, or adjust assignments (with prior notice) to accommodate unforeseen disruptions, schedule changes, or opportunities that arise during the semester. It is your responsibility to check the Canvas announcements regularly so that you can stay informed of these

changes. Canvas will always reflect the most up-to-date list of assignments and deadlines. Changes to assignments (if they arise) may alter the total number of points available in the course, but the percentage scale used to calculate your final letter grade will remain the same.

For current UF policies on assigning grade points, consult the following policy website: https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

> ***Disputing a Grade:*** *If you wish to dispute a grade for any exam/assignment, you must contact the instructors in writing after the assignment has been returned. In your message, you must include a specific explanation for why you think the grade is incorrect and how you think it should be changed. An instructor will then arrange a meeting with you to discuss the issue and determine whether or not to the grade should be changed. The grade assigned following this meeting will be final.*

Attendance & Participation

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies.

Expectations for Attendance & Participation: Due to the hands-on nature of this course, attendance in class is *critically important*. If you are absent, you will not be able to fully work on your research project, collaborate with your teammates, or contribute to class discussions. Thus, you are expected to **attend every class session** (unless your absence is excused), **arrive to class on time**, and **stay for the entire session**. You are also expected to be **fully prepared for and engaged in each session**– this includes completing all required readings / prep materials beforehand, submitting all assignments on time, paying attention during class, and actively participating in all class activities. Participation in our class sessions is worth **100 points (= 10% of your final course grade)**. Your Attendance & Participation grade will be calculated based on the percentage of class sessions in which you are present for the entire time and complete the assigned in-class activities, excluding class sessions during the drop / add period and excused absences. You will *not* earn full attendance and participation points for a class session if you arrive substantially late or leave substantially early.

Since this is a **face-to-face course**, students will not have the option to join class remotely via Zoom. The instructor will also not record the class sessions.

Work Outside of Class: In addition to working on your research project in class, you will be expected to allocate adequate time outside of class to work on data analysis and other aspects of the project. You will also need to spend time outside of class to do the required readings and complete your assignments. Please plan accordingly! Most students should expect to spend ~5 hours per week (on average) outside of class time on this course, but the exact amount of time needed will vary by person– you may need more time, or you may need less (depending on how much progress you make in your research during our class sessions).

Late Work & Extensions

Policy on Late Work: The **due date and time** for each assignment can be found on the corresponding assignment page in **Canvas**. To be eligible for full credit, you must submit your assignment by its stated deadline! You can submit most assignments up to 48 hours (2 days) after the deadline, but **25% of its total point value will be deducted for every day that it is late**. After 48 hours, the assignment submission page will close on Canvas; at that point, late submissions will no longer be accepted! In other words, you can a maximum of 75% of the assignment's points if you submit it within the first day after the deadline, up to 50% if you submit within the second day after the deadline, and 0% if you are more than 2 days late. Please note that the **final research poster** will not be accepted late; this because we need to provide sufficient time to print the posters for our end-of-semester symposium.

All deadlines are in Eastern Time (ET). To avoid potential confusion, make sure that you set the time zone in your Canvas settings to Eastern Time!

Extensions: Extensions for assignments will be considered on a case-by-case basis. If you have a situation that you believe warrants an extension, it is your responsibility to contact the instructors as soon as possible to discuss your situation and options. Please note that asking for an extension does not guarantee that you will be granted one, and that the instructors may require **valid documentation** of your situation before granting an extension. While waiting for the instructors' response, you should assume that the assignment is still due by the due date and time on Canvas (and plan accordingly).

> ***A Note about Deadlines:*** *Remember, the due date doesn't have to be the "do" date! In other words, we encourage you to start working on your assignments in advance to ensure that they are submitted on time! Non-emergency situations that arise right before the assignment's due date are not valid reasons to request an extension. Likewise, vacations / personal travel, being busy with other courses / employment / extracurriculars, social obligations, and other personal events are also not acceptable reasons for an extension. All of these outside obligations are things that you can control or predict in advance; so, if you know that you will be busy with any of these things on / near the assignment's due date, you should plan ahead and submit the work early. Remember that, as a college student (and future professional), you will have many demands on your time… so it is important to practice* ***effective time management****! The late work and extension policies for this course are designed to help you build this important professional skill.*

Make-Up Assignments

Make-Up Work: Our course policy on make-up assignments and other work is consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/. If you are absent from class, it is your responsibility to contact the instructors as soon as possible to discuss options for making up missed work or assignments. As noted above, the instructors may ask for **valid documentation** of your absence before allowing make-up work to be submitted. We also encourage you to contact a classmate to ask for notes from the session(s) that you missed; the instructors will not provide notes.

Making up the Symposium Presentation: All students are expected to attend the Research Poster Symposium on the last day of class (see the schedule above for the specific date). Presenting your poster at this symposium is the capstone experience of this course, and as such it is worth a substantial part of your research poster grade. It is also a valuable professional development experience! If you have to miss the symposium due to an excused absence, the instructor will assign you an incomplete grade (I*) in the course after your absence documentation is verified, and you will have to make up the presentation during the following semester. Since one of the goals of the symposium is for you to present your work to a broad audience *beyond your instructors and classmates*, you can do one of the following to make up the symposium: (1) present your poster at the UF Undergraduate Research Symposium, which is hosted every spring and fall by the Center for Undergraduate Research or (2) present your poster at the CURE symposium during the next offering of this course (ENY 2890C). The instructor will work with you to decide which make up option is the best fit for you. Students in their final semester should reach out to the instructor to discuss other options. Upon successful completion of your makeup presentation, your incomplete grade will be changed to the letter grade that you earned in the course. Note that it will be your responsibility to attend the make-up presentation at the date, time, and location that the instructor assigned.

Professionalism & Etiquette

Everyone in the class is expected to conduct themselves in a **courteous and professional manner** at all times. This includes (but is not limited to) being polite and respectful when interacting with your peers and instructors, making an honest effort to engage in all aspects of the course (including doing the required preparatory work), being on time for our class sessions (or minimizing disruptions if you arrive late), raising your hand and waiting to be called on when you wish to speak during class, allowing others in the class to share their perspectives even if you disagree with them, actively listening to others and showing attention as an expression of respect, not talking over others or interrupting them, not monopolizing shared resources in the classroom, avoiding activities that might be distracting to others or interfere with the learning experience (including inappropriate use of electronic devices and packing up your belongings before class is over), quietly excusing yourself from class if needed, contributing meaningfully to group work, being open to constructive feedback, abiding by all course and university policies, and being proactive about issues that arise during the semester. Students who behave disrespectfully or disruptively may be **dismissed from the class session** and will be reported to the **Dean of Students Office**.

Expectations for Group Work

Learning how to work effectively as part of a team is a crucial skill for any professional. To help you build this skill, we have embedded **collaboration** into many aspects of this course. As noted earlier, you will work in small teams for to perform your research and make your **research poster**, and you will work in these same teams to conduct your **Science Across Borders interview** as well. The teams will be assigned by the instructors during Week 2 of the semester (after the drop / add period has ended). Students will not be able to choose their own teams or to switch teams after they've been assigned.

All members of the group are expected to **contribute meaningfully** to every aspect of the research project and Science Across Borders assignment. You are also expected to **act professionally and respectfully** to your groupmates at all times, both during class and outside of class time. This includes

providing everyone in the group an opportunity to contribute their ideas, actively listening when others are talking, providing and responding to constructive feedback, addressing any disagreements in a courteous and productive way, and working together to complete all assigned tasks. To help ensure that your group functions effectively, you and your teammates will be required to submit a **written group agreement** early in the semester; this is a contract that outlines your shared expectations for communication, meetings, task division, conflict resolution, and other aspects of groupwork. At several points during the semester, you will also be asked to **evaluate** yourself and each of your teammates based on their contributions to the project and the degree to which they adhered to your group agreement. Note that you *cannot* earn credit for the research poster or Science Across Borders interview if you do not submit your group agreement and all of the evaluations!

If anyone in your group is not doing their share of the work or is not behaving professionally, it is important let the instructors know as soon as possible so that we can help address the issue. Students who do not contribute their fair share to the projects and / or who violate the terms of their group agreement will have their poster and/or Science Across Borders grades lowered by the instructors.

You will also be required to partner with your fellow students for some of our in-class discussions and other activities. When working with your classmates on in this way, you will again be expected to treat them with respect and professionalism.

Laboratory Guidelines & Safety

Everyone is required to follow all **lab safety procedures** and other **lab guidelines** provided by the instructors. These procedures will be clearly communicated via Canvas and/or during class. While in the laboratory, all students must wear closed-toed shoes. Also note that food and beverages are not permitted in the lab. During the course, you may handle specimens and use microscopes or other lab equipment; please treat these specimens and instruments with care! Always ask an instructor if you are unsure about how to use an instrument. Students who do not adhere to these guidelines will be dismissed from the lab and considered absent for that day, and may also be reported to the Dean of Students Office for misconduct. You may also be liable for any damages to lab equipment that result from your negligence or misuse.

Field Trip Expectations

There will be several **required field trips** during the semester, during which we will collect samples for our research project. All of these required trips will occur during class time and be to locations on campus. Dates for these excursions will be announced in class and/or on Canvas. All students are expected to participate in these trips, and thus they will count towards your Attendance & Participation grade. Inclement weather may force us to reschedule/cancel some of these excursions; those changes will be clearly communicated via Canvas as far in advance as possible. Additional in-class field activities may be organized during the semester as opportunities arise; these will also be announced as far in advance as possible.

This means that we will be spending some of our class time outdoors, including on days when it may be hot and humid. On days when field activities are scheduled, you should come to class prepared to spend time outside in the day's predicted weather conditions. This includes wearing comfortable,

closed-toed shoes and clothes that are suitable for fieldwork. You are also encouraged to bring a hat (to shade yourself from the sun), sunscreen, bug spray, and a water bottle. If you are allergic to any organisms that we may encounter on these field trips, you should let the instructors know ahead of time and bring an allergy pen if needed.

If you have concerns about working in the field, make sure to reach out to the instructors at the beginning of the semester. We are happy to discuss reasonable accommodations for students who have limited mobility, allergies, or other conditions that may impact their ability to participate in the field trips.

In addition to these required field activities, the instructors may organize several **optional field trips** outside of our usual class time to collect additional samples for our project. Students are *not* required to attend these excursions but are encouraged to if their schedule allows– they are great opportunities to expand the scope of our research! Details for these optional trips (including the dates, locations, and other logistics) will be announced in class and/or on Canvas after the semester begins. Note that these optional field trips may be rescheduled or canceled in the event of inclement weather or other circumstances.

Use of Artificial Intelligence (AI)

When used properly, **artificial intelligence (AI)** can be a tool to supplement your learning. However, *improper* use of AI can impede your learning and may be considered academic dishonesty. Furthermore, most scientific journals, funding agencies, and professional societies now have strict rules about AI use and require all authors to disclose if / how they used AI. This means that misuse of AI tools in this course could prevent our research from being publishable! For all of these reasons, it is critically important for students to learn how to use AI tools responsibly and ethically!

For this course, you are not permitted to use content generated by ChatGPT, Copilot, DeepSeek, Gemini, Claude, or any other AI tool in *any assignment*, unless an instructor provides written permission stating otherwise. This includes– but is not limited to– submitting AI-generated content as your own work, submitting content that was paraphrased or modified from an AI output, quoting text generated by an AI (even if it is properly cited), and using AI to generate false sources. All of your assignments should consist entirely of your own original work, created by you specifically for this class. We are interested in assessing *your* understanding of the material and *your* ability to think critically / synthesize information– not that of an artificial algorithm! Unauthorized use of AI in an assignment will be treated as **academic misconduct**.

You are allowed to use AI tools in the following ways. Note that these are the *only* acceptable uses of AI in this course:

- Outside of graded assignments, e.g., to help you study or review class material.
- To proofread or provide feedback on your original work before submitting it. *Note that you aren't permitted to include the AI's output in your assignment, even if you edit it first… but you can use the AI's suggestions to refine your work yourself. If you do so, you must include an appendix with your assignment submission, in which you name the specific AI tools that you used and provide the exact prompts that you entered as well as verbatim copies of all of the AI's outputs. You must also confirm, in writing, that your assignment is written entirely in your own*

words, i.e., without any AI-generated content (including paraphrased content). Failure to provide all of this information when you use AI will result in a report to the Dean of Students Office.

As a general rule, AI should never be your starting point– you should always start with your own original ideas and work! You should not use AI for anything that a human proofreader or study buddy could not ethically do for you.

All students should also be aware of the **many limitations and pitfalls** of AI. The material generated by these tools is often inaccurate, incomplete, misleading, and/or biased. It is also often overly generalized and formulaic, lacking both the depth of analysis and quality of writing that is expected in most college-level courses (and in our discipline more broadly). AI-generated content may also not align with the specific content that we cover in class. Remember, these AI tools are neither students in this course nor experts in our field– all they can do is generate statements that *sound* plausible, without any regard for (or ability to determine) the accuracy of those statements. Thus, if you use AI as a study tool, you should always fact-check the outputs using your notes from class, other course materials, or credible external sources. Also note that, in general, relying too heavily on these tools may erase your individual voice from your work, stifle the development of your own critical thinking skills and creativity, and prevent you from gaining the depth of knowledge expected of an expert in your discipline. Outsourcing your learning to AI can thus make it difficult for you to succeed in other aspects of college and in your future career!

Finally, be aware that every course at the university has its own individual policy about AI, which the instructors have implemented to maximize learning in their courses. The policy described here is for this course only and may not be the same as the policies for your other courses!

Data Use & Management

In this course, you will collect and analyze data that may be used in a future publication. It is crucial that you **handle these data responsibly and ethically**! This includes keeping detailed, complete, and accurate records throughout the duration of your project. Your data and other work relating to our project must be kept in a permanent and retrievable form (such as in your lab notebook). You must be able to show your data and analyses to an instructor when asked, and will be required to submit all of your data / records to the instructors by the end of the course. Remember that you do not own the data that you produce through this course; research data is institutional property, which means that they are owned by the University of Florida. All data from our project must also be kept confidential until published– you are not permitted to share unpublished data / findings from our project with anyone outside of the course unless you have prior written permission from the instructor. Finally, you may not modify, erase, falsify, or fabricate any of your data under any circumstances!

Violation of any of these policies could prevent us from publishing our research. *By remaining enrolled in this course, you agree that you will adhere to these rules as well as any additional guidance on data use/management provided by the instructors.* Students who violate these policies will earn an automatic E (= failing grade) in the course and will be reported to the Dean of Students Office for academic misconduct.

Use of Electronic Devices

You may use personal electronic devices such as laptops or tablets in class, unless otherwise noted by an instructor. However, it is your responsibility to make sure that you use your devices in a **professional and courteous manner**. This includes:

- Limiting device use only to activities that are **directly related to your learning of course material**, such as taking notes or working on your analyses. Using your devices for any other purpose is not allowed in the classroom; doing so is disrespectful to the instructors, distracting to your fellow students, and robs you of a quality learning experience.
- Keeping your devices **muted at all times** to prevent disrupting others around you.
- Quietly stepping out into the hall if you must take a call or contact someone. We understand that emergencies can happen and will not prevent you from attending to them, but we also ask that you try to minimize disruptions to your peers.

If your device use is disruptive or inappropriate, you will be asked to put away your device. Students who repeatedly violate this policy will no longer be allowed to use devices in class and may be reported to the Dean of Students Office.

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

* * * * *

It is your responsibility to ensure that you fully understand all policies outlined in this syllabus as well as the policies of the university as they relate to this course. In the interest of fairness, all students in the class will be held accountable to these policies without exception; these policies are not negotiable.

This syllabus cannot predict every possibility that could happen during the semester. If a situation arises that is not explicitly covered by this syllabus, the instructors will respond to it using their best judgment while following all applicable university policies. Students will be expected to abide by the instructors' decisions in these (and all other) matters.

At their discretion, the instructors may add, remove, or otherwise change aspects of the course during the semester to accommodate new opportunities, unforeseen disruptions, or other circumstances. These changes will be communicated clearly in class and / or through Canvas. The current version of the syllabus will always be available on our course's Canvas website. It is your responsibility to ensure that you are following the most recent version of the syllabus.

By remaining enrolled in this course, you agree that you have read and understood all parts of this syllabus and that you will be held accountable to the policies within. If you have any questions, please contact the instructors as soon as possible (preferably at the beginning of the course)!

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Cover Photo: Pseudoscorpion (Order Pseudoscorpiones, Family Chernetidae) by Thomas Shanan (]flickr.com/photos/49580580@N02/)

Insect Research CURE
ENY 2890C
Spring 2026 (3 credits)

This is a **course-based undergraduate research experience (CURE)** that bridges the gap between the classroom & research lab. You will become part of a collaborative research team to investigate an open question in insect science. Our research project changes each semester; in Spring 2026, we'll explore the **biodiversity of soil and leaf litter-dwelling arthropods in North-Central Florida**, which are poorly documented despite their great ecological importance. Through this immersive, hands-on experience, students may generate publishable data & contribute new knowledge to the field of entomology. We'll also consider what it means to do *good* science, by discussing research ethics, objectivity & bias, the use of AI in research, effective science communication, international collaborations & more. This course is an excellent introduction to research, especially for students interested in entomology / arachnology, biodiversity, ecology, and/or taxonomy. Committed, hard-working students will leave the course well-prepared for additional research opportunities at UF & beyond.

This course fulfills a curriculum requirement for the **International Scholars Program:** internationalcenter.ufl.edu/international-scholars-program

Catalog description: Course-based Undergraduate Research Experience (CURE) which bridges the divide between the classroom and research laboratory. Become part of a collaborative research team and work with faculty mentors to collect publishable data that address pressing questions in the field of entomology. The specific research project changes each semester.

Tuesdays & Thursdays, Periods 6 - 7 (12:50pm – 2:45pm)

2218 Steinmetz Hall

Prerequisites: None– no prior experience in research or entomology is required!

Canvas: ufl.instructure.com/courses/553872

Instructor:

Dr. Anthony Auletta (he/him)

Course Coordinator & Research Project Supervisor

anthonyauletta@ufl.edu

(352) 273-3954

Office: 3102 Steinmetz Hall

Office Hours: Tuesdays, 11:00am – 12:00pm and Wednesdays, 1:00pm – 2:00pm (or by appointment via Calendly: calendly.com/anthonyauletta

Student Learning Outcomes

By the end of the course, students will be able to:

- **Explain** the scientific method and best practices for conducting scientific research.
- **Identify** key challenges that scientists encounter when conducting research and **assess** strategies to mitigate them.
- **Critically read** and **evaluate** primary scientific literature.
- Accurately **collect**, **analyze**, and **interpret** scientific data.
- Effectively **communicate** the findings of their research to both the scientific community and general public.
- **Explain** the benefits of international research and strategies for effectively working with scientists from other cultures.
- **Reflect** on their personal career goals and **identify** resources & opportunities for future research on campus and beyond.
- **Work productively** in small groups towards a common goal.

Course Format

This is an **in-person course** that is structured as a **CURE** (or Course-based Undergraduate Research Experience), which means that we will work together as a class to complete a **novel research project** over the span of the semester. A summary of our project can be found below, and more details will be shared in class at the start of the semester. Our first few weeks of class will consist of lectures that are designed to provide everyone with the essential background information and methodology needed to succeed in the project. After that, most of our class sessions will be **hands-on working days** devoted to **collecting, analyzing, and interpreting data** for the project. **Groupwork** is an essential part of this course; you will work in small teams of 3 -4 students on all steps of the research project. As such, it is crucial that everyone attend class regularly so that they can work with their teammates and make progress in their research! At the end of the semester, each group will present a poster of their findings at a **public symposium**. We will also have several **in-class discussions** in the course on topics such as research ethics, science communication, international collaborations in research, and more; these discussions are designed to help you grow as professionals and place our research in a broader context. We encourage you to **ask questions** throughout the course (as long as they are germane to our project or discussions); lively discussion will enhance the learning experience for everyone!

Our Research Project

Leaf litter and the soil underneath it can be home to astoundingly diverse communities of organisms! Some of the most abundant animals in these microhabitats are **arthropods**– including multiple orders and families of arachnids (such spiders, mites, and pseudoscorpions), insects (such as ants, beetles, fly larvae, thrips, and more), non-insect hexapods (such as springtails and bristletails), myriapods (centipedes, millipedes, and relatives), and even crustaceans (such as woodlice). These litter-dwelling arthropods drive many important ecological processes including decomposition, nutrient cycling, and bioturbation, and they are also key components of food webs. For all of these reasons, they are crucial for the functioning of forest ecosystems and can even serve as bioindicators of forest health! However, due to their small size and cryptic habits, leaf litter arthropods are seldomly collected, and as a result many of them are poorly understood and their true diversity in many areas is unknown. To address this gap in knowledge, we will sample leaf litter from a variety of habitats in Alachua County and assess the diversity of litter-dwelling arthropods at each collection site. Such biodiversity surveys are an important first step in helping us better understand how these ecological communities are structured as well as the specific factors impacting the diversity of different litter-dwelling taxa. Our findings can also inform future studies about the relationship between these litter-dwelling organisms and forest health in a rapidly changing world.

Teaching Assistants & Collaborators

We are fortunate to have an excellent **teaching assistant (TA)** on the instructor team this semester; do not hesitate to contact your TA if you have any questions about the course! Your TA will hold office hours by email appointment only:

Maria Fiorta (she/her)
Graduate Teaching Assistant

Email: mfiorta@ufl.edu

For our research project, we may also collaborate with other researchers in the UF Entomology & Nematology Department and beyond. At several points during the semester, these collaborators may join our class sessions and share their expertise with us.

Meeting & Communication Policies

If you have any questions or concerns about the course, or if you're experiencing difficulties that are impacting your ability to succeed, please don't hesitate to **reach out to your professor and TA**. We are here to help! If an issue arises, we encourage you to contact us as early as possible– the sooner we know about the issue, the sooner we can discuss your options and try to find a solution! Our options for assisting you may become more limited as we get closer to the end of the semester….

Meeting Policy: For quick questions, you are welcome chat with the professor / TA after class if they are available. For items that need more discussion, we encourage you to come to the professor's **drop-in office hours** (details on Page 1 of this syllabus). Office hours will be held starting on the first day of class through the date of our final class session, excluding university holidays and breaks. You are also welcome to **schedule a 1-on-1 meeting** with any of the instructors; you can request a meeting with Dr. Auletta via Calendly (http://calendly.com/anthonyauletta) or with your TA via email. If you schedule a meeting, you are expected to keep it or to let us know reasonably far in advance that you cannot make it; if you are a no-show to your appointment, the instructors reserve the right to limit you to meetings during regularly scheduled office hours only.

Email Policy: Outside of class and office hours, **email** is our preferred method of contact; you can email us using your **GatorLink account** or the **Canvas messaging system**. Note that we will not respond to any method of contact other than those listed in this syllabus. We will do our best to respond to messages within 48 hours, not including weekends or holidays. If you have not received a response, you may send a polite follow-up message after that 48 hour period (but not before that– please give the instructors adequate time to respond!). Note that we check our email occasionally during the day and will not necessarily view a message as soon as you send it; you should also not expect a response from the instructors outside of standard working hours (9:00am – 5:00pm, Monday - Friday).

Canvas: Important announcements and updates will be regularly posted to the **course Canvas website**. To ensure that you do not miss anything, make sure that your Canvas profile is set to send notifications to your email inbox. You are responsible for all of the information and assignments posted to our Canvas website, even if they do not appear in your Canvas To-Do List; it is your responsibility to ensure that you are able to navigate the Canvas website and know where to find these items. If you have any questions about Canvas, please ask the instructors at the beginning of the semester. Also note that our Canvas website will be updated as the semester goes on, so be sure to check Canvas frequently!

Readings & Course Materials

Readings & Videos: There is no textbook for this course; instead, selected articles from the primary literature and other readings will be **posted on Canvas**. Students are expected to complete all required readings before the corresponding class session. You may also be required to watch videos or view other resources before class, which will be posted on Canvas as well.

Computing Requirement: All students must have reliable access to a **computer with a high-speed internet connection** to access assignments and other course materials on Canvas, as well as to run software for data analysis and to create their research poster. A laptop computer running the current version of Windows or MacOS is strongly recommended so that you may work on your analyses and poster during class. Note that although some aspects of the course can be completed using a tablet or smartphone, our Canvas website is *not* optimized for these devices. Additionally, while the data analysis software may run on a tablet, it performs much better on a laptop or desktop computer.

If your internet service is disrupted, or if your computer breaks / becomes unavailable during the semester, you will be responsible for finding an alternative device so that you can continue to access course content and complete your assignments by their deadlines. You may, for example, use the computers that are freely available at public libraries, campus libraries, or university computer labs. For a list of on-campus computing locations, please see here: https://it.ufl.edu/learning-spaces/

Projects & Assignments

*There are **no exams** in this course!* Instead, we will assess your learning and completion of your research project in the following ways:

Prep Assignments: There will be several **online preparatory assignments** throughout the semester (see Canvas for dates). Some of these assignments will review important concepts that we've covered in class, while others will be based on the required readings / videos. These assignments are designed to help prepare you to work on our project and participate in our in-class discussions.

Reflections: Throughout the semester, you will be required to submit several **written reflections** via Canvas. The goal of these assignments is to help you expand on our class discussions and think deeply about what it means to be a good scientist. For some reflections, you may be asked to analyze a scientific paper relating to our research or to write up a short progress report on your project. See the Course Schedule below and Canvas for reflection due dates.

Lab Notebook: All students will be required to maintain a **digital lab notebook** throughout the semester, in which they will record their methods, data, analyses, and other notes related to our research. Instructions for how to access your lab notebook via Canvas will be discussed in class, as will proper lab notebook protocol and best practices. Your notebook will be graded for completeness and accuracy three times during the semester (two preliminary checks and one final evaluation).

Research Poster: As a capstone project, each research group will design a **scientific poster** that highlights the rationale, methods, results, and conclusions of their research project. Specific poster guidelines will be discussed in class. Students will present their posters to the Entomology & Nematology Department at a public symposium on the last day of class.

Science Across Borders Assignment: One of the major themes in this course is the value of global collaborations in science. To explore this topic in more depth, you will conduct an **interview with an international researcher** and use that interview to write a **reflective essay** on the benefits and challenges of conducting research across borders. Detailed information about this assignment will be discussed in class, and the instructors will connect you with a researcher for the interview.

Group Agreement & Evaluations: Early in the semester, each research group will submit a **written agreement** that outlines their shared expectations for groupwork. Then, three times during the course, you will **evaluate** your group members (including yourself!) based on how well they are following the agreement and contributing to the project. This will allow the instructors to assess how well each group is functioning and ensure that each person is doing their fair share of the work. The agreement and evaluations will not factor into your course grade, but you *cannot* earn a grade for your research poster or Science Across Borders project if you do not submit a group agreement and all of the evaluations!

In-Class Assignments: You will occasionally be required to complete **short assignments during class** (e.g., discussion worksheets, brainstorming activities, etc.), which are designed to guide you through our discussions and help you review / apply important information. These in-class assignments will not be graded directly, but the instructors will collect them at the end of class and use them to determine your Attendance & Participation grade. See the attendance policy below for more details.

Extra Credit: Extra credit opportunities may be posted at the **instructors' discretion only**. Any other extra work submitted in order to raise a grade will not be accepted and requests for additional extra credit will not be considered.

Submitting Assignments: *All assignments must be submitted electronically via their designated assignment pages on Canvas unless otherwise noted in writing by an instructor. Emailed or paper submissions for Canvas assignments will not be accepted. Some assignments will allow for multiple submissions (see Canvas for details); in that case, the instructors will only grade the latest submission that you make before the assignment closes. Note that you are responsible for everything you turn in– that includes ensuring that all your work is uploaded correctly and completely by the due date. Blank, corrupted, or otherwise inaccessible files will be treated as missing work (= 0 grade) until they are reuploaded correctly, and the late work policy (detailed later in this syllabus) will apply if your resubmission is past the deadline. So, always preview your files right after you upload them! If you experience technical problems when submitting your work in Canvas, contact the UF Computing Help Desk for assistance: https://helpdesk.ufl.edu. The instructors cannot provide IT support.*

Alternative Assignments: *You are expected to follow all of the instructions for every assignment; you cannot earn credit if you do not turn in the specific work that was assigned. Remember, your professors have carefully designed each assignment in this course to help you meet the learning objectives and demonstrate your mastery of the content. And so, requests for alternative assignments will not be considered. If you have approved reasonable accommodations from the Disability Resource Center (DRC), the instructors will discuss with you how to implement those accommodations so that you can complete the assignments.*

Pre-Grading: *Please note that instructors will not "pre-grade" an assignment– i.e., we will not review or grade a preliminary version of your assignment before you submit it. You are, however, welcome– and encouraged– to meet with an instructor in person (e.g., during office hours) to discuss specific questions that you have as you work on an assignment!*

Re-Dos / Corrections: *Once an assignment has been graded, it cannot be resubmitted for a different grade (unless stated otherwise on Canvas). In other words, there are no re-dos or assignment corrections in this course unless the instructors explicitly indicate otherwise.*

Course Schedule

Below is a tentative* schedule of topics & assignments for the semester. The dates of the preliminary lab notebook checks will be unannounced (so make sure that your notebook is always current!). Readings and other materials for each session will be posted on Canvas and must be completed before the start of class. All assignments must be submitted via Canvas by the due dates listed below; prep assignments are due by the start of class (12:50pm) and all other assignments are due by 11:59pm unless otherwise noted. Make sure to check Canvas for the most up-to-date deadlines for assignments, as they may change during the semester!

Week	Dates	Topics	Assignments Due
1	Jan. 12 – Jan. 17	Intro to the Course & Our Research Research Background: Who's in the Leaf Litter?	
2	Jan. 18 – Jan. 24	Research Background: Leaf Litter-Dwelling Spiders Research Background: Sampling Methods	Reflection 1 (Su)
3	Jan. 25 – Jan. 31	Research Background: Identification Methods Dichotomous Key Practice Paper Discussion #1	Reflection 2 (Su) Prep 1 (Th) Group Agreement (Th)
4	Feb. 1 – Feb. 7	Science Across Borders Data Collection & Analysis	Reflection 3 (Su)
5	Feb. 8 – Feb. 14	Data Collection & Analysis	Science Across Borders Interview Questions (Th)
6	Feb. 15 – Feb. 21	How to Design an Effective Research Poster Data Collection & Analysis	Reflection 4 (Su) Prep 2 (Tu)
7	Feb. 22 – Feb. 28	Data Collection & Analysis Paper Discussion #2	Poster Abstract (Tu) Prep 3 (Th) Group Evaluation 1 (F)
8	Mar. 1 – Mar. 7	Data Collection & Analysis Discussion: Objectivity & Bias in Research	Prep 4 (Th)
9	Mar. 8 – Mar. 14	Data Collection & Analysis Discussion: Use of AI in Research	Reflection 5 (Su) Prep 5 (Th) Reflection 6 (F)
10	Mar. 15 – Mar. 21	No Class (Spring Break)	

Week	Dates	Topics	Assignments Due
11	Mar. 22 – Mar. 28	**Discussion: Research Ethics** **Data Collection & Analysis**	Prep 7 (Tu) Poster Draft (Th) Group Evaluation 2 (F)
12	Mar. 29 – Apr. 4	**Data Collection & Analysis**	Reflection 7 (Su) Science Across Borders Interview Transcript (Tu)
13	Apr. 5 – Apr. 11	**Data Collection & Analysis**	Science Across Borders Final Paper (Th)
14	Apr. 12 – Apr. 18	**Panel Discussion with Visiting Researchers** **Practice Poster Presentations**	Final Poster (Tu, 12:00pm) Prep 8 (Tu)
15	Apr. 19 – Apr. 22	**Poster Symposium** **Reflecting on our Research Experience**	Reflection 8 (Su) Lab Notebook Final Evaluation (Tu) Group Evaluation 3 (W)

** Although we will do our best to adhere to this schedule, it may be adjusted during the semester to accommodate opportunities, disruptions, and other circumstances. Note that this includes assignment deadlines, which the instructors may change as needed during the semester. All of these changes will be communicated clearly via Canvas as far in advance as possible.*

List of Important Dates

Key dates to remember are below– be sure to add them to your calendar now, and make sure that you take them into consideration when scheduling your travel and other obligations this semester! Due dates for other assignments are listed in the Course Schedule above and/or on Canvas.

- **January 13 (Tu):** First Day of Class
- **February 24 (Tu):** Research Poster Abstract due
- **March 14 (Sa) – March 21 (Sa):** Spring Break (no class)
- **March 26 (Th):** First Draft of Research Poster due
- **March 31 (Tu):** Science Across Borders Interview Transcript due
- **April 9 (Th):** Science Across Borders Final Paper due
- **April 14 (Tu):** Final Research Poster due for printing (by 12:00pm)
- **April 21 (Tu):** Research Poster Symposium / Final Notebook Evaluation / Last Day of Class
- Note that there are no exams or assignments during Finals Week for this course!

Academic Policies & Resources

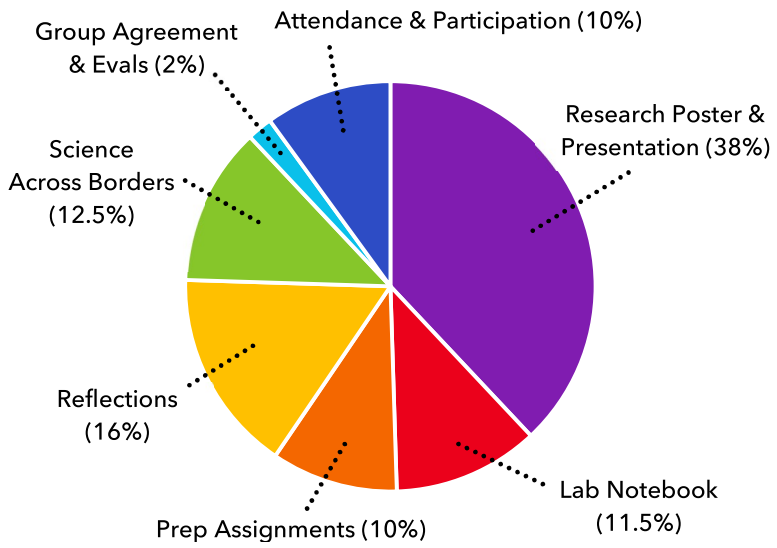
Academic policies for this course are consistent with the university policies that are outlined here: https://go.ufl.edu/syllabuspolicies. Later in this syllabus, you will find additional policies, which are specific to this course and intended to supplement (not replace) the university policies. Every student in this course will be held accountable to *all* university policies as well as the additional policies in this syllabus. It is your responsibility to ensure that you are familiar with and adhere to all of them! If you have any questions, please do not hesitate to reach out to an instructor.

For a list of helpful campus resources, please visit https://one.uf.edu/whole-gator/topics. These resources are designed to help you thrive physically, mentally, and emotionally as a student at UF! If you require additional and immediate support, please don't hesitate to contact the Campus Assistance & Resources for Empowerment (CARE) Team: https://umatter.ufl.edu/, 352-294-2273.

Grading Policies

This course uses a points system for grading. The anticipated maximum (excluding extra credit) that can be earned in the course is **1,000 points**, distributed as follows:

- **Research Poster & Presentation: 380 pts**
- **Lab Notebook: 115 pts**
- **Prep Assignments: 100 pts**
- **Reflections: 160 pts**
- **Science Across Borders: 125 pts**
- **Group Agreement & Evaluations: 20 pts**
- **Attendance & Participation: 100 pts**



At the end of the semester the end of the semester, your total course grade will be converted to a letter grade using the scale below:

93 – 100% = **A**	80 – 82.99% = **B-**	67 – 69.99% = **D+**
90 – 92.99% = **A-**	77 – 79.99% = **C+**	63 – 66.99% = **D**
87 – 89.99% = **B+**	73 – 76.99% = **C**	60 – 62.99% = **D-**
83 – 86.99% = **B**	70 – 72.99% = **C-**	below 60% = **E**

The instructors **do not round or "bump up" grades**; requests to do so will not be considered.

The instructors may add, remove, or adjust assignments (with prior notice) to accommodate unforeseen disruptions, schedule changes, or opportunities that arise during the semester. It is your responsibility to check the Canvas announcements regularly so that you can stay informed of these

changes. Canvas will always reflect the most up-to-date list of assignments and deadlines. Changes to assignments (if they arise) may alter the total number of points available in the course, but the scale used to calculate your final letter grade will remain the same.

For current UF policies on assigning grade points, consult the following policy website: https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

> ***Disputing a Grade:*** *If you wish to dispute a grade for any exam/assignment, you must contact the instructors in writing after the assignment has been returned. In your message, you must include a specific explanation for why you think the grade is incorrect and how you think it should be changed. An instructor will then arrange a meeting with you to discuss the issue and determine whether or not to the grade should be changed. The grade assigned following this meeting will be final.*

Attendance & Participation

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies.

Expectations for Attendance & Participation: Due to the hands-on nature of this course, attendance in class is *critically important*. If you are absent, you will not be able to fully work on your research project, collaborate with your teammates, or contribute to class discussions. Thus, you are expected to **attend every class session** (unless your absence is excused), **arrive to class on time**, and **stay for the entire session**. You are also expected to be **fully prepared for and engaged in each session**– this includes completing all required readings / prep materials beforehand, submitting all assignments on time, paying attention during class, and actively participating in all class activities. Participation in our class sessions is worth **100 points (= 10% of your final course grade)**. Your Attendance & Participation grade will be calculated based on the percentage of class sessions in which you are present for the entire time and complete the assigned in-class activities, excluding class sessions during the drop / add period and excused absences. You will *not* earn full attendance and participation points for a class session if you arrive substantially late or leave substantially early.

Since this is a **face-to-face course**, students will not have the option to join class remotely via Zoom. The instructor will also not record the class sessions.

Work Outside of Class: In addition to working on your research project in class, you will be expected to allocate adequate time outside of class to work on data analysis and other aspects of the project. You will also need to spend time outside of class to do the required readings and complete your assignments. Please plan accordingly! Most students should expect to spend ~5 hours per week (on average) outside of class time on this course, but the exact amount of time needed will vary by person– you may need more time, or you may need less (depending on how much progress you make in your research during our class sessions).

Late Work & Extensions

Policy on Late Work: The **due date and time** for each assignment can be found on the corresponding assignment page in **Canvas**. To be eligible for full credit, you must submit your assignment by its stated deadline! You can submit most assignments up to 48 hours (2 days) after the deadline, but **25% of its total point value will be deducted for every day that it is late**. After 48 hours, the assignment submission page will close on Canvas; at that point, late submissions will no longer be accepted! In other words, you can a maximum of 75% of the assignment's points if you submit it within the first day after the deadline, up to 50% if you submit within the second day after the deadline, and 0% if you are more than 2 days late. Please note that the **final research poster** will not be accepted late; this because we need to provide sufficient time to print the posters for our end-of-semester symposium.

All deadlines are in Eastern Time (ET). To avoid potential confusion, make sure that you set the time zone in your Canvas settings to Eastern Time!

Extensions: Extensions for assignments will be considered on a case-by-case basis. If you have a situation that you believe warrants an extension, it is your responsibility to contact the instructors as soon as possible to discuss your situation and options. Please note that asking for an extension does not guarantee that you will be granted one, and that the instructors may require **valid documentation** of your situation before granting an extension. While waiting for the instructors' response, you should assume that the assignment is still due by the due date and time on Canvas (and plan accordingly).

> ***A Note about Deadlines:*** *Remember, the due date doesn't have to be the "do" date! In other words, we encourage you to start working on your assignments in advance to ensure that they are submitted on time! Non-emergency situations that arise right before the assignment's due date are not valid reasons to request an extension. Likewise, vacations / personal travel, being busy with other courses / employment / extracurriculars, social obligations, and other personal events are also not acceptable reasons for an extension. All of these outside obligations are things that you can control or predict in advance; so, if you know that you will be busy with any of these things on / near the assignment's due date, you should plan ahead and submit the work early. Remember that, as a college student (and future professional), you will have many demands on your time… so it is important to practice* ***effective time management****! The late work and extension policies for this course are designed to help you build this important professional skill.*

Make-Up Assignments

Make-Up Work: Our course policy on make-up assignments and other work is consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/. If you are absent from class, it is your responsibility to contact the instructors as soon as possible to discuss options for making up missed work or assignments. As noted above, the instructors may ask for **valid documentation** of your absence before allowing make-up work to be submitted. We also encourage you to contact a classmate to ask for notes from the session(s) that you missed; the instructors will not provide notes.

Making up the Symposium Presentation: All students are expected to attend the Research Poster Symposium on the last day of class (see the schedule above for the specific date). Presenting your poster at this symposium is the capstone experience of this course, and as such it is worth a substantial part of your research poster grade. It is also a valuable professional development experience! If you have to miss the symposium due to an excused absence, the instructor will assign you an incomplete grade (I*) in the course after your absence documentation is verified, and you will have to make up the presentation during the following semester. Since one of the goals of the symposium is for you to present your work to a broad audience *beyond your instructors and classmates*, you can do one of the following to make up the symposium: (1) present your poster at the UF Undergraduate Research Symposium, which is hosted every spring and fall by the Center for Undergraduate Research or (2) present your poster at the CURE symposium during the next offering of this course (ENY 2890C). The instructor will work with you to decide which make up option is the best fit for you. Students in their final semester should reach out to the instructor to discuss other options. Upon successful completion of your makeup presentation, your incomplete grade will be changed to the letter grade that you earned in the course. Note that it will be your responsibility to attend the make-up presentation at the date, time, and location that the instructor assigned.

Professionalism & Etiquette

Everyone in the class is expected to conduct themselves in a **courteous and professional manner** at all times. This includes (but is not limited to) being polite and respectful when interacting with your peers and instructors, making an honest effort to engage in all aspects of the course (including doing the required preparatory work), being on time for our class sessions (or minimizing disruptions if you arrive late), raising your hand and waiting to be called on when you wish to speak during class, allowing others in the class to share their perspectives even if you disagree with them, actively listening to others and showing attention as an expression of respect, not talking over others or interrupting them, not monopolizing shared resources in the classroom, avoiding activities that might be distracting to others or interfere with the learning experience (including inappropriate use of electronic devices and packing up your belongings before class is over), quietly excusing yourself from class if needed, contributing meaningfully to group work, being open to constructive feedback, abiding by all course and university policies, and being proactive about issues that arise during the semester. Students who behave disrespectfully or disruptively may be **dismissed from the class session** and will be reported to the **Dean of Students Office**.

Expectations for Group Work

Learning how to work effectively as part of a team is a crucial skill for any professional. To help you build this skill, we have embedded **collaboration** into many aspects of this course. As noted earlier, you will work in small teams for to perform your research and make your **research poster**, and you will work in these same teams to conduct your **Science Across Borders interview** as well. The teams will be assigned by the instructors during Week 2 of the semester (after the drop / add period has ended). Students will not be able to choose their own teams or to switch teams after they've been assigned.

All members of the group are expected to **contribute meaningfully** to every aspect of the research project and Science Across Borders assignment. You are also expected to **act professionally and respectfully** to your groupmates at all times, both during class and outside of class time. This includes

providing everyone in the group an opportunity to contribute their ideas, actively listening when others are talking, providing and responding to constructive feedback, addressing any disagreements in a courteous and productive way, and working together to complete all assigned tasks. To help ensure that your group functions effectively, you and your teammates will be required to submit a **written group agreement** early in the semester; this is a contract that outlines your shared expectations for communication, meetings, task division, conflict resolution, and other aspects of groupwork. At several points during the semester, you will also be asked to **evaluate** yourself and each of your teammates based on their contributions to the project and the degree to which they adhered to your group agreement. Note that you *cannot* earn credit for the research poster or Science Across Borders interview if you do not submit your group agreement and all of the evaluations!

If anyone in your group is not doing their share of the work or is not behaving professionally, it is important let the instructors know as soon as possible so that we can help address the issue. Students who do not contribute their fair share to the projects and / or who violate the terms of their group agreement will have their poster and/or Science Across Borders grades lowered by the instructors.

You will also be required to partner with your fellow students for some of our in-class discussions and other activities. When working with your classmates on in this way, you will again be expected to treat them with respect and professionalism.

Laboratory Guidelines & Safety

Everyone is required to follow all **lab safety procedures** and other **lab guidelines** provided by the instructors. These procedures will be clearly communicated via Canvas and/or during class. While in the laboratory, all students must wear closed-toed shoes. Also note that food and beverages are not permitted in the lab. During the course, you may handle specimens and use microscopes or other lab equipment; please treat these specimens and instruments with care! Always ask an instructor if you are unsure about how to use an instrument. Students who do not adhere to these guidelines will be dismissed from the lab and considered absent for that day, and may also be reported to the Dean of Students Office for misconduct. You may also be liable for any damages to lab equipment that result from your negligence or misuse.

Field Trip Expectations

There will be several **required field trips** during the semester, during which we will collect samples for our research project. All of these required trips will occur during class time and be to locations on campus. Dates for these excursions will be announced in class and/or on Canvas. All students are expected to participate in these trips, and thus they will count towards your Attendance & Participation grade. Inclement weather may force us to reschedule/cancel some of these excursions; those changes will be clearly communicated via Canvas as far in advance as possible. Additional in-class field activities may be organized during the semester as opportunities arise; these will also be announced as far in advance as possible.

This means that we will be spending some of our class time outdoors, including on days when it may be hot and humid. On days when field activities are scheduled, you should come to class prepared to spend time outside in the day's predicted weather conditions. This includes wearing comfortable,

closed-toed shoes and clothes that are suitable for fieldwork. You are also encouraged to bring a hat (to shade yourself from the sun), sunscreen, bug spray, and a water bottle. If you are allergic to any organisms that we may encounter on these field trips, you should let the instructors know ahead of time and bring an allergy pen if needed.

If you have concerns about working in the field, make sure to reach out to the instructors at the beginning of the semester. We are happy to discuss reasonable accommodations for students who have limited mobility, allergies, or other conditions that may impact their ability to participate in the field trips.

In addition to these required field activities, the instructors may organize several **optional field trips** outside of our usual class time to collect additional samples for our project. Students are *not* required to attend these excursions but are encouraged to if their schedule allows– they are great opportunities to expand the scope of our research! Details for these optional trips (including the dates, locations, and other logistics) will be announced in class and/or on Canvas after the semester begins. Note that these optional field trips may be rescheduled or canceled in the event of inclement weather or other circumstances.

Use of Artificial Intelligence (AI)

When used properly, **artificial intelligence (AI)** can be a tool to supplement your learning. However, *improper* use of AI can impede your learning and may be considered academic dishonesty. Furthermore, most scientific journals, funding agencies, and professional societies now have strict rules about AI use and require all authors to disclose if / how they used AI. This means that misuse of AI tools in this course could prevent our research from being publishable! For all of these reasons, it is critically important for students to learn how to use AI tools responsibly and ethically!

For this course, you are not permitted to use content generated by ChatGPT, Copilot, DeepSeek, Gemini, Claude, or any other AI tool in *any assignment*, unless an instructor provides written permission stating otherwise. This includes– but is not limited to– submitting AI-generated content as your own work, submitting content that was paraphrased or modified from an AI output, quoting text generated by an AI (even if it is properly cited), and using AI to generate false sources. All of your assignments should consist entirely of your own original work, created by you specifically for this class. We are interested in assessing *your* understanding of the material and *your* ability to think critically / synthesize information– not that of an artificial algorithm! Unauthorized use of AI in an assignment will be treated as **academic misconduct**.

You are allowed to use AI tools in the following ways. Note that these are the *only* acceptable uses of AI in this course:

- Outside of graded assignments, e.g., to help you study or review class material.
- To proofread or provide feedback on your original work before submitting it. *Note that you aren't permitted to include the AI's output in your assignment, even if you edit it first… but you can use the AI's suggestions to refine your work yourself. If you do so, you must include an appendix with your assignment submission, in which you name the specific AI tools that you used and provide the exact prompts that you entered as well as verbatim copies of all of the AI's outputs. You must also confirm, in writing, that your assignment is written entirely in your own*

words, i.e., without any AI-generated content (including paraphrased content). Failure to provide all of this information when you use AI will result in a report to the Dean of Students Office.

As a general rule, AI should never be your starting point– you should always start with your own original ideas and work! You should not use AI for anything that a human proofreader or study buddy could not ethically do for you.

All students should also be aware of the **many limitations and pitfalls** of AI. The material generated by these tools is often inaccurate, incomplete, misleading, and/or biased. It is also often overly generalized and formulaic, lacking both the depth of analysis and quality of writing that is expected in most college-level courses (and in our discipline more broadly). AI-generated content may also not align with the specific content that we cover in class. Remember, these AI tools are neither students in this course nor experts in our field– all they can do is generate statements that *sound* plausible, without any regard for (or ability to determine) the accuracy of those statements. Thus, if you use AI as a study tool, you should always fact-check the outputs using your notes from class, other course materials, or credible external sources. Also note that, in general, relying too heavily on these tools may erase your individual voice from your work, stifle the development of your own critical thinking skills and creativity, and prevent you from gaining the depth of knowledge expected of an expert in your discipline. Outsourcing your learning to AI can thus make it difficult for you to succeed in other aspects of college and in your future career!

Finally, be aware that every course at the university has its own individual policy about AI, which the instructors have implemented to maximize learning in their courses. The policy described here is for this course only and may not be the same as the policies for your other courses!

Data Use & Management

In this course, you will collect and analyze data that may be used in a future publication. It is crucial that you **handle these data responsibly and ethically**! This includes keeping detailed, complete, and accurate records throughout the duration of your project. Your data and other work relating to our project must be kept in a permanent and retrievable form (such as in your lab notebook). You must be able to show your data and analyses to an instructor when asked, and will be required to submit all of your data / records to the instructors by the end of the course. Remember that you do not own the data that you produce through this course; research data is institutional property, which means that they are owned by the University of Florida. All data from our project must also be kept confidential until published– you are not permitted to share unpublished data / findings from our project with anyone outside of the course unless you have prior written permission from the instructor. Finally, you may not modify, erase, falsify, or fabricate any of your data under any circumstances!

Violation of any of these policies could prevent us from publishing our research. *By remaining enrolled in this course, you agree that you will adhere to these rules as well as any additional guidance on data use/management provided by the instructors.* Students who violate these policies will earn an automatic E (= failing grade) in the course and will be reported to the Dean of Students Office for academic misconduct.

Use of Electronic Devices

You may use personal electronic devices such as laptops or tablets in class, unless otherwise noted by an instructor. However, it is your responsibility to make sure that you use your devices in a **professional and courteous manner**. This includes:

- Limiting device use only to activities that are **directly related to your learning of course material**, such as taking notes or working on your analyses. Using your devices for any other purpose is not allowed in the classroom; doing so is disrespectful to the instructors, distracting to your fellow students, and robs you of a quality learning experience.
- Keeping your devices **muted at all times** to prevent disrupting others around you.
- Quietly stepping out into the hall if you must take a call or contact someone. We understand that emergencies can happen and will not prevent you from attending to them, but we also ask that you try to minimize disruptions to your peers.

If your device use is disruptive or inappropriate, you will be asked to put away your device. Students who repeatedly violate this policy will no longer be allowed to use devices in class and may be reported to the Dean of Students Office.

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

* * * * *

It is your responsibility to ensure that you fully understand all policies outlined in this syllabus as well as the policies of the university as they relate to this course. In the interest of fairness, all students in the class will be held accountable to these policies without exception; these policies are not negotiable.

This syllabus cannot predict every possibility that could happen during the semester. If a situation arises that is not explicitly covered by this syllabus, the instructors will respond to it using their best judgment while following all applicable university policies. Students will be expected to abide by the instructors' decisions in these (and all other) matters.

At their discretion, the instructors may add, remove, or otherwise change aspects of the course during the semester to accommodate new opportunities, unforeseen disruptions, or other circumstances. These changes will be communicated clearly in class and / or through Canvas. The current version of the syllabus will always be available on our course's Canvas website. It is your responsibility to ensure that you are following the most recent version of the syllabus.

By remaining enrolled in this course, you agree that you have read and understood all parts of this syllabus and that you will be held accountable to the policies within. If you have any questions, please contact the instructors as soon as possible (preferably at the beginning of the course)!

* * * * *

Cover Photo: Pseudoscorpion (Order Pseudoscorpiones, Family Chernetidae) by Thomas Shanan (]flickr.com/photos/49580580@N02/)

Cover Sheet: Request 22609

Spider Biology Lab- Undergraduate (ENY 3830L): Upgrade to 4000-level

Info

Process	Course|Modify|Ugrad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Anthony Auletta anthonyauletta@ufl.edu
Created	2/16/2026 3:56:14 PM
Updated	2/17/2026 10:03:04 AM
Description of request	We request that ENY 3830L (Spider Biology Lab) be upgraded to a 4000-level course.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Entomology and Nematology 60140000	Jennifer Weeks		2/17/2026
New Syllabus- ENY 4XXXL (Spider Biology Lab).docx Old Syllabus- ENY 3830L (Spider Biology Lab).docx Syllabus- ENY 6XXXL (Graduate Spider Biology Lab).docx Summary of Differences- Graduate vs Undergraduate Spider Biology Lab.docx Rubric- Spider Collection (Undergraduate).pdf Rubric- Spider Collection (Graduate).pdf CALS CC Checklist- Undergraduate Spider Biology Lab.pdf					2/16/2026 2/16/2026 2/16/2026 2/16/2026 2/16/2026 2/16/2026 2/16/2026
College	Pending	CALS - College of Agricultural and Life Sciences			2/17/2026
No document changes					
University Curriculum Committee					
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Catalog					
No document changes					
Student Academic Support System					
No document changes					
College Notified					
No document changes					

Original file: Cover sheet.pdf

Course|Modify for request 22609

Info

Request: Spider Biology Lab- Undergraduate (ENY 3830L): Upgrade to 4000-level
Description of request: We request that ENY 3830L (Spider Biology Lab) be upgraded to a 4000-level course.
Submitter: Anthony Auletta anthonyauletta@ufl.edu
Created: 2/16/2026 3:50:47 PM
Form version: 1

Responses

Current Prefix ENY
Course Level 3
Number 830
Lab Code L
Course Title Spider Biology Lab
Effective Term Earliest Available
Effective Year Earliest Available
Requested Action Other (selecting this option opens additional form fields below)
Change Course Prefix? No

Change Course Level? Yes
Current Level 3
Proposed Level 4
Change Course Number? No

Change Lab Code? No

Change Course Title? No

Change Transcript Title? No

Change Credit Hours? No

Change Variable Credit? No

Change S/U Only? No

Change Contact Type? No

Course Type Lecture

Change Rotating Topic Designation? No

Change Repeatable Credit? No

Multiple Offerings in a Single Semester No
Change Course Description? No

Original file: Submitted form version 1.pdf

Change Course Objectives No

Change Prerequisites? No

Change Co-requisites? No

Rationale We are requesting that this course (currently listed as ENY 3830L: Spider Biology Lab) be upgraded from a 3000-level course to a 4000-level course. We believe that this new level accurately reflects the rigor of the course, and it will also allow the course to be co-taught with a proposed graduate version of the course (ENY 6XXXL; currently under review– see request #22538).

Original file: Submitted form version 1.pdf

CALS Curriculum Committee
Submission Checklist

Updated January 2026

NOTE: This checklist must be included with all course and certificate submissions.

The checklist below is intended to facilitate course and certificate submissions to the University of Florida Academic Approval Tracking System (https://approval.ufl.edu/). The checklist consists of the most common items that can cause a submission to require changes or be recycled. Contrary to information provided on the UF approval site, the CALS Curriculum Committee requires a syllabus be submitted with each new course or course modification request. Please note that submitters are encouraged to attend the CALS CC meeting at which their item is being reviewed. This allows the submitter to answer any potential questions that may arise that could cause the item to not be approved. Also, be aware that when completing the UCC form the section Description of Request is asking for a brief statement about what you are doing. This is **not** the place for a course description. A statement such as "Proposal of a new undergraduate course" is all that is needed. Please do not submit documents in pdf format. All documents should be submitted in Word to facilitate editing on our end if necessary.

CHECKLIST: PLEASE INITIAL OR MARK N/A FOR EACH STATEMENT TO INDICATE YOUR COMPLIANCE.

SYLLABUS: You are encouraged to use the CALS ACCESSIBLE SYLLABUS TEMPLATE. Accessibility will be required by APRIL 2026.
****Use of Simple Syllabus will be required for Summer 2026 forward. It is slated to be released to faculty in late February 2026.****

AA It is required when making a submission that you consult your department's representative to the CALS CC. A list of current members can be found on the committee site located at: https://cals.ufl.edu/faculty-staff/committees/.

AA Submission of a course modification requires both the current version of the course syllabus and the proposed version.

AA Joint course submissions must include 1) both graduate and undergraduate syllabuses and 2) a separate document outlining the substantial (more than one) differences in assignments between the two courses. These assignments must account for at least a 15% difference in graded material between the two levels. If this is a new course submission both courses must be submitted for approval simultaneously.

AA The course description on the UCC form and in the syllabus must match and should be no longer than 500 characters. FOR AN EXITING COURSE, THE DESCRIPTION **MUST MATCH THE CATALOG DESCRIPTION**. Follow the **COURSE DESCRIPTION GUIDELINES** for new courses if not contraindicated by outside certification requirements. Any other information you wish to include needs to be under a different heading such as background or additional course information.

Original file: CALS CC Checklist- Undergraduate Spider Biology Lab.pdf

AA The course learning objectives must be consistent with Bloom's taxonomy. Please see the following link at the CALS Curriculum site. (https://cals.ufl.edu/content/PDF/Faculty_Staff/cals-courseobjectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

AA The course schedule should be concise and include the appropriate number of weeks in the semester.

AA All graduate course submissions must include a reading list if a textbook is not required. The reading list should include at least some current readings (within the last 5 years). All readings do not need to be current.

N/A Outside consultations are required if there is a possibility of the proposed course covering a significant amount of material taught in another department or college on campus. There must be a consult form completed by the chair of the department from who you are seeking the consult. Instructors may provide additional consults. The form can be found at: https://approval.ufl.edu/policies/external-consultations/.

AA Prerequisite courses are required for 3000 and 4000 level courses. This line of the approval form cannot be "none" or left blank. Junior or senior standing is an acceptable option. A phrase such as "a course in basic biology" is not acceptable. (Graduate courses should not have specific courses listed as prerequisites. If needed a statement of skills required prior to taking the course can be provided under other course information.)

AA Decimal points must be included in the grading scale if grade cut-offs are based on percentages. While this is not a university policy it is a CALS standard practice to avoid any confusion when final grades for the course are determined.

AA The attendance and make-up policy in a syllabus cannot contradict the university's policy. Do not include any additional wording to this policy. A statement and link regarding this are included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

AA The most recent version of the UF Syllabus Statements. Using the accessible syllabus template will ensure you have the most up to date statements. Do not use boilerplate statements from an old syllabus as they are likely to be out of date.

Certificates

N/A If proposing a new undergraduate or graduate level certificate that includes any courses outside of the submitters department a statement regarding any possible impact on those courses needs to be included. An email from the instructor is acceptable. Also, any courses required for the certificate must have permanent prefixes and course numbers. The submission must include intended catalog copy. (Contact Dr. Anne Mathews (anne.mathews@ufl.edu) for further instruction)

Original file: CALS CC Checklist- Undergraduate Spider Biology Lab.pdf

Rubric: Spider Collection, Part 1 (Graduate)

ENY 3830L / 6934: Spider Biology Lab

Student Name: _____

*Each specimen in your collection is worth up to **15 points** and will be evaluated based on the quality of the specimen, the accuracy of your identification, and your ID justification. Additional points are allocated for the presentation of your collection and having a sufficient number of unique families represented in your collection.*

*Please note that every specimen in your collection must be a **unique morphospecies** and must be accompanied by **complete, accurate labels** inside the vial. No credit will be earned for duplicate morphospecies, specimens with incomplete or missing labels, or specimens that otherwise do not meet the requirements for the collection assignment!*

Grading Criterion	Count	Score	Comments
Specimen Quality: *Part 1 of collection contains **18 adult/subadult spider specimens**, each of which is in acceptable condition (e.g., not damaged or missing too many legs, etc.).* (3 pts per specimen)	__ / 18	__ / 54	
Family IDs: *Each specimen for Part 1 of the collection is **correctly identified to family**, with the ID indicated on the appropriate label in the specimen's vial.* (6 pts per ID)	__ / 18	__ / 108	
ID Justifications: *Each identification for Part 1 of the collection is accompanied by an **appropriate and accurate written justification** in the collection spreadsheet.* (6 pts per justification)	__ / 18	__ / 108	

Curation & Presentation: *Specimens for Part 1 of the collection are **properly curated** (e.g., labels are neat and correctly formatted, there is an appropriate level of ethanol in all vials, etc.). Collection is overall is neat, organized, and professional in **presentation**.*	N/A	__ / 10	
Unique Families: *Collection includes at least **18 different spider families** (between Parts 1 and 2 of the collection).* ** This aspect of your collection will not be graded now but <u>will</u> factor into your grade for Part 2 of the collection. For now, we'll just tally how many correctly IDed families you have submitted so far, so that you know how many more you'll need to include for Part 2!*	__ / 18	N/A	
Dichotomous Key IDs: *Collection includes at least **8 specimens IDed by dichotomous key** (between Parts 1 and 2 of the collection).* ** This aspect of your collection will not be graded now but <u>will</u> factor into your grade for Part 2 of the collection. For now, we'll just tally how many valid dichotomous key IDs you have, so that you know how many more you'll need to include for Part 2!*	__ / 8	N/A	

TOTAL SCORE: ___ / 280 (= ___%)

Additional comments:

Original file: Rubric- Spider Collection (Graduate).pdf

Rubric: Spider Collection, Part 2 (Graduate)

ENY 3830L / 6934: Spider Biology Lab

Student Name: _____

*Each specimen in your collection is worth up to **15 points** and will be evaluated based on the quality of the specimen, the accuracy of your identification, and your ID justification. Additional points are allocated for the presentation of your collection and having a sufficient number of unique families represented in your collection.*

*Please note that every specimen in your collection must be a **unique morphospecies** and must be accompanied by **complete, accurate labels** inside the vial. No credit will be earned for duplicate morphospecies, specimens with incomplete or missing labels, or specimens that otherwise do not meet the requirements for the collection assignment!*

Grading Criterion	Count	Score	Comments
Specimen Quality: *Part 2 of collection contains **18 additional adult/subadult spider specimens**, each of which is in acceptable condition (e.g., not damaged or missing too many legs, etc.). Specimens for Part 2 of the collection must be different from those submitted for Part 1.* (3 pts per specimen)	__ / 18	__ / 54	
Family IDs: *Each specimen for Part 2 of the collection is **correctly identified to family**, with the ID indicated on the appropriate label in the specimen's vial.* (6 pts per ID)	__ / 18	__ / 108	
ID Justifications: *Each identification for Part 2 of the collection is accompanied by an **appropriate and accurate written justification** in the collection spreadsheet.* (6 pts per justification)	__ / 18	__ / 108	

Unique Families: *Collection includes at least **18 different spider families** (between Parts 1 and 2 of the collection).* (10 pts per correctly IDed unique family)	__ / 18	__ / 180	
Dichotomous Key Justifications: *At least **8 specimens** must be identified via **dichotomous key** between Parts 1 and 2 of the collection.* (If fewer than 5 specimens were IDed by key, a penalty of -6 pts will be applied for each dichotomous key justification that is missing)	__ / 8		
Curation & Presentation: *Specimens for Part 2 of the collection are **properly curated** (e.g., labels are neat and correctly formatted, there is an appropriate level of ethanol in all vials, etc.). Collection is overall is neat, organized, and professional in **presentation**.*	N/A	__ / 10	
Extra Credit (5 pts for each unique family beyond 12, to a maximum of 5 extra families)	__ / 5	__ / 25	

TOTAL SCORE: ___ / 460 (= ___%)

Additional comments:

Original file: Rubric- Spider Collection (Graduate).pdf

Rubric: Spider Collection, Part 1 (Undergraduate)

ENY 3830L: Spider Biology Lab

Student Name: _____

*Each specimen in your collection is worth up to **15 points** and will be evaluated based on the quality of the specimen, the accuracy of your identification, and your ID justification. Additional points are allocated for the presentation of your collection and having a sufficient number of unique families represented in your collection.*

*Please note that every specimen in your collection must be a **unique morphospecies** and must be accompanied by **complete, accurate labels** inside the vial. No credit will be earned for duplicate morphospecies, specimens with incomplete or missing labels, or specimens that otherwise do not meet the requirements for the collection assignment!*

Grading Criterion	Count	Score	Comments
Specimen Quality: *Part 1 of collection contains **12 adult/subadult spider specimens**, each of which is in acceptable condition (e.g., not damaged or missing too many legs, etc.).* (3 pts per specimen)	__ / 12	__ / 36	
Family IDs: *Each specimen for Part 1 of the collection is **correctly identified to family**, with the ID indicated on the appropriate label in the specimen's vial.* (6 pts per ID)	__ / 12	__ / 72	
ID Justifications: *Each identification for Part 1 of the collection is accompanied by an **appropriate and accurate written justification** in the collection spreadsheet.* (6 pts per justification)	__ / 12	__ / 72	

Curation & Presentation: *Specimens for Part 1 of the collection are **properly curated** (e.g., labels are neat and correctly formatted, there is an appropriate level of ethanol in all vials, etc.). Collection is overall is neat, organized, and professional in **presentation**.*	N/A	__ / 10	
Unique Families: *Collection includes at least **12 different spider families** (between Parts 1 and 2 of the collection).* ** This aspect of your collection will not be graded now but <u>will</u> factor into your grade for Part 2 of the collection. For now, we'll just tally how many correctly IDed families you have submitted so far, so that you know how many more you'll need to include for Part 2!*	__ / 12	N/A	
Dichotomous Key IDs: *Collection includes at least **5 specimens IDed by dichotomous key** (between Parts 1 and 2 of the collection).* ** This aspect of your collection will not be graded now but <u>will</u> factor into your grade for Part 2 of the collection. For now, we'll just tally how many valid dichotomous key IDs you have, so that you know how many more you'll need to include for Part 2!*	__ / 5	N/A	

TOTAL SCORE: ___ / 190 (= ___%)

Additional comments:

Original file: Rubric- Spider Collection (Undergraduate).pdf

Rubric: Spider Collection, Part 2 (Undergraduate)

ENY 3830L: Spider Biology Lab

Student Name: _____

*Each specimen in your collection is worth up to **15 points** and will be evaluated based on the quality of the specimen, the accuracy of your identification, and your ID justification. Additional points are allocated for the presentation of your collection and having a sufficient number of unique families represented in your collection.*

*Please note that every specimen in your collection must be a **unique morphospecies** and must be accompanied by **complete, accurate labels** inside the vial. No credit will be earned for duplicate morphospecies, specimens with incomplete or missing labels, or specimens that otherwise do not meet the requirements for the collection assignment!*

Grading Criterion	Count	Score	Comments
Specimen Quality: *Part 2 of collection contains **12 additional adult/subadult spider specimens**, each of which is in acceptable condition (e.g., not damaged or missing too many legs, etc.). Specimens for Part 2 of the collection must be different from those submitted for Part 1.* (3 pts per specimen)	__ / 12	__ / 36	
Family IDs: *Each specimen for Part 2 of the collection is **correctly identified to family**, with the ID indicated on the appropriate label in the specimen's vial.* (6 pts per ID)	__ / 12	__ / 72	
ID Justifications: *Each identification for Part 2 of the collection is accompanied by an **appropriate and accurate written justification** in the collection spreadsheet.* (6 pts per justification)	__ / 12	__ / 72	

Unique Families: *Collection includes at least **12 different spider families** (between Parts 1 and 2 of the collection).* (10 pts per correctly IDed unique family)	__ / 12	__ / 120	
Dichotomous Key Justifications: *At least **5 specimens** must be identified via **dichotomous key** between Parts 1 and 2 of the collection.* (If fewer than 5 specimens were IDed by key, a penalty of -6 pts will be applied for each dichotomous key justification that is missing)	__ / 5		
Curation & Presentation: *Specimens for Part 2 of the collection are **properly curated** (e.g., labels are neat and correctly formatted, there is an appropriate level of ethanol in all vials, etc.). Collection is overall is neat, organized, and professional in **presentation**.*	N/A	__ / 10	
Extra Credit (5 pts for each unique family beyond 12, to a maximum of 5 extra families)	__ / 5	__ / 25	

TOTAL SCORE: ___ / 310 (= ___%)

Additional comments:

Original file: Rubric- Spider Collection (Undergraduate).pdf

Spider Biology Lab
ENY 4XXXL

Fall 2025 (1 credit)

Wednesdays, Periods 4 - 5 (10:40am – 12:35pm)

3118 Steinmetz Hall

Prerequisites: Sophomore standing or above, or instructor permission

Co-requisites: ENY 3830 (Spider Biology lecture), or instructor permission

Canvas: ufl.instructure.com/courses/540635

Instructors:

Dr. Anthony Auletta (he/him)

anthonyauletta@ufl.edu

(352) 273-3954

Office: 3102 Steinmetz Hall

Office Hours: Tuesdays & Wednesdays, 2:00pm – 3:00pm (or by appointment via Calendly: calendly.com/anthonyauletta)

Dr. Lisa Taylor (she/her)

lisa.taylor@ufl.edu

(352) 273-3937

Office: 2211 Steinmetz Hall

Office Hours: Mondays & Wednesdays, 1:40pm – 2:30pm, or by email appointment

Spiders are one of the most diverse and successful groups of animals on Earth. They exhibit many interesting behaviors, play important roles in nearly all terrestrial ecosystems, and are intricately interwoven with human society. This course will provide students with **practical, hands-on experience** working with these fascinating creatures. We will emphasize **field techniques** to observe and collect spiders, as well as **lab techniques** to curate and identify spider specimens. Throughout the semester, each student will create a curated, preserved **spider collection** emphasizing local spider diversity. By the end of this course, students will be able to **identify 35 spider families** by sight, as well as additional families using a dichotomous key. Students will also gain hands-on experience in **spider anatomy**, **behavior**, and **ecology**.

Catalog description: Provides practical experience working with spiders, including field collection techniques, identification and curation of spider specimens, and observing spider behavior. Spider collection is required.

Student Learning Outcomes

By the end of the course, students will be able to:

- **Collect** spiders in the field using a variety of techniques and **create** a collection of 24 properly curated and preserved spider specimens that showcases family-level diversity.
- **Identify** spider specimens to the family level, both by sight (for 35 select families) and by using a dichotomous key.
- **Describe** the morphological characters that are important for family-level spider identification.
- **Explain** the natural history of 35 common and noteworthy spider families.
- **Record observations** of spider behavior both in field and in the laboratory.

In working towards these goals, students will hopefully also foster a sense of curiosity and appreciation for spiders– including their diversity and their many fascinating behaviors.

Course Format

This is an **in-person course** that is structured as a **hands-on lab**. Some of our class sessions will take place in the field, where you will learn and practice spider collecting techniques. Other sessions will take place indoors in our lab classroom, where you will primarily work with preserved specimens under a microscope to learn and practice spider identification. You will be expected to attend class regularly so that you can participate in these activities. It is also very important that you review the assigned readings and other prep materials before class each week, so that you are well-prepared for our class sessions and can make the most of your valuable time in the lab! There will also be time in class for you to ask **questions**; in fact, we strongly *encourage* you to ask questions in class (as long as they are germane to that day's topics)– such questions will enhance the learning experience for everyone!

Teaching Assistants

We are fortunate to have two excellent **teaching assistants (TAs)** on the instructor team this semester; do not hesitate to contact your TAs if you have any questions about the course! All TAs will hold office hours by email appointment only:

Madison (Maddie) Heisey (she/her)
Teaching Assistant

Email: mheisey@ufl.edu

Aditi (Adi) Persad (she/her)
Teaching Assistant

Email: persad.aditi@ufl.edu

Meeting & Communication Policies

If you have any questions or concerns about the course, or if you're experiencing difficulties that are impacting your ability to succeed, please don't hesitate to **reach out to your professors and TAs**. We are here to help! If an issue arises, we encourage you to contact us as early as possible– the sooner we know about the issue, the sooner we can discuss your options and try to find a solution! Our options for assisting you may become more limited as we get closer to the end of the semester….

Meeting Policy: For quick questions, you are welcome chat with the professors / TAs after class if they are available. For items that need more discussion, we encourage you to come to the professors' **drop-in office hours** (details on Page 1 of this syllabus). Office hours will be held starting on the first day of class through the date of our final exam, excluding university holidays and breaks. You are also welcome to **schedule a 1-on-1 meeting** with any of the instructors; you can request a meeting with Dr. Auletta via Calendly (http://calendly.com/anthonyauletta) or with Dr. Taylor and your TAs via email. If you schedule a meeting, you are expected to keep it or to let us know reasonably far in advance that you cannot make it; if you are a no-show to your appointment, the instructors reserve the right to limit you to meetings during regularly scheduled office hours only.

Email Policy: Outside of class and office hours, **email** is our preferred method of contact; you can email us using your **GatorLink account** or the **Canvas messaging system**. Note that we will not respond to any method of contact other than those listed in this syllabus. We will do our best to respond to messages within 48 hours, not including weekends or holidays. If you have not received a response, you may send a polite follow-up message after that 48 hour period (but not before that– please give

the instructors adequate time to respond!). Note that we check our email occasionally during the day and will not necessarily view a message as soon as you send it; you should also not expect a response from the instructors outside of standard working hours (9:00am – 5:00pm, Monday - Friday).

Canvas: Important announcements and updates will be regularly posted to the **course Canvas website**. To ensure that you do not miss anything, make sure that your Canvas profile is set to send notifications to your email inbox. You are responsible for all of the information and assignments posted to our Canvas website, even if they do not appear in your Canvas To-Do List; it is your responsibility to ensure that you are able to navigate the Canvas website and know where to find these items. If you have any questions about Canvas, please ask the instructors at the beginning of the semester. Also note that our Canvas website will be updated as the semester goes on, so be sure to check Canvas frequently!

Readings & Course Materials

Textbooks & Readings: The following book is **required** for this course. We will use it extensively for spider identification in lab, so be sure to purchase / rent your copy by the first week of the semester and bring it to class each week!

- Ubick D, Paquin P, Cushing PE, & Roth V, eds. (2017). *Spiders of North America: An Identification Manual, Second Edition.* American Arachnological Society. ISBN: 978-0998014609.

The books below are all **optional** but recommended– they are great resources that can be helpful for spider identification. They are worth adding to your library if you're a spider enthusiast!

- Bradley RA. (2013). *Common Spiders of North America.* University of California Press. ISBN: 978-0520315310.
- Rose S. (2022). *Spiders of North America (Princeton Field Guides).* Princeton University Press. ISBN: 978-0691175614.
- Levi HW & Levi LR. (2002). *Spiders and Their Kin: A Golden Guide (Revised & Updated).* St. Martin's Press. ISBN: 978-1582381565.
- Platnick NI, ed. (2020). *Spiders of the World: A Natural History.* Princeton University Press. ISBN: 978-0691188850.
- Nelson X (2024). *The Lives of Spiders: A Natural History of the World's Spiders.* Princeton University Press. ISBN: 978-0691255026.
- Edwards GB & Marshall S. (2002). *Florida's Fabulous Spiders.* World Publications. ISBN: 978-0911977219

Additional readings and resources may be posted on Canvas throughout the semester. Students are expected to complete all required readings before the corresponding class session.

Collecting Equipment: At the start of the semester, each student will be issued a set of **basic spider collecting & curation equipment**, including vials for their specimens and vial storage boxes. Other collecting tools (such as nets and beat sheets) will be available for use during class time. Students are required to provide their own **field notebooks** (to record notes and observations during collecting trips) and may wish to purchase additional (optional) collecting equipment, such as a headlamp for

nocturnal collecting. The instructors will provide an overview of equipment commonly used for spider collecting & curation at the start of the course.

Computing Requirement: All students must have reliable access to a **computer with a high-speed internet connection** to access assignments and other course materials on Canvas. A laptop or desktop computer running the current version of Windows or MacOS is strongly recommended. Although many aspects of the course can be completed using a smartphone or tablet, please be aware that our Canvas website is not optimized for these devices.

If your internet service is disrupted, or if your computer breaks / becomes unavailable during the semester, you will be responsible for finding an alternative device so that you can continue to access course content and complete your assignments by their deadlines. You may, for example, use the computers that are freely available at public libraries, campus libraries, or university computer labs. For a list of on-campus computing locations, please see here: https://it.ufl.edu/learning-spaces/.

Projects, Assignments, & Exams

Spider Collection: Throughout the semester, each student will create a **curated collection of 24 preserved spider specimens**, all of which must be identified to the family level and accompanied by complete, accurate labels. Detailed guidelines for the spider collection will be provided to you at the start of the semester and can also be found on Canvas. There will be a **preliminary collection check** during the first third of the course (to ensure that you're making good progress), and then your **final collection** will be submitted in two parts later in the semester. See the course schedule below for the collection due dates.

A Few Notes about Making Collections: *Creating a professional spider collection involves euthanizing live spiders and preserving them in ethanol. This is because, for many spider taxa, accurate identification can only be achieved by observing specimens under a microscope and looking for specific morphological characteristics– something that is just not feasible with live spiders that are constantly moving around. While you can try to collect spiders that have already died from natural causes, please be aware that spiders in the field tend to degrade very quickly after death. And so, it is very unlikely that you will be able to complete your entire collection by using already dead specimens.*

During class, we will discuss strategies for ethically collecting spiders and humanely euthanizing them. However, students who do not think that they will be able to complete the collection assignment (due to ethical concerns or any other reason) are advised to drop this lab course before the drop / add deadline, as it is not possible to meet the course's learning objectives without making a collection of physical spider specimens. Photo collections are not a suitable substitute and thus will not be accepted.

Please note that as the weather gets cooler, many types of spiders will become harder to find– and so we strongly suggest that you collect frequently during the beginning of the semester! We recommend that students have most of the specimens for their collection before the end of October, to ensure that they'll be able to meet all of the collection requirements.

Final Practical Exam: At the end of the semester, you will take a **final practical exam** that is designed to assess the knowledge and skills that you have gained during this course. This exam will ask you to identify unknown spider specimens to family, identify anatomical structures, and answer other questions that relate to the content we've covered throughout the lab course.

Lab Worksheets: During most of our class sessions, students will be required to complete brief **worksheets** based on that day's activities. These worksheets are designed to help you practice spider identification and other important skills / concepts. The worksheets are due at the end of the corresponding class period, but if you are not able to finish a worksheet before class ends, you may hand it in by the end of the following week's class session without penalty.

Extra Credit: Extra credit opportunities may be posted at the **instructors' discretion only**. Any other extra work submitted in order to raise a grade will not be accepted and requests for additional extra credit will not be considered.

Submitting Assignments: *All of the assignments for this course will be submitted during class, either on paper or as physical specimens. It is your responsibility to ensure that you submit every assignment by the date and time at which it's due! Some assignments may be due at the start of the lab period, while others may be due at the end of the lab period. Work that is submitted after the deadline will be subject to the late penalties described later in this syllabus. Alternative means of submission (e.g., emailing paper assignments) will not be accepted.*

Alternative Assignments: *You are expected to follow all of the instructions for every assignment; you cannot earn credit if you do not turn in the specific work that was assigned. Remember, your professors have carefully designed each assignment in this course to help you meet the learning objectives and demonstrate your mastery of the content. And so, requests for alternative assignments will not be considered. If you have approved reasonable accommodations from the Disability Resource Center (DRC), the instructors will discuss with you how to implement those accommodations so that you can complete the assignments.*

Pre-Grading: *Please note that instructors will not "pre-grade" an assignment– i.e., we will not review or grade a preliminary version of your assignment before you submit it. You are, however, welcome– and encouraged– to meet with an instructor in person (e.g., during office hours) to discuss specific questions that you have as you work on an assignment!*

Re-Dos / Corrections: *Once an assignment has been graded, it cannot be resubmitted for a different grade (unless stated otherwise on Canvas). In other words, there are no re-dos or assignment corrections in this course unless the instructors explicitly indicate otherwise.*

Course Schedule

Below is a tentative* schedule of topics & assignments for the semester. Readings and other materials for each session will be posted on Canvas and must be completed before the start of class. All assignments must be submitted by the end of the class period on the due date listed below, unless otherwise noted– see Canvas for the most up-to-date deadlines for assignments!

Week	Dates	Topics	Assignments Due
1	Aug. 21 – Aug. 23	No Class; Review Orientation Materials on Canvas	
2	Aug. 24 – Aug. 30	Field Trip: Spider Collecting Techniques	
3	Aug. 31 – Sept. 6	Field Trip: Additional Spider Collecting Techniques Specimen Labels & Curation	
4	Sept. 7 – Sept. 13	Spider Anatomy, Part 1	Worksheet #1 (W)
5	Sept. 14 – Sept. 20	Spider Anatomy, Part 2	Worksheet #2 (W)
6	Sept. 21 – Sept. 27	Using Dichotomous Keys to ID Spiders	Collection Check (W, start of class period) Worksheet #3 (W)
7	Sept. 28 – Oct. 4	Collection Working Day	
8	Oct. 5 – Oct. 11	Spider Families I: Mesothelae, Mygalomorphs, & Basal Araneomorphs	Worksheet #4 (W)
9	Oct. 12 – Oct. 18	Spider Families II: 6-Eyed Spiders	Worksheet #5 (W)
10	Oct. 19 – Oct. 25	Spider Families III: Orb Weavers & Look-Alikes	Worksheet #6 (W)
11	Oct. 26 – Nov. 1	Spider Families IV: Additional Web Builders; Wolf Spiders & Look-Alikes	Collection Part 1 (W, start of class period) Worksheet #7 (W)
12	Nov. 2 – Nov. 8	Spider Families V: Foliage Dwellers & Crab Spiders	Worksheet #8 (W)
13	Nov. 9 – Nov. 15	Collection Working Day	
14	Nov. 16 – Nov. 22	Spider Families VI: Ground & Sac Spiders	Worksheet #9 (W)
15	Nov. 23 – Nov. 29	No Class (Thanksgiving Break)	
16	Nov. 30 – Dec. 3	Non-Spider Arachnids Review for the Practical Exam	Collection Part 2 (W, start of class period)
Finals Week	Dec. 10 (W)	Final Practical Exam 3:00pm – 5:00pm in 3118 Steinmetz Hall	

** Although we will do our best to adhere to this schedule, it may be adjusted during the semester to accommodate opportunities, disruptions, and other circumstances. Note that this includes assignment*

deadlines, which the instructors may change as needed during the semester. All of these changes will be communicated clearly via Canvas as far in advance as possible.

List of Important Dates

Key dates to remember are below– be sure to add them to your calendar now, and make sure that you take them into consideration when scheduling your travel and other obligations this semester! Due dates for other assignments are listed in the Course Schedule above and/or on Canvas.

- **August 27 (W):** First Class Session
- **September 6 (Sa):** Optional Nocturnal Collecting Field Trip (tentatively at 7:00pm)*
- **September 14 (Su):** Optional Diurnal Collecting Field Trip (tentatively at 2:00pm)*
- **September 24 (W):** Preliminary Collection Check (at the start of the class period)
- **October 29 (W):** Collection Part 1 due (at the start of the class period)
- **November 24 – 29 (M-Sa):** Thanksgiving Break (no class)
- **December 3 (W):** Last Day of Class; Collection Part 2 due (at the start of the class period)
- **December 10 (W):** Final Practical Exam (3:00pm – 5:00pm in 3118 Steinmetz Hall)

** Tentative dates and times; may be rescheduled or cancelled in the event of inclement weather.*

Academic Policies & Resources

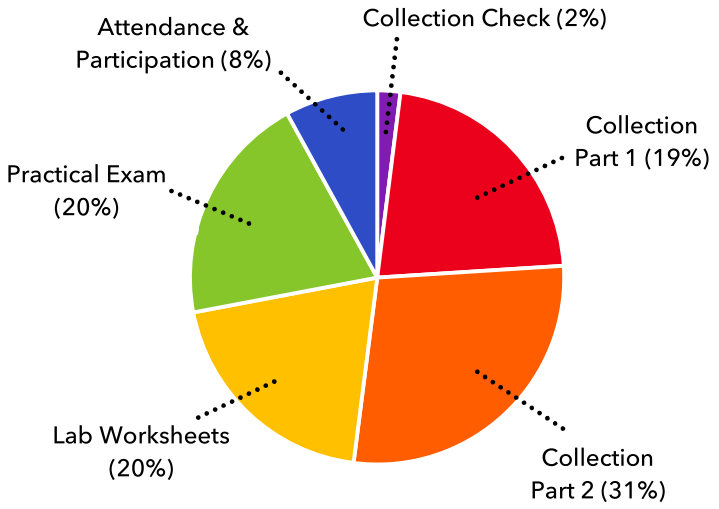
Academic policies for this course are consistent with the university policies that are outlined here: https://go.ufl.edu/syllabuspolicies. Later in this syllabus, you will find additional policies, which are specific to this course and intended to supplement (not replace) the university policies. Every student in this course will be held accountable to *all* university policies as well as the additional policies in this syllabus. It is your responsibility to ensure that you are familiar with and adhere to all of them! If you have any questions, please do not hesitate to reach out to an instructor.

For a list of helpful campus resources, please visit https://one.uf.edu/whole-gator/topics. These resources are designed to help you thrive physically, mentally, and emotionally as a student at UF! If you require additional and immediate support, please don't hesitate to contact the Campus Assistance & Resources for Empowerment (CARE) Team: https://umatter.ufl.edu/, 352-294-2273.

Grading Policies

This course uses a points system for grading. The anticipated maximum that can be earned in the course is **1,000 points**, distributed as follows:

- **Spider Collection: 520 pts total** (breakdown below):
  - **Collection Check: 20 pts**
  - **Collection Part 1: 190 pts**
  - **Collection Part 2: 310 pts**
- **Lab Worksheets: 200 pts**
- **Final Practical Exam: 200 pts**
- **Attendance & Participation: 80 pts**



At the end of the semester, your total course grade will be converted to a letter grade using the scale below:

93 – 100% = **A**	80 – 82.99% = **B-**	67 – 69.99% = **D+**
90 – 92.99% = **A-**	77 – 79.99% = **C+**	63 – 66.99% = **D**
87 – 89.99% = **B+**	73 – 76.99% = **C**	60 – 62.99% = **D-**
83 – 86.99% = **B**	70 – 72.99% = **C-**	below 60% = **E**

The instructors **do not round or "bump up" grades**; requests to do so will not be considered.

The instructors may add, remove, or adjust assignments (with prior notice) to accommodate unforeseen disruptions, schedule changes, or opportunities that arise during the semester. It is your responsibility to check the Canvas announcements regularly so that you can stay informed of these changes. Canvas will always reflect the most up-to-date list of assignments and deadlines. Changes to assignments (if they arise) may alter the total number of points available in the course, but the scale used to calculate your final letter grade will remain the same.

For current UF policies on assigning grade points, consult the following policy website: https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

Disputing a Grade: *If you wish to dispute a grade for any exam/assignment, you must contact the instructors in writing after the assignment has been returned. In your message, you must include a specific explanation for why you think the grade is incorrect and how you think it should be changed. An instructor will then arrange a meeting with you to discuss the issue and determine whether or not to the grade should be changed. The grade assigned following this meeting will be final.*

Attendance & Participation

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies.

Expectations for Attendance & Participation: Due to the hands-on nature of this course, attendance in class is *critically important*. If you are absent, you won't be able to participate in field trips, work on your collection in class, or complete other lab activities. Thus, you are expected to **attend every class session** (unless your absence is excused), **arrive to class on time**, and **stay for the entire session**. You are also expected to be **fully prepared for and engaged in each session**– this includes completing all required readings / prep materials beforehand, submitting all assignments on time, paying attention during class, and actively participating in all class activities. Participation in our class sessions is worth **80 points (= 8% of your final course grade)**. Your Attendance & Participation grade will be calculated based on the percentage of class sessions in which you are present for the entire time and complete the assigned in-class activities, excluding class sessions during the drop / add period and excused absences. You will *not* earn full attendance and participation points for a class session if you arrive substantially late or leave substantially early.

Since this is a **face-to-face course**, students will not have the option to join class remotely via Zoom. The instructor will also not record the class sessions.

Work Outside of Class: In addition to working on your spider collection in class, you will be expected to allocate adequate time outside of class to collect, curate, and identify your specimens. The exact amount of time will depend on how much progress you make during our class sessions, but every student should expect to spend several hours per week working on their collection. Throughout the semester, the instructors may host **optional open lab hours**– this is unstructured time outside of our scheduled class periods for you to work on your collection in our lab classroom (where you'll have access to microscopes and other course equipment). The dates and times of these open lab hours will be announced during class.

Late Work & Extensions

Policy on Late Work: All assignments in this course must be submitted in person (either on paper or as physical specimens) **by the date and time indicated on the assignment page in Canvas**. Worksheets are due at the end of the class period in which they are handed out, but you may hand them in up to one week later (i.e., by the end of the following class session) without penalty. After that grace period has passed, late worksheets will not be accepted and a grade of 0 will be assigned for the missing work. Please note that all parts of your collection (including the preliminary check) *must* be submitted by the indicated due dates and times; late collections will *not* be accepted unless you have reached out to the instructors in advance and have been granted an extension (see below for our extension policy). If your collection is not complete by the due date, we recommend that you turn in the specimens that you *do* have so that you can earn partial credit.

All deadlines are in Eastern Time (ET). To avoid potential confusion, make sure that you set the time zone in your Canvas settings to Eastern Time!

Extensions: Extensions for assignments will be considered on a case-by-case basis. If you have a situation that you believe warrants an extension, it is your responsibility to contact the instructors as soon as possible to discuss your situation and options. Please note that asking for an extension does not guarantee that you will be granted one, and that the instructors may require **valid documentation** of your situation before granting an extension. While waiting for the instructors' response, you should assume that the assignment is still due by the due date and time on Canvas (and plan accordingly).

> ***A Note about Deadlines:*** *Remember, the due date doesn't have to be the "do" date! In other words, we encourage you to start working on your assignments in advance to ensure that they are submitted on time! Non-emergency situations that arise right before the assignment's due date are not valid reasons to request an extension. Likewise, vacations / personal travel, being busy with other courses / employment / extracurriculars, social obligations, and other personal events are also not acceptable reasons for an extension. All of these outside obligations are things that you can control or predict in advance; so, if you know that you will be busy with any of these things on / near the assignment's due date, you should plan ahead and submit the work early. Remember that, as a college student (and future professional), you will have many demands on your time… so it is important to practice* ***effective time management****! The late work and extension policies for this course are designed to help you build this important professional skill.*

Make-Up Assignments & Exams

Make-Up Lab Activities: Our course policy on make-up assignments and other work is consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/. If you are absent from class, it is your responsibility to contact the instructors as soon as possible to discuss options for making up missed work or assignments. As noted above, the instructors may ask for **valid documentation** of your absence before allowing make-up work to be submitted. We also encourage you to contact a classmate to ask for notes from the session(s) that you missed; the instructors will not provide notes.

Make-Up Exams: The final practical exam must be taken on the **scheduled date and time** (as indicated in the Course Schedule above and on Canvas) unless you have an excused absence on the exam day. In that case, you must reach out to the instructors as soon as you can to discuss your situation and options for making up the exam. The instructors may ask for **valid documentation** of your absence before allowing a make-up exam to be scheduled.

The make-up exam, like the original, must be completed in person under the supervision of a proctor. If you are granted a make-up exam, it will be your responsibility to attend it at the date, time, and location designated by the instructors. Note that, due to time constraints, it may not be possible to schedule a make-up of the practical exam before the semester ends. If this is the case, the instructors will assign you an incomplete grade (I*) in the course and then schedule your make-up exam during the post-semester break or at the start of the following semester. Upon completion and grading of the make-up final, your incomplete grade will be changed to the letter grade that you earned in the course.

Make-up exams will assess the same learning objectives as the original exam. But to maintain academic integrity, the make-up will be different from the original. In other words, although the make-up will cover the same range of content, it will consist of *different questions* and those questions may be in *different formats*.

Professionalism & Etiquette

Everyone in the class is expected to conduct themselves in a **courteous and professional manner** at all times. This includes (but is not limited to) being polite and respectful when interacting with your peers and instructors, making an honest effort to engage in all aspects of the course (including doing the required preparatory work), being on time for our class sessions (or minimizing disruptions if you arrive late), raising your hand and waiting to be called on when you wish to speak during class, allowing others in the class to share their perspectives even if you disagree with them, actively listening to others and showing attention as an expression of respect, not talking over others or interrupting them, not monopolizing shared resources in the classroom, avoiding activities that might be distracting to others or interfere with the learning experience (including inappropriate use of electronic devices and packing up your belongings before class is over), quietly excusing yourself from class if needed, contributing meaningfully to group work, being open to constructive feedback, abiding by all course and university policies, and being proactive about issues that arise during the semester. Students who behave disrespectfully or disruptively may be **dismissed from the class session** and will be reported to the **Dean of Students Office**.

Laboratory Guidelines & Safety

Everyone is required to follow all **lab safety procedures** and other **lab guidelines** provided by the instructors. These procedures will be clearly communicated via Canvas and/or during class. While in the laboratory and in the field, all students must wear closed-toed shoes. Also note that food and beverages are not permitted in the lab. Throughout the course, you will be required to handle arachnid specimens (alive and preserved) as well as use microscopes & other lab equipment; please treat these specimens and instruments with care! Always ask an instructor if you are unsure about how to use an instrument. Students who do not adhere to these guidelines will be dismissed from class and considered absent for that day, and they may also be reported to the Dean of Students Office for misconduct. You may also be liable for any damages to lab equipment that result from your negligence or misuse.

Spiders may bite in self-defense if they feel threatened, and nearly all spider species can inject venom when they bite. If you follow the proper collection procedures that we discuss in class, the probability of being bitten by a spider in this course is extremely low– neither of your professors have ever been bitten by spiders, despite many years of working with them on a near-daily basis! Nevertheless, all students should be aware that being bitten while collecting spiders *is* a possibility. The vast majority of spiders that you can find in North America have venom that is *not* medically significant to humans; most spider bites result in mild pain around the bite site that quickly dissipates. The only notable exceptions are the widow spiders (genus *Latrodectus*) and recluse spiders (genus *Loxosceles*), which do have medically significant venom. It is your responsibility to make sure that you can identify these medically significant genera (ask an instructor if you're not sure!) and that you take extra precautions if you choose to collect them. Note that you do not *need* to collect any medically significant spiders to

complete this course, and indeed we recommend that you avoid these medically significant species. If you are bitten by a spider during a class activity, you should alert an instructor immediately. And if you are **allergic** to spider bites– or suspect that you might be– you must let the instructors know at the start of the semester.

Field Trip Expectations

Observing and collecting spiders in the field is a major focus of this course (and necessary to meet the stated learning objectives). There will be several **required field trips** during the semester, which will occur during class time and be within walking distance of our classroom. Dates for the major field trips are listed in this syllabus and on Canvas. All students are expected to participate in these trips, and thus they will count towards your Attendance & Participation grade. Inclement weather may force us to reschedule/cancel some of these excursions; those changes will be clearly communicated via Canvas as far in advance as possible. Additional in-class field activities may be organized during the semester as opportunities arise; these will also be announced as far in advance as possible.

This means that we will be spending a significant amount of class time outdoors, including on days when it may be hot and humid. On days when field activities are scheduled, you should come to class prepared to spend time outside in the day's predicted weather conditions. This includes wearing comfortable, closed-toed shoes and clothes that are suitable for fieldwork. You are also encouraged to bring a hat (to shade yourself from the sun), sunscreen, bug spray, and a water bottle. If you are allergic to any organisms that we may encounter on these field trips, you should let the instructors know ahead of time and bring an allergy pen if needed.

If you have concerns about working in the field, make sure to reach out to the instructors at the beginning of the semester. We are happy to discuss reasonable accommodations for students who have limited mobility, allergies, or other conditions that may impact their ability to participate in the field trips.

In addition to these required field activities, the instructors will organize several **optional field trips** outside of our usual class time (including at least one nocturnal collecting trip). Students are *not* required to attend these excursions but are encouraged to if their schedule allows– they are great opportunities to collect additional spiders for your collection! Tentative dates for these field trips are provided in the List of Important Dates above; more details (including locations and carpooling logistics) will be announced on Canvas after the semester begins. Note that these optional field trips may be rescheduled or canceled in the event of inclement weather or other circumstances. Additional optional trips may also be organized during the semester.

Use of Artificial Intelligence (AI)

When used properly, **artificial intelligence (AI)** can be a tool to supplement your learning. However, *improper* use of AI can impede your learning and may be considered academic dishonesty. Furthermore, most scientific journals, funding agencies, and professional societies now have strict rules about AI use and require all authors to disclose if / how they used AI. For all of these reasons, it is critically important for students to learn how to use AI tools responsibly and ethically!

For this course, you are not permitted to use content generated by ChatGPT, Copilot, DeepSeek, Gemini, Claude, or any other AI tool in *any assignment*, unless an instructor provides written permission stating otherwise. This includes– but is not limited to– submitting AI-generated content as your own work, submitting content that was paraphrased or modified from an AI output, quoting text generated by an AI (even if it is properly cited), and using AI to generate false sources. All of your assignments should consist entirely of your own original work, created by you specifically for this class. We are interested in assessing *your* understanding of the material and *your* ability to think critically / synthesize information– not that of an artificial algorithm! Unauthorized use of AI in an assignment will be treated as **academic misconduct**.

You are allowed to use AI tools in the following ways. Note that these are the *only* acceptable uses of AI in this course:

- Outside of graded assignments, e.g., to help you study or review class material.
- To proofread or provide feedback on your original work before submitting it. *Note that you aren't permitted to include the AI's output in your assignment, even if you edit it first… but you can use the AI's suggestions to refine your work yourself. If you do so, you must include an appendix with your assignment submission, in which you name the specific AI tools that you used and provide the exact prompts that you entered as well as verbatim copies of all of the AI's outputs. You must also confirm, in writing, that your assignment is written entirely in your own words, i.e., without any AI-generated content (including paraphrased content). Failure to provide all of this information when you use AI will result in a report to the Dean of Students Office.*

As a general rule, AI should never be your starting point– you should always start with your own original ideas and work! You should not use AI for anything that a human proofreader or study buddy could not ethically do for you.

All students should also be aware of the **many limitations and pitfalls** of AI. The material generated by these tools is often inaccurate, incomplete, misleading, and/or biased. It is also often overly generalized and formulaic, lacking both the depth of analysis and quality of writing that is expected in most college-level courses (and in our discipline more broadly). AI-generated content may also not align with the specific content that we cover in class. Remember, these AI tools are neither students in this course nor experts in our field– all they can do is generate statements that *sound* plausible, without any regard for (or ability to determine) the accuracy of those statements. Thus, if you use AI as a study tool, you should always fact-check the outputs using your notes from class, other course materials, or credible external sources. Also note that, in general, relying too heavily on these tools may erase your individual voice from your work, stifle the development of your own critical thinking skills and creativity, and prevent you from gaining the depth of knowledge expected of an expert in your discipline. Outsourcing your learning to AI can thus make it difficult for you to succeed in other aspects of college and in your future career!

Finally, be aware that every course at the university has its own individual policy about AI, which the instructors have implemented to maximize learning in their courses. The policy described here is for this course only and may not be the same as the policies for your other courses!

Use of Electronic Devices

You may use personal electronic devices such as laptops or tablets during class (excluding the practical exam), unless otherwise noted by the instructors. However, it is your responsibility to make sure that you use your devices in a **professional and courteous manner**. This includes:

- Limiting device use only to activities that are **directly related to your learning of course material**, such as taking notes or creating labels for your specimens. Using your devices for any other purpose is not allowed in the classroom; doing so is disrespectful to the instructors, distracting to your fellow students, and deprives you of a quality learning experience.
- Keeping your devices **muted at all times** to prevent disrupting others around you.
- **Quietly stepping out into the hall** if you must take a call or contact someone. We understand that emergencies can happen and will not prevent you from attending to them, but we also ask that you try to minimize disruptions to your peers.

If your device use is disruptive or inappropriate, you will be asked to put away your device. Students who repeatedly violate this policy will no longer be allowed to use devices in class and may be reported to the Dean of Students Office.

During the practical exam, you are not permitted to use electronic devices of any kind– this includes (but is not limited to) cell phones, tablets, laptops, smart watches, smart glasses, and earbuds / headphones. All devices must be muted and put away in your pocket or bag for the entire duration of the exam; they cannot be on your desk, even if they are face down or turned off. If you have to use the restroom during the exam, you must leave your devices with the proctor before you leave the exam room. Students who violate this policy will earn a grade of 0 on the exam and will not be able to retake it for a different grade.

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

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It is your responsibility to ensure that you fully understand all policies outlined in this syllabus as well as the policies of the university as they relate to this course. In the interest of fairness, all students in the class will be held accountable to these policies without exception; these policies are not negotiable.

This syllabus cannot predict every possibility that could happen during the semester. If a situation arises that is not explicitly covered by this syllabus, the instructors will respond to it using their best judgment while following all applicable university policies. Students will be expected to abide by the instructors' decisions in these (and all other) matters.

At their discretion, the instructors may add, remove, or otherwise change aspects of the course during the semester to accommodate new opportunities, unforeseen disruptions, or other circumstances. These changes will be communicated clearly in class and / or through Canvas. The current version of the syllabus will always be available on our course's Canvas website. It is your responsibility to ensure that you are following the most recent version of the syllabus.

By remaining enrolled in this course, you agree that you have read and understood all parts of this syllabus and that you will be held accountable to the policies within. If you have any questions, please contact the instructors as soon as possible (preferably at the beginning of the course)!

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Cover Photo: Cardinal jumping spider, *Phidippus cardinalus* (Salticidae)
by Jay Sun Len (microcosmnaturephotography.com)

Spider Biology Lab
ENY 3830L

Fall 2025 (1 credit)

Wednesdays, Periods 4 - 5 (10:40am – 12:35pm)

3118 Steinmetz Hall

Prerequisites: Sophomore standing or above, or instructor permission

Co-requisites: ENY 3830 (Spider Biology lecture), or instructor permission

Canvas: ufl.instructure.com/courses/540635

Spiders are one of the most diverse and successful groups of animals on Earth. They exhibit many interesting behaviors, play important roles in nearly all terrestrial ecosystems, and are intricately interwoven with human society. This course will provide students with **practical, hands-on experience** working with these fascinating creatures. We will emphasize **field techniques** to observe and collect spiders, as well as **lab techniques** to curate and identify spider specimens. Throughout the semester, each student will create a curated, preserved **spider collection** emphasizing local spider diversity. By the end of this course, students will be able to **identify 35 spider families** by sight, as well as additional families using a dichotomous key. Students will also gain hands-on experience in **spider anatomy**, **behavior**, and **ecology**.

Catalog description: Provides practical experience working with spiders, including field collection techniques, identification and curation of spider specimens, and observing spider behavior. Spider collection is required.

Instructors:

Dr. Anthony Auletta (he/him)

anthonyauletta@ufl.edu

(352) 273-3954

Office: 3102 Steinmetz Hall

Office Hours: Tuesdays & Wednesdays, 2:00pm – 3:00pm (or by appointment via Calendly: calendly.com/anthonyauletta)

Dr. Lisa Taylor (she/her)

lisa.taylor@ufl.edu

(352) 273-3937

Office: 2211 Steinmetz Hall

Office Hours: Mondays & Wednesdays, 1:40pm – 2:30pm, or by email appointment

Student Learning Outcomes

By the end of the course, students will be able to:

- **Collect** spiders in the field using a variety of techniques and **create** a collection of 24 properly curated and preserved spider specimens that showcases family-level diversity.
- **Identify** spider specimens to the family level, both by sight (for 35 select families) and by using a dichotomous key.
- **Describe** the morphological characters that are important for family-level spider identification.
- **Explain** the natural history of 35 common and noteworthy spider families.
- **Record observations** of spider behavior both in field and in the laboratory.

In working towards these goals, students will hopefully also foster a sense of curiosity and appreciation for spiders– including their diversity and their many fascinating behaviors.

Course Format

This is an **in-person course** that is structured as a **hands-on lab**. Some of our class sessions will take place in the field, where you will learn and practice spider collecting techniques. Other sessions will take place indoors in our lab classroom, where you will primarily work with preserved specimens under a microscope to learn and practice spider identification. You will be expected to attend class regularly so that you can participate in these activities. It is also very important that you review the assigned readings and other prep materials before class each week, so that you are well-prepared for our class sessions and can make the most of your valuable time in the lab! There will also be time in class for you to ask **questions**; in fact, we strongly *encourage* you to ask questions in class (as long as they are germane to that day's topics)– such questions will enhance the learning experience for everyone!

Teaching Assistants

We are fortunate to have two excellent **teaching assistants (TAs)** on the instructor team this semester; do not hesitate to contact your TAs if you have any questions about the course! All TAs will hold office hours by email appointment only:

Madison (Maddie) Heisey (she/her)
Teaching Assistant

Email: mheisey@ufl.edu

Aditi (Adi) Persad (she/her)
Teaching Assistant

Email: persad.aditi@ufl.edu

Meeting & Communication Policies

If you have any questions or concerns about the course, or if you're experiencing difficulties that are impacting your ability to succeed, please don't hesitate to **reach out to your professors and TAs**. We are here to help! If an issue arises, we encourage you to contact us as early as possible– the sooner we know about the issue, the sooner we can discuss your options and try to find a solution! Our options for assisting you may become more limited as we get closer to the end of the semester….

Meeting Policy: For quick questions, you are welcome chat with the professors / TAs after class if they are available. For items that need more discussion, we encourage you to come to the professors' **drop-in office hours** (details on Page 1 of this syllabus). Office hours will be held starting on the first day of class through the date of our final exam, excluding university holidays and breaks. You are also welcome to **schedule a 1-on-1 meeting** with any of the instructors; you can request a meeting with Dr. Auletta via Calendly (http://calendly.com/anthonyauletta) or with Dr. Taylor and your TAs via email. If you schedule a meeting, you are expected to keep it or to let us know reasonably far in advance that you cannot make it; if you are a no-show to your appointment, the instructors reserve the right to limit you to meetings during regularly scheduled office hours only.

Email Policy: Outside of class and office hours, **email** is our preferred method of contact; you can email us using your **GatorLink account** or the **Canvas messaging system**. Note that we will not respond to any method of contact other than those listed in this syllabus. We will do our best to respond to messages within 48 hours, not including weekends or holidays. If you have not received a response, you may send a polite follow-up message after that 48 hour period (but not before that– please give

the instructors adequate time to respond!). Note that we check our email occasionally during the day and will not necessarily view a message as soon as you send it; you should also not expect a response from the instructors outside of standard working hours (9:00am – 5:00pm, Monday - Friday).

Canvas: Important announcements and updates will be regularly posted to the **course Canvas website**. To ensure that you do not miss anything, make sure that your Canvas profile is set to send notifications to your email inbox. You are responsible for all of the information and assignments posted to our Canvas website, even if they do not appear in your Canvas To-Do List; it is your responsibility to ensure that you are able to navigate the Canvas website and know where to find these items. If you have any questions about Canvas, please ask the instructors at the beginning of the semester. Also note that our Canvas website will be updated as the semester goes on, so be sure to check Canvas frequently!

Readings & Course Materials

Textbooks & Readings: The following book is **required** for this course. We will use it extensively for spider identification in lab, so be sure to purchase / rent your copy by the first week of the semester and bring it to class each week!

- Ubick D, Paquin P, Cushing PE, & Roth V, eds. (2017). *Spiders of North America: An Identification Manual, Second Edition.* American Arachnological Society. ISBN: 978-0998014609.

The books below are all **optional** but recommended– they are great resources that can be helpful for spider identification. They are worth adding to your library if you're a spider enthusiast!

- Bradley RA. (2013). *Common Spiders of North America.* University of California Press. ISBN: 978-0520315310.
- Rose S. (2022). *Spiders of North America (Princeton Field Guides).* Princeton University Press. ISBN: 978-0691175614.
- Levi HW & Levi LR. (2002). *Spiders and Their Kin: A Golden Guide (Revised & Updated).* St. Martin's Press. ISBN: 978-1582381565.
- Platnick NI, ed. (2020). *Spiders of the World: A Natural History.* Princeton University Press. ISBN: 978-0691188850.
- Nelson X (2024). *The Lives of Spiders: A Natural History of the World's Spiders.* Princeton University Press. ISBN: 978-0691255026.
- Edwards GB & Marshall S. (2002). *Florida's Fabulous Spiders.* World Publications. ISBN: 978-0911977219

Additional readings and resources may be posted on Canvas throughout the semester. Students are expected to complete all required readings before the corresponding class session.

Collecting Equipment: At the start of the semester, each student will be issued a set of **basic spider collecting & curation equipment**, including vials for their specimens and vial storage boxes. Other collecting tools (such as nets and beat sheets) will be available for use during class time. Students are required to provide their own **field notebooks** (to record notes and observations during collecting trips) and may wish to purchase additional (optional) collecting equipment, such as a headlamp for

nocturnal collecting. The instructors will provide an overview of equipment commonly used for spider collecting & curation at the start of the course.

Computing Requirement: All students must have reliable access to a **computer with a high-speed internet connection** to access assignments and other course materials on Canvas. A laptop or desktop computer running the current version of Windows or MacOS is strongly recommended. Although many aspects of the course can be completed using a smartphone or tablet, please be aware that our Canvas website is not optimized for these devices.

If your internet service is disrupted, or if your computer breaks / becomes unavailable during the semester, you will be responsible for finding an alternative device so that you can continue to access course content and complete your assignments by their deadlines. You may, for example, use the computers that are freely available at public libraries, campus libraries, or university computer labs. For a list of on-campus computing locations, please see here: https://it.ufl.edu/learning-spaces/.

Projects, Assignments, & Exams

Spider Collection: Throughout the semester, each student will create a **curated collection of 24 preserved spider specimens**, all of which must be identified to the family level and accompanied by complete, accurate labels. Detailed guidelines for the spider collection will be provided to you at the start of the semester and can also be found on Canvas. There will be a **preliminary collection check** during the first third of the course (to ensure that you're making good progress), and then your **final collection** will be submitted in two parts later in the semester. See the course schedule below for the collection due dates.

A Few Notes about Making Collections: *Creating a professional spider collection involves euthanizing live spiders and preserving them in ethanol. This is because, for many spider taxa, accurate identification can only be achieved by observing specimens under a microscope and looking for specific morphological characteristics– something that is just not feasible with live spiders that are constantly moving around. While you can try to collect spiders that have already died from natural causes, please be aware that spiders in the field tend to degrade very quickly after death. And so, it is very unlikely that you will be able to complete your entire collection by using already dead specimens.*

During class, we will discuss strategies for ethically collecting spiders and humanely euthanizing them. However, students who do not think that they will be able to complete the collection assignment (due to ethical concerns or any other reason) are advised to drop this lab course before the drop / add deadline, as it is not possible to meet the course's learning objectives without making a collection of physical spider specimens. Photo collections are not a suitable substitute and thus will not be accepted.

Please note that as the weather gets cooler, many types of spiders will become harder to find– and so we strongly suggest that you collect frequently during the beginning of the semester! We recommend that students have most of the specimens for their collection before the end of October, to ensure that they'll be able to meet all of the collection requirements.

Final Practical Exam: At the end of the semester, you will take a **final practical exam** that is designed to assess the knowledge and skills that you have gained during this course. This exam will ask you to identify unknown spider specimens to family, identify anatomical structures, and answer other questions that relate to the content we've covered throughout the lab course.

Lab Worksheets: During most of our class sessions, students will be required to complete brief **worksheets** based on that day's activities. These worksheets are designed to help you practice spider identification and other important skills / concepts. The worksheets are due at the end of the corresponding class period, but if you are not able to finish a worksheet before class ends, you may hand it in by the end of the following week's class session without penalty.

Extra Credit: Extra credit opportunities may be posted at the **instructors' discretion only**. Any other extra work submitted in order to raise a grade will not be accepted and requests for additional extra credit will not be considered.

Submitting Assignments: *All of the assignments for this course will be submitted during class, either on paper or as physical specimens. It is your responsibility to ensure that you submit every assignment by the date and time at which it's due! Some assignments may be due at the start of the lab period, while others may be due at the end of the lab period. Work that is submitted after the deadline will be subject to the late penalties described later in this syllabus. Alternative means of submission (e.g., emailing paper assignments) will not be accepted.*

Alternative Assignments: *You are expected to follow all of the instructions for every assignment; you cannot earn credit if you do not turn in the specific work that was assigned. Remember, your professors have carefully designed each assignment in this course to help you meet the learning objectives and demonstrate your mastery of the content. And so, requests for alternative assignments will not be considered. If you have approved reasonable accommodations from the Disability Resource Center (DRC), the instructors will discuss with you how to implement those accommodations so that you can complete the assignments.*

Pre-Grading: *Please note that instructors will not "pre-grade" an assignment– i.e., we will not review or grade a preliminary version of your assignment before you submit it. You are, however, welcome– and encouraged– to meet with an instructor in person (e.g., during office hours) to discuss specific questions that you have as you work on an assignment!*

Re-Dos / Corrections: *Once an assignment has been graded, it cannot be resubmitted for a different grade (unless stated otherwise on Canvas). In other words, there are no re-dos or assignment corrections in this course unless the instructors explicitly indicate otherwise.*

Course Schedule

Below is a tentative* schedule of topics & assignments for the semester. Readings and other materials for each session will be posted on Canvas and must be completed before the start of class. All assignments must be submitted by the end of the class period on the due date listed below, unless otherwise noted– see Canvas for the most up-to-date deadlines for assignments!

Week	Dates	Topics	Assignments Due
1	Aug. 21 – Aug. 23	No Class; Review Orientation Materials on Canvas	
2	Aug. 24 – Aug. 30	Field Trip: Spider Collecting Techniques	
3	Aug. 31 – Sept. 6	Field Trip: Additional Spider Collecting Techniques Specimen Labels & Curation	
4	Sept. 7 – Sept. 13	Spider Anatomy, Part 1	Worksheet #1 (W)
5	Sept. 14 – Sept. 20	Spider Anatomy, Part 2	Worksheet #2 (W)
6	Sept. 21 – Sept. 27	Using Dichotomous Keys to ID Spiders	Collection Check (W, start of class period) Worksheet #3 (W)
7	Sept. 28 – Oct. 4	Collection Working Day	
8	Oct. 5 – Oct. 11	Spider Families I: Mesothelae, Mygalomorphs, & Basal Araneomorphs	Worksheet #4 (W)
9	Oct. 12 – Oct. 18	Spider Families II: 6-Eyed Spiders	Worksheet #5 (W)
10	Oct. 19 – Oct. 25	Spider Families III: Orb Weavers & Look-Alikes	Worksheet #6 (W)
11	Oct. 26 – Nov. 1	Spider Families IV: Additional Web Builders; Wolf Spiders & Look-Alikes	Collection Part 1 (W, start of class period) Worksheet #7 (W)
12	Nov. 2 – Nov. 8	Spider Families V: Foliage Dwellers & Crab Spiders	Worksheet #8 (W)
13	Nov. 9 – Nov. 15	Collection Working Day	
14	Nov. 16 – Nov. 22	Spider Families VI: Ground & Sac Spiders	Worksheet #9 (W)
15	Nov. 23 – Nov. 29	No Class (Thanksgiving Break)	
16	Nov. 30 – Dec. 3	Non-Spider Arachnids Review for the Practical Exam	Collection Part 2 (W, start of class period)
Finals Week	Dec. 10 (W)	Final Practical Exam 3:00pm – 5:00pm in 3118 Steinmetz Hall	

** Although we will do our best to adhere to this schedule, it may be adjusted during the semester to accommodate opportunities, disruptions, and other circumstances. Note that this includes assignment*

deadlines, which the instructors may change as needed during the semester. All of these changes will be communicated clearly via Canvas as far in advance as possible.

List of Important Dates

Key dates to remember are below– be sure to add them to your calendar now, and make sure that you take them into consideration when scheduling your travel and other obligations this semester! Due dates for other assignments are listed in the Course Schedule above and/or on Canvas.

- **August 27 (W):** First Class Session
- **September 6 (Sa):** Optional Nocturnal Collecting Field Trip (tentatively at 7:00pm)*
- **September 14 (Su):** Optional Diurnal Collecting Field Trip (tentatively at 2:00pm)*
- **September 24 (W):** Preliminary Collection Check (at the start of the class period)
- **October 29 (W):** Collection Part 1 due (at the start of the class period)
- **November 24 – 29 (M-Sa):** Thanksgiving Break (no class)
- **December 3 (W):** Last Day of Class; Collection Part 2 due (at the start of the class period)
- **December 10 (W):** Final Practical Exam (3:00pm – 5:00pm in 3118 Steinmetz Hall)

** Tentative dates and times; may be rescheduled or cancelled in the event of inclement weather.*

Academic Policies & Resources

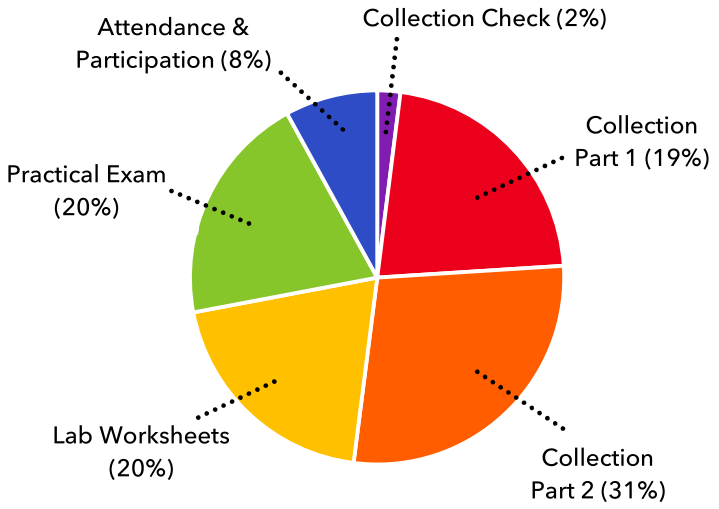
Academic policies for this course are consistent with the university policies that are outlined here: https://go.ufl.edu/syllabuspolicies. Later in this syllabus, you will find additional policies, which are specific to this course and intended to supplement (not replace) the university policies. Every student in this course will be held accountable to *all* university policies as well as the additional policies in this syllabus. It is your responsibility to ensure that you are familiar with and adhere to all of them! If you have any questions, please do not hesitate to reach out to an instructor.

For a list of helpful campus resources, please visit https://one.uf.edu/whole-gator/topics. These resources are designed to help you thrive physically, mentally, and emotionally as a student at UF! If you require additional and immediate support, please don't hesitate to contact the Campus Assistance & Resources for Empowerment (CARE) Team: https://umatter.ufl.edu/, 352-294-2273.

Grading Policies

This course uses a points system for grading. The anticipated maximum that can be earned in the course is **1,000 points**, distributed as follows:

- **Spider Collection: 520 pts total** (breakdown below):
  - ✦ **Collection Check: 20 pts**
  - ✦ **Collection Part 1: 190 pts**
  - ✦ **Collection Part 2: 310 pts**
- **Lab Worksheets: 200 pts**
- **Final Practical Exam: 200 pts**
- **Attendance & Participation: 80 pts**



At the end of the semester, your total course grade will be converted to a letter grade using the scale below:

93 – 100% = **A**	80 – 82.99% = **B-**	67 – 69.99% = **D+**
90 – 92.99% = **A-**	77 – 79.99% = **C+**	63 – 66.99% = **D**
87 – 89.99% = **B+**	73 – 76.99% = **C**	60 – 62.99% = **D-**
83 – 86.99% = **B**	70 – 72.99% = **C-**	below 60% = **E**

The instructors **do not round or "bump up" grades**; requests to do so will not be considered.

The instructors may add, remove, or adjust assignments (with prior notice) to accommodate unforeseen disruptions, schedule changes, or opportunities that arise during the semester. It is your responsibility to check the Canvas announcements regularly so that you can stay informed of these changes. Canvas will always reflect the most up-to-date list of assignments and deadlines. Changes to assignments (if they arise) may alter the total number of points available in the course, but the scale used to calculate your final letter grade will remain the same.

For current UF policies on assigning grade points, consult the following policy website: https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

Disputing a Grade: *If you wish to dispute a grade for any exam/assignment, you must contact the instructors in writing after the assignment has been returned. In your message, you must include a specific explanation for why you think the grade is incorrect and how you think it should be changed. An instructor will then arrange a meeting with you to discuss the issue and determine whether or not to the grade should be changed. The grade assigned following this meeting will be final.*

Attendance & Participation

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies.

Expectations for Attendance & Participation: Due to the hands-on nature of this course, attendance in class is *critically important*. If you are absent, you won't be able to participate in field trips, work on your collection in class, or complete other lab activities. Thus, you are expected to **attend every class session** (unless your absence is excused), **arrive to class on time**, and **stay for the entire session**. You are also expected to be **fully prepared for and engaged in each session**– this includes completing all required readings / prep materials beforehand, submitting all assignments on time, paying attention during class, and actively participating in all class activities. Participation in our class sessions is worth **80 points (= 8% of your final course grade)**. Your Attendance & Participation grade will be calculated based on the percentage of class sessions in which you are present for the entire time and complete the assigned in-class activities, excluding class sessions during the drop / add period and excused absences. You will *not* earn full attendance and participation points for a class session if you arrive substantially late or leave substantially early.

Since this is a **face-to-face course**, students will not have the option to join class remotely via Zoom. The instructor will also not record the class sessions.

Work Outside of Class: In addition to working on your spider collection in class, you will be expected to allocate adequate time outside of class to collect, curate, and identify your specimens. The exact amount of time will depend on how much progress you make during our class sessions, but every student should expect to spend several hours per week working on their collection. Throughout the semester, the instructors may host **optional open lab hours**– this is unstructured time outside of our scheduled class periods for you to work on your collection in our lab classroom (where you'll have access to microscopes and other course equipment). The dates and times of these open lab hours will be announced during class.

Late Work & Extensions

Policy on Late Work: All assignments in this course must be submitted in person (either on paper or as physical specimens) **by the date and time indicated on the assignment page in Canvas**. Worksheets are due at the end of the class period in which they are handed out, but you may hand them in up to one week later (i.e., by the end of the following class session) without penalty. After that grace period has passed, late worksheets will not be accepted and a grade of 0 will be assigned for the missing work. Please note that all parts of your collection (including the preliminary check) *must* be submitted by the indicated due dates and times; late collections will *not* be accepted unless you have reached out to the instructors in advance and have been granted an extension (see below for our extension policy). If your collection is not complete by the due date, we recommend that you turn in the specimens that you *do* have so that you can earn partial credit.

All deadlines are in Eastern Time (ET). To avoid potential confusion, make sure that you set the time zone in your Canvas settings to Eastern Time!

Extensions: Extensions for assignments will be considered on a case-by-case basis. If you have a situation that you believe warrants an extension, it is your responsibility to contact the instructors as soon as possible to discuss your situation and options. Please note that asking for an extension does not guarantee that you will be granted one, and that the instructors may require **valid documentation** of your situation before granting an extension. While waiting for the instructors' response, you should assume that the assignment is still due by the due date and time on Canvas (and plan accordingly).

> ***A Note about Deadlines:*** *Remember, the due date doesn't have to be the "do" date! In other words, we encourage you to start working on your assignments in advance to ensure that they are submitted on time! Non-emergency situations that arise right before the assignment's due date are not valid reasons to request an extension. Likewise, vacations / personal travel, being busy with other courses / employment / extracurriculars, social obligations, and other personal events are also not acceptable reasons for an extension. All of these outside obligations are things that you can control or predict in advance; so, if you know that you will be busy with any of these things on / near the assignment's due date, you should plan ahead and submit the work early. Remember that, as a college student (and future professional), you will have many demands on your time… so it is important to practice* ***effective time management****! The late work and extension policies for this course are designed to help you build this important professional skill.*

Make-Up Assignments & Exams

Make-Up Lab Activities: Our course policy on make-up assignments and other work is consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/. If you are absent from class, it is your responsibility to contact the instructors as soon as possible to discuss options for making up missed work or assignments. As noted above, the instructors may ask for **valid documentation** of your absence before allowing make-up work to be submitted. We also encourage you to contact a classmate to ask for notes from the session(s) that you missed; the instructors will not provide notes.

Make-Up Exams: The final practical exam must be taken on the **scheduled date and time** (as indicated in the Course Schedule above and on Canvas) unless you have an excused absence on the exam day. In that case, you must reach out to the instructors as soon as you can to discuss your situation and options for making up the exam. The instructors may ask for **valid documentation** of your absence before allowing a make-up exam to be scheduled.

The make-up exam, like the original, must be completed in person under the supervision of a proctor. If you are granted a make-up exam, it will be your responsibility to attend it at the date, time, and location designated by the instructors. Note that, due to time constraints, it may not be possible to schedule a make-up of the practical exam before the semester ends. If this is the case, the instructors will assign you an incomplete grade (I*) in the course and then schedule your make-up exam during the post-semester break or at the start of the following semester. Upon completion and grading of the make-up final, your incomplete grade will be changed to the letter grade that you earned in the course.

Make-up exams will assess the same learning objectives as the original exam. But to maintain academic integrity, the make-up will be different from the original. In other words, although the make-up will cover the same range of content, it will consist of *different questions* and those questions may be in *different formats*.

Professionalism & Etiquette

Everyone in the class is expected to conduct themselves in a **courteous and professional manner** at all times. This includes (but is not limited to) being polite and respectful when interacting with your peers and instructors, making an honest effort to engage in all aspects of the course (including doing the required preparatory work), being on time for our class sessions (or minimizing disruptions if you arrive late), raising your hand and waiting to be called on when you wish to speak during class, allowing others in the class to share their perspectives even if you disagree with them, actively listening to others and showing attention as an expression of respect, not talking over others or interrupting them, not monopolizing shared resources in the classroom, avoiding activities that might be distracting to others or interfere with the learning experience (including inappropriate use of electronic devices and packing up your belongings before class is over), quietly excusing yourself from class if needed, contributing meaningfully to group work, being open to constructive feedback, abiding by all course and university policies, and being proactive about issues that arise during the semester. Students who behave disrespectfully or disruptively may be **dismissed from the class session** and will be reported to the **Dean of Students Office**.

Laboratory Guidelines & Safety

Everyone is required to follow all **lab safety procedures** and other **lab guidelines** provided by the instructors. These procedures will be clearly communicated via Canvas and/or during class. While in the laboratory and in the field, all students must wear closed-toed shoes. Also note that food and beverages are not permitted in the lab. Throughout the course, you will be required to handle arachnid specimens (alive and preserved) as well as use microscopes & other lab equipment; please treat these specimens and instruments with care! Always ask an instructor if you are unsure about how to use an instrument. Students who do not adhere to these guidelines will be dismissed from class and considered absent for that day, and they may also be reported to the Dean of Students Office for misconduct. You may also be liable for any damages to lab equipment that result from your negligence or misuse.

Spiders may bite in self-defense if they feel threatened, and nearly all spider species can inject venom when they bite. If you follow the proper collection procedures that we discuss in class, the probability of being bitten by a spider in this course is extremely low– neither of your professors have ever been bitten by spiders, despite many years of working with them on a near-daily basis! Nevertheless, all students should be aware that being bitten while collecting spiders *is* a possibility. The vast majority of spiders that you can find in North America have venom that is *not* medically significant to humans; most spider bites result in mild pain around the bite site that quickly dissipates. The only notable exceptions are the widow spiders (genus *Latrodectus*) and recluse spiders (genus *Loxosceles*), which do have medically significant venom. It is your responsibility to make sure that you can identify these medically significant genera (ask an instructor if you're not sure!) and that you take extra precautions if you choose to collect them. Note that you do not *need* to collect any medically significant spiders to

complete this course, and indeed we recommend that you avoid these medically significant species. If you are bitten by a spider during a class activity, you should alert an instructor immediately. And if you are **allergic** to spider bites– or suspect that you might be– you must let the instructors know at the start of the semester.

Field Trip Expectations

Observing and collecting spiders in the field is a major focus of this course (and necessary to meet the stated learning objectives). There will be several **required field trips** during the semester, which will occur during class time and be within walking distance of our classroom. Dates for the major field trips are listed in this syllabus and on Canvas. All students are expected to participate in these trips, and thus they will count towards your Attendance & Participation grade. Inclement weather may force us to reschedule/cancel some of these excursions; those changes will be clearly communicated via Canvas as far in advance as possible. Additional in-class field activities may be organized during the semester as opportunities arise; these will also be announced as far in advance as possible.

This means that we will be spending a significant amount of class time outdoors, including on days when it may be hot and humid. On days when field activities are scheduled, you should come to class prepared to spend time outside in the day's predicted weather conditions. This includes wearing comfortable, closed-toed shoes and clothes that are suitable for fieldwork. You are also encouraged to bring a hat (to shade yourself from the sun), sunscreen, bug spray, and a water bottle. If you are allergic to any organisms that we may encounter on these field trips, you should let the instructors know ahead of time and bring an allergy pen if needed.

If you have concerns about working in the field, make sure to reach out to the instructors at the beginning of the semester. We are happy to discuss reasonable accommodations for students who have limited mobility, allergies, or other conditions that may impact their ability to participate in the field trips.

In addition to these required field activities, the instructors will organize several **optional field trips** outside of our usual class time (including at least one nocturnal collecting trip). Students are *not* required to attend these excursions but are encouraged to if their schedule allows– they are great opportunities to collect additional spiders for your collection! Tentative dates for these field trips are provided in the List of Important Dates above; more details (including locations and carpooling logistics) will be announced on Canvas after the semester begins. Note that these optional field trips may be rescheduled or canceled in the event of inclement weather or other circumstances. Additional optional trips may also be organized during the semester.

Use of Artificial Intelligence (AI)

When used properly, **artificial intelligence (AI)** can be a tool to supplement your learning. However, *improper* use of AI can impede your learning and may be considered academic dishonesty. Furthermore, most scientific journals, funding agencies, and professional societies now have strict rules about AI use and require all authors to disclose if / how they used AI. For all of these reasons, it is critically important for students to learn how to use AI tools responsibly and ethically!

For this course, you are not permitted to use content generated by ChatGPT, Copilot, DeepSeek, Gemini, Claude, or any other AI tool in *any assignment*, unless an instructor provides written permission stating otherwise. This includes– but is not limited to– submitting AI-generated content as your own work, submitting content that was paraphrased or modified from an AI output, quoting text generated by an AI (even if it is properly cited), and using AI to generate false sources. All of your assignments should consist entirely of your own original work, created by you specifically for this class. We are interested in assessing *your* understanding of the material and *your* ability to think critically / synthesize information– not that of an artificial algorithm! Unauthorized use of AI in an assignment will be treated as **academic misconduct**.

You are allowed to use AI tools in the following ways. Note that these are the *only* acceptable uses of AI in this course:

- Outside of graded assignments, e.g., to help you study or review class material.
- To proofread or provide feedback on your original work before submitting it. *Note that you aren't permitted to include the AI's output in your assignment, even if you edit it first… but you can use the AI's suggestions to refine your work yourself. If you do so, you must include an appendix with your assignment submission, in which you name the specific AI tools that you used and provide the exact prompts that you entered as well as verbatim copies of all of the AI's outputs. You must also confirm, in writing, that your assignment is written entirely in your own words, i.e., without any AI-generated content (including paraphrased content). Failure to provide all of this information when you use AI will result in a report to the Dean of Students Office.*

As a general rule, AI should never be your starting point– you should always start with your own original ideas and work! You should not use AI for anything that a human proofreader or study buddy could not ethically do for you.

All students should also be aware of the **many limitations and pitfalls** of AI. The material generated by these tools is often inaccurate, incomplete, misleading, and/or biased. It is also often overly generalized and formulaic, lacking both the depth of analysis and quality of writing that is expected in most college-level courses (and in our discipline more broadly). AI-generated content may also not align with the specific content that we cover in class. Remember, these AI tools are neither students in this course nor experts in our field– all they can do is generate statements that *sound* plausible, without any regard for (or ability to determine) the accuracy of those statements. Thus, if you use AI as a study tool, you should always fact-check the outputs using your notes from class, other course materials, or credible external sources. Also note that, in general, relying too heavily on these tools may erase your individual voice from your work, stifle the development of your own critical thinking skills and creativity, and prevent you from gaining the depth of knowledge expected of an expert in your discipline. Outsourcing your learning to AI can thus make it difficult for you to succeed in other aspects of college and in your future career!

Finally, be aware that every course at the university has its own individual policy about AI, which the instructors have implemented to maximize learning in their courses. The policy described here is for this course only and may not be the same as the policies for your other courses!

Use of Electronic Devices

You may use personal electronic devices such as laptops or tablets during class (excluding the practical exam), unless otherwise noted by the instructors. However, it is your responsibility to make sure that you use your devices in a **professional and courteous manner**. This includes:

- Limiting device use only to activities that are **directly related to your learning of course material**, such as taking notes or creating labels for your specimens. Using your devices for any other purpose is not allowed in the classroom; doing so is disrespectful to the instructors, distracting to your fellow students, and deprives you of a quality learning experience.
- Keeping your devices **muted at all times** to prevent disrupting others around you.
- **Quietly stepping out into the hall** if you must take a call or contact someone. We understand that emergencies can happen and will not prevent you from attending to them, but we also ask that you try to minimize disruptions to your peers.

If your device use is disruptive or inappropriate, you will be asked to put away your device. Students who repeatedly violate this policy will no longer be allowed to use devices in class and may be reported to the Dean of Students Office.

During the practical exam, you are not permitted to use electronic devices of any kind– this includes (but is not limited to) cell phones, tablets, laptops, smart watches, smart glasses, and earbuds / headphones. All devices must be muted and put away in your pocket or bag for the entire duration of the exam; they cannot be on your desk, even if they are face down or turned off. If you have to use the restroom during the exam, you must leave your devices with the proctor before you leave the exam room. Students who violate this policy will earn a grade of 0 on the exam and will not be able to retake it for a different grade.

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

* * * * *

It is your responsibility to ensure that you fully understand all policies outlined in this syllabus as well as the policies of the university as they relate to this course. In the interest of fairness, all students in the class will be held accountable to these policies without exception; these policies are not negotiable.

This syllabus cannot predict every possibility that could happen during the semester. If a situation arises that is not explicitly covered by this syllabus, the instructors will respond to it using their best judgment while following all applicable university policies. Students will be expected to abide by the instructors' decisions in these (and all other) matters.

At their discretion, the instructors may add, remove, or otherwise change aspects of the course during the semester to accommodate new opportunities, unforeseen disruptions, or other circumstances. These changes will be communicated clearly in class and / or through Canvas. The current version of the syllabus will always be available on our course's Canvas website. It is your responsibility to ensure that you are following the most recent version of the syllabus.

By remaining enrolled in this course, you agree that you have read and understood all parts of this syllabus and that you will be held accountable to the policies within. If you have any questions, please contact the instructors as soon as possible (preferably at the beginning of the course)!

* * * * *

Cover Photo: Cardinal jumping spider, *Phidippus cardinalus* (Salticidae)
by Jay Sun Len (microcosmnaturephotography.com)

Summary of Differences between Graduate and Undergraduate Versions of the Spider Biology Lab

Our proposed graduate-level version of the **Spider Biology Lab (ENY 5XXXL)** will meet concurrently with the existing undergraduate version of the course (currently ENY 3830L; under consideration for an upgrade to 4000-level). This is a hands-on lab course that focuses on spider collecting techniques and spider identification at the family level, which are valuable skills for entomology students at any level.

Graduate and undergraduate students will be exposed to the same content (lectures, readings, etc.), participate in the same field and lab activities, and complete many of the same assessments (albeit with different requirements). However, the graduate version of the course will differ from the undergraduate version in the following respects:

1. The **spider collection assignment** (= the capstone project for the course) will be significantly expanded for graduate students. Graduate students will need to turn in a collection of 36 unique spider specimens spanning at least 18 different families, whereas undergraduates turn in a collection of 24 specimens from at least 12 families. Not only is the graduate collection *larger*, but it also requires graduate students to *engage more deeply* with the course content– to meet the larger collection requirements, graduate students will need to employ a wider variety of spider collecting techniques, look for spiders in a wider range of microhabitats, and likely work with spider families that are rarer and/or more challenging to identify.

2. Graduate students will be required to **sight identify a greater number of spider families** compared to undergraduate students in the course– 42 families to be precise (compared to the 35 families required for undergraduates). The additional families that are required only for graduate students are more technically challenging to identify, and thus graduate students will need to have a deeper understanding of spider morphology in order to correctly ID these families. Students will also be required to know the basic natural history of these families. Identification of these families and understanding of their natural history will be assessed in two ways– via graduate student-only questions on the **weekly worksheet assignments**, as well as several graduate student-only questions on the **final lab practical exam**.

Collectively, the graduate-only aspects of the spider collection, worksheets, and lab practical account for 300 / 1,300 points (= approximately 23% of the course grade for graduate students).

More details about grading differences between graduate and undergraduate sections of the course:

- **Worksheets:** There are 9 worksheets in total during the course. Worksheets 1-3 are identical for undergraduates and graduate students, as they focus on content required for all students (spider collection methods and how to use a dichotomous key). Worksheets 4-9 focus on family-level identification, and these worksheets are *not* identical for undergraduates and graduates. Some questions on these worksheets will be the same for all students (reflecting families that everyone is expected to know), but the graduate student worksheets will contain additional questions that are required only for graduate students. For those questions, graduate students will have to draw and label diagnostic structures for the additional spider families that are required only for graduate students, as well as describe (in words) how they would distinguish those families from the others covered in the course. Each worksheet is worth 25 or 30 points for undergraduates (depending on the number of families covered); for Worksheets 4-9, there are an additional 5 points worth of questions for graduate students (making those worksheets worth 30 – 35 points each for graduate students).

- **Lab Practical Exam:** For undergraduates, the lab practical exam consists of 25 microscope stations collectively worth 200 points. Graduate students must complete these stations as well, but they must *also* complete 5 additional stations (worth 40 additional points), which test their knowledge of the graduate student-only families. This means that the lab practical contains a total of 30 stations and is worth 240 points for graduate students.

- **Spider Collection Assignment:** The spider collection assignment for graduate students is worth 765 points total (as opposed to 520 points, which is the collection point total for undergraduates). This is because graduate students must submit 50% more specimens compared to undergraduates (36 instead of 24) and must have additional families represented (18 vs. 12). See the attached rubrics for graduate and undergraduate students for more details.

The higher expectations for graduate students are reflected in multiple **student learning outcomes (SLOs)** in the syllabus, which are copied below:

By the end of the course, students will be able to:

- **Collect** spiders in the field using a variety of techniques and **create** a collection of 36 properly curated and preserved spider specimens that showcases family-level diversity.
- **Identify** spider specimens to the family level, both by sight (for 42 select families) and by using a dichotomous key.
- **Explain** the natural history of 42 common and noteworthy spider families.

The corresponding SLOs for undergraduates mention just 24 specimens in the collection and 35 families that students need to know for sight identification / natural history.

Cover Sheet: Request 21882

ENY4161_Insect_Classification_credit_change

Info

Process	Course|Modify|Ugrad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Andrea Lucky alucky@ufl.edu
Created	9/5/2025 5:08:48 PM
Updated	2/18/2026 2:11:53 PM
Description of request	Change requested in number of credit hours from 3 credits to 4 credits and add C designation.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Entomology and Nematology 60140000	Jennifer Weeks		2/3/2026
Differences between Grad and UG Insect Classification.docx OLD_Insect Classification_Syllabus_2025.docx NEW_Insect Classification_ENY4161_6166_Syllabus.docx CALS CC Checklist_ENY4161_ENY6166.pdf					2/3/2026 2/3/2026 2/3/2026 2/3/2026
College	Pending	CALS - College of Agricultural and Life Sciences			2/3/2026
No document changes					
University Curriculum Committee					
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Catalog					
No document changes					
Student Academic Support System					
No document changes					
College Notified					
No document changes					

Original file: Cover sheet.pdf

Course|Modify for request 21882

Info

Request: ENY4161_Insect_Classification_credit_change
Description of request: Change requested in number of credit hours from 3 credits to 4 credits and add C designation.
Submitter: Andrea Lucky alucky@ufl.edu
Created: 2/3/2026 9:59:13 AM
Form version: 2

Responses

Current Prefix ENY
Course Level 4
Number 161
Lab Code None
Course Title Insect Classification
Effective Term Earliest Available
Effective Year Earliest Available
Requested Action Other (selecting this option opens additional form fields below)
Change Course Prefix? No

Change Course Level? No

Change Course Number? No

Change Lab Code? Yes
Current Lab Code None
Proposed Lab Code C
Change Course Title? No

Change Transcript Title? No

Change Credit Hours? Yes
Current Credit Hours 3
Proposed Credit Hours 4
Change Variable Credit? No

Change S/U Only? No

Change Contact Type? No

Course Type Lecture

Change Rotating Topic Designation? No

Change Repeatable Credit? No

Multiple Offerings in a Single Semester No
Change Course Description? No

Original file: Submitted form version 2.pdf

Change Course Objectives No

Change Prerequisites? No

Change Co-requisites? No

Rationale This proposal is to change the number of credits from 3 to 4 credits and add the "C" lab designation. This course has content and work requirements equivalent to a 4 credit course. Insect Classification is a core requirement of the ENY Major and Minor, and is an advanced undergraduate course that meets for 5 contact hours of lecture and lab per week. Students have consistently provided feedback that the course credits are misaligned with the time required to successfully complete the course. As a lab-based course, it should have the C designation. The course content is not in question; students regularly describe this course as a welcome challenge. No course content changes are planned in association with the change in number of credits and "C" designation.

Original file: Submitted form version 2.pdf

CALS Curriculum Committee
Submission Checklist

Updated January 2026

NOTE: This checklist must be included with all course and certificate submissions.

The checklist below is intended to facilitate course and certificate submissions to the University of Florida Academic Approval Tracking System (https://approval.ufl.edu/). The checklist consists of the most common items that can cause a submission to require changes or be recycled. Contrary to information provided on the UF approval site, the CALS Curriculum Committee requires a syllabus be submitted with each new course or course modification request. Please note that submitters are encouraged to attend the CALS CC meeting at which their item is being reviewed. This allows the submitter to answer any potential questions that may arise that could cause the item to not be approved. Also, be aware that when completing the UCC form the section Description of Request is asking for a brief statement about what you are doing. This is **not** the place for a course description. A statement such as "Proposal of a new undergraduate course" is all that is needed. Please do not submit documents in pdf format. All documents should be submitted in Word to facilitate editing on our end if necessary.

CHECKLIST: PLEASE INITIAL OR MARK N/A FOR EACH STATEMENT TO INDICATE YOUR COMPLIANCE.

SYLLABUS: You are encouraged to use the CALS ACCESSIBLE SYLLABUS TEMPLATE. Accessibility will be required by APRIL 2026.
****Use of Simple Syllabus will be required for Summer 2026 forward. It is slated to be released to faculty in late February 2026.****

X___ It is required when making a submission that you consult your department's representative to the CALS CC. A list of current members can be found on the committee site located at: https://cals.ufl.edu/faculty-staff/committees/.

X___ Submission of a course modification requires both the current version of the course syllabus and the proposed version.

X___ Joint course submissions must include 1) both graduate and undergraduate syllabuses and 2) a separate document outlining the substantial (more than one) differences in assignments between the two courses. These assignments must account for at least a 15% difference in graded material between the two levels. If this is a new course submission both courses must be submitted for approval simultaneously.

X___ The course description on the UCC form and in the syllabus must match and should be no longer than 500 characters. FOR AN EXITING COURSE, THE DESCRIPTION **MUST MATCH THE CATALOG DESCRIPTION**. Follow the **COURSE DESCRIPTION GUIDELINES** for new courses if not contraindicated by outside certification requirements. Any other information you wish to include needs to be under a different heading such as background or additional course information.

Original file: CALS CC Checklist_ENY4161_ENY6166.pdf

X The course learning objectives must be consistent with Bloom's taxonomy. Please see the following link at the CALS Curriculum site. (https://cals.ufl.edu/content/PDF/Faculty_Staff/cals-courseobjectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

X The course schedule should be concise and include the appropriate number of weeks in the semester.

X All graduate course submissions must include a reading list if a textbook is not required. The reading list should include at least some current readings (within the last 5 years). All readings do not need to be current.

X Outside consultations are required if there is a possibility of the proposed course covering a significant amount of material taught in another department or college on campus. There must be a consult form completed by the chair of the department from who you are seeking the consult. Instructors may provide additional consults. The form can be found at: https://approval.ufl.edu/policies/external-consultations/.

X Prerequisite courses are required for 3000 and 4000 level courses. This line of the approval form cannot be "none" or left blank. Junior or senior standing is an acceptable option. A phrase such as "a course in basic biology" is not acceptable. (Graduate courses should not have specific courses listed as prerequisites. If needed a statement of skills required prior to taking the course can be provided under other course information.)

X Decimal points must be included in the grading scale if grade cut-offs are based on percentages. While this is not a university policy it is a CALS standard practice to avoid any confusion when final grades for the course are determined.

X The attendance and make-up policy in a syllabus cannot contradict the university's policy. Do not include any additional wording to this policy. A statement and link regarding this are included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

X The most recent version of the UF Syllabus Statements. Using the accessible syllabus template will ensure you have the most up to date statements. Do not use boilerplate statements from an old syllabus as they are likely to be out of date.

Certificates

If proposing a new undergraduate or graduate level certificate that includes any courses outside of the submitters department a statement regarding any possible impact on those courses needs to be included. An email from the instructor is acceptable. Also, any courses required for the certificate must have permanent prefixes and course numbers. The submission must include intended catalog copy. (Contact Dr. Anne Mathews (anne.mathews@ufl.edu) for further instruction)

Original file: CALS CC Checklist_ENY4161_ENY6166.pdf

Graduate and undergraduate differences:
Insect Classification, ENY 4161/ENY 6166

GRADING

The grading structure for this course differs for **Undergraduate** and **Graduate** students; assignment categories are weighed differently.

COURSE GRADING STRUCTURE

	Undergraduate	Undergraduate
Homework & Class Activities	15%	10%
Quizzes	20%	17%
Exam 1	18%	15%
Exam 2	18%	15%
Collection (+ associated documents)	29%	26%
Graduate Paper	N / A	17%
TOTAL	**100%**	**100%**

ASSIGNMENTS

GRADUATE PAPER (for graduate students only): Each graduate student will write a research paper in one of the following formats:

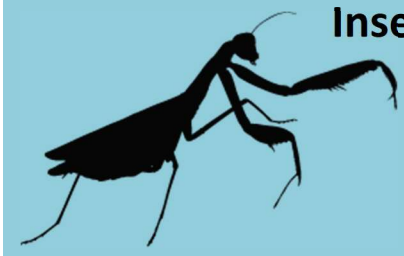
1) a Taxonomic Review of published literature covering a large insect taxon of your choice—a small order or a major subgroup within a large order, or

2) an Insect Common Name Proposal for a species lacking an official common name, following guidelines of the Entomological Society of America's Common Names of Insects Committee: https://www.entsoc.org/pubs/use-and-submission-common-names.

This assignment involves a required peer-review component for each student to give and receive feedback on an initial draft. Details about these assignments can be found on Canvas.

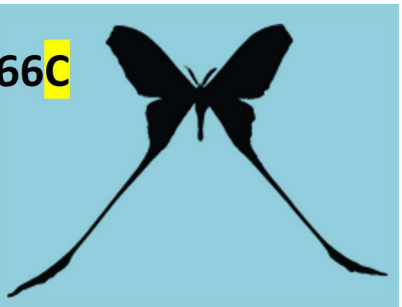
INSECT COLLECTION: The Collection requirements differ for undergraduates and graduate students. Details about each component of the collection are provided in the syllabus.

	Undergraduates:	**Graduates:**
Orders (2 pts. each)	18	22
Families (1 pt. each)	100	120
Species identifications (1 pt. each)	14	21
Total	**150**	**185**



Insect Classification, ENY 4161C/ 6166C
Fall 2025 (4 cr)

Tues 8:30-11:30am, Thurs 9:35-11:30am,
Steinmetz Hall, Rm 3118



Instructor: **Dr. Andrea Lucky** (alucky@ufl.edu)
Steinmetz 2107
Office hours: Monday 2-4pm

TA: **TBD**
Steinmetz 2125
Office hours: Thursday 2-4pm

Course Goals

The goal of this course is to provide you with a sound theoretical and practical understanding of insect diversity and the practice of classifying organisms. Lectures discuss the general principles of systematics, history of insect classification, construction and use of identification tools, nomenclature, and biology and evolutionary history of the hexapod orders. We also explore why competing classifications exist in taxonomy, and what existing classifications imply about broad patterns of evolutionary change and diversification within insects. Laboratory work focuses on recognition of the major groups of insects (order and family); in-class exercises illustrate concepts discussed in lecture. A required collection refines your ability to collect and identify insects to order, family, and species. Building an insect collection with correctly identified and curated specimens, using a variety of collecting techniques, is the best way to learn, understand, and employ the methods used by professionals to classify insects, and living organisms in general.

Student Learning Objectives

After completing this course you should be able to:

- **Identify** hexapods by sight to order and to family, for the majority of common insects
- **Navigate** dichotomous keys to accurately identify adult insects to order and family
- **Assess** the quality of reference material for insect identification
- **Collect** insects with their associated field data in different habitats using a variety of techniques
- **Curate** insect specimens properly, including labeling, pinning, point mounting, and preserving in ethanol
- **Summarize** the key steps of the taxonomic process: how species are described, named, and classified
- **Explain** how key innovations in the life history of insects led to their incredible diversity
- **Interpret** evolutionary relationships from phylogenetic trees

Course Prerequisites

Course Prerequisite: ENY 3005+3005L, Principles of Entomology, or a similar course dealing with the classification of insects. **Students are expected to be familiar with all insect orders and some families before taking this class.**

Required Textbook

Textbook: C.A. Triplehorn and N.F. Johnson. 2005. Borror and DeLong's Introduction to the Study of Insects, 7th edition. Thomson Brooks/Cole, Belmont, CA (~$150). This text is required; make sure to purchase your copy early!

Course Equipment

Equipment: This course includes an equipment loan from the Entomology and Nematology Department. Take good care of these items—the net, kill jar, spreading board, pinning block, forceps, and boxes must be returned at the end of the semester. You may keep the vials and pins. Other equipment will be available to borrow as short-term loans (1 week); just ask your instructor! Failure to return equipment can result in a hold on your record.

Course Schedule

This is a tentative schedule of topics and assignments for the semester. This semester's specific assignments and deadlines will be posted on Canvas. Note that we will do our best to adhere to this schedule, but adjustments may be necessary to accommodate opportunities or disruptions (this is hurricane season!). Any changes to our schedule, including deadlines, will be announced in class and on Canvas.

TENTATIVE COURSE SCHEDULE		
Week	**Session**	**Topic**
1	TH	Course Introduction & Identifying Insects
2	T	Reading Phylogenetic Trees & Collecting Data
	TH	Entognathous Hexapods, Early Insect Orders, & Palaeoptera
3	T	Polyneoptera
	TH	Insect Morphology: Pinning and Curation
4	T	FIELD TRIP – Austin Cary Forest
	TH	Hemipteroids + Open Lab
5	T	Hemiptera; **MINI COLLECTION DUE**
	TH	Exam review
6	T	**EXAM I**
	TH	Insect Evolution
7	T	Hymenoptera
	TH	Coleoptera, Neuroptera, & Strepsiptera
8	T	Coleoptera, cont'd
	TH	Open Lab
9	T	Diptera, Mecoptera, & Siphonaptera
	TH	Zoological Nomenclature
10	T	Lepidoptera & Trichoptera; **GRADUATE PAPER DUE**
	TH	Open lab
11	T	Speciation and Species Concepts
	TH	Classification, Taxonomy, Systematics, Phylogenetics
12	T	Homology & Homoplasy
	TH	FIELD TRIP - FL State Collection of Arthropods
13	T	NO CLASS - HOLIDAY
	TH	History of Insect Classification
14	T	Insect Declines – **COLLECTION DUE**
	TH	Equipment Return and Exam Review
15	T	NO CLASS – THANKSGIVING HOLIDAY
	TH	NO CLASS – THANKSGIVING HOLIDAY
16	T	**EXAM II**

Grading

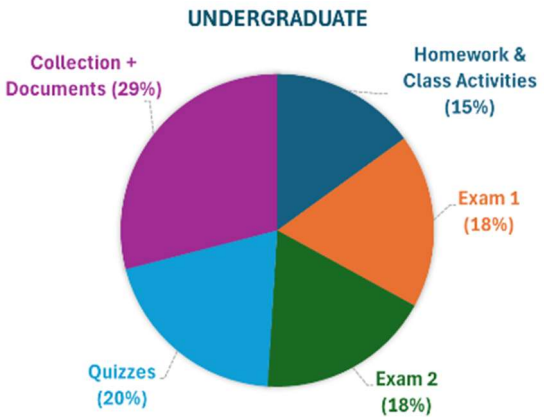
The grading structure for this course differs for **Undergraduate** and **Graduate** students; assignment categories are weighed differently. The final letter grade for all students will be determined using the scale below. There is no rounding or "bumping up" grades; requests to do so will not be considered. Current UF policies on assigning grade points can be found at the following website: https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx.

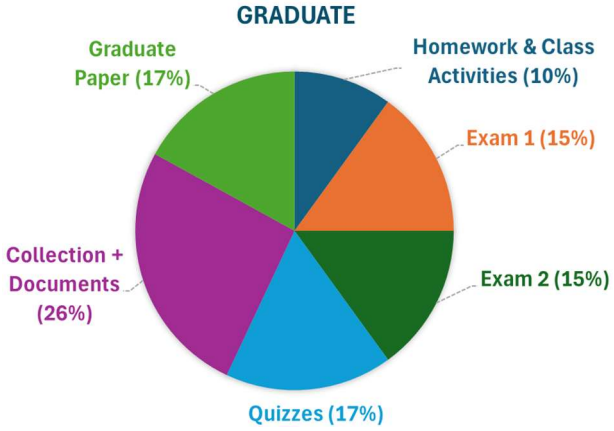
Course Grading Scale (%)

93-100	A
90-92.99	A-
87-89.99	B+
83-86.99	B
80-82.99	B-
77-79.99	C+
73-76.99	C
70-72.99	C-
67-69.99	D+
63-66.99	D
60-62.99	D-
<60	E

Course Grading Structure

	Undergraduate	Graduate
Homework & Class Activities	15%	10%
Quizzes	20%	17%
Exam 1	18%	15%
Exam 2	18%	15%
Collection (+ associated documents)	29%	26%
Graduate Paper	--	17%
TOTAL	**100%**	**100%**





Assignments

Readings: Required readings include textbook chapters and assigned articles (see references below). Students are expected to complete reading assignments before the corresponding class session and come to class prepared to engage in activities and discussions. This textbook is **required**; it is available online BUT you will need a hard copy for exams.

Activities and Homework: Several **assignments** take the form of in-class activities and/or homework, and may include lab exercises, discussions, and short-answer worksheets. These reinforce lecture and lab material and offer an opportunity to put concepts into action. Due dates will be posted on Canvas and announced in class.

Quizzes: Quizzes test your mastery of sight IDs; they will cover the taxa on the Sight-ID list. These are unannounced pop-quizzes, but you can expect them first thing in the morning in the 1-2 class periods after an order has been presented. Students arriving late to class may miss the opportunity to take a quiz. *Without a valid excuse, a missed quiz receives a grade of zero and cannot be retaken for credit.* Stuff happens, so two lowest quiz scores will be dropped for each student during the semester. Use these freebies wisely! Students may grumble about quizzes, but at the end of the semester they are universally voted "most helpful to learning the material."

Exams: There are two in-class, on-paper exams in this course, each designed to assess your mastery of the course content as well as your ability to synthesize and apply important concepts. Exams 1 and 2 focus primarily on material from the first and second half of the semester, respectively. Each exam will have three components: 1) Sight ID, 2) Key Out, and 3) Written (bring a pencil/pen!). Exams are closed-note EXCEPT for the Key out section, for which you will need

your textbook. Exams take approximately 1.5 hours to complete; up to 3 hours will be made available for exam completion (i.e. additional time is provided). Students are expected to arrive on time to exams; arriving late to an exam or missing an exam *without a valid excuse* means forfeiting the opportunity to take the exam and receiving a grade of zero. Students *with approval to miss an exam* should make alternative exam arrangements as early as possible. Note that electronic devices are not permitted in the room during exams; they must be muted and out of sight for the duration of the exam. Leave them with the instructor if you need to leave the room during the exam.

Mini- and Final Collection: The insect collection is a core element of this course. By assembling a collection, you are gaining experience in the full spectrum of understanding how valuable data associated with insect specimens are collected, preserved, and shared. The overall collection grade has several components: **the Mini Collection** is just that—a miniature version of your final collection. It is worth approximately 5% of your final collection grade. This assignment offers a low-stakes benchmark to ensure you don't leave all your collecting and curation until the end of the course and provides you with feedback early in the course. Guidelines for each component of the collection assignment are provided in detail below (see Collection Guidelines).

Graduate Paper: Each graduate student will write a research paper in one of the following formats: 1) a Taxonomic Review of published literature covering a large insect taxon of your choice—a small order or a major subgroup within a large order, or 2) an Insect Common Name Proposal for a species lacking an official common name, following guidelines of the Entomological Society of America's Common Names of Insects Committee: https://www.entsoc.org/pubs/use-and-submission-common-names. This assignment involves a required peer-review component for each student to give and receive feedback on an initial draft. Details about these assignments can be found on Canvas.

Extra Credit: Extra credit opportunities may be made available at the instructors' discretion. They will be announced in class and on Canvas. Requests for additional extra credit will not be considered.

Submitting Assignments: *All assignments must be submitted in the format noted; most will be electronic submissions on Canvas, with some paper submissions to be turned in during class. Submissions in the wrong format (i.e. emailed to instructors) will not be accepted. Some assignments will allow for multiple submissions (see Canvas for details); in this case, the instructors will only grade the latest submission that you make before the assignment's closing date. Note that you are responsible for what you turn in– that includes ensuring that all your work is uploaded correctly and completely by the closing date. Blank, corrupted, or otherwise inaccessible files will be treated as missing work (= 0 grade). If you experience technical problems when submitting your work in Canvas, contact the UF Computing Help Desk for assistance: https://helpdesk.ufl.edu. The instructors cannot provide IT support.*

Re-grade Requests

Re-Grade Requests: Instructors sometimes make mistakes! If you believe a grading error has been made, you must contact the instructors in writing within one week after the assignment is returned. Explain specifically what you think is incorrect and how you think it should be corrected. Please wait at least 24 hours before requesting a regrade; this is to give you time to review the instructors' written feedback and carefully check your work. If a regrade is warranted, the entire assignment will be reviewed and the new grade assigned shall be final. Note that this process can result in a new grade that is higher, lower, or the same as before.

Field Trips

Field Trips: During the semester, we may go to a variety of habitats to enhance your exposure to insect diversity and collecting techniques. Come prepared to collect, with your net, jars/bags/boxes, field notebook, etc. Make sure to dress for the field, with closed-toe shoes/boots, long pants, long sleeves, and a hat. Remember to bring water! There are always risks associated with outdoor activity, but being prepared will reduce them considerably. We are likely to encounter biting and stinging insects, including mosquitoes and wasps, as well as ticks, chiggers, spiders, venomous reptiles, irritating plants, and other environmental hazards. If you are allergic to any insects or other organisms that we may encounter, let the instructors know ahead of time and bring an allergy pen if needed.

Laboratory Time

Take advantage of lab time! Most class periods include time for you to work on assembling your collection; some class periods will be made available entirely for you to use at your discretion. The resources available during lab time include access to high quality stereomicroscopes, an extensive teaching collection of insect specimens, a rich library of insect identification resources, and the presence of your instructor and TA. You are encouraged to bring material to the lab to curate, as a major benefit of lab time is instructor and peer feedback on your specimens. This is a great time to request guidance as you curate and label specimens, and as you work your way through dichotomous keys. Students who regularly take advantage of lab time are more likely to complete their collections on time without a final, hectic scramble at the 11th hour. There is no guarantee of additional scope availability outside of scheduled class times.

Planning Your Time

Work Outside of Class: In addition to attending and participating in our class sessions, you will be expected to devote adequate time outside of regularly scheduled class periods to complete assignments, prepare your collection, and study the material. UF recommends devoting 2 hours out-of-class for every scheduled in-class hour. For this class, that means planning for approximately 150 hours *in addition to* class time, so plan accordingly!

In-Class Participation: You are expected to come to class **fully prepared to engage** in each session. Interactive activities with your classmates and instructors will enhance your understanding of course materials and concepts. You may be required to partner with other students for some of our in-class discussions and activities. When working with your classmates, you are expected to treat everyone with respect and professionalism.

Professionalism & Etiquette

Students are expected to behave **courteously and professionally** toward others. This includes being polite and respectful, making an honest effort to engage in all aspects of the course (including doing the required preparatory work), being on time for our class and minimizing disruptions if you arrive late or must leave early, allowing others to share perspectives even if you disagree with them, actively listening to others and showing attention as an expression of respect, being open to constructive feedback, abiding by all course and university policies, and being proactive about issues that arise during the semester. This also means avoiding talking over others, interrupting, monopolizing shared classroom resources, repeatedly distracting others, and interfering with others' learning experience (including inappropriate use of electronic devices, eating in class, packing up belongings before class is over, etc.). Disrespectful or disruptive behavior may result in **dismissal from the class session** and will be reported to the **Dean of Students Office**.

Communication

Communication: Outside of class and office hours, you can connect with us by using electronic messages in **Canvas, with messages addressed to TEACHERS** (the instructor and TA). Messages in Canvas are secure and will be prioritized; we do our best to respond within 2 days, excluding weekends and holidays. If you send a message outside of regular working hours (9:00am–5:00pm, Monday-Friday), we are unlikely to see the message until the following day. If you have not received a response after 48 hours, please send a polite reminder. Contact by other methods (i.e., direct emails, phone calls, texts) is discouraged as we may be unable to respond in a timely manner.

Canvas Announcements: Important updates will be regularly posted to the Canvas website as **Announcements**. To ensure that you do not miss anything, make sure that your Canvas profile is set to send notifications to an email inbox that you check. You are responsible for all of the information and assignments posted to our Canvas website; it is your responsibility to ensure that you are able to navigate the Canvas website and know where to find these items. If you have any questions about Canvas, please ask the instructors at the beginning of the semester. Also note that our Canvas website will be updated as the semester goes on, so be sure to check Canvas frequently!

Meetings: For quick questions, you are welcome chat with the instructor / TA after class if they are available. For more extended discussion, come to **office hours**. Office hours will be held starting on the first through the last week of class, excluding university holidays and breaks. If these times don't work for you, we can **schedule a 1-on-1 meeting**. If you schedule a meeting, you are expected to arrive on time and come prepared with specific questions. If you must cancel this meeting, please give notification as far in advance as possible.

> ***Privacy & Accountability:*** *The instructors will only discuss matters relating to your work in the course with you or with other UF faculty or staff with legitimate educational interest in your performance (e.g., your academic advisor). We will not communicate with parents or others about these matters under any circumstances, even with your permission. For this reason, it is UF policy that you use* ***Canvas*** *(or if by email, your UF email address) to contact your instructors. Emails sent from other accounts (e.g., personal Gmail, Hotmail, etc.) will not be answered as we cannot verify that those messages were sent by you.*

If you have questions or concerns, or if you're struggling to succeed in the course, please reach out to your instructor and TA. We are here to help! If an issue arises, we encourage you to contact us as early as possible. The sooner we know, the sooner we can discuss options to find a solution. Our ability to assist is limited at the end of the semester.

Accommodations for Students with Disabilities

The **Disability Resource Center (DRC)** coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations, accessing special adaptive computer equipment, providing interpretation services, and mediating faculty-student disability related issues. Students who would like to request academic accommodations must first make an appointment with an accessibility specialist at the DRC; for more information, see the *Getting Started Guide* on the DRC website: https://disability.ufl.edu/get-started. If accommodations are approved, the DRC will provide documentation (= an accommodations letter) to the student; it is the student's responsibility to then share this documentation with the instructors and discuss their access needs.

> ***Instructors' Note:*** *We want you to succeed in this course! To ensure your accommodations are in place when you need them, please have your DRC accommodation letter sent to us as early as possible–ideally at the very beginning of the semester. Please note that accommodations cannot be applied retroactively, and that accommodations will only be provided to students who have official documentation from the DRC.*

Course Feedback and Evaluations

Student assessment of instruction is an important part of efforts to improve teaching and learning. Throughout the semester you will be asked for feedback on the course. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. Please provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via **GatorEvals**. Guidance on how to give feedback in a professional and respectful manner is available at https://gatorevals.aa.ufl.edu/students. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl. Summaries of course evaluation results are available to students at: https://gatorevals.aa.ufl.edu/public-results.

Tips for Success

Success in this course is largely linked to the effort you make, and the time you spend, *early* in the semester getting outside and collecting insects in diverse environments. Keep in mind that the more orders and families you collect, the

more specimens you have at your fingertips for studying key morphological characters and practicing Sight IDs and Key-Outs. Stay on top of the course material and prepare for Sight ID quizzes.

Get outside every day. Even if the weather is not perfect, you will find a lot of diversity once you start looking, and the more you look–the more you'll see. Use diverse collecting techniques and plan to collect many more insects than the minimum number of Orders, Families, and Species required. Many of your insects will belong to the same families, but you won't know this until you have curated and identified them.

Plan ahead. Collect intensively using a variety of methods for the first third of the course, curating specimens as you go and identifying insects in the groups that you are learning about in lecture. After about one month, switch to focus on identification of specimens that you have already collected and curated. This will allow you to become familiar with the identification keys in the textbook using your own specimens. As you learn to recognize common families, your collecting can become more targeted as you search for groups not yet included in your collection. By the last third of the course, you should be finalizing your IDs and the assembly of your collection, including all the associated documents

Computing Requirement: All students must have reliable access to a **computer with a high-speed internet connection** to access assignments and other course materials on Canvas. A laptop or desktop computer running the current version of Windows or MacOS is strongly recommended. Although many aspects of the course can be completed using a smartphone or tablet, our Canvas website is not optimized for these devices. If your internet service is disrupted, or if your computer breaks / becomes unavailable during the semester, you will be responsible for finding an alternative device so that you can continue accessing course content and complete your assignments by their deadlines.

Attendance Policy

Attendance: Class attendance is required and you are expected to **stay for the entire session** unless you have a University-approved reason for not attending**.** Class sessions integrate lecture, specimen observation, peer-to-peer learning activities, and fieldwork. If you are absent, you will likely miss in-class opportunities designed to help you learn, including explanation of materials, graded activities, and quizzes. Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies.

Excused absences: If a conflict prevents you from attending class, please reach out in advance or, in case of an expected emergency, notify your instructor as soon as possible. In these cases, you must also submit **appropriate documentation** of your absence via the Dean of Students' **Instructor Notification Portal** (https://care.dso.ufl.edu/instructor-notifications). The Dean of Students Office will evaluate your documentation and then make a recommendation to the instructors; the instructors will make the final determination as to whether or not the absence is excused. Note that some types of absences (such as religious holidays) do not require documentation but you must inform the instructors in advance of your planned absence from class.

> ***Documentation:*** *In the interest of fairness to all students in the class, all documentation must be verified by the Dean of Students Office (DSO) – please do not send your documentation directly to the instructors! DSO will not share personal details of your situation when they send instructors their recommendation. See the guidelines on the* ***Instructor Notification Portal*** *for more information: https://care.dso.ufl.edu/instructor-notifications!*

Make-Up Policy

If your absence is excused, you will need to make arrangements with the instructors to make up missed work, if applicable (see below on MAKE UP ASSIGNMENTS). If you miss class for an unexcused reason, if you do not submit the required documentation through the Dean of Students portal, or if you fail to notify the instructors of your absence in a timely manner, then you will earn a 0 for any work missed that day; make-up work will not be arranged in this case. Please note that personal travel (e.g., vacations or leaving early for / returning late from university breaks) is *not* considered an excusable absence. Likewise, conflicts with other courses, employment, or extracurriculars (other than university-sponsored athletics or scholarly activities) are *not* excused absences. If an assignment is due on the day of

your absence, you must still submit that assignment on time unless you have received a due-date **extension**, in writing, from the instructors. You will also be responsible for all of the content associated with the class sessions that you missed. If you do miss a class meeting, you are encouraged to reach out to a classmate for notes from that session; the instructors and TAs will not provide notes.

Make-Up Exams: All exams must be taken at their **scheduled dates and times** (as indicated in the Course Schedule above and on Canvas) unless you have an excused absence on an exam day. In that case, the instructors will choose the date, time, and location of the make-up exam after your absence documentation is verified by the DSO. All make-up exams, like the original exams, must be completed in person under the supervision of a proctor. It will be your responsibility to attend the make-up exam at the designated time and place; if you miss your make-up exam, you will be assigned a grade of 0 for it and will not have the option to reschedule it again. Note that time may not permit a make-up of EXAM II to be scheduled before the semester ends. If necessary, you will be assigned an incomplete grade (I) and the make-up exam will be scheduled during the post-semester break or at the start of the following semester. Upon completion and grading of the make-up exam, your incomplete grade will be changed to the final grade.

Late Work & Extension Policy

Policy on Late Work: The **due dates and times** for all assignments can be found on the corresponding assignment pages in **Canvas**. The only exception to this policy is if you have received an extension in writing from your instructor. In general, late submissions after the extended deadline will not be accepted and a grade of 0 will be received for the assignment. Final Collections, if submitted late will incur a grade penalty of one letter grade per day (24 hrs).

Extensions: Extensions on assignments are reserved for students who are dealing with unforeseen emergencies or other situations beyond their control. Requests for extensions will be considered at the instructors' discretion on a case-by-case basis, and only with documentation submitted to the DSO. Note that asking for an extension does not guarantee that you will be granted one.

Academic Integrity

As a student at the University of Florida, you have committed yourself to uphold the **Honor Code**, which includes the following pledge: *"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."* You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: *"On my honor, I have neither given nor received unauthorized aid in doing this assignment."* All work must be completed independently unless the instructor provides explicit permission for you to collaborate on course tasks (e.g., assignments, papers, quizzes, exams). It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: https://sccr.dso.ufl.edu/process/student-conduct-code/.

Instructors' Note: *We take academic integrity very seriously! Any action that* ***subverts the learning goals*** *of the course (or a particular course activity) will be treated as academic misconduct, as misconduct affects all students in the class. This includes–but is not limited to–cheating or assisting others in cheating, plagiarism (i.e., misrepresenting someone else's work as your own, whether it is copied directly or paraphrased), self-plagiarism (i.e., copying/reusing work that you have submitted previously), using AI tools in a way that is inconsistent with the policies for this class, collaborating with others when it is not permitted, falsifying or fabricating data, lying to or attempting to manipulate an instructor, and bad faith attempts to undermine the intent of a learning activity. It is your responsibility to know what does and does not constitute academic misconduct.*

If the instructors find that you have engaged in academic misconduct, you will be ***reported to the Dean of***

Students Office (DSO) *immediately. The instructors will assign a grade of 0 on the assignment in question while the DSO investigates the matter. If the DSO concludes that you did engage in misconduct, you will be assigned a failing grade (E) for the entire course. If the DSO rules that you did not engage in misconduct, the instructor will regrade your assignment and replace the 0 with the grade that you have earned on it. If the investigation is ongoing by the end of semester, you will receive an incomplete (I) grade in the course, to be resolved when the investigation is concluded.*

Use of Artificial Intelligence (AI)

When used properly, **artificial intelligence (AI)** can be a helpful tool to enhance your learning. However, *improper* use of AI can impede your learning and may be considered academic dishonesty. At UF, but as at all scientific journals, funding agencies, and professional societies, there are strict rules about AI use which require authors to disclose if/how they use AI. For these reasons, it is important for students to learn how to use AI tools responsibly and ethically!

You are not permitted to use content generated by ChatGPT, Grammarly, or any other AI tool in *any assignment* in this course, unless the instructors provide written permission stating otherwise. This includes– but is not limited to– submitting AI-generated content as your own work, submitting content that was paraphrased or modified from an AI output, quoting text generated by an AI (even if it is properly cited), and using AI to generate false sources. All of your assignments should consist entirely of your own original work, created by you for this class. We are interested in assessing *your* understanding of the material and *your* ability to think critically / synthesize information– not that of an algorithm or machine! Unauthorized use of AI in an assignment will be treated as **academic misconduct** and be subject to the same disciplinary actions described above.

You are allowed to use AI tools in two ways: 1) Outside of graded assignments, e.g., to help you study or review class material. 2) To proofread or provide feedback on your original work before submitting it. Note that you aren't permitted to include the AI's output in your assignment, even if you edit it first… but you can use the AI's suggestions to refine your work yourself. If you do so, you must include an appendix with your assignment submission, in which you name the specific AI tools that you used and provide the exact prompts that you entered as well as verbatim copies of all of the AI's outputs. You must also confirm, in writing, that your assignment is written entirely in your own words, i.e., without any AI-generated content (including paraphrased content). Failure to provide all of this information when you use AI will result in a report to the Dean of Students Office. These are the *only* acceptable uses of AI in this course.

As a general rule, AI should never be your starting point– you should always start with your own original ideas and work! You should not use AI for anything that a human proofreader or study buddy could not ethically do for you. All students should also be aware of the **limitations** of AI. The material generated by these tools is often inaccurate, incomplete, misleading, or biased. It is also often overly generalized and formulaic, lacking both the depth of analysis and quality of writing that is expected in this course (and in our discipline more broadly). AI-generated content may also not align with the specific content that we cover in class. Remember, these AI tools are neither students in this course nor experts in our field– all they can do is generate statements that *sound* plausible, regardless of their accuracy. Thus, if you use AI as a study tool, you should always fact-check the outputs using your notes from class, other course materials, or credible external sources. Also note that relying too heavily on these tools may erase the individuality of your work and stifle the development of your own critical thinking skills and creativity. Outsourcing your learning to AI can thus make it difficult for you to succeed in other aspects of this course (and in your future career).
Be aware that every course at the university has its own individual policy about AI, which the instructors have implemented to maximize learning in their courses. The policy described here is for this course only and may not be the same as the policies for your other courses!

General Information

The policies in this course align with policies of the University of Florida. For more information on UF Policies, generally, as well as links to helping resources, please the following website:

https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

Student Responsibility: It is each student's responsibility to ensure that you fully understand all policies outlined in this syllabus as well as the policies of the university as they relate to this course. In the interest of fairness, all students in the class will be held accountable to these policies without exception; these policies are not negotiable. This syllabus cannot predict every possibility that could happen during the semester. At their discretion, the instructor may add, remove, or otherwise change aspects of the course during the semester to accommodate new opportunities, unforeseen disruptions, or other circumstances. By remaining enrolled in this course, you agree that you have read and understood all parts of this syllabus and that you will be held accountable to the policies within. If you have any questions, please contact your instructor as soon as possible!

Selected References

Readings will change from semester to semester. The papers listed below are foundational to insect classification and will likely be referenced during the course.

- McNeely, JA (2002). The role of taxonomy in conserving biodiversity. Journal for Nature Conservation, 10(3), 145-153.
- Harvey, J.A., Heinen, R., Armbrecht, I. et al. (2020). International scientists formulate a roadmap for insect conservation and recovery. Nat Ecol Evol 4, 174–176
- Yeates, D. K., Cameron, S. L., & Trautwein, M. (2012). A view from the edge of the forest: recent progress in understanding the relationships of the insect orders. Australian Journal of Entomology, 51(2), 79-87.
- Tihelka, E., Cai, C., Giacomelli, M., Lozano-Fernandez, J., Rota-Stabelli, O., Huang, D., ... & Pisani, D. (2021). The evolution of insect biodiversity. Current Biology, 31(19), R1299-R1311.
- Misof, B., Liu, S., Meusemann, K., Peters, R. S., Donath, A., Mayer, C., ... & Zhou, X. (2014). Phylogenomics resolves the timing and pattern of insect evolution. Science, 346(6210), 763-767.
- Peters, R. S., Krogmann, L., Mayer, C., Donath, A., Gunkel, S., Meusemann, K., ... & Niehuis, O. (2017). Evolutionary history of the Hymenoptera. Current Biology, 27(7), 1013-1018.
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INSECT COLLECTION GUIDELINES

The Mini Collection is just that—a miniature version of your final collection. This assignment offers a low-stakes benchmark to ensure you don't leave all your collecting and curation until the end of the semester and provides you with feedback early in the course. It is worth approximately 5% of your final collection grade. You will turn in specimens representing *at least* **10 orders, 5 families and 2 species, all correctly identified, curated and labeled**. In addition to pinned insects, your collection must include at least one point-mounted or double mounted specimen and one specimen with the wings spread. As with your full collection, the Mini Collection must include your **Collection Contents List, Field Notes, Citations, and Key Characters for species-level IDs.** Make sure to order your specimen Orders phylogenetically (i.e., in the order found in the textbook) and include Order-level header labels pinned to the bottom of your box. Details about each component of the collection are provided below.

The Final Collection should include **adult insects only** and should have at least 5 point-mounted and 5 spread-winged insects. You can earn extra credit for the quality and organization of the collection and associated documents, as well as for extra orders. Incorrect order IDs incur a penalty of 2 pts each. No credit is given for specimens in such bad shape that we cannot identify them! Due dates are firm - *late submissions incur a penalty of one letter grade per day*.

		Undergraduates:	Graduates:
Orders (2 pts. each)		18	22
Families (1 pt. each)		100	120
Species identifications (1 pt. each)		14	21
	Total	**150**	**185**

Additional Points: Up to 2 points awarded for quality in each of the following:
(1 = very good, 2 = wow! above and beyond)

- Collection Contents List
- Citations
- Species' Key Characters
- Field notes & collection data
- Diversity within families
- Organization (phylogenetic order)
- Data Labels
- Order header labels
- General appearance of specimens
- Overall appearance of collection

COLLECTION COMPONENTS:

1) Collection Contents List must be submitted with the insect collection (see example below). This should list names and numbers of the following: Orders, Families, Species, as well as number of specimens overall and a reference for each determination. Specimens should be listed in phylogenetic order, i.e. the order in which they appear in the textbook (Orders only, for example from Protura to Diptera). This allows students to see a progression of morphological specialization across Insecta and helps when grading collections. **If no "Collection Contents List" is turned in with the collection, the collection will not be graded and the assignment grade will be zero.**

Note: The spelling of names on Collection Contents List is important – use care and be accurate!

Order	# fam.	Family	# ind.	Species ID	Reference
Blattodea	2	Blaberidae	1		*Triplehorn, C.A. and N.F. Johnson. 2005. Borror and DeLong's Introduction to the Study of Insects, 7th edition. Thomson Brooks/Cole, Blemont, CA. ** below referred to as T&J 2005*
		Blattidae	2		*T&J 2005*
				Eurycotis floridana	Bibbs, C.S. and Baldwin, R.B. 2011. Featured Creatures: Florida woods cockroach *Eurycotis floridana* (Walker). Retrieved from: https://entnemdept.ufl.edu/creatures/urban/roaches/florida_woods_cockroach.htm
Hymenoptera	5	Formicidae	1		*T&J 2005*
				Camponotus floridanus	Warner, J. and Scheffrahn, R.H. 2004. Featured Creatures: Florida carpenter ant, bull ant, Tortugas carpenter ant, *Camponotus floridanus* (Buckley) and *Camponotus tortuganus* (Emery). Retrieved from: https://entnemdept.ufl.edu/creatures/urban/ants/fl_carpenter_ants.htm
		Apidae	3		Carril, O.M., & Wilson, J.S. 2021. *Common Bees of Eastern North America*. Princeton University Press. Princeton, NJ.
		Sphecidae			*T&J 2005*
		Ichneumonidae			*T&J 2005*
		Vespidae			Goulet, H. and Huber, J.T. 1993. Hymenoptera of the world: an identification guide to families.
TOTAL: 2	**7**			**2**	

2) A Citation List is required with every collection and should include full citations for all of references used to ID specimens to family or species. This list can be included in your Collection Contents list or in a separate document. Most references should be from published books and scientific journals. If you use an online reference, choose only authoritative sources (i.e. not www.insectidentification.org/) and include ALL of the following in your citation: website URL, article name, author, date accessed. Sites like BugGuide should NOT be your main source - they are not always reliable.

3) Key Characters must be presented for each species-level determination. Key characters identify the most important features that distinguish this species from other similar species, and especially those most closely related to it. These can be presented as a summary list of characters for each species, with references cited (*example below). Alternatively, you may submit copies of keys or authoritative articles with relevant characters highlighted. **ID points will be awarded only to those species for which valid key characters are presented.** Vague key characters do not merit points.

Examples of key characters:

Monomorium emarginatum (an ant that is not especially distinctive = needs more detail)

- Sm. black ant; petiole and post-petiole; lacks propodeal spines; 12-seg antennae = genus *Monomorium*
- One of 4 sp. in this genus in New England (specimen collected in Maine)
- Uniform black; sloping posterior surface of propodeum longer than dorsal surface; found in loamy soil (distinguishes this species from *M. viride*). Two other species are exotics only found indoors.
- Ref: Ellison, AM, Gotelli, NJ, Farnsworth, EJ and Alpert, GA. 2012. *A Field Guide to the Ants of New England*. Yale University Press. New Haven CT, USA.

Actias Luna

(a very distinctive species!)

- Distinctive large, green moth with a long tail on each hind wing and distinctive purple/ yellow eyespots on both fore and hind wings. Nearctic.
- No other moth in the Saturniidae presents this coloration at this size (adult wingspan 75-105 mm).
- Refs: 1) Hall, DW. Featured Creatures. 2007. Publication #EENY-411. *http://entnemdept.ufl.edu/creatures/misc/moths/luna_moth.htm*. Accessed Sept. 1, 2016. 2) and Covell, CV. *A Field Guide to Moths of Eastern North America*. 1984. VA Museum of Natural History. VA, USA. 518 pp.

4) Field Notes must accompany each insect collection. These can be in the format of your choosing (e.g. in a notebook, word document or spreadsheet – see below), organized chronologically so any specimen can be referenced by collection date. Each collection event should include *at minimum* date, locality, habitat type, collection method and collector. Good field notes also include some or all of the following: Accession numbers, season, time of day, weather, detailed habitat characteristics, behavioral/ecological notes and tentative IDs. **Collections without field notes will not be graded.**

Date	Country	State	City/Co.	Specific location	General Habitat	Specific Habitat	Coll. method	Collector	Notes
08-Aug-2017	USA	FL	Gainesville, Alachua Co.	Lake Alice woods, UF	Mixed pine/ oak forest	Lakeside grasses	Sweep net	A. Lucky	Mayflies, flies, hemipteran. Warm afternoon
10-Aug-2017	USA	FL	Gainesville, Alachua Co.	Lake Alice woods, UF	Mixed pine/ oak forest	Under pine bark	Hand coll.	A. Lucky	Beetles & termites. Carabidae? Collected soldiers & workers.
13-Aug-2017	USA	FL	Gainesville, Alachua Co.	NATL, UF	Recently burned pine forest	Standing dead stump	Leaf litter / berlese	A. Lucky	Cockroach, thrips, ants. Sample from base of stump.

5) Labels. In addition to a locality label, each specimen needs an identification label indicating the Order to which it belongs, as well as Family and Species, where appropriate. For species determinations, the borders of the ID label are to be colored green. The green borders help in finding the species determinations while grading your collection.

6) Organization. Orders should be arranged in the phylogenetic order presented in the textbook. All specimens in an Order should be grouped under a header label, which can be pinned to the bottom of the box. NOTE: A specimen placed with the wrong Order results in a 2 pt. deduction from the collection score, even if the ID on the specimen is correct.

Specimen Guidelines

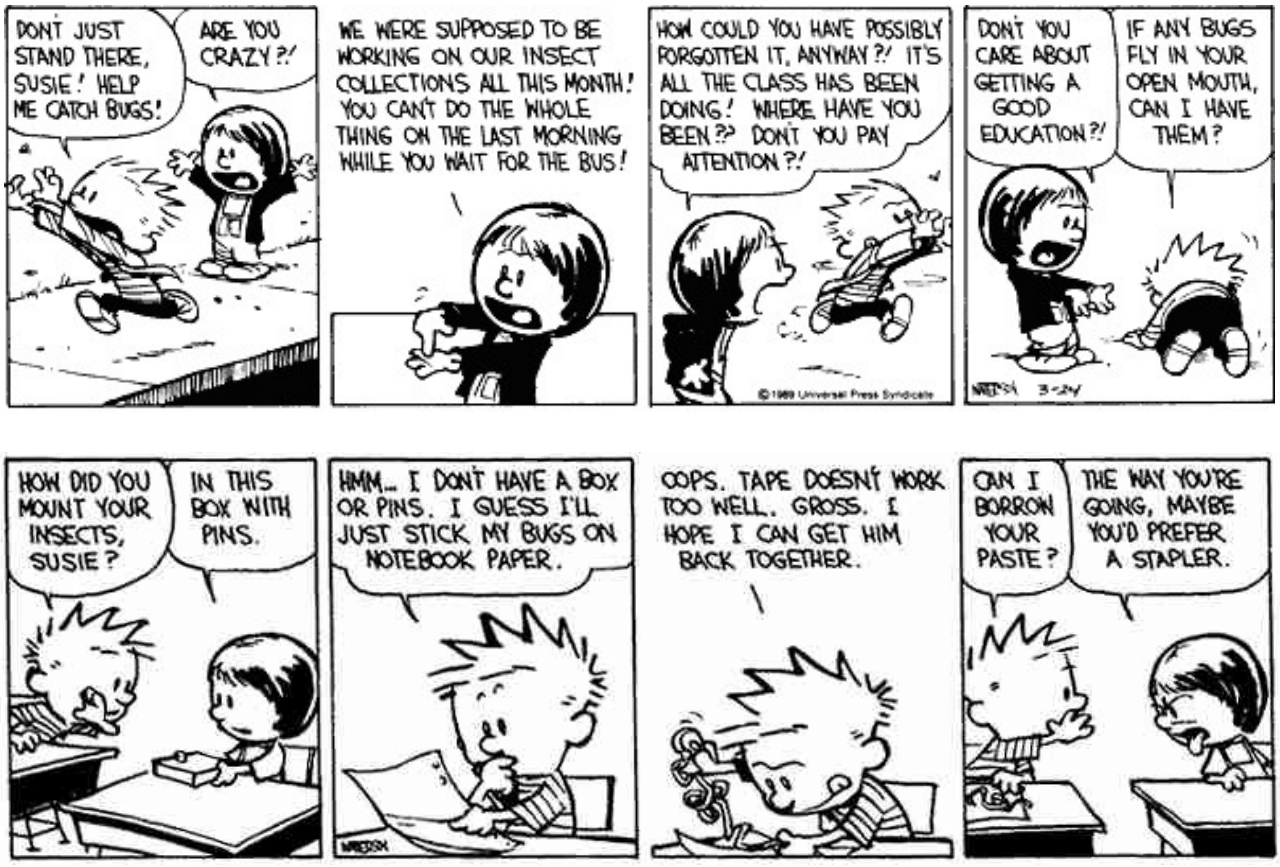
- Insects that were previously submitted for the requirement of another course **may not be included** in the collection for this class.
- Specimens included in the insect collection **must have been collected by the student** turning in the collection or another student in this in-person class this semester. I.e., no specimen trading outside of the class.
- All specimen identifications must be made by the **owner** of the collection.
- No insects may be collected from protected areas without permission. These include City Parks, State Parks, National Parks, Preserves, Reserves, Private Forests, etc. *If you are unsure, it is your responsibility to find out if collecting is permitted!*
- Rules concerning academic honesty apply to specimens, specimen labels, and field notes submitted for the collection. If you are not sure whether something is allowed, just ask!!

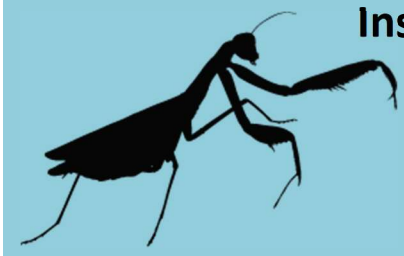
Submitting Your Collection

Before submitting your collection, **take a photo** for your records, then deliver it to our classroom on the due date or, if needed, arrange to deliver it to us at another time. Specimen boxes must be well sealed and pest-free; 10 points will be deducted if your collection arrives with *live* insects, such as ants or dermestid beetles, or a specimen that has not been properly killed! Make sure that EVERY item you submit has your name on it. Each box, each paper, etc.

Would you like to KEEP or DONATE your collection?

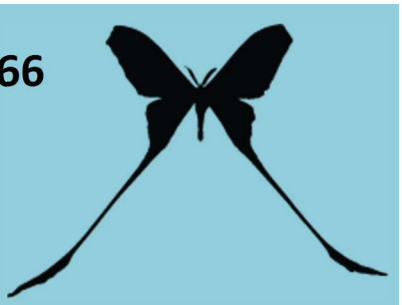
Note clearly on your collection contents list whether you would like to **KEEP** or to **DONATE** your collection. If you don't specify, your specimens will be considered a donation and be used for education and outreach. If you would like to keep your collection, you must pick it up in a reasonable time frame–no later than the first few weeks of the semester following course completion.





Insect Classification, ENY 4161/ 6166
Fall 2025 (3 cr)

Tues 8:30-11:30am, Thurs 9:35-11:30am,
Steinmetz Hall, Rm 3118



Instructor: **Dr. Andrea Lucky** (alucky@ufl.edu)
Steinmetz 2107
Office hours: Monday 2-4pm

TA: **Aswaj (Ash) Punnath**
Steinmetz 2125
Office hours: Thursday 2-4pm

Course Goals

The goal of this course is to provide you with a sound theoretical and practical understanding of insect diversity and the practice of classifying organisms. Lectures discuss the general principles of systematics, history of insect classification, construction and use of identification tools, nomenclature, and biology and evolutionary history of the hexapod orders. We also explore why competing classifications exist in taxonomy, and what existing classifications imply about broad patterns of evolutionary change and diversification within insects. Laboratory work focuses on recognition of the major groups of insects (order and family); in-class exercises illustrate concepts discussed in lecture. A required collection refines your ability to collect and identify insects to order, family, and species. Building an insect collection with correctly identified and curated specimens, using a variety of collecting techniques, is the best way to learn, understand, and employ the methods used by professionals to classify insects, and living organisms in general.

Student Learning Objectives

After completing this course you should be able to:

- **Identify** hexapods by sight to order and to family, for the majority of common insects
- **Navigate** dichotomous keys to accurately identify adult insects to order and family
- **Assess** the quality of reference material for insect identification
- **Collect** insects with their associated field data in different habitats using a variety of techniques
- **Curate** insect specimens properly, including labeling, pinning, point mounting, and preserving in ethanol
- **Summarize** the key steps of the taxonomic process: how species are described, named, and classified
- **Explain** how key innovations in the life history of insects led to their incredible diversity
- **Interpret** evolutionary relationships from phylogenetic trees

Course Prerequisites

Course Prerequisite: ENY 3005+3005L, Principles of Entomology, or a similar course dealing with the classification of insects. **Students are expected to be familiar with all insect orders and some families before taking this class.**

Required Textbook

Textbook: C.A. Triplehorn and N.F. Johnson. 2005. Borror and DeLong's Introduction to the Study of Insects, 7th edition. Thomson Brooks/Cole, Belmont, CA (~$150). This text is required; make sure to purchase your copy early!

Course Equipment

Equipment: This course includes an equipment loan from the Entomology and Nematology Department. Take good care of these items—the net, kill jar, spreading board, pinning block, forceps, and boxes must be returned at the end of the semester. You may keep the vials and pins. Other equipment will be available to borrow as short-term loans (1 week); just ask your instructor! Failure to return equipment can result in a hold on your record.

Course Schedule

This is a tentative schedule of topics and assignments for the semester. This semester's specific assignments and deadlines will be posted on Canvas. Note that we will do our best to adhere to this schedule, but adjustments may be necessary to accommodate opportunities or disruptions (this is hurricane season!). Any changes to our schedule, including deadlines, will be announced in class and on Canvas.

TENTATIVE COURSE SCHEDULE		
Week	**Session**	**Topic**
1	TH	Course Introduction & Identifying Insects
2	T	Reading Phylogenetic Trees & Collecting Data
	TH	Entognathous Hexapods, Early Insect Orders, & Palaeoptera
3	T	Polyneoptera
	TH	Insect Morphology: Pinning and Curation
4	T	FIELD TRIP – Austin Cary Forest
	TH	Hemipteroids + Open Lab
5	T	Hemiptera; **MINI COLLECTION DUE**
	TH	Exam review
6	T	**EXAM I**
	TH	Insect Evolution
7	T	Hymenoptera
	TH	Coleoptera, Neuroptera, & Strepsiptera
8	T	Coleoptera, cont'd
	TH	Open Lab
9	T	Diptera, Mecoptera, & Siphonaptera
	TH	Zoological Nomenclature
10	T	Lepidoptera & Trichoptera; **GRADUATE PAPER DUE**
	TH	Open lab
11	T	Speciation and Species Concepts
	TH	Classification, Taxonomy, Systematics, Phylogenetics
12	T	Homology & Homoplasy
	TH	FIELD TRIP - FL State Collection of Arthropods
13	T	NO CLASS - HOLIDAY
	TH	History of Insect Classification
14	T	Insect Declines – **COLLECTION DUE**
	TH	Equipment Return and Exam Review
15	T	NO CLASS – THANKSGIVING HOLIDAY
	TH	NO CLASS – THANKSGIVING HOLIDAY
16	T	**EXAM II**

Grading

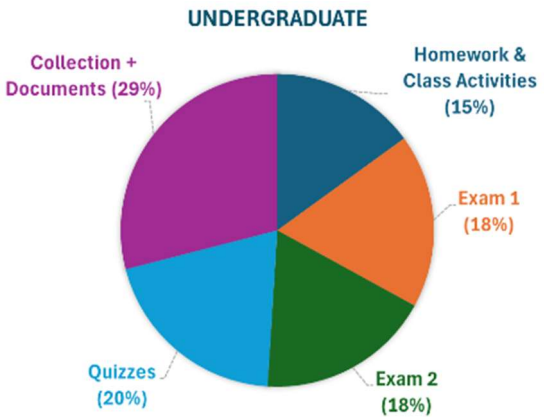
The grading structure for this course differs for **Undergraduate** and **Graduate** students; assignment categories are weighed differently. The final letter grade for all students will be determined using the scale below. There is no rounding or "bumping up" grades; requests to do so will not be considered. Current UF policies on assigning grade points can be found at the following website: https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx.

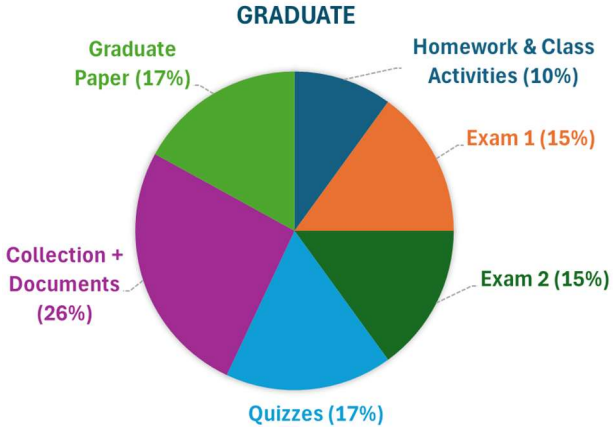
Course Grading Scale (%)

93-100	A
90-92.99	A-
87-89.99	B+
83-86.99	B
80-82.99	B-
77-79.99	C+
73-76.99	C
70-72.99	C-
67-69.99	D+
63-66.99	D
60-62.99	D-
<60	E

Course Grading Structure

	Undergraduate	Graduate
Homework & Class Activities	15%	10%
Quizzes	20%	17%
Exam 1	18%	15%
Exam 2	18%	15%
Collection (+ associated documents)	29%	26%
Graduate Paper	--	17%
TOTAL	**100%**	**100%**





Assignments

Readings: Required readings include textbook chapters and assigned articles (see references below). Students are expected to complete reading assignments before the corresponding class session and come to class prepared to engage in activities and discussions. This textbook is **required**; it is available online BUT you will need a hard copy for exams.

Activities and Homework: Several **assignments** take the form of in-class activities and/or homework, and may include lab exercises, discussions, and short-answer worksheets. These reinforce lecture and lab material and offer an opportunity to put concepts into action. Due dates will be posted on Canvas and announced in class.

Quizzes: Quizzes test your mastery of sight IDs; they will cover the taxa on the Sight-ID list. These are unannounced pop-quizzes, but you can expect them first thing in the morning in the 1-2 class periods after an order has been presented. Students arriving late to class may miss the opportunity to take a quiz. *Without a valid excuse, a missed quiz receives a grade of zero and cannot be retaken for credit.* Stuff happens, so two lowest quiz scores will be dropped for each student during the semester. Use these freebies wisely! Students may grumble about quizzes, but at the end of the semester they are universally voted "most helpful to learning the material."

Exams: There are two in-class, on-paper exams in this course, each designed to assess your mastery of the course content as well as your ability to synthesize and apply important concepts. Exams 1 and 2 focus primarily on material from the first and second half of the semester, respectively. Each exam will have three components: 1) Sight ID, 2) Key Out, and 3) Written (bring a pencil/pen!). Exams are closed-note EXCEPT for the Key out section, for which you will need

your textbook. Exams take approximately 1.5 hours to complete; up to 3 hours will be made available for exam completion (i.e. additional time is provided). Students are expected to arrive on time to exams; arriving late to an exam or missing an exam *without a valid excuse* means forfeiting the opportunity to take the exam and receiving a grade of zero. Students *with approval to miss an exam* should make alternative exam arrangements as early as possible. Note that electronic devices are not permitted in the room during exams; they must be muted and out of sight for the duration of the exam. Leave them with the instructor if you need to leave the room during the exam.

Mini- and Final Collection: The insect collection is a core element of this course. By assembling a collection, you are gaining experience in the full spectrum of understanding how valuable data associated with insect specimens are collected, preserved, and shared. The overall collection grade has several components: **the Mini Collection** is just that—a miniature version of your final collection. It is worth approximately 5% of your final collection grade. This assignment offers a low-stakes benchmark to ensure you don't leave all your collecting and curation until the end of the course and provides you with feedback early in the course. Guidelines for each component of the collection assignment are provided in detail below (see Collection Guidelines).

Graduate Paper: Each graduate student will write a research paper in one of the following formats: 1) a Taxonomic Review of published literature covering a large insect taxon of your choice—a small order or a major subgroup within a large order, or 2) an Insect Common Name Proposal for a species lacking an official common name, following guidelines of the Entomological Society of America's Common Names of Insects Committee: https://www.entsoc.org/pubs/use-and-submission-common-names. This assignment involves a required peer-review component for each student to give and receive feedback on an initial draft. Details about these assignments can be found on Canvas.

Extra Credit: Extra credit opportunities may be made available at the instructors' discretion. They will be announced in class and on Canvas. Requests for additional extra credit will not be considered.

Submitting Assignments: *All assignments must be submitted in the format noted; most will be electronic submissions on Canvas, with some paper submissions to be turned in during class. Submissions in the wrong format (i.e. emailed to instructors) will not be accepted. Some assignments will allow for multiple submissions (see Canvas for details); in this case, the instructors will only grade the latest submission that you make before the assignment's closing date. Note that you are responsible for what you turn in– that includes ensuring that all your work is uploaded correctly and completely by the closing date. Blank, corrupted, or otherwise inaccessible files will be treated as missing work (= 0 grade). If you experience technical problems when submitting your work in Canvas, contact the UF Computing Help Desk for assistance: https://helpdesk.ufl.edu. The instructors cannot provide IT support.*

Re-grade Requests

Re-Grade Requests: Instructors sometimes make mistakes! If you believe a grading error has been made, you must contact the instructors in writing within one week after the assignment is returned. Explain specifically what you think is incorrect and how you think it should be corrected. Please wait at least 24 hours before requesting a regrade; this is to give you time to review the instructors' written feedback and carefully check your work. If a regrade is warranted, the entire assignment will be reviewed and the new grade assigned shall be final. Note that this process can result in a new grade that is higher, lower, or the same as before.

Field Trips

Field Trips: During the semester, we may go to a variety of habitats to enhance your exposure to insect diversity and collecting techniques. Come prepared to collect, with your net, jars/bags/boxes, field notebook, etc. Make sure to dress for the field, with closed-toe shoes/boots, long pants, long sleeves, and a hat. Remember to bring water! There are always risks associated with outdoor activity, but being prepared will reduce them considerably. We are likely to encounter biting and stinging insects, including mosquitoes and wasps, as well as ticks, chiggers, spiders, venomous reptiles, irritating plants, and other environmental hazards. If you are allergic to any insects or other organisms that we may encounter, let the instructors know ahead of time and bring an allergy pen if needed.

Laboratory Time

Take advantage of lab time! Most class periods include time for you to work on assembling your collection; some class periods will be made available entirely for you to use at your discretion. The resources available during lab time include access to high quality stereomicroscopes, an extensive teaching collection of insect specimens, a rich library of insect identification resources, and the presence of your instructor and TA. You are encouraged to bring material to the lab to curate, as a major benefit of lab time is instructor and peer feedback on your specimens. This is a great time to request guidance as you curate and label specimens, and as you work your way through dichotomous keys. Students who regularly take advantage of lab time are more likely to complete their collections on time without a final, hectic scramble at the 11th hour. There is no guarantee of additional scope availability outside of scheduled class times.

Planning Your Time

Work Outside of Class: In addition to attending and participating in our class sessions, you will be expected to devote adequate time outside of regularly scheduled class periods to complete assignments, prepare your collection, and study the material. UF recommends devoting 2 hours out-of-class for every scheduled in-class hour. For this class, that means planning for approximately 150 hours *in addition to* class time, so plan accordingly!

In-Class Participation: You are expected to come to class **fully prepared to engage** in each session. Interactive activities with your classmates and instructors will enhance your understanding of course materials and concepts. You may be required to partner with other students for some of our in-class discussions and activities. When working with your classmates, you are expected to treat everyone with respect and professionalism.

Professionalism & Etiquette

Students are expected to behave **courteously and professionally** toward others. This includes being polite and respectful, making an honest effort to engage in all aspects of the course (including doing the required preparatory work), being on time for our class and minimizing disruptions if you arrive late or must leave early, allowing others to share perspectives even if you disagree with them, actively listening to others and showing attention as an expression of respect, being open to constructive feedback, abiding by all course and university policies, and being proactive about issues that arise during the semester. This also means avoiding talking over others, interrupting, monopolizing shared classroom resources, repeatedly distracting others, and interfering with others' learning experience (including inappropriate use of electronic devices, eating in class, packing up belongings before class is over, etc.). Disrespectful or disruptive behavior may result in **dismissal from the class session** and will be reported to the **Dean of Students Office**.

Communication

Communication: Outside of class and office hours, you can connect with us by using electronic messages in **Canvas, with messages addressed to TEACHERS** (the instructor and TA). Messages in Canvas are secure and will be prioritized; we do our best to respond within 2 days, excluding weekends and holidays. If you send a message outside of regular working hours (9:00am–5:00pm, Monday-Friday), we are unlikely to see the message until the following day. If you have not received a response after 48 hours, please send a polite reminder. Contact by other methods (i.e., direct emails, phone calls, texts) is discouraged as we may be unable to respond in a timely manner.

Canvas Announcements: Important updates will be regularly posted to the Canvas website as **Announcements**. To ensure that you do not miss anything, make sure that your Canvas profile is set to send notifications to an email inbox that you check. You are responsible for all of the information and assignments posted to our Canvas website; it is your responsibility to ensure that you are able to navigate the Canvas website and know where to find these items. If you have any questions about Canvas, please ask the instructors at the beginning of the semester. Also note that our Canvas website will be updated as the semester goes on, so be sure to check Canvas frequently!

Meetings: For quick questions, you are welcome chat with the instructor / TA after class if they are available. For more extended discussion, come to **office hours**. Office hours will be held starting on the first through the last week of class, excluding university holidays and breaks. If these times don't work for you, we can **schedule a 1-on-1 meeting**. If you schedule a meeting, you are expected to arrive on time and come prepared with specific questions. If you must cancel this meeting, please give notification as far in advance as possible.

> ***Privacy & Accountability:*** *The instructors will only discuss matters relating to your work in the course with you or with other UF faculty or staff with legitimate educational interest in your performance (e.g., your academic advisor). We will not communicate with parents or others about these matters under any circumstances, even with your permission. For this reason, it is UF policy that you use* ***Canvas*** *(or if by email, your UF email address) to contact your instructors. Emails sent from other accounts (e.g., personal Gmail, Hotmail, etc.) will not be answered as we cannot verify that those messages were sent by you.*

If you have questions or concerns, or if you're struggling to succeed in the course, please reach out to your instructor and TA. We are here to help! If an issue arises, we encourage you to contact us as early as possible. The sooner we know, the sooner we can discuss options to find a solution. Our ability to assist is limited at the end of the semester.

Accommodations for Students with Disabilities

The **Disability Resource Center (DRC)** coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations, accessing special adaptive computer equipment, providing interpretation services, and mediating faculty-student disability related issues. Students who would like to request academic accommodations must first make an appointment with an accessibility specialist at the DRC; for more information, see the *Getting Started Guide* on the DRC website: https://disability.ufl.edu/get-started. If accommodations are approved, the DRC will provide documentation (= an accommodations letter) to the student; it is the student's responsibility to then share this documentation with the instructors and discuss their access needs.

> ***Instructors' Note:*** *We want you to succeed in this course! To ensure your accommodations are in place when you need them, please have your DRC accommodation letter sent to us as early as possible–ideally at the very beginning of the semester. Please note that accommodations cannot be applied retroactively, and that accommodations will only be provided to students who have official documentation from the DRC.*

Course Feedback and Evaluations

Student assessment of instruction is an important part of efforts to improve teaching and learning. Throughout the semester you will be asked for feedback on the course. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. Please provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via **GatorEvals**. Guidance on how to give feedback in a professional and respectful manner is available at https://gatorevals.aa.ufl.edu/students. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl. Summaries of course evaluation results are available to students at: https://gatorevals.aa.ufl.edu/public-results.

Tips for Success

Success in this course is largely linked to the effort you make, and the time you spend, *early* in the semester getting outside and collecting insects in diverse environments. Keep in mind that the more orders and families you collect, the

more specimens you have at your fingertips for studying key morphological characters and practicing Sight IDs and Key-Outs. Stay on top of the course material and prepare for Sight ID quizzes.

Get outside every day. Even if the weather is not perfect, you will find a lot of diversity once you start looking, and the more you look–the more you'll see. Use diverse collecting techniques and plan to collect many more insects than the minimum number of Orders, Families, and Species required. Many of your insects will belong to the same families, but you won't know this until you have curated and identified them.

Plan ahead. Collect intensively using a variety of methods for the first third of the course, curating specimens as you go and identifying insects in the groups that you are learning about in lecture. After about one month, switch to focus on identification of specimens that you have already collected and curated. This will allow you to become familiar with the identification keys in the textbook using your own specimens. As you learn to recognize common families, your collecting can become more targeted as you search for groups not yet included in your collection. By the last third of the course, you should be finalizing your IDs and the assembly of your collection, including all the associated documents

Computing Requirement: All students must have reliable access to a **computer with a high-speed internet connection** to access assignments and other course materials on Canvas. A laptop or desktop computer running the current version of Windows or MacOS is strongly recommended. Although many aspects of the course can be completed using a smartphone or tablet, our Canvas website is not optimized for these devices. If your internet service is disrupted, or if your computer breaks / becomes unavailable during the semester, you will be responsible for finding an alternative device so that you can continue accessing course content and complete your assignments by their deadlines.

Attendance Policy

Attendance: Class attendance is required and you are expected to **stay for the entire session** unless you have a University-approved reason for not attending**.** Class sessions integrate lecture, specimen observation, peer-to-peer learning activities, and fieldwork. If you are absent, you will likely miss in-class opportunities designed to help you learn, including explanation of materials, graded activities, and quizzes. Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies.

Excused absences: If a conflict prevents you from attending class, please reach out in advance or, in case of an expected emergency, notify your instructor as soon as possible. In these cases, you must also submit **appropriate documentation** of your absence via the Dean of Students' **Instructor Notification Portal** (https://care.dso.ufl.edu/instructor-notifications). The Dean of Students Office will evaluate your documentation and then make a recommendation to the instructors; the instructors will make the final determination as to whether or not the absence is excused. Note that some types of absences (such as religious holidays) do not require documentation but you must inform the instructors in advance of your planned absence from class.

> ***Documentation:*** *In the interest of fairness to all students in the class, all documentation must be verified by the Dean of Students Office (DSO) – please do not send your documentation directly to the instructors! DSO will not share personal details of your situation when they send instructors their recommendation. See the guidelines on the* ***Instructor Notification Portal*** *for more information: https://care.dso.ufl.edu/instructor-notifications!*

Make-Up Policy

If your absence is excused, you will need to make arrangements with the instructors to make up missed work, if applicable (see below on MAKE UP ASSIGNMENTS). If you miss class for an unexcused reason, if you do not submit the required documentation through the Dean of Students portal, or if you fail to notify the instructors of your absence in a timely manner, then you will earn a 0 for any work missed that day; make-up work will not be arranged in this case. Please note that personal travel (e.g., vacations or leaving early for / returning late from university breaks) is *not* considered an excusable absence. Likewise, conflicts with other courses, employment, or extracurriculars (other than university-sponsored athletics or scholarly activities) are *not* excused absences. If an assignment is due on the day of

your absence, you must still submit that assignment on time unless you have received a due-date **extension**, in writing, from the instructors. You will also be responsible for all of the content associated with the class sessions that you missed. If you do miss a class meeting, you are encouraged to reach out to a classmate for notes from that session; the instructors and TAs will not provide notes.

Make-Up Exams: All exams must be taken at their **scheduled dates and times** (as indicated in the Course Schedule above and on Canvas) unless you have an excused absence on an exam day. In that case, the instructors will choose the date, time, and location of the make-up exam after your absence documentation is verified by the DSO. All make-up exams, like the original exams, must be completed in person under the supervision of a proctor. It will be your responsibility to attend the make-up exam at the designated time and place; if you miss your make-up exam, you will be assigned a grade of 0 for it and will not have the option to reschedule it again. Note that time may not permit a make-up of EXAM II to be scheduled before the semester ends. If necessary, you will be assigned an incomplete grade (I) and the make-up exam will be scheduled during the post-semester break or at the start of the following semester. Upon completion and grading of the make-up exam, your incomplete grade will be changed to the final grade.

Late Work & Extension Policy

Policy on Late Work: The **due dates and times** for all assignments can be found on the corresponding assignment pages in **Canvas**. The only exception to this policy is if you have received an extension in writing from your instructor. In general, late submissions after the extended deadline will not be accepted and a grade of 0 will be received for the assignment. Final Collections, if submitted late will incur a grade penalty of one letter grade per day (24 hrs).

Extensions: Extensions on assignments are reserved for students who are dealing with unforeseen emergencies or other situations beyond their control. Requests for extensions will be considered at the instructors' discretion on a case-by-case basis, and only with documentation submitted to the DSO. Note that asking for an extension does not guarantee that you will be granted one.

Academic Integrity

As a student at the University of Florida, you have committed yourself to uphold the **Honor Code**, which includes the following pledge: *"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."* You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: *"On my honor, I have neither given nor received unauthorized aid in doing this assignment."* All work must be completed independently unless the instructor provides explicit permission for you to collaborate on course tasks (e.g., assignments, papers, quizzes, exams). It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: https://sccr.dso.ufl.edu/process/student-conduct-code/.

Instructors' Note: *We take academic integrity very seriously! Any action that* ***subverts the learning goals*** *of the course (or a particular course activity) will be treated as academic misconduct, as misconduct affects all students in the class. This includes–but is not limited to–cheating or assisting others in cheating, plagiarism (i.e., misrepresenting someone else's work as your own, whether it is copied directly or paraphrased), self-plagiarism (i.e., copying/reusing work that you have submitted previously), using AI tools in a way that is inconsistent with the policies for this class, collaborating with others when it is not permitted, falsifying or fabricating data, lying to or attempting to manipulate an instructor, and bad faith attempts to undermine the intent of a learning activity. It is your responsibility to know what does and does not constitute academic misconduct.*

If the instructors find that you have engaged in academic misconduct, you will be ***reported to the Dean of***

Students Office (DSO) *immediately. The instructors will assign a grade of 0 on the assignment in question while the DSO investigates the matter. If the DSO concludes that you did engage in misconduct, you will be assigned a failing grade (E) for the entire course. If the DSO rules that you did not engage in misconduct, the instructor will regrade your assignment and replace the 0 with the grade that you have earned on it. If the investigation is ongoing by the end of semester, you will receive an incomplete (I) grade in the course, to be resolved when the investigation is concluded.*

Use of Artificial Intelligence (AI)

When used properly, **artificial intelligence (AI)** can be a helpful tool to enhance your learning. However, *improper* use of AI can impede your learning and may be considered academic dishonesty. At UF, but as at all scientific journals, funding agencies, and professional societies, there are strict rules about AI use which require authors to disclose if/how they use AI. For these reasons, it is important for students to learn how to use AI tools responsibly and ethically!

You are not permitted to use content generated by ChatGPT, Grammarly, or any other AI tool in *any assignment* in this course, unless the instructors provide written permission stating otherwise. This includes– but is not limited to– submitting AI-generated content as your own work, submitting content that was paraphrased or modified from an AI output, quoting text generated by an AI (even if it is properly cited), and using AI to generate false sources. All of your assignments should consist entirely of your own original work, created by you for this class. We are interested in assessing *your* understanding of the material and *your* ability to think critically / synthesize information– not that of an algorithm or machine! Unauthorized use of AI in an assignment will be treated as **academic misconduct** and be subject to the same disciplinary actions described above.

You are allowed to use AI tools in two ways: 1) Outside of graded assignments, e.g., to help you study or review class material. 2) To proofread or provide feedback on your original work before submitting it. Note that you aren't permitted to include the AI's output in your assignment, even if you edit it first… but you can use the AI's suggestions to refine your work yourself. If you do so, you must include an appendix with your assignment submission, in which you name the specific AI tools that you used and provide the exact prompts that you entered as well as verbatim copies of all of the AI's outputs. You must also confirm, in writing, that your assignment is written entirely in your own words, i.e., without any AI-generated content (including paraphrased content). Failure to provide all of this information when you use AI will result in a report to the Dean of Students Office. These are the *only* acceptable uses of AI in this course.

As a general rule, AI should never be your starting point– you should always start with your own original ideas and work! You should not use AI for anything that a human proofreader or study buddy could not ethically do for you. All students should also be aware of the **limitations** of AI. The material generated by these tools is often inaccurate, incomplete, misleading, or biased. It is also often overly generalized and formulaic, lacking both the depth of analysis and quality of writing that is expected in this course (and in our discipline more broadly). AI-generated content may also not align with the specific content that we cover in class. Remember, these AI tools are neither students in this course nor experts in our field– all they can do is generate statements that *sound* plausible, regardless of their accuracy. Thus, if you use AI as a study tool, you should always fact-check the outputs using your notes from class, other course materials, or credible external sources. Also note that relying too heavily on these tools may erase the individuality of your work and stifle the development of your own critical thinking skills and creativity. Outsourcing your learning to AI can thus make it difficult for you to succeed in other aspects of this course (and in your future career).
Be aware that every course at the university has its own individual policy about AI, which the instructors have implemented to maximize learning in their courses. The policy described here is for this course only and may not be the same as the policies for your other courses!

General Information

The policies in this course align with policies of the University of Florida. For more information on UF Policies, generally, as well as links to helping resources, please the following website:

https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

Student Responsibility: It is each student's responsibility to ensure that you fully understand all policies outlined in this syllabus as well as the policies of the university as they relate to this course. In the interest of fairness, all students in the class will be held accountable to these policies without exception; these policies are not negotiable. This syllabus cannot predict every possibility that could happen during the semester. At their discretion, the instructor may add, remove, or otherwise change aspects of the course during the semester to accommodate new opportunities, unforeseen disruptions, or other circumstances. By remaining enrolled in this course, you agree that you have read and understood all parts of this syllabus and that you will be held accountable to the policies within. If you have any questions, please contact your instructor as soon as possible!

Selected References

Readings will change from semester to semester. The papers listed below are foundational to insect classification and will likely be referenced during the course.

- McNeely, JA (2002). The role of taxonomy in conserving biodiversity. Journal for Nature Conservation, 10(3), 145-153.
- Harvey, J.A., Heinen, R., Armbrecht, I. et al. (2020). International scientists formulate a roadmap for insect conservation and recovery. Nat Ecol Evol 4, 174–176
- Yeates, D. K., Cameron, S. L., & Trautwein, M. (2012). A view from the edge of the forest: recent progress in understanding the relationships of the insect orders. Australian Journal of Entomology, 51(2), 79-87.
- Tihelka, E., Cai, C., Giacomelli, M., Lozano-Fernandez, J., Rota-Stabelli, O., Huang, D., ... & Pisani, D. (2021). The evolution of insect biodiversity. Current Biology, 31(19), R1299-R1311.
- Misof, B., Liu, S., Meusemann, K., Peters, R. S., Donath, A., Mayer, C., ... & Zhou, X. (2014). Phylogenomics resolves the timing and pattern of insect evolution. Science, 346(6210), 763-767.
- Peters, R. S., Krogmann, L., Mayer, C., Donath, A., Gunkel, S., Meusemann, K., ... & Niehuis, O. (2017). Evolutionary history of the Hymenoptera. Current Biology, 27(7), 1013-1018.
- Cryan, J. R., & Urban, J. M. (2012). Higher-level phylogeny of the insect order Hemiptera: is Auchenorrhyncha really paraphyletic?. Systematic entomology, 37(1), 7-21.
- Kawahara, A. Y., Storer, C., Carvalho, A. P. S., et al. (2023). A global phylogeny of butterflies reveals their evolutionary history, ancestral hosts and biogeographic origins. Nature ecology & evolution, 7(6), 903-913.
- Kawahara, A. Y., Plotkin, D., Espeland, M., Meusemann, K., Toussaint, E. F., Donath, A., ... & Breinholt, J. W. (2019). Phylogenomics reveals the evolutionary timing and pattern of butterflies and moths. *Proceedings of the National Academy of Sciences*, *116*(45), 22657-22663.
- Ribeiro, T. M., & Espíndola, A. (2024). Integrated phylogenomic approaches in insect systematics. *Current Opinion in Insect Science*, *61*, 101150.
- Sasaki, G., Ishiwata, K., Machida, R., Miyata, T., & Su, Z. H. (2013). Molecular phylogenetic analyses support the monophyly of Hexapoda and suggest the paraphyly of Entognatha. BMC evolutionary biology, 13, 1-10.
- Beutel, R. G., Yavorskaya, M. I., Mashimo, Y., Fukui, M., & Meusemann, K. (2017). The phylogeny of Hexapoda (Arthropoda) and the evolution of megadiversity. In Proc. Arthropod. Embryol. Soc. Jpn (Vol. 51, pp. 1-15).
- Simon, S., Blanke, A., & Meusemann, K. (2018). Reanalyzing the Palaeoptera problem–the origin of insect flight remains obscure. Arthropod structure & development, 47(4), 328-338.
- Johnson, K. P., Dietrich, C. H., Friedrich, F., Beutel, R. G., Wipfler, B., Peters, R. S., ... & Yoshizawa, K. (2018). Phylogenomics and the evolution of hemipteroid insects. PNAS, 115(50), 12775-12780.
- Johnson, K. P. (2019). Putting the genome in insect phylogenomics. Current opinion in insect science, 36, 111-117.
- McKenna, D. D., Shin, S., Ahrens, D., Balke, M., Beza-Beza, C., Clarke, D. J., ... & Beutel, R. G. (2019). The evolution and genomic basis of beetle diversity. Proceedings of the National Academy of Sciences, 116(49), 24729-24737.
- Zhang, S. Q., Che, L. H., Li, Y., Liang, D., Pang, H., Ślipiński, A., & Zhang, P. (2018). Evolutionary history of Coleoptera revealed by extensive sampling of genes and species. Nature communications, 9(1), 205.
- Yeates, D. K., & Wiegmann, B. M. (2005). Phylogeny and evolution of Diptera: recent insights and new perspectives. The evolutionary biology of flies, 14-44.
- Shin, S., Bayless, K. M., Winterton, S. L., Dikow, T., Lessard, B. D., Yeates, D. K., ... & Trautwein, M. D. (2018). Taxon sampling to address an ancient rapid radiation: a supermatrix phylogeny of early brachyceran flies (Diptera). *Systematic entomology*, *43*(2), 277-289.

INSECT COLLECTION GUIDELINES

The Mini Collection is just that—a miniature version of your final collection. This assignment offers a low-stakes benchmark to ensure you don't leave all your collecting and curation until the end of the semester and provides you with feedback early in the course. It is worth approximately 5% of your final collection grade. You will turn in specimens representing *at least* **10 orders, 5 families and 2 species, all correctly identified, curated and labeled**. In addition to pinned insects, your collection must include at least one point-mounted or double mounted specimen and one specimen with the wings spread. As with your full collection, the Mini Collection must include your **Collection Contents List, Field Notes, Citations, and Key Characters for species-level IDs.** Make sure to order your specimen Orders phylogenetically (i.e., in the order found in the textbook) and include Order-level header labels pinned to the bottom of your box. Details about each component of the collection are provided below.

The Final Collection should include **adult insects only** and should have at least 5 point-mounted and 5 spread-winged insects. You can earn extra credit for the quality and organization of the collection and associated documents, as well as for extra orders. Incorrect order IDs incur a penalty of 2 pts each. No credit is given for specimens in such bad shape that we cannot identify them! Due dates are firm - *late submissions incur a penalty of one letter grade per day*.

		Undergraduates:	Graduates:
Orders (2 pts. each)		18	22
Families (1 pt. each)		100	120
Species identifications (1 pt. each)		14	21
	Total	**150**	**185**

Additional Points: Up to 2 points awarded for quality in each of the following:
(1 = very good, 2 = wow! above and beyond)

- Collection Contents List
- Citations
- Species' Key Characters
- Field notes & collection data
- Diversity within families
- Organization (phylogenetic order)
- Data Labels
- Order header labels
- General appearance of specimens
- Overall appearance of collection

COLLECTION COMPONENTS:

1) Collection Contents List must be submitted with the insect collection (see example below). This should list names and numbers of the following: Orders, Families, Species, as well as number of specimens overall and a reference for each determination. Specimens should be listed in phylogenetic order, i.e. the order in which they appear in the textbook (Orders only, for example from Protura to Diptera). This allows students to see a progression of morphological specialization across Insecta and helps when grading collections. **If no "Collection Contents List" is turned in with the collection, the collection will not be graded and the assignment grade will be zero.**

Note: The spelling of names on Collection Contents List is important – use care and be accurate!

Order	# fam.	Family	# ind.	Species ID	Reference
Blattodea	2	Blaberidae	1		*Triplehorn, C.A. and N.F. Johnson. 2005. Borror and DeLong's Introduction to the Study of Insects, 7th edition. Thomson Brooks/Cole, Blemont, CA. ** below referred to as T&J 2005*
		Blattidae	2		*T&J 2005*
				Eurycotis floridana	Bibbs, C.S. and Baldwin, R.B. 2011. Featured Creatures: Florida woods cockroach *Eurycotis floridana* (Walker). Retrieved from: https://entnemdept.ufl.edu/creatures/urban/roaches/florida_woods_cockroach.htm
Hymenoptera	5	Formicidae	1		*T&J 2005*
				Camponotus floridanus	Warner, J. and Scheffrahn, R.H. 2004. Featured Creatures: Florida carpenter ant, bull ant, Tortugas carpenter ant, *Camponotus floridanus* (Buckley) and *Camponotus tortuganus* (Emery). Retrieved from: https://entnemdept.ufl.edu/creatures/urban/ants/fl_carpenter_ants.htm
		Apidae	3		Carril, O.M., & Wilson, J.S. 2021. *Common Bees of Eastern North America*. Princeton University Press. Princeton, NJ.
		Sphecidae			*T&J 2005*
		Ichneumonidae			*T&J 2005*
		Vespidae			Goulet, H. and Huber, J.T. 1993. Hymenoptera of the world: an identification guide to families.
TOTAL: 2	**7**			**2**	

2) A Citation List is required with every collection and should include full citations for all of references used to ID specimens to family or species. This list can be included in your Collection Contents list or in a separate document. Most references should be from published books and scientific journals. If you use an online reference, choose only authoritative sources (i.e. not www.insectidentification.org/) and include ALL of the following in your citation: website URL, article name, author, date accessed. Sites like BugGuide should NOT be your main source - they are not always reliable.

3) Key Characters must be presented for each species-level determination. Key characters identify the most important features that distinguish this species from other similar species, and especially those most closely related to it. These can be presented as a summary list of characters for each species, with references cited (*example below). Alternatively, you may submit copies of keys or authoritative articles with relevant characters highlighted. **ID points will be awarded only to those species for which valid key characters are presented.** Vague key characters do not merit points.

Examples of key characters:

Monomorium emarginatum (an ant that is not especially distinctive = needs more detail)

- Sm. black ant; petiole and post-petiole; lacks propodeal spines; 12-seg antennae = genus *Monomorium*
- One of 4 sp. in this genus in New England (specimen collected in Maine)
- Uniform black; sloping posterior surface of propodeum longer than dorsal surface; found in loamy soil (distinguishes this species from *M. viride*). Two other species are exotics only found indoors.
- Ref: Ellison, AM, Gotelli, NJ, Farnsworth, EJ and Alpert, GA. 2012. *A Field Guide to the Ants of New England*. Yale University Press. New Haven CT, USA.

Actias Luna

(a very distinctive species!)

- Distinctive large, green moth with a long tail on each hind wing and distinctive purple/ yellow eyespots on both fore and hind wings. Nearctic.
- No other moth in the Saturniidae presents this coloration at this size (adult wingspan 75-105 mm).
- Refs: 1) Hall, DW. Featured Creatures. 2007. Publication #EENY-411. *http://entnemdept.ufl.edu/creatures/misc/moths/luna_moth.htm*. Accessed Sept. 1, 2016. 2) and Covell, CV. *A Field Guide to Moths of Eastern North America*. 1984. VA Museum of Natural History. VA, USA. 518 pp.

4) Field Notes must accompany each insect collection. These can be in the format of your choosing (e.g. in a notebook, word document or spreadsheet – see below), organized chronologically so any specimen can be referenced by collection date. Each collection event should include *at minimum* date, locality, habitat type, collection method and collector. Good field notes also include some or all of the following: Accession numbers, season, time of day, weather, detailed habitat characteristics, behavioral/ecological notes and tentative IDs. **Collections without field notes will not be graded.**

Date	Country	State	City/Co.	Specific location	General Habitat	Specific Habitat	Coll. method	Collector	Notes
08-Aug-2017	USA	FL	Gainesville, Alachua Co.	Lake Alice woods, UF	Mixed pine/ oak forest	Lakeside grasses	Sweep net	A. Lucky	Mayflies, flies, hemipteran. Warm afternoon
10-Aug-2017	USA	FL	Gainesville, Alachua Co.	Lake Alice woods, UF	Mixed pine/ oak forest	Under pine bark	Hand coll.	A. Lucky	Beetles & termites. Carabidae? Collected soldiers & workers.
13-Aug-2017	USA	FL	Gainesville, Alachua Co.	NATL, UF	Recently burned pine forest	Standing dead stump	Leaf litter / berlese	A. Lucky	Cockroach, thrips, ants. Sample from base of stump.

5) Labels. In addition to a locality label, each specimen needs an identification label indicating the Order to which it belongs, as well as Family and Species, where appropriate. For species determinations, the borders of the ID label are to be colored green. The green borders help in finding the species determinations while grading your collection.

6) Organization. Orders should be arranged in the phylogenetic order presented in the textbook. All specimens in an Order should be grouped under a header label, which can be pinned to the bottom of the box. NOTE: A specimen placed with the wrong Order results in a 2 pt. deduction from the collection score, even if the ID on the specimen is correct.

Specimen Guidelines

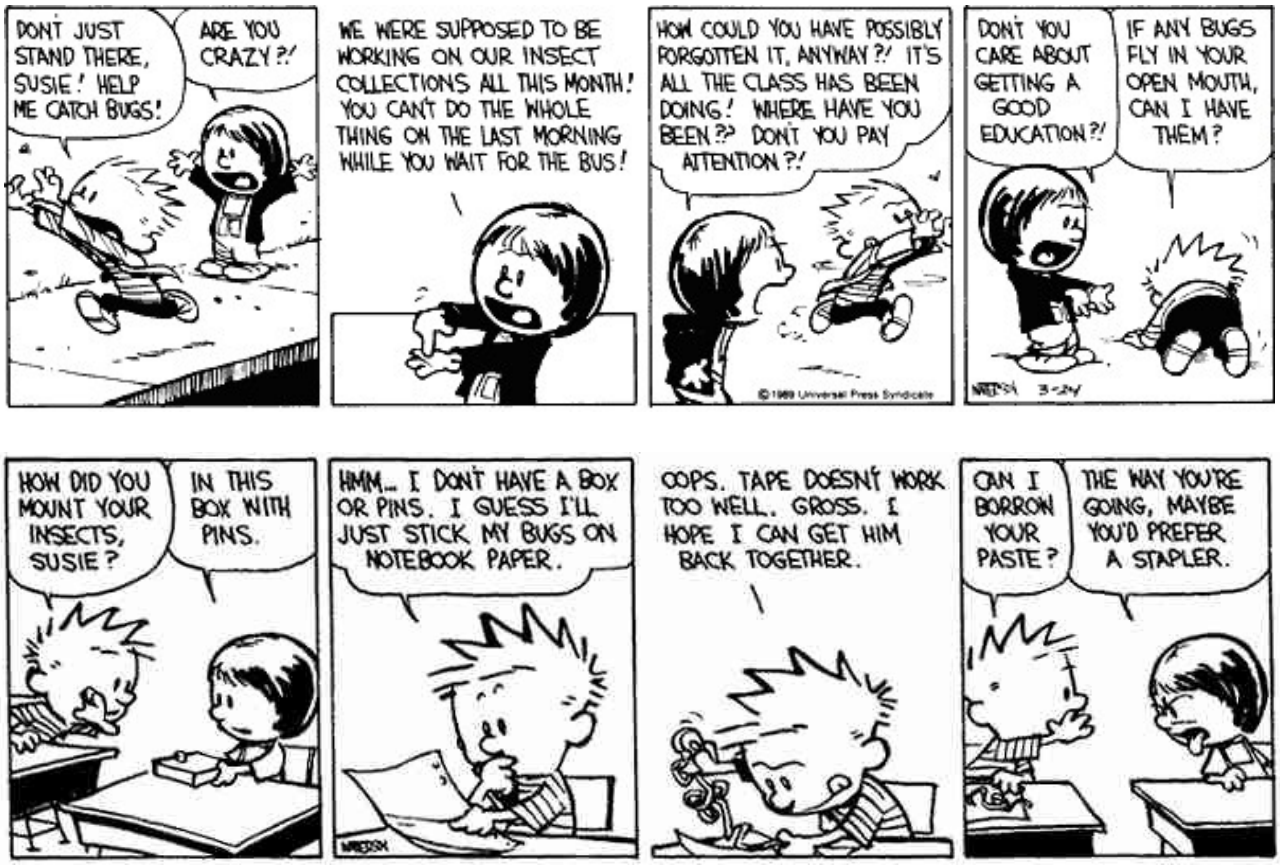
- Insects that were previously submitted for the requirement of another course **may not be included** in the collection for this class.
- Specimens included in the insect collection **must have been collected by the student** turning in the collection or another student in this in-person class this semester. I.e., no specimen trading outside of the class.
- All specimen identifications must be made by the **owner** of the collection.
- No insects may be collected from protected areas without permission. These include City Parks, State Parks, National Parks, Preserves, Reserves, Private Forests, etc. *If you are unsure, it is your responsibility to find out if collecting is permitted!*
- Rules concerning academic honesty apply to specimens, specimen labels, and field notes submitted for the collection. If you are not sure whether something is allowed, just ask!!

Submitting Your Collection

Before submitting your collection, **take a photo** for your records, then deliver it to our classroom on the due date or, if needed, arrange to deliver it to us at another time. Specimen boxes must be well sealed and pest-free; 10 points will be deducted if your collection arrives with *live* insects, such as ants or dermestid beetles, or a specimen that has not been properly killed! Make sure that EVERY item you submit has your name on it. Each box, each paper, etc.

Would you like to KEEP or DONATE your collection?

Note clearly on your collection contents list whether you would like to **KEEP** or to **DONATE** your collection. If you don't specify, your specimens will be considered a donation and be used for education and outreach. If you would like to keep your collection, you must pick it up in a reasonable time frame–no later than the first few weeks of the semester following course completion.



ENY 4161 / ENY 6166 Insect Classification

Fall, 2026
In-Person, 4 credits
T 8:30-11:30, TH 9:35-11:30

Instructor

Office: Steinmetz Hall 2107
Phone: 352-273-3952
Email address: alucky@ufl.edu
Office hours: Mondays 2-4pm

Teaching Assistant

TBD

Course Description

A practical understanding of the classification of major insect lineages, with emphasis on the identification of adult insects to family and species level. A properly curated collection is required.

Course Learning Objectives

After completing this course you should be able to:

- Identify hexapods by sight to order and to family, for the majority of common insects
- Navigate dichotomous keys to accurately identify adult insects to order and family
- Assess the quality of reference material for insect identification
- Collect insects with their associated field data in different habitats using a variety of techniques
- Curate insect specimens properly, including labeling, pinning, point mounting, and preserving in ethanol
- Summarize the key steps of the taxonomic process: how species are described, named, and classified
- Explain how key innovations in the life history of insects led to their incredible diversity
- Interpret evolutionary relationships from phylogenetic trees

Course Overview and Purpose

The goal of this course is to provide you with a sound theoretical and practical understanding of insect diversity and the practice of classifying organisms. Lectures discuss the general principles of systematics, history of insect classification, construction and use of identification tools, nomenclature, and biology and evolutionary history of the hexapod orders. We also explore why competing classifications exist in taxonomy, and what existing classifications imply about broad patterns of evolutionary change and diversification within insects. Laboratory work focuses on recognition of the major groups of insects (order and family); in-class exercises illustrate concepts discussed in lecture. A required collection refines your ability to collect and identify insects to order, family, and species. Building an insect collection with correctly identified and curated specimens, using a variety of collecting techniques, is the best way to learn, understand, and employ the methods used by professionals to classify insects, and living organisms in general.

Course Prerequisites

ENY 3005 and ENY 3005L (Principles of Entomology and Lab), or an equivalent course covering basic insect biology and classification. Students should enter this course with a solid understanding of all insect orders and familiarity with some families.

Textbooks, Learning Materials, and Supply Fees

Required textbook: C.A. Triplehorn and N.F. Johnson. 2005. Borror and DeLong's Introduction to the Study of Insects, 7th edition. Thomson Brooks/Cole, Belmont, CA.

Supply Fees: $30 for insect collecting and curation equipment.

Technical Support

UF Computing Help Desk & Ticket Number: All technical issues require a UF Helpdesk Ticket Number. The UF Helpdesk is available 24 hours a day, 7 days a week. https://helpdesk.ufl.edu/ | 352-392-4357

Weekly Course Schedule

Week	Day	Topic	Assessment
1	TH	Course Introduction & Identifying Insects	
2	T	Reading Phylogenetic Trees & Collecting Data	
	TH	Entognathous Hexapods, Early Insect Orders, & Palaeoptera	
3	T	Polyneoptera	Quiz
	TH	Insect Morphology: Pinning and Curation	Quiz
4	T	FIELD TRIP – Austin Cary Forest	
	TH	Hemipteroids + Open Lab	Quiz
5	T	Hemiptera; MINI COLLECTION DUE	Mini Collection
	TH	Exam review	
6	T	EXAM I	Exam I
	TH	Insect Evolution	
7	T	Hymenoptera	
	TH	Coleoptera, Neuroptera, & Strepsiptera	Quiz
8	T	Coleoptera, cont'd	
	TH	Open Lab	Quiz
9	T	Diptera, Mecoptera, & Siphonaptera	
	TH	Zoological Nomenclature	Quiz
10	T	Lepidoptera & Trichoptera; GRADUATE PAPER DUE	Quiz, Graduate Paper
	TH	Open lab	
11	T	Speciation and Species Concepts	Quiz
	TH	Classification, Taxonomy, Systematics, Phylogenetics	
12	T	Homology & Homoplasy	
	TH	FIELD TRIP - FL State Collection of Arthropods	
13	T	NO CLASS - HOLIDAY	
	TH	History of Insect Classification	
14	T	Insect Declines – COLLECTION DUE	Collection
	TH	Equipment Return and Exam Review	
15	T	NO CLASS – THANKSGIVING HOLIDAY	
	TH	NO CLASS – THANKSGIVING HOLIDAY	
16	T	EXAM II	Exam II

Grading Policy

The grading structure for this course differs for Undergraduate and Graduate students; assignment categories are weighed differently. There is no rounding or "bumping up" grades; requests to do so will not be considered. Course grading is consistent with UF grading policies.

Course Grading Structure

Assignment Type	Percent of Final Grade: Undergraduates	Percent of Final Grade: Graduates
Homework & Class Activities	15%	10%
Quizzes	20%	17%
Exam 1	18%	15%
Exam 2	18%	15%
Collection (+ associated documents)	29%	26%
Graduate Paper	N/A	17%
TOTAL	100%	100%

Grading Scale

Grade	Percentage
A	93-100
A-	90-92.99
B+	87-89.99
B	83-86.99
B-	80-82.99
C+	77-79.99
C	73-76.99
C-	70-72.99
D+	67-69.99
D	63-66.99
D-	60-62.99
S	<60

Academic Policies and Resources

Academic policies for this course are consistent with university policies. See https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

Campus Health and Wellness Resources

Visit https://one.uf.edu/whole-gator/topics for resources that are designed to help you thrive physically, mentally, and emotionally at UF.

Please contact UMatterWeCare for additional and immediate support.

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Attendance and Make-Up Work

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/.

Accommodations for Students with Disabilities

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center. See the "Get Started With the DRC" webpage on the Disability Resource Center site. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

In-Class Recording:

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal education use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and deliver by an instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentation such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private 3 Revised: September 2024 conversations between students in the class or between a student and the faculty or guest lecturer during a class session.

Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless, of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book,

magazine, newspaper, leaflet, or third-party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Online Course Evaluation Process

Student assessment of instruction is an important part of efforts to improve teaching and learning. Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online. Students can complete evaluations in three ways:

1. The email they receive from GatorEvals,
2. Their Canvas course menu under GatorEvals, or
3. The central portal at https://my-ufl.bluera.com

Guidance on how to provide constructive feedback is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

Academic Honesty

UF students are bound by The Honor Pledge which states "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Conduct Code specifies a number of behaviors that are in violation of this code and the possible sanctions. See the *UF Conduct Code website for more information*. If you have any questions or concerns, please consult with the instructor or TAs in this class.

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: (New Link: https://policy.ufl.edu/regulation/4-040/)

Software Use:

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Campus Helping Resources

Students experiencing crises or personal problems that interfere with their general wellbeing are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

Whole Gator App and website connects UF students with resources dedicated to supporting overall health and well-being. In addition to many of the resources below it also has strategies to practice self-care. https://one.uf.edu/whole-gator/topics

Health and Wellness

- U Matter, We Care: If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit U Matter, We Care website to refer or report a concern and a team member will reach out to the student in distress.

- Counseling and Wellness Center: Visit the Counseling and Wellness Center website or call 352-392-1575 for information on crisis services as well as non-crisis services.

- Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the Student Health Care Center website.

- University Police Department: Visit UF Police Department website or call 352-392-1111 (or 9-1-1 for emergencies).

- UF Health Shands Emergency Room / Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; Visit the UF Health Emergency Room and Trauma Center website.

- GatorWell Health Promotion Services: For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the GatorWell website or call 352-273-4450.

- Hitchcock Field and Fork Pantry. Food and toiletries for those experiencing food insecurity.

- Student Success Initiative, http://studentsuccess.ufl.edu.

Academic Resources

- E-learning technical support: Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at helpdesk@ufl.edu.

- Career Connections Center: Reitz Union Suite 1300, 352-392- 1601. Career assistance and counseling services.

- Library Support: Various ways to receive assistance with respect to using the libraries or finding resources. Call 866-281-6309 or email ask@ufl.libanswers.com for more information.

- Teaching Center: 1317 Turlington Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.

- Writing Studio: Daytime (9:30am-3:30pm): 2215 Turlington Hall, 352-846-1138 | Evening (5:00pm-7:00pm): 1545 W University Avenue (Library West, Rm. 339). Help brainstorming, formatting, and writing papers.

- Academic Complaints: Office of the Ombuds; Visit the Complaint Portal webpage for more information.

- Enrollment Management Complaints (Registrar, Financial Aid, Admissions): View the Student Complaint Procedure webpage for more information.

- *Dean of Students Office*. 202 Peabody Hall, 392-1261. Among other services, the DSO assists students who are experiencing situations that compromise their ability to attend classes. This includes family emergencies and medical issues.

Student Complaints:

- Residential Course: https://www.ombuds.ufl.edu/complaint-portal/
- Online Course: https://pfs.tnt.aa.ufl.edu/state-authorization-status/#student-complaint

Cover Sheet: Request 22571

ENY4660- Medical and Veterinary Entomology

Info

Process	Course|Modify|Ugrad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Jennifer Weeks jenweeks1@ufl.edu
Created	2/4/2026 2:55:02 PM
Updated	2/18/2026 3:15:44 PM
Description of request	Requesting the undergraduate course be changed from 2 to 3 credits based on the amount of material and work required for the course and to match the co-taught graduate version of the course that is already listed as a 3 credit course.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Entomology and Nematology 60140000	Jennifer Weeks		2/4/2026
medvetccchecklist.pdf					2/4/2026
College	Pending	CALS - College of Agricultural and Life Sciences			2/4/2026
No document changes					
University Curriculum Committee					
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Catalog					
No document changes					
Student Academic Support System					
No document changes					
College Notified					
No document changes					

Original file: Cover sheet.pdf

Course|Modify for request 22571

Info

Request: ENY4660- Medical and Veterinary Entomology
Description of request: Requesting the undergraduate course be changed from 2 to 3 credits based on the amount of material and work required for the course and to match the co-taught graduate version of the course that is already listed as a 3 credit course.
Submitter: Jennifer Weeks jenweeks1@ufl.edu
Created: 2/13/2026 12:35:53 PM
Form version: 3

Responses

Current Prefix ENY
Course Level 4
Number 660
Lab Code None
Course Title Medical and Veterinary Entomology
Effective Term Earliest Available
Effective Year Earliest Available
Requested Action Other (selecting this option opens additional form fields below)
Change Course Prefix? No

Change Course Level? No

Change Course Number? No

Change Lab Code? No

Change Course Title? No

Change Transcript Title? No

Change Credit Hours? Yes
Current Credit Hours 2
Proposed Credit Hours 3
Change Variable Credit? No

Change S/U Only? No

Change Contact Type? No

Change Rotating Topic Designation? No

Change Repeatable Credit? No

Maximum Repeatable Credits 0
Change Course Description? No

Change Prerequisites? No

Original file: Submitted form version 3.pdf

Change Co-requisites? No

Rationale The co-taught graduate version of this course is 3 credits. The amount of material and workload for the course reflects a 3 credit course. It was an error that this course that is listed as 2 credits.

Original file: Submitted form version 3.pdf

CALS Curriculum Committee
Submission Checklist

Updated January 2026

NOTE: This checklist must be included with all course and certificate submissions.

The checklist below is intended to facilitate course and certificate submissions to the University of Florida Academic Approval Tracking System (https://approval.ufl.edu/). The checklist consists of the most common items that can cause a submission to require changes or be recycled. Contrary to information provided on the UF approval site, the CALS Curriculum Committee requires a syllabus be submitted with each new course or course modification request. Please note that submitters are encouraged to attend the CALS CC meeting at which their item is being reviewed. This allows the submitter to answer any potential questions that may arise that could cause the item to not be approved. Also, be aware that when completing the UCC form the section Description of Request is asking for a brief statement about what you are doing. This is **not** the place for a course description. A statement such as "Proposal of a new undergraduate course" is all that is needed. Please do not submit documents in pdf format. All documents should be submitted in Word to facilitate editing on our end if necessary.

CHECKLIST: PLEASE INITIAL OR MARK N/A FOR EACH STATEMENT TO INDICATE YOUR COMPLIANCE.

SYLLABUS: You are encouraged to use the CALS ACCESSIBLE SYLLABUS TEMPLATE. Accessibility will be required by APRIL 2026.
****Use of Simple Syllabus will be required for Summer 2026 forward. It is slated to be released to faculty in late February 2026.****

JW It is required when making a submission that you consult your department's representative to the CALS CC. A list of current members can be found on the committee site located at: https://cals.ufl.edu/faculty-staff/committees/.

JW Submission of a course modification requires both the current version of the course syllabus and the proposed version.

JW Joint course submissions must include 1) both graduate and undergraduate syllabuses and 2) a separate document outlining the substantial (more than one) differences in assignments between the two courses. These assignments must account for at least a 15% difference in graded material between the two levels. If this is a new course submission both courses must be submitted for approval simultaneously.

JW The course description on the UCC form and in the syllabus must match and should be no longer than 500 characters. FOR AN EXITING COURSE, THE DESCRIPTION **MUST MATCH THE CATALOG DESCRIPTION**. Follow the **COURSE DESCRIPTION GUIDELINES** for new courses if not contraindicated by outside certification requirements. Any other information you wish to include needs to be under a different heading such as background or additional course information.

Original file: medvetccchecklist.pdf

JW The course learning objectives must be consistent with Bloom's taxonomy. Please see the following link at the CALS Curriculum site. (https://cals.ufl.edu/content/PDF/Faculty_Staff/cals-courseobjectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

JW The course schedule should be concise and include the appropriate number of weeks in the semester.

JW All graduate course submissions must include a reading list if a textbook is not required. The reading list should include at least some current readings (within the last 5 years). All readings do not need to be current.

JW Outside consultations are required if there is a possibility of the proposed course covering a significant amount of material taught in another department or college on campus. There must be a consult form completed by the chair of the department from who you are seeking the consult. Instructors may provide additional consults. The form can be found at: https://approval.ufl.edu/policies/external-consultations/.

JW Prerequisite courses are required for 3000 and 4000 level courses. This line of the approval form cannot be "none" or left blank. Junior or senior standing is an acceptable option. A phrase such as "a course in basic biology" is not acceptable. (Graduate courses should not have specific courses listed as prerequisites. If needed a statement of skills required prior to taking the course can be provided under other course information.)

JW Decimal points must be included in the grading scale if grade cut-offs are based on percentages. While this is not a university policy it is a CALS standard practice to avoid any confusion when final grades for the course are determined.

JW The attendance and make-up policy in a syllabus cannot contradict the university's policy. Do not include any additional wording to this policy. A statement and link regarding this are included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

JW The most recent version of the UF Syllabus Statements. Using the accessible syllabus template will ensure you have the most up to date statements. Do not use boilerplate statements from an old syllabus as they are likely to be out of date.

Certificates

If proposing a new undergraduate or graduate level certificate that includes any courses outside of the submitters department a statement regarding any possible impact on those courses needs to be included. An email from the instructor is acceptable. Also, any courses required for the certificate must have permanent prefixes and course numbers. The submission must include intended catalog copy. (Contact Dr. Anne Mathews (anne.mathews@ufl.edu) for further instruction)

Original file: medvetccchecklist.pdf

The differences between ENY 4660 and ENY 6665

1. The Notes assignment is an extra credit option for ENY 4660 and a mandatory, graded element for ENY 6665 (13% of grade).
2. The Online Discussion is assigned only to students in ENY 6665 (13% of grade).

ENY 4660 Medical and Veterinary Entomology

Fall 2026
Course Format: In-person, Credit Hours: 3

Dr. Edwin R. Burgess IV
3213 Steinmetz Hall (Entomology Bldg.)

352-273-3975

edwinburgess@ufl.edu

In-person office hours: Mon/Wed 9:30 am- 10:30 am or by appointment

Meeting Location:
Room 1031, Steinmetz (Entomology) Mondays 9:35-10:25, Wednesdays 9:35-11:30

Welcome message from Dr. Burgess:
I want to take this opportunity to welcome everyone to the class, and to encourage you to come talk to me whenever you need. Do not limit yourself to just course-relevant topics. I have a wide range of experience as an undergraduate student, medical school student, graduate student, academic advisor, instructor, researcher, etc. I am eager to listen to you and help in any way I can! I want you to have the best possible experience in this class and at the University of Florida. Let's talk!

Course Description
Presents the major insect, mite, and tick vectors of disease to humans and animals. Topics include arthropod-transmitted diseases, the interaction between pathogens and the arthropod vector, and the mechanical damage that a parasite inflicts on its host.

Course Learning Objectives
1. Identify countries and regions where prominent arthropod-borne diseases occur.
2. Recognize morphology, life cycles, biology, and disease competency of relevant arthropods.
3. Explain economic damages and public health impacts of relevant arthropods.
4. Interpret physiological terminology related to diseases and arthropod infestations.
5. Investigate emerging problems in medical and veterinary entomology.
6. Develop appropriate study skills, strategies, and habits appropriate to lifelong learning.

Course Overview and Purpose
Medical and veterinary Entomology is a guide through the world of arthropod pests of humans and animals. Here we will discuss the unique attributes these arthropods have adapted to benefit from human and animal interaction (often at our expense)! This course will focus on important aspects of their biology, damage, and control that will be transferable to a broad range of careers in numerous fields. By the end of this course, you will have a comprehensive understanding of public health and animal systems that these arthropods affect.

Course Prerequisites
ENY 3005, Principles of Entomology

Textbooks, Learning Materials, and Supply Fees

None

Technical Support

UF Computing Help Desk & Ticket Number: All technical issues require a UF Helpdesk Ticket Number. The UF Helpdesk is available 24 hours a day, 7 days a week. https://helpdesk.ufl.edu/ | 352-392-4357

Weekly Course Schedule

Week	Topic	Assessment	Due Date
1	Classes start Thursday so no meetings this week		
2	A24: Syllabus, Impact of Arthropods on Human Health A26: Epidemiology		
3	A31: Control, Economic Damage, and Eradication S2: Morphology of Parasitic Arthropods	Quiz 1	9/3
4	S7: Holiday S9: **Exam 1**		
5	14: Flies (Diptera) of Medical and Veterinary Importance 16: Bot Flies and Myiasis		
6	21: Horse Flies, Deer FLies, Soldier Flies 23: BlackFllies, Sand Flies, and Biting Midges (Leishmania)	Quiz 2	9/23
7	28: Tsetse Flies and Sheep Keds 30: **Exam 2**		
8	5: Mosquitoes- Importance and Ecology- WNV and Other Encephalitids 7: Mosquitoes- Yellow Fever, Dengue, and Zika viruses		
9	12: Mosquitoes- Malaria 1 14: Mosquitoes- Malaria 2		
10	19: Mosquitoes- Fliariasis 21: Introduction to Lice	Quiz 3	10/21
11	26: Lice- A Pest and a Vector 28: **Exam 3**		
12	2: Mites and Ticks 4: Ticks and Humans		
13	9: Holiday 11: Mites, Ticks, and Livestock Disease		
14	16: Forensic Entomology 18: Lepidoptera, Cockroaches, and Beetles	Quiz 4	11/18
15	23: No Class 25: No Class		
16	30: True Bugs- Kissing Bugs, Chagas, Bed Bugs 2: Fleas- Plague and Pandemics	Quiz 5	12/2
FINAL EXAM	**Exam 4** Thursday, December 10th @ 730-930 am in ENY 1031		

Grading Policy

Course grading is consistent with UF grading policies.

Course Grading Structure

Assignment Type	Point Value	Percent of Final Grade
Exams	4 @ 100 points each /400	73 %
10 in-class activities	10 @ 10 points each / 100	18 %
Online Quizzes	5 @ 10 points each/ 50	9 %
Notes Page (extra credit)	2 pts. Per Bullet Point (see rubric)	Variable
TOTAL	550 points	

Exams: There will be four exams. They will contain a combination of multiple choice, true/false, matching, and short answer questions. Content for each exam will come from lectures, in-class discussion, online quiz topics, and guest lecturers. You will have all class period (double period) to complete each exam. Each exam is worth 100 points.

In-class Activities: Over the course of the semester, there will be 10 collaborative exercises in class that are handed in and graded for credit. These will not be announced in advance. You must attend class to complete these activities. Each is worth 10 points.

Online Quizzes: There will be 5 online quizzes over the course of the semester. Questions are based on lectures from the weeks leading up to the quiz. Each quiz is worth 10 points.

Notes Page (**extra credit**): Like so many things in science, there are numerous exceptions to the rule. There will be an opportunity for you to turn in four nates pages immediately preceding each of the four exams that challenge the facts presented in the lecture slides. This is your change to spend some time on your own to "go down the rabbit hole" and explore deeper knowledge on the subject matter presented and discussed in class. An example of a challenge would be to look up the different reported extrinsic incubation periods of dengue virus. In class, I report it is 8-14 days but other sources like the CDC say 8-12 days. Some publications report 4-14 days. Which is correct? The answer is all of them depending on the circumstances. The rubric for the notes page will be on Canvas. This is your opportunity to get extra credit and can be used to significantly improve your grade if you are not performing as you would like on other graded elements in the course.

Grading Scale

Grade	Points	Percentage
A	511.5	93-100
A-	495	90-92.99
B+	478.5	87-89.99
B	456.5	83-86.99

Grade	Points	Percentage
B-	440	80-82.99
C+	423.5	77-79.99
C	401.5	73-76.99
C-	385	70-72.99
D+	368.5	67-69.99
D	346.5	63-66.99
D-	330	60-62.99
E	<330	< 59.99

Academic Policies and Resources

Academic policies for this course are consistent with university policies. See https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

Campus Health and Wellness Resources

Visit https://one.uf.edu/whole-gator/topics for resources that are designed to help you thrive physically, mentally, and emotionally at UF.

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Privacy and Accessibility Policies

[required for online courses, list all technology used]

- Instructure (Canvas)
  - Instructure Privacy Policy
  - Instructure Accessibility
- Zoom
  - Zoom Privacy Policy
  - Zoom Accessibility

Additional information

[Optional: Instructors may choose to clarify in their syllabus their teaching philosophy, expectations for classroom behavior, utilization of e-learning, grading rubrics, and other information that will help students succeed in the course.]

ENY 6665 Medical and Veterinary Entomology

Fall 2026
Course Format: In-person, Credit Hours: 3

Dr. Edwin R. Burgess IV
3213 Steinmetz Hall (Entomology Bldg.)

352-273-3975

edwinburgess@ufl.edu

In-person office hours: Mon/Wed 9:30 am- 10:30 am or by appointment

Meeting Location:
Room 1031, Steinmetz (Entomology) Mondays 9:35-10:25, Wednesdays 9:35-11:30

Welcome message from Dr. Burgess:
I want to take this opportunity to welcome everyone to the class, and to encourage you to come talk to me whenever you need. Do not limit yourself to just course-relevant topics. I have a wide range of experience as an undergraduate student, medical school student, graduate student, academic advisor, instructor, researcher, etc. I am eager to listen to you and help in any way I can! I want you to have the best possible experience in this class and at the University of Florida. Let's talk!

Course Description
Presents the major insect, mite, and tick vectors of disease to humans and animals. Topics include arthropod-transmitted diseases, the interaction between pathogens and the arthropod vector, and the mechanical damage that a parasite inflicts on its host.

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1. Identify countries and regions where prominent arthropod-borne diseases occur.
2. Recognize morphology, life cycles, biology, and disease competency of relevant arthropods.
3. Explain economic damages and public health impacts of relevant arthropods.
4. Interpret physiological terminology related to diseases and arthropod infestations.
5. Investigate emerging problems in medical and veterinary entomology.
6. Analyze trends and patterns presented in the literature and media relating to arthropod-borne disease cycles.
7. Develop appropriate study skills, strategies, and habits appropriate to lifelong learning.

Course Overview and Purpose
Medical and veterinary Entomology is a guide through the world of arthropod pests of humans and animals. Here we will discuss the unique attributes these arthropods have adapted to benefit from human and animal interaction (often at our expense)! This course will focus on important aspects of their biology, damage, and control that will be transferable to a broad range of careers in numerous fields. By the end of this course, you will have a comprehensive understanding of public health and animal systems that these arthropods affect.

Course Prerequisites

ENY 3005, Principles of Entomology

Textbooks, Learning Materials, and Supply Fees

None

Selected Readings (full list in Canvas):

1. Cucunubá, Zulma M. et al. The epidemiology of Chagas disease in the Americas. The Lancet Regional Health – Americas.Volume 37, 100881
2. de la Fuente, J.; Estrada-Peña, A.; Rafael, M.; Almazán, C.; Bermúdez, S.; Abdelbaset, A.E.; Kasaija, P.D.; Kabi, F.; Akande, F.A.; Ajagbe, D.O.; et al. Perception of Ticks and Tick-Borne Diseases Worldwide. *Pathogens* 2023, *12*, 1258. https://doi.org/10.3390/pathogens12101258
3. K V Smith, K L DeLong, C N Boyer, J M Thompson, S M Lenhart, W C Strickland, E R Burgess, Y Tian, J Talley, E T Machtinger, R T Trout Fryxell, A Call for the Development of a Sustainable Pest Management Program for the Economically Important Pest Flies of Livestock: a Beef Cattle Perspective, *Journal of Integrated Pest Management*, Volume 13, Issue 1, 2022, 14, https://doi.org/10.1093/jipm/pmac010
4. Maia, C. 2024. Sand fly-borne diseases in Europe: epidemiological overview and potential triggers for their emergence and re-emergence, Journal of Comparative Pathology, Volume 209, Pages 6-12,

Technical Support

UF Computing Help Desk & Ticket Number: All technical issues require a UF Helpdesk Ticket Number. The UF Helpdesk is available 24 hours a day, 7 days a week. https://helpdesk.ufl.edu/ | 352-392-4357

Weekly Course Schedule

Week	Topic	Assessment	Due Date
1	Classes start Thursday so no meetings this week		
2	A24: Syllabus, Impact of Arthropods on Human Health A26: Epidemiology		
3	A31: Control, Economic Damage, and Eradication S2: Morphology of Parasitic Arthropods	Quiz 1	9/3
4	S7: Holiday S9: **Exam 1**		
5	S14: Flies (Diptera) of Medical and Veterinary Importance S16: Bot Flies and Myiasis	Online Discussion	9/16
6	S21: Horse Flies, Deer FLies, Soldier Flies S23: BlackFllies, Sand Flies, and Biting Midges (Leishmania)	Quiz 2	9/23
7	S28: Tsetse Flies and Sheep Keds S30: **Exam 2**		
8	O5: Mosquitoes- Importance and Ecology- WNV and Other Encephalitids O7: Mosquitoes- Yellow Fever, Dengue, and Zika viruses	Online Discussion	10/7
9	O12: Mosquitoes- Malaria 1 O14: Mosquitoes- Malaria 2		
10	O19: Mosquitoes- Fliariasis O21: Introduction to Lice	Quiz 3	10/21

Week	Topic	Assessment	Due Date
11	O26: Lice- A Pest and a Vector O28: **Exam 3**		
12	N2: Mites and Ticks N4: Ticks and Humans		
13	N9: Holiday N11: Mites, Ticks, and Livestock Disease	Online Discussion	11/11
14	N16: Forensic Entomology N18: Lepidoptera, Cockroaches, and Beetles	Quiz 4	11/18
15	N23: No Class N25: No Class		
16	N30: True Bugs- Kissing Bugs, Chagas, Bed Bugs D2: Fleas- Plague and Pandemics	Quiz 5 Online Discussion	12/2 12/2
FINAL EXAM	**Exam 4** Thursday, December 10th @ 730-930 am in ENY 1031		

Grading Policy

Course grading is consistent with UF grading policies.

Course Grading Structure

Assignment Type	Point Value	Percent of Final Grade
Exams	4 @ 100 points each /400	53 %
10 in-class activities	10 @ 10 points each / 100	13 %
Online Quizzes	5 @ 10 points each/ 50	8 %
Notes Page	4 @ 25 points each/ 100	13 %
Online Discussion	4 @ 25 points each/100	13 %
TOTAL	750 points	

Exams: There will be four exams. They will contain a combination of multiple choice, true/false, matching, and short answer questions. Content for each exam will come from lectures, in-class discussion, online quiz topics, and guest lecturers. You will have all class period (double period) to complete each exam. Each exam is worth 100 points.

In-class Activities: Over the course of the semester, there will be 10 collaborative exercises in class that are handed in and graded for credit. These will not be announced in advance. You must attend class to complete these activities. Each is worth 10 points.

Online Discussions: There are four online discussions via the Canvas Discussion board based on assigned readings of the primary literature and investigations of emerging trends in arthropod-vector borne diseases. Each discussion is worth 25 points. You will receive 15 points for your post and 5 points for each of two responses to your classmates' posts. A rubric will be provided in Canvas.

Online Quizzes: There will be 5 online quizzes over the course of the semester. Questions are based on lectures from the weeks leading up to the quiz. Each quiz is worth 10 points.

Notes Page (**extra credit**): Like so many things in science, there are numerous exceptions to the rule. There will be an opportunity for you to turn in four nates pages immediately preceding each of the four exams that challenge the facts presented in the lecture slides. This is your change to spend some time on your own to "go down the rabbit hole" and explore deeper knowledge on the subject matter presented and discussed in class. An example of a challenge would be to look up the different reported extrinsic incubation periods of dengue virus. In class, I report it is 8-14 days but other sources like the CDC say 8-12 days. Some publications report 4-14 days. Which is correct? The answer is all of them depending on the circumstances. The rubric for the notes page will be on Canvas. This is your opportunity to get extra credit and can be used to significantly improve your grade if you are not performing as you would like on other graded elements in the course.

Grading Scale

Grade	Points	Percentage
A	697.5	93-100
A-	675	90-92.99
B+	652.5	87-89.99
B	622.5	83-86.99
B-	600	80-82.99
C+	577.5	77-79.99
C	547.5	73-76.99
C-	525	70-72.99
D+	502.5	67-69.99
D	472.5	63-66.99
D-	450	60-62.99
E	<450	< 59.99

Academic Policies and Resources

Academic policies for this course are consistent with university policies. See https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

Campus Health and Wellness Resources

Visit https://one.uf.edu/whole-gator/topics for resources that are designed to help you thrive physically, mentally, and emotionally at UF.

Please contact UMatterWeCare for additional and immediate support.

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Privacy and Accessibility Policies

[required for online courses, list all technology used]

- Instructure (Canvas)
  - Instructure Privacy Policy
  - Instructure Accessibility
- Zoom
  - Zoom Privacy Policy
  - Zoom Accessibility

Additional information

[Optional: Instructors may choose to clarify in their syllabus their teaching philosophy, expectations for classroom behavior, utilization of e-learning, grading rubrics, and other information that will help students succeed in the course.]

Cover Sheet: Request 22479

Prerequisite addition for WIS4501

Info

Process	Course|Modify|Ugrad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Maureen Cox mjcox@ufl.edu
Created	1/26/2026 3:02:52 PM
Updated	2/10/2026 3:38:14 PM
Description of request	WEC is requesting that WIS4601C be a prerequisite for WIS4501. This change will facilitate student success in both courses.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Wildlife Ecology and Conservation 60470000	Steven Johnson		1/27/2026
CALS Curriculum Committee Checklist.pdf					1/26/2026
College	Pending	CALS - College of Agricultural and Life Sciences			1/27/2026
No document changes					
University Curriculum Committee					
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Catalog					
No document changes					
Student Academic Support System					
No document changes					
College Notified					
No document changes					

Original file: Cover sheet.pdf

Course|Modify for request 22479

Info

Request: Prerequisite addition for WIS4501
Description of request: WEC is requesting that WIS4601C be a prerequisite for WIS4501. This change will facilitate student success in both courses.
Submitter: Maureen Cox mjcox@ufl.edu
Created: 2/10/2026 11:38:23 AM
Form version: 2

Responses

Current Prefix WIS
Course Level 4
Number 501
Lab Code None
Course Title Introduction to Wildlife Population Ecology
Effective Term Fall
Effective Year 2026
Requested Action Other (selecting this option opens additional form fields below)
Change Course Prefix? No

Change Course Level? No

Change Course Number? No

Change Lab Code? No

Change Course Title? No

Change Transcript Title? No

Change Credit Hours? No

Change Variable Credit? No

Change S/U Only? No

Change Contact Type? No

Course Type Lecture

Change Rotating Topic Designation? No

Change Repeatable Credit? No

Multiple Offerings in a Single Semester No
Change Course Description? No

Original file: Submitted form version 2.pdf

Change Course Objectives No

Change Prerequisites? Yes
Current Prerequisites Prerequisites: PCB 3063 or AGR 3303 or WIS 3553C & WIS 3401 & FNR 3500C or PCB 3601C or PCB 4043C or WIS 3404.
Proposed Prerequisites Prerequisites: WIS4601C & (PCB 3063 or AGR 3303 or WIS 3553C) & WIS 3401 & (FNR 3500C or PCB 3601C or PCB 4043C or WIS 3404).
Change Co-requisites? No

Rationale WEC Students who do not take WIS4601C and then WIS4501 have struggled with the course material in WIS4501. WIS4601C before WIS4501 has been a recommendation but now we want it to be a published prerequisite course.

Original file: Submitted form version 2.pdf

CALS Curriculum Committee
Submission Checklist

Updated January 2026

NOTE: This checklist must be included with all course and certificate submissions.

The checklist below is intended to facilitate course and certificate submissions to the University of Florida Academic Approval Tracking System (https://approval.ufl.edu/). The checklist consists of the most common items that can cause a submission to require changes or be recycled. Contrary to information provided on the UF approval site, the CALS Curriculum Committee requires a syllabus be submitted with each new course or course modification request. Please note that submitters are encouraged to attend the CALS CC meeting at which their item is being reviewed. This allows the submitter to answer any potential questions that may arise that could cause the item to not be approved. Also, be aware that when completing the UCC form the section Description of Request is asking for a brief statement about what you are doing. This is **not** the place for a course description. A statement such as "Proposal of a new undergraduate course" is all that is needed. Please do not submit documents in pdf format. All documents should be submitted in Word to facilitate editing on our end if necessary.

CHECKLIST: PLEASE INITIAL OR MARK N/A FOR EACH STATEMENT TO INDICATE YOUR COMPLIANCE.

SYLLABUS: You are encouraged to use the CALS ACCESSIBLE SYLLABUS TEMPLATE. Accessibility will be required by APRIL 2026.
****Use of Simple Syllabus will be required for Summer 2026 forward. It is slated to be released to faculty in late February 2026.****

MC It is required when making a submission that you consult your department's representative to the CALS CC. A list of current members can be found on the committee site located at: https://cals.ufl.edu/faculty-staff/committees/.

MC Submission of a course modification requires both the current version of the course syllabus and the proposed version.

N/A Joint course submissions must include 1) both graduate and undergraduate syllabuses and 2) a separate document outlining the substantial (more than one) differences in assignments between the two courses. These assignments must account for at least a 15% difference in graded material between the two levels. If this is a new course submission both courses must be submitted for approval simultaneously.

MC The course description on the UCC form and in the syllabus must match and should be no longer than 500 characters. FOR AN EXITING COURSE, THE DESCRIPTION **MUST MATCH THE CATALOG DESCRIPTION**. Follow the **COURSE DESCRIPTION GUIDELINES** for new courses if not contraindicated by outside certification requirements. Any other information you wish to include needs to be under a different heading such as background or additional course information.

Original file: CALS Curriculum Committee Checklist.pdf

MC The course learning objectives must be consistent with Bloom's taxonomy. Please see the following link at the CALS Curriculum site. (https://cals.ufl.edu/content/PDF/Faculty_Staff/cals-courseobjectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

MC The course schedule should be concise and include the appropriate number of weeks in the semester.

N/A All graduate course submissions must include a reading list if a textbook is not required. The reading list should include at least some current readings (within the last 5 years). All readings do not need to be current.

N/A Outside consultations are required if there is a possibility of the proposed course covering a significant amount of material taught in another department or college on campus. There must be a consult form completed by the chair of the department from who you are seeking the consult. Instructors may provide additional consults. The form can be found at: https://approval.ufl.edu/policies/external-consultations/.

MC Prerequisite courses are required for 3000 and 4000 level courses. This line of the approval form cannot be "none" or left blank. Junior or senior standing is an acceptable option. A phrase such as "a course in basic biology" is not acceptable. (Graduate courses should not have specific courses listed as prerequisites. If needed a statement of skills required prior to taking the course can be provided under other course information.)

MC Decimal points must be included in the grading scale if grade cut-offs are based on percentages. While this is not a university policy it is a CALS standard practice to avoid any confusion when final grades for the course are determined.

MC The attendance and make-up policy in a syllabus cannot contradict the university's policy. Do not include any additional wording to this policy. A statement and link regarding this are included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

MC The most recent version of the UF Syllabus Statements. Using the accessible syllabus template will ensure you have the most up to date statements. Do not use boilerplate statements from an old syllabus as they are likely to be out of date.

Certificates

If proposing a new undergraduate or graduate level certificate that includes any courses outside of the submitters department a statement regarding any possible impact on those courses needs to be included. An email from the instructor is acceptable. Also, any courses required for the certificate must have permanent prefixes and course numbers. The submission must include intended catalog copy. (Contact Dr. Anne Mathews (anne.mathews@ufl.edu) for further instruction)

Original file: CALS Curriculum Committee Checklist.pdf

Introduction to Wildlife Population Ecology (WIS 4501)

Miguel A. Acevedo
Co-Instructor (CI): Orlando Acevedo-Charry

Miguel's E-mail: maacevedo@ufl.edu
Miguel's Office Hours: M 3–4 pm
Miguel's Office: Bld 866 ("White House")
Orlando's E-mail: oacevedocharry@ufl.edu
Orlando's Office Hours: W 2–3pm
Orlando's Office: Bld 866 ("White House")
Class Hours: MWF, period 6 (12:50 - 13:40)
Class Room: AND0101

Figure 1: This course is part of the Affordable UF Initiative!

This syllabus is a broad description of course objectives and plan of work; it is subject to change.

1. **Codification**: WIS 4501
2. **Credits**: 3 crds
3. **Pre-requirements**: PCB 3063 OR WIS 3553C OR ARGR 3303, & FOR 3153C OR PCB 3601C OR PCB 4043C OR WIS 3404, & WIS 4601 suggested
4. **Course Description**: Fundamental concepts of population ecology and the study of how population size varies in space and time. Understanding patterns and mechanisms behind the temporal variation in abundance to explain and predict species distributions.

5. **Course Objectives**: At the completion of this course, students will be able to:

   (a) Recognize concepts and vocabulary related to population ecology applied to wildlife ecology and conservation.

   (b) Describe the key definitions in population ecology.

   (c) Interpret models that describe population size change through time.

   (d) Apply population ecology models to answer questions in wildlife ecology, conservation and management.

6. **Tentative Course Outline**:

   The weekly coverage might change as it depends on the progress of the class. The class is divided into nine sections. I: Introduction, II: Unstructured population growth models, III: Structured population growth models, IV: Metapopulation dynamics, V: Population viability analysis, VI: Species interactions, VII: Wildlife harvest, VIII: Population cycles and regulation, and IX: Life history. Readings are optional but highly recommended. There is a quiz (due Friday), a prep to complete before the lab (due Thursday), and a Group Lab exercise (due Monday after the lab) for almost each week.

Week	Content
Section I	
Week 1 (Aug 21 – 22)	• **Lab F**: Class introduction/Why study population ecology?
Section II	
Week 2 (Aug 25 – 29)	• **Lecture M**: Density independent models (exponential growth) I • **Lecture W**: Density independent models (exponential growth) II • **Lab F**: Density independent models • **Assignment 1**-*Monday*, Prep: Remembering `R` and loops • **Assignment 2**-*Thursday*, Prep: Density independent models • Read: Gotelli (Ch 1), Rockwood (Ch 1)
Week 3 (Sep 1 – 5)	• **Lecture W**: Density dependent models • **Lab F**: Density dependent models • **Assignment 1**-*Tuesday*, Lab: Density independent models • **Assignment 2**-*Thursday*, Prep: Density dependent models • Read: Gotelli (Ch 2), Rockwood (Ch 2)
Section III	
Week 4 (Sep 8 – 12)	• **Lecture M**: Life table analysis • **Lecture W**: Life table analysis II • **Lab F**: Life table analysis (R-lab 3) • **Assignment 1**-*Monday*, Lab: Density dependent models • **Assignment 2**-*Thursday*, Prep: Life table analysis. • Read: Gotelli (Ch 3), Rockwood (Ch 4)

Original file: WIS4501 Syllabus_PopEco_Fall2025-CCC.pdf

Week	Content
Week 5 (Sep 15 – 19)	• **Lecture M**: Matrix algebra • **Lecture W**: Structured population models I • **Lab F**: Structured population models I • **Assignment 1**-*Monday*, Lab: Life table analysis • **Assignment 2**-*Thursday*, Prep: Structured population models I • Read: Gotelli (Ch 3), Rockwood (Ch 4)
Week 6 (Sep 22 – 26)	• **Lecture M**: Structured population models II • **Lecture W**: Structured population models III • **Lab F**: Structure Population models II • **Assignment 1**-*Monday*, Lab: Structured population models I • **Assignment 2**-*Thursday*, Prep: Structured population models II • Read: Gotelli (Ch3), Rockwood (Ch4)
Section IV Week 7 (Sep 29 – Oct 3)	• **Lecture M**: Exam review • **Lecture W**: Work on exam • **Lecture F**: Metapopulation models I • **Assignment 1**-*Monday*, Lab: Structured population models II • Read: Gotelli (Ch4), Rockwood (Ch5)
Week 8 (Oct 6 – 10)	• **Lecture M**: Metapopulation models II • **Lecture W**: Metapopulation models III • **Lab F**: Metapopulation models • **Assignment 1**-*Thursday*, Prep: Metapopulations • Read: Hanski 1999 (Ch 4, 5)
Section V Week 9 (Oct 13 – 17)	• **Lecture M**: Population viability analysis I • **Lecture W**: Population viability analysis II - Viable Population Monitoring • **Lab F**: Homecoming (no lab) • **Assignment 1**-*Monday*, Lab: Metapopulations • **Assignment 2**-*Thursday*, Prep: Population viability analysis • Read: Rockwood (Ch1)
Section VI Week 10 (Oct 20 – 24)	• **Lecture M**: Competition • **Lecture W**: Predator-prey • **Lab F**: Lotka-Volterra • **Assignment 1**-*Thursday*, Prep: Lotka-Volterra • Read: Gotelli (Ch 5,6), Rockwood (Ch 7, 10)

Original file: WIS4501 Syllabus_PopEco_Fall2025-CCC.pdf

Week	Content
Week 11 (Oct 27 – 31)	• **Lecture M**: Disease models I • **Lecture W**: Disease models II • **Lab F**: Disease models • **Assignment 1**-*Monday*, Lab: Lotka-Volterra • **Assignment 2**-*Thursday*, Prep: Disease models • Read: Keeling and Rohani 2011 (Ch 2)
Section VII Week 12 (Nov 3 – 7)	• **Lecture M**: Exam review • **Lecture W**: Work on exam 2 • **Lab F**: Population harvest • **Assignment 1**-*Monday*, Lab: Disease models • Read: Leopold (Ch 9)
Section VIII Week 13 (Nov 10 – 14)	• **Lecture M**: Wildlife Harvest • **Lecture W**: Population cycles • **Lab F**: Population cycles (Paper discussion: Krebs et al. 1996) • **Assignment 1**-*Thursday*, Quiz on Krebs et al. 1996 • Read: Kendall et al. 1999
Section IX Week 14 (Nov 17 – Nov 21)	• **Lecture M**: Paper presentations • **Lecture W**: Paper presentations • **LAB F**: Paper presentations • **Assignment 2**-*All days*, Quiz papers • **Assignment 3**-Paper presentations • Read: Papers
Week 15 (Nov 24 – 28)	**Thanksgiving Break**
Week 16 (Dec 1 – 3)	• **Lecture M**: Guest Lecture (TBD) • **Lecture W**: Class review

7. **Educational Strategies**: We follow an active learning framework that include inquire-based lectures, analysis of the primary literature, computer exercises, group projects and group discussions

8. **Minimum resources available**: Lecture room, Computer lab, audio-visual equipment.

9. **Evaluation strategies**:

Quizzes	10%
Lab prep	30%
Group exercises	20%
Exams	40%

Every week there will be a quiz (formative assessment) due on Fridays before 11pm. Labs will have two evaluations: a *prep* and a *group project*. A prep consists of an `R` worksheet or a paper designed to give you the necessary skills to conduct the group project in the lab.

Original file: WIS4501 Syllabus_PopEco_Fall2025-CCC.pdf

Each prep will have a quiz that is due Thursdays before 11pm. Group project reports are due on the Monday following the lab before noon.

Exam 1 is scheduled for Oct 1
Exam 2 is scheduled for Nov 5
Final exam is schedule for Dec 11

10. **Grading**:

>= 93.00 %	A	90.00–92.99	A-
87.00–89.99	B+	83.00–86.99	B
80.00–82.99	B-	77.00–79.99	C+
73.00–76.99	C	70.00–72.99	C-
67.00–69.99	D+	63.00–66.99	D
60.00–62.99	D-	< 59.99	E

Information on current UF grading policies is available at https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx. CANVAS grading is a useful guide that could differ from the final grade.

11. **Textbook**: There are no book requirements for this course. However, Gotelli's "A primer of Ecology" is highly recommended for students that want to complement lecture materials. A course packet will be available electronically via CANVAS that contains required weekly readings, lecture, and lab information.

You can find complementary content on these sources:

Gotelli, N. J. (2001). A primer of ecology. Sunderland, MA: Sinauer Associates.

Hanski, I. (1999). Metapopulation ecology. Oxford University Press.

Kendall, B. E., Briggs, C. J., Murdoch, W. W., Turchin, P., Ellner, S. P., McCauley, E., ... & Wood, S. N. (1999). Why do populations cycle? A synthesis of statistical and mechanistic modeling approaches. Ecology, 80(6), 1789-1805.

Kingsland, S. E., & Kingsland, S. E. (1995). Modeling nature. University of Chicago Press.

Leopold, B. (2019). Theory of Wildlife Population Ecology. Waveland Press.

Rockwood, L. L. (2015). Introduction to population ecology. John Wiley & Sons.

12. Academic policies and resources Please, see more at https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

Original file: WIS4501 Syllabus_PopEco_Fall2025-CCC.pdf

Cover Sheet: Request 22552

Updates to ENY major specialization- Biological Science of Insects

Info

Process	Specialization|New/Modify/Close|Ugrad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Anthony Auletta anthonyauletta@ufl.edu
Created	2/2/2026 5:16:21 PM
Updated	2/2/2026 5:17:46 PM
Description of request	Minor updates to the degree audit and model semester plan for the ENY major, Biological Science of Insects specialization (to accommodate several recent updates to core courses and the inclusion of Quest 3).

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Entomology and Nematology 60140000	Jennifer Weeks		2/2/2026
Catalog Copy- Entomology & Nematology- Biological Science of Insects (Residential)- Feb 2026.docx Catalog Copy- Entomology & Nematology- Biological Science of Insects (UF Online)- Feb 2026.docx					2/2/2026 2/2/2026
College	Pending	CALS - College of Agricultural and Life Sciences			2/2/2026
No document changes					
Associate Provost for Undergraduate Affairs					
No document changes					
University Curriculum Committee					
No document changes					
Office of the Registrar					
No document changes					
Catalog					
No document changes					
Student Academic Support System					
No document changes					
College Notified					
No document changes					

Original file: Cover sheet.pdf

Specialization|Modify for request 22552

Info

Request: Updates to ENY major specialization- Biological Science of Insects
Description of request: Minor updates to the degree audit and model semester plan for the ENY major, Biological Science of Insects specialization (to accommodate several recent updates to core courses and the inclusion of Quest 3).
Submitter: Anthony Auletta anthonyauletta@ufl.edu
Created: 2/2/2026 5:01:51 PM
Form version: 1

Responses

Specialization Name Entomology & Nematology- Biological Science of Insects
Change name of Specialization No

Specialization Code BSB
Effective Term Earliest Available
Effective Year Earliest Available
Is this an Undergraduate Innovation Academy Program Yes
Current Curriculum for Specialization I. Critical Tracking Courses: Students must complete all of the following with a grade of C or above and a critical tracking GPA of at least 2.5:

(1) BSC2010 + BSC2010L (Integrated Principles of Biology 1 with Lab) [4 credits]

(2) BSC2011 + BSC2011L (Integrated Principles of Biology 2 with Lab) [4 credits]

(3) CHM2045 + CHM2045L (General Chemistry 1 with Lab) [4 credits]

(4) CHM2046 + 2046L (General Chemistry 2 with Lab) [4 credits]

(5) MAC1147 (Precalculus Algebra & Trigonometry) [4 credits] or MAC1140 (Precalculus Algebra) + MAC1114 (Trigonometry) [6 credits] or MAC2311 (Analytic Geometry & Calculus 1) [4 credits]

II. Core Requirements for the Specialization: Students must satisfy all of the requirements below with a grade of C or above in all courses:

(1) Principles of Entomology: Complete ENY3005 + ENY3005L (Principles of Entomology with Lab) [4 credits]

(2) Insect Classification: Complete ENY4161 (Insect Classification) [3 credits]

(3) Medical & Veterinary Entomology Lecture: Complete ENY4660 (Medical & Veterinary Entomology) [2 credits]

(4) Principles of Nematology: Complete NEM3002 (Principles of Nematology) [3 credits]

(5) Genetics Course [3 credits required]: Choose one of the following options: AGR3303 (Genetics) or PCB3063 (Genetics)

(6) Evolution Course [3 credits required]: Choose one of the following options: PCB4674 (Evolution) or ENY4455C (Social Insects)

(7) Ecology Course: Choose one of the following options [3 credits required]: ALS3153 (Agricultural Ecology), ENY4201 (Insect Ecology), ENY4202 (Ecology of Vector-Borne Disease), ENY4208 (Ecology & Conservation of Pollinators), ENY4210 (Insects & Wildlife), PCB4043C (General Ecology), or WIS3401 (Wildlife Ecology & Management)

(8) Insect Behavior Course [3 credits required]: Choose one of the following options: ENY3451C (Insect Behavior), ENY4453 (Behavioral Ecology & Systematics), ENY4455C (Social Insects), ENY

Original file: Submitted form version 1.pdf

4571 (Honeybee Biology), or ENY4573 (Beekeeping 1)

(9) Applied Entomology Course [3 credits required]: Choose one of the following options: ALS4161 (Exotic Species & Biosecurity Issues), ALS4162 (Consequences of Biological Invasions), ALS4163 (Challenges in Plant Resource Protection), ENY3222C (Biology & Identification of Urban Pests), ENY3225C (Principles of Urban Pest Management), ENY3510C (Turf & Ornamental Entomology), ENY4574 (Beekeeping 2), IPM3022 (Fundamentals of Pest Management), or IPM4114 (Insect Pest & Vector Management)

(10) Microbiology Course [4 credits required]: Choose one of the following options: MCB2000 + MCB2000L (Microbiology with Lab) or MCB3020 + MCB3020L (Basic Biology of Microorganisms with Lab)

(11) Statistics Course: Complete STA2023 (Intro to Statistics 1) [3 credits]

(12) Physics Course [3 credits required]: Choose one of the following options: PHY2004 + PHY2004L (Applied Physics 1 with Lab) or PHY2020 (Intro to Principles of Physics)

(13) CURE Course: Complete ENY2890C (Insect Research CURE) [3 credits]

(14) Supervised Research: Complete 3 credits of ENY4911 (Supervised Research in Entomology)

III. Elective Requirements for the Specialization: Students must satisfy all of the requirements below with a grade of C or above in all courses:

(1) Approved Biological Science Electives: Complete 21 credits of biological science electives from the list below. Other upper-division (3000- or 4000-level) biological science courses may be used as electives with prior approval from an academic advisor in the Entomology & Nematology Department.

Pre-approved electives to be listed: ALS3153, ALS4161, ALS4162, ALS4163, ENY2041C, ENY3007C, ENY3222C, ENY3225C, ENY3451C, ENY3510C, ENY3563, ENY3564L, ENY3830, ENY3830L, ENY4201, ENY4201L, ENY4202, ENY4208, ENY4210, ENY4453, ENY4455C, ENY4571, ENY4573, ENY4574, ENY4590C, ENY4592, ENY4660L, ENY4701, ENY4823, ENY4932, IPM3022, IPM4114, PMA4570C
Proposed Changes Below is the updated curriculum; summary of changes follows.

I. Critical Tracking Courses: Students must complete all of the following with a grade of C or above and a critical tracking GPA of at least 2.5:

(1) BSC2010 + BSC2010L (Integrated Principles of Biology 1 with Lab) [4 credits]

(2) BSC2011 + BSC2011L (Integrated Principles of Biology 2 with Lab) [4 credits]

(3) CHM2045 + CHM2045L (General Chemistry 1 with Lab) [4 credits]

(4) CHM2046 + 2046L (General Chemistry 2 with Lab) [4 credits]

(5) MAC1147 (Precalculus Algebra & Trigonometry) [4 credits] or MAC1140 (Precalculus Algebra) + MAC1114 (Trigonometry) [6 credits] or MAC2311 (Analytic Geometry & Calculus 1) [4 credits]

II. Core Requirements for the Specialization: Students must satisfy all of the requirements below with a grade of C or above in all courses:

(1) Principles of Entomology: Complete ENY3005 + ENY3005L (Principles of Entomology with Lab) [4 credits]

(2) Insect Classification: Complete ENY4161 (Insect Classification) [4 credits]

(3) Medical & Veterinary Entomology Lecture: Complete ENY4660 (Medical & Veterinary Entomology) [3 credits]

(4) Principles of Nematology: Complete NEM3002 (Principles of Nematology) [3 credits]

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(5) Genetics Course [3 credits required]: Choose one of the following options: AGR3303 (Genetics) or PCB3063 (Genetics)

(6) Evolution Course [3 credits required]: Choose one of the following options: PCB4674 (Evolution) or ENY4455C (Social Insects)

(7) Ecology Course: Choose one of the following options [3 credits required]: ALS3153 (Agricultural Ecology), ENY4201 (Insect Ecology), ENY4202 (Ecology of Vector-Borne Disease), ENY4208 (Ecology & Conservation of Pollinators), ENY4210 (Insects & Wildlife), PCB4043C (General Ecology), or WIS3401 (Wildlife Ecology & Management)

(8) Insect Behavior Course [3 credits required]: Choose one of the following options: ENY3451C (Insect Behavior), ENY4453 (Behavioral Ecology & Systematics), ENY4455C (Social Insects), ENY 4571 (Honeybee Biology), or ENY4573 (Beekeeping 1)

(9) Applied Entomology Course [3 credits required]: Choose one of the following options: ALS4161 (Exotic Species & Biosecurity Issues), ALS4162 (Consequences of Biological Invasions), ALS4163 (Challenges in Plant Resource Protection), ENY3222C (Biology & Identification of Urban Pests), ENY3225C (Principles of Urban Pest Management), ENY3510C (Turf & Ornamental Entomology), ENY4574 (Beekeeping 2), IPM3022 (Fundamentals of Pest Management), or IPM4114 (Insect Pest & Vector Management)

(10) Microbiology Course [4 credits required]: Choose one of the following options: MCB2000 + MCB2000L (Microbiology with Lab) or MCB3020 + MCB3020L (Basic Biology of Microorganisms with Lab)

(11) Statistics Course: Complete STA2023 (Intro to Statistics 1) [3 credits]

(12) Physics Course [3 credits required]: Choose one of the following options: PHY2004 + PHY2004L (Applied Physics 1 with Lab) or PHY2020 (Intro to Principles of Physics)

(13) CURE Course: Complete ENY2890C (Insect Research CURE) [3 credits]

(14) Supervised Research: Complete 3 credits of ENY4911 (Supervised Research in Entomology)

III. Elective Requirements for the Specialization: Students must satisfy all of the requirements below with a grade of C or above in all courses:

(1) Approved Biological Science Electives: Complete 19 credits of biological science electives from the list below. Other upper-division (3000- or 4000-level) biological science courses may be used as electives with prior approval from an academic advisor in the Entomology & Nematology Department.

Pre-approved electives to be listed: ALS3153, ALS4161, ALS4162, ALS4163, ENY2041C, ENY3007C, ENY3222C, ENY3225C, ENY3451C, ENY3510C, ENY3563, ENY3564L, ENY3830, ENY3830L, ENY4201, ENY4201L, ENY4202, ENY4208, ENY4210, ENY4453, ENY4455C, ENY4571, ENY4573, ENY4574, ENY4590C, ENY4592, ENY4660L, ENY4701, ENY4823, ENY4932, IPM3022, IPM4114, PMA4570C

Summary of Changes:
1. Insect Classification (ENY 4161) is upgraded from 3 to 4 credits [submission pending approval]
2. Medical & Veterinary Entomology (ENY 4660) is upgraded from 2 to 3 credits [submission pending approval]
3. Number of elective credits reduced from 21 to 19, to compensate for the increase in credits to ENY 4161 and ENY 4660

In addition, we have added Quest 3 to the model semester plan for this specialization (see attached catalog copy)
UF Online currciculum change Yes
Pedagogical Rationale/Justification We need to update our degree audits and model semester plans for all of our ENY major specializations to accommodate 2 recent curriculum changes: increasing ENY 4161 from 3 to 4 credits, and increasing ENY 4660 from 2 to 3 credits. In addition, we

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adjusted the number of elective requirements to maintain a 120 credit total for the degree, and we added Quest 3 to the model semester plan as required by the university.
Impact on Other Programs We anticipate no impacts to other programs outside of ENY.
Assessment Data Review See separate submissions for updates to ENY 4161 and ENY 4660 for details. The changes here are just to accommodate the changes in credits to those courses.
Academic Learning Compact and Academic Assessment Plan No impacts.
Catalog Copy Yes

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Biological Science of Insects

Entomology and Nematology are interdisciplinary biological sciences that focus on the study of insects, mites, ticks, spiders, nematodes, and related organisms. These creatures can have both helpful and harmful effects on food security, the environment, and the health of humans and other animals. Entomology and Nematology students study ecology, behavior, physiology, evolution, systematics, biodiversity conservation, arthropods of medical and veterinary significance, the management of insect/nematode pests, and invertebrates as models in many different fields of research, including biomedical sciences, bioinspired engineering, and biotechnology.

Undergraduate Catalog

- Biological Science of Insects
- Preprofessional
- Urban Pest Management

About this Program

- **College:** Agricultural and Life Sciences
- **Degree:** Bachelor of Science
- **Specializations:** Biological Science of Insects | Preprofessional | Urban Pest Management
- **Credits for Degree:** 120

To graduate with this major, students must complete all university, college, and major requirements.

Department Information

The Entomology and Nematology Department prepares students for exciting careers in a large variety of fields. Entomology and Nematology majors can enter medical, veterinary, or dental school; progress to graduate study in entomology, nematology, or any of several other biological sciences such as ecology and evolutionary biology, horticulture, or zoology; or move directly to a variety of careers (including industry and government positions) in fields such as pest management, agriculture, ecotourism, biosecurity, science policy, and education
Website

CONTACT

Email | 352.273.3974

P.O. Box 110620
1881 Natural Area Drive, Bldg. 970
STEINMETZ HALL
GAINESVILLE FL 32611-0620
Map

Curriculum

- Beekeeping Certificate
- Combination Degrees
- Entomology and Nematology
- Entomology and Nematology Minor
- Entomology and Nematology Minor UF Online
- Landscape Pest Management Certificate
- Medical Entomology Certificate
- Pest Control Technology Certificate
- Urban Pest Management Certificate

OVERVIEW TAB:

The Department of Entomology and Nematology offers the major. Faculty within the department specialize in a diverse array of fields, including systematics and evolutionary biology, ecology, behavior, physiology, medical and veterinary entomology, genomics and molecular biology, apiculture, agricultural and urban pest management, biodiversity conservation, and more. The department has a long tradition of sending students to graduate school and professional programs (including medical, veterinary, and dental school). Given the widespread importance of insects and nematodes, there are many employment opportunities for students with a degree in Entomology & Nematology.

Biological Science of Insects

The Biological Science of Insects specialization prepares students for entry to entomological careers or to graduate school in entomology, nematology, and related biological disciplines. It provides students with a solid foundation in basic and applied insect science, and students can choose to further specialize in different subdisciplines via electives. This specialization also emphasizes undergraduate research. Students complete an Insect Research CURE (Course-based Undergraduate Research Experience) as well as at least 3 credits of supervised research under the direction of faculty in the Entomology and Nematology Department.

Coursework

In addition to these courses, students must also complete all university- and college-level requirements (e.g., General Education coursework).

A grade of C or above is required for all critical tracking, core, and elective courses. Students must also maintain a cumulative GPA of at least 2.0 and a critical tracking GPA of at least 2.5.

Critical Tracking Courses

Course List		
Code	**Title**	**Credits**
BSC 2010 & 2010L	Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory 1	4
BSC 2011 & 2011L	Integrated Principles of Biology 2 and Integrated Principles of Biology Laboratory 2	4
CHM 2045 & 2045L	General Chemistry 1 and General Chemistry 1 Laboratory	4
CHM 2046 & 2046L	General Chemistry 2 and General Chemistry 2 Laboratory	4
Select one Mathematics option:		4-6
MAC 2311	Analytic Geometry and Calculus 1	
MAC 1147	Precalculus Algebra and Trigonometry	
MAC 1140 & MAC 1114	Precalculus Algebra and Trigonometry	

Core Requirements

Course List		
Code	**Title**	**Credits**
ENY 2890C	Insect Research CURE	3
ENY 3005 & 3005L	Principles of Entomology and Principles of Entomology Laboratory	4
ENY 4161	Insect Classification	~~4~~3
ENY 4660	Medical and Veterinary Entomology	~~3~~2
ENY 4911	Supervised Research in Entomology	0-3
Select one:		4
MCB 2000 & 2000L	Microbiology and Microbiology Laboratory	
MCB 3020 & 3020L	Basic Biology of Microorganisms and Laboratory for Basic Biology of Microorganisms	

Course List

Code	Title	Credits
NEM 3002	Principles of Nematology	3
Select one:		3-4
PHY 2020	Introduction to Principles of Physics	
PHY 2004 & 2004L	Applied Physics 1 and Laboratory for Applied Physics 1	
STA 2023	Introduction to Statistics 1	3
Approved Applied Entomology course [1]		3
Approved Ecology course [1]		3
Approved Evolution course [1]		3
Approved Genetics course [1]		3
Approved Insect Behavior course [1]		3

Elective Requirements

~~21~~ 19 credits of 3000/4000-level courses in Entomology and Nematology or other biological sciences[1], subject to approval by an academic advisor in the Entomology and Nematology program.

[1]

See an academic advisor in Entomology and Nematology for a list of courses that can be used to satisfy this requirement.

CRITICAL TRACKING TAB:

Critical Tracking records each student's progress in courses that are required for progress toward each major. Please note the critical-tracking requirements below on a per-semester basis.

Equivalent critical-tracking courses as determined by the State of Florida Common Course Prerequisites may be used for transfer students.

Semester 1

- Complete 2 of 5 critical-tracking courses, excluding labs:
  - BSC 2010/BSC 2010L
  - BSC 2011/BSC 2011L
  - CHM 2045/CHM 2045L
  - CHM 2046/CHM 2046L

    - (MAC 1140 and MAC 1114) or MAC 1147 or MAC 2311
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical tracking courses
- 2.0 UF GPA required

Semester 2

- Complete 1 additional critical-tracking course, excluding labs
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical tracking courses
- 2.0 UF GPA required

Semester 3

- Complete 1 additional critical-tracking course, excluding labs
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical tracking courses
- 2.0 UF GPA required

Semester 4

- Complete 1 additional critical-tracking course, excluding labs
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 5

- Complete all critical-tracking courses, including labs
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical tracking courses
- 2.0 upper-division GPA required
- 2.0 UF GPA required

Semester 6

- Complete the Evolution requirement or the Genetics requirement by taking PCB 4674, ENY 4455C, AGR 3303, or PCB 3063 (grade of C or above required)
- 2.0 upper-division GPA required
- 2.0 UF GPA required

Semester 7

- Complete at least 1 of the following upper-level entomology requirements: ENY 4161 or ENY 4660 (grade of C or above required)
- 2.0 upper-division GPA required
- 2.0 UF GPA required

Semester 8

- Complete a minimum of 3 credits of ENY 4911 (grade of C or above required)
- 2.0 upper-division GPA required
- 2.0 UF GPA required

MODEL SEMESTER PLAN TAB:

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold. These courses must be completed by the terms as listed above in the Critical Tracking criteria.

This semester plan represents an example progression through the major. Actual courses and course order may be different depending on the student's academic record and scheduling availability of courses. Prerequisites still apply. A grade of C or above is required for all critical tracking, core, and elective courses. Students must also maintain a cumulative GPA of at least 2.0 and a critical tracking GPA of at least 2.5.

Plan of Study Grid

	Semester One	**Credits**
BSC 2010 & 2010L	Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory 1 (**Critical Tracking**; State Core Gen Ed Biological Sciences)	4
Select one (**Critical Tracking**; State Core Gen Ed Mathematics): [1]		4
MAC 1147	Precalculus Algebra and Trigonometry	
MAC 2311	Analytic Geometry and Calculus 1	
State Core Gen Ed Composition (Writing Requirement: 6000 Words)		3
State Core Gen Ed Humanities		3
	Credits	14
	Semester Two	
Quest 1 (Gen Ed Humanities)		3

BSC 2011 & 2011L	Integrated Principles of Biology 2 and Integrated Principles of Biology Laboratory 2 (**Critical Tracking**; Gen Ed Biological Sciences)	4
STA 2023	Introduction to Statistics 1 (Gen Ed Mathematics)	3
State Core Gen Ed Social and Behavioral Sciences		3
Gen Ed Composition (Writing Requirement: 6000 Words)		3
	Credits	16
	Semester Three	
Select one CALS Advanced Oral Communication course:		3
AEC 3030C	Effective Oral Communication	
SPC 2608	Introduction to Public Speaking	
CHM 2045 & 2045L	General Chemistry 1 and General Chemistry 1 Laboratory (**Critical Tracking**; State Core Gen Ed Physical Sciences)	4
ENY 3005 & 3005L	Principles of Entomology and Principles of Entomology Laboratory (Gen Ed Biological Sciences)	4
Gen Ed Diversity		3
Writing course (Writing Requirement: 6000 words)		3
	Credits	17
	Semester Four	
Quest 2 (Gen Ed Social and Behavioral Sciences)		3
CHM 2046 & 2046L	General Chemistry 2 and General Chemistry 2 Laboratory (**Critical Tracking**)	4
~~ENY 2890C~~	~~Insect Research CURE~~	~~3~~
NEM 3002	Principles of Nematology	3
Gen Ed International		3
	Credits	~~16~~13
	Semester Five	
Select one Genetics course (**Critical Tracking**):		3-4
AGR 3303	Genetics (**Critical Tracking**)	
PCB 3063	Genetics (**Critical Tracking**)	
ENY 4161	Insect Classification (**Critical Tracking**)	~~3~~4
Select one Insect Behavior course:		3
ENY 3451C	Insect Behavior	
ENY 4453	Behavioral Ecology and Systematics	
ENY 4455C	Social Insects	

ENY 4571	Honey Bee Biology	
ENY 4573	Beekeeping I	
Approved electives [2]		~~6~~4
	Credits	~~15~~14-~~16~~16
	Semester Six	
Select one CALS Advanced Written Communication course (Writing Requirement: 6000 words):		3
AEC 3033C	Research and Business Writing in Agricultural and Life Sciences	
ENC 2210	Technical Writing	
ENC 3254	Professional Writing in the Discipline	
Select one Ecology course:		3-4
ALS 3153	Agricultural Ecology	
ENY 4201	Insect Ecology	
ENY 4202	Ecology of Vector-Borne Disease	
ENY 4208	Ecology and Conservation of Pollinators	
ENY 4210	Insects and Wildlife	
PCB 4043C	General Ecology	
WIS 3401	Wildlife Ecology and Management	
Select one Evolution Course (**Critical Tracking**):		3
ENY 4455C	Social Insects	
PCB 4674	Evolution	
ENY 2890C	Insect Research CURE (**Quest 3**)	3
Approved elective [2]		3
	Credits	~~12~~15-~~13~~16
	Semester Seven	
ENY 4660	Medical and Veterinary Entomology (**Critical Tracking**)	~~2~~3
Select one CALS Economics Requirement course:		3-4
AEB 2014	Economic Issues, Food and You	
AEB 3103	Principles of Food and Resource Economics	
ECO 2013	Principles of Macroeconomics	
ECO 2023	Principles of Microeconomics	
Select one Physics option:		3-4
PHY 2004 & 2004L	Applied Physics 1 and Laboratory for Applied Physics 1	
PHY 2020	Introduction to Principles of Physics	

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Approved electives [2]		6
	Credits	~~14~~15-~~16~~17
	Semester Eight	
Select one Applied Entomology course:		3
ALS 4161	Exotic Species and Biosecurity Issues	
ALS 4162	Consequences of Biological Invasions	
ALS 4163	Challenges in Plant Resource Protection	
ENY 3222C	Biology and Identification of Urban Pests	
ENY 3225C	Principles of Urban Pest Management	
ENY 3510C	Turf and Ornamental Entomology	
ENY 4574	Beekeeping II	
IPM 3022	Fundamentals of Pest Management	
IPM 4114	Insect Pest and Vector Management	
Select one Microbiology course with lab:		4
MCB 2000 & 2000L	Microbiology and Microbiology Laboratory	
MCB 3020 & 3020L	Basic Biology of Microorganisms and Laboratory for Basic Biology of Microorganisms	
ENY 4911	Supervised Research in Entomology (**Critical Tracking**) [3]	3
Approved electives [2]		6
	Credits	16
	Total Credits	120

1 This requirement can also be fulfilled by taking MAC 1140 and MAC 1114.

2 3000/4000-level courses in Entomology and Nematology or other biological sciences, subject to approval by an academic advisor in the Entomology and Nematology program.

3 To be conducted under the supervision of research faculty in the Entomology and Nematology department. See an advisor for more information.

ACADEMIC LEARNING COMPACT TAB:

The Entomology and Nematology curriculum develops an excellent knowledge base and an understanding of concepts and fundamental practices. Through formal courses, laboratory experimentation, and individual research experience, students will learn how the scientific method is applied to the biological world at the whole organism and population levels. Students will learn to evaluate hypotheses, to acquire and interpret experimental data, and to communicate results effectively in appropriate styles. Special focus will be information on insect identification, morphology, behavior, physiology, and ecology.

Before Graduating Students Must

- Pass the Entomology and Nematology competency exam, which will be tailored to individual specializations.
- Complete requirements for the baccalaureate degree, as determined by faculty.

Students in the Major Will Learn to

Student Learning Outcomes | SLOs

Content

1. Identify insects and describe and explain insect morphology, physiology, and behavior.

Critical Thinking

2. Acquire, analyze and synthesize entomological information.

Communication

3. Communicate proficiently in the sciences in oral and written forms.

Curriculum Map

I = Introduced; R = Reinforced; A = Assessed

Academic Learning Compact 3

Courses	SLO 1	SLO 2	SLO 3
AEC 3030C			A
AEC 3033C			A
ENY 3005	I, A	I, A	I
ENY 3005L	A	A	
ENY 4161	R, A		R, A

Assessment Types

- Assignments
- Exams
- Course grades
- Research collection

Biological Science of Insects

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- Undergraduate Catalog
- Colleges and Schools
- Agricultural and Life Sciences | College of
- Entomology and Nematology UF Online

Entomology and Nematology are interdisciplinary biological sciences that focus on the study of insects, mites, ticks, spiders, nematodes, and related organisms. These creatures can have both helpful and harmful effects on food security, the environment, and the health of humans and other animals. Entomology and Nematology students study ecology, behavior, physiology, evolution, systematics, biodiversity conservation, arthropods of medical and veterinary significance, the management of insect/nematode pests, and invertebrates as models in many different fields of research, including biomedical sciences, bioinspired engineering, and biotechnology.

Undergraduate Catalog

- Biological Science of Insects
- Urban Pest Management

About this Program

- **College:** Agricultural and Life Sciences
- **Degree:** Bachelor of Science
- **Specializations:** Biological Science of Insects | Urban Pest Management
- **Contact:** 1.855.99GATOR
- **Credits for Degree:** 120

To graduate with this major, students must complete all university, college, and major requirements.

Department Information

The Entomology and Nematology Department prepares students for exciting careers in a large variety of fields. Entomology and Nematology majors can enter medical, veterinary, or dental school; progress to graduate study in entomology, nematology, or any of several other biological sciences such as ecology and evolutionary biology, horticulture, or zoology; or move directly to a variety of careers (including industry and government positions) in fields such as pest management, agriculture, ecotourism, biosecurity, science policy, and education
Website

CONTACT

Email | 352.273.3974

P.O. Box 110620
1881 Natural Area Drive, Bldg. 970
STEINMETZ HALL
GAINESVILLE FL 32611-0620
Map

Curriculum

- Beekeeping Certificate
- Combination Degrees
- Entomology and Nematology
- Entomology and Nematology Minor
- Entomology and Nematology Minor UF Online
- Landscape Pest Management Certificate
- Medical Entomology Certificate
- Pest Control Technology Certificate
- Urban Pest Management Certificate

OVERVIEW TAB:

The Department of Entomology and Nematology offers the major. Faculty within the department specialize in a diverse array of fields, including systematics and evolutionary biology, ecology, behavior, physiology, medical and veterinary entomology, genomics and molecular biology, apiculture, agricultural and urban pest management, biodiversity conservation, and more. The department has a long tradition of sending students to graduate school and professional programs (including medical, veterinary, and dental school). Given the widespread importance of insects and nematodes, there are many employment opportunities for students with a degree in Entomology & Nematology.

Biological Science of Insects

The Biological Science of Insects specialization prepares students for entry to entomological careers or to graduate school in entomology, nematology, and related biological disciplines. It provides students with a solid foundation in basic and applied insect science, and students can choose to further specialize in different subdisciplines via electives. This specialization also emphasizes undergraduate research. Students complete an Insect Research CURE (Course-based Undergraduate Research Experience) as well as at least 3 credits of supervised research under the direction of faculty in the Entomology and Nematology Department.

Coursework

In addition to these courses, students must also complete all university- and college-level requirements (e.g., General Education coursework).

A grade of C or above is required for all critical tracking, core, and elective courses. Students must also maintain a cumulative GPA of at least 2.0 and a critical tracking GPA of at least 2.5.

Critical Tracking Courses

Course List		
Code	**Title**	**Credits**
BSC 2010 & 2010L	Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory 1	4
BSC 2011 & 2011L	Integrated Principles of Biology 2 and Integrated Principles of Biology Laboratory 2	4
CHM 2045 & 2045L	General Chemistry 1 and General Chemistry 1 Laboratory	4
CHM 2046 & 2046L	General Chemistry 2 and General Chemistry 2 Laboratory	4
Select one Mathematics option:		4-6
MAC 2311	Analytic Geometry and Calculus 1	
MAC 1147	Precalculus Algebra and Trigonometry	
MAC 1140 & MAC 1114	Precalculus Algebra and Trigonometry	

Core Requirements

Course List		
Code	**Title**	**Credits**
ENY 2890C	Insect Research CURE	3
ENY 3005 & 3005L	Principles of Entomology and Principles of Entomology Laboratory	4
ENY 4161	Insect Classification	~~3~~4
ENY 4660	Medical and Veterinary Entomology	~~2~~3
ENY 4911	Supervised Research in Entomology	0-3
Select one:		4
MCB 2000 & 2000L	Microbiology and Microbiology Laboratory	
MCB 3020 & 3020L	Basic Biology of Microorganisms and Laboratory for Basic Biology of Microorganisms	
NEM 3002	Principles of Nematology	3
Select one:		3-4

Course List

Code	Title	Credits
PHY 2020	Introduction to Principles of Physics	
PHY 2004 & 2004L	Applied Physics 1 and Laboratory for Applied Physics 1	
STA 2023	Introduction to Statistics 1	3
Approved Applied Entomology course [1]		3
Approved Ecology course [1]		3
Approved Evolution course [1]		3
Approved Genetics course [1]		3
Approved Insect Behavior course [1]		3

Elective Requirements

~~21~~ 19 credits of 3000/4000-level courses in Entomology and Nematology or other biological sciences[1], subject to approval by an academic advisor in the Entomology and Nematology program.

1

See an academic advisor in Entomology and Nematology for a list of courses that can be used to satisfy this requirement.

CRITICAL TRACKING TAB:

Critical Tracking records each student's progress in courses that are required for progress toward each major. Please note the critical-tracking requirements below on a per-semester basis.

Equivalent critical-tracking courses as determined by the State of Florida Common Course Prerequisites may be used for transfer students.

Semester 1

- Complete 2 of 5 critical-tracking courses, excluding labs:
  - BSC 2010/BSC 2010L
  - BSC 2011/BSC 2011L
  - CHM 2045/CHM 2045L
  - CHM 2046/CHM 2046L
  - (MAC 1140 and MAC 1114) or MAC 1147 or MAC 2311
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical tracking courses

- 2.0 UF GPA required

Semester 2

- Complete 1 additional critical-tracking course, excluding labs
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical tracking courses
- 2.0 UF GPA required

Semester 3

- Complete 1 additional critical-tracking course, excluding labs
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical tracking courses
- 2.0 UF GPA required

Semester 4

- Complete 1 additional critical-tracking course, excluding labs
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical tracking courses
- 2.0 UF GPA required

Semester 5

- Complete all critical-tracking courses, including labs
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical tracking courses
- 2.0 upper-division GPA required
- 2.0 UF GPA required

Semester 6

- Complete the Evolution requirement or the Genetics requirement by taking PCB 4674, ENY 4455C, AGR 3303, or PCB 3063 (grade of C or above required)
- 2.0 upper-division GPA required
- 2.0 UF GPA required

Semester 7

- Complete at least 1 of the following upper-level entomology requirements: ENY 4161 or ENY 4660 (grade of C or above required)
- 2.0 upper-division GPA required

- 2.0 UF GPA required

Semester 8

- Complete a minimum of 3 credits of ENY 4911 (grade of C or above required)
- 2.0 upper-division GPA required
- 2.0 UF GPA required

MODEL SEMESTER PLAN TAB:

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold. These courses must be completed by the terms as listed above in the Critical Tracking criteria.

This semester plan represents an example progression through the major. Actual courses and course order may be different depending on the student's academic record and scheduling availability of courses. Prerequisites still apply. A grade of C or above is required for all critical tracking, core, and elective courses. Students must also maintain a cumulative GPA of at least 2.0 and a critical tracking GPA of at least 2.5.

Plan of Study Grid

	Semester One	**Credits**
BSC 2010 & 2010L	Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory 1 (**Critical Tracking**; State Core Gen Ed Biological Sciences)	4
Select one (**Critical Tracking**; State Core Gen Ed Mathematics): [1]		4
MAC 1147	Precalculus Algebra and Trigonometry	
MAC 2311	Analytic Geometry and Calculus 1	
State Core Gen Ed Composition (Writing Requirement: 6000 Words)		3
State Core Gen Ed Humanities		3
	Credits	14
	Semester Two	
Quest 1 (Gen Ed Humanities)		3
BSC 2011 & 2011L	Integrated Principles of Biology 2 and Integrated Principles of Biology Laboratory 2 (**Critical Tracking**; Gen Ed Biological Sciences)	4
STA 2023	Introduction to Statistics 1 (Gen Ed Mathematics)	3
State Core Gen Ed Social and Behavioral Sciences		3
Gen Ed Composition (Writing Requirement: 6000 Words)		3
	Credits	16

	Semester Three	
Select one CALS Advanced Oral Communication course:		3
AEC 3030C	Effective Oral Communication	
SPC 2608	Introduction to Public Speaking	
CHM 2045 & 2045L	General Chemistry 1 and General Chemistry 1 Laboratory (**Critical Tracking**; State Core Gen Ed Physical Sciences)	4
ENY 3005 & 3005L	Principles of Entomology and Principles of Entomology Laboratory (Gen Ed Biological Sciences)	4
Gen Ed Diversity		3
Writing course (Writing Requirement: 6000 words)		3
	Credits	17
	Semester Four	
Quest 2 (Gen Ed Social and Behavioral Sciences)		3
CHM 2046 & 2046L	General Chemistry 2 and General Chemistry 2 Laboratory (**Critical Tracking**)	4
~~ENY 2890C~~	~~Insect Research CURE~~	~~3~~
NEM 3002	Principles of Nematology	3
Gen Ed International		3
	Credits	~~16~~13
	Semester Five	
Select one Genetics course (**Critical Tracking**):		3-4
AGR 3303	Genetics (**Critical Tracking**)	
PCB 3063	Genetics (**Critical Tracking**)	
ENY 4161	Insect Classification (**Critical Tracking**)	~~3~~4
Select one Insect Behavior course:		3
ENY 3451C	Insect Behavior	
ENY 4453	Behavioral Ecology and Systematics	
ENY 4455C	Social Insects	
ENY 4571	Honey Bee Biology	
ENY 4573	Beekeeping I	
Approved electives [2]		6
	Credits	~~15~~16-~~16~~17
	Semester Six	
Select one CALS Advanced Written Communication course (Writing Requirement: 6000 words):		3
AEC 3033C	Research and Business Writing in Agricultural and Life Sciences	
ENC 2210	Technical Writing	

ENC 3254	Professional Writing in the Discipline	
Select one Ecology course:		3-4
ALS 3153	Agricultural Ecology	
ENY 4201	Insect Ecology	
ENY 4202	Ecology of Vector-Borne Disease	
ENY 4208	Ecology and Conservation of Pollinators	
ENY 4210	Insects and Wildlife	
PCB 4043C	General Ecology	
WIS 3401	Wildlife Ecology and Management	
Select one Evolution Course (**Critical Tracking**):		3
ENY 4455C	Social Insects	
PCB 4674	Evolution	
ENY 2890C	Insect Research CURE (**Quest 3**)	3
Approved elective [2]		3
	Credits	~~12~~15-~~13~~16
	Semester Seven	
ENY 4660	Medical and Veterinary Entomology (**Critical Tracking**)	~~2~~3
Select one CALS Economics Requirement course:		3-4
AEB 2014	Economic Issues, Food and You	
AEB 3103	Principles of Food and Resource Economics	
ECO 2013	Principles of Macroeconomics	
ECO 2023	Principles of Microeconomics	
Select one Physics option:		3-4
PHY 2004 & 2004L	Applied Physics 1 and Laboratory for Applied Physics 1	
PHY 2020	Introduction to Principles of Physics	
Approved electives [2]		~~6~~4
	Credits	~~14~~13-~~16~~15
	Semester Eight	
Select one Applied Entomology course:		3
ALS 4161	Exotic Species and Biosecurity Issues	
ALS 4162	Consequences of Biological Invasions	
ALS 4163	Challenges in Plant Resource Protection	
ENY 3222C	Biology and Identification of Urban Pests	
ENY 3225C	Principles of Urban Pest Management	
ENY 3510C	Turf and Ornamental Entomology	
ENY 4574	Beekeeping II	

IPM 3022	Fundamentals of Pest Management	
IPM 4114	Insect Pest and Vector Management	
Select one Microbiology course with lab:		4
MCB 2000 & 2000L	Microbiology and Microbiology Laboratory	
MCB 3020 & 3020L	Basic Biology of Microorganisms and Laboratory for Basic Biology of Microorganisms	
ENY 4911	Supervised Research in Entomology (**Critical Tracking**) [3]	3
Approved electives [2]		6
	Credits	16
	Total Credits	120

[1] This requirement can also be fulfilled by taking MAC 1140 and MAC 1114.

[2] 3000/4000-level courses in Entomology and Nematology or other biological sciences, subject to approval by an academic advisor in the Entomology and Nematology program.

[3] To be conducted under the supervision of research faculty in the Entomology and Nematology department. See an advisor for more information.

ACADEMIC LEARNING COMPACT TAB:

The Entomology and Nematology curriculum develops an excellent knowledge base and an understanding of concepts and fundamental practices. Through formal courses, laboratory experimentation, and individual research experience, students will learn how the scientific method is applied to the biological world at the whole organism and population levels. Students will learn to evaluate hypotheses, to acquire and interpret experimental data, and to communicate results effectively in appropriate styles. Special focus will be information on insect identification, morphology, behavior, physiology, and ecology.

Before Graduating Students Must

- Pass the Entomology and Nematology competency exam, which will be tailored to individual specializations.
- Complete requirements for the baccalaureate degree, as determined by faculty.

Students in the Major Will Learn to

Student Learning Outcomes | SLOs

Content

1. Identify insects and describe and explain insect morphology, physiology, and behavior.

Critical Thinking

2. Acquire, analyze and synthesize entomological information.

Communication

3. Communicate proficiently in the sciences in oral and written forms.

Curriculum Map

I = Introduced; R = Reinforced; A = Assessed

Academic Learning Compact 3

Courses	SLO 1	SLO 2	SLO 3
AEC 3030C			A
AEC 3033C			A
ENY 3005	I, A	I, A	I
ENY 3005L	A	A	
ENY 4161	R, A		R, A

Assessment Types

- Assignments
- Exams
- Course grades
- Research collection

Cover Sheet: Request 22553

Updates to ENY major specialization- Pre-Professional

Info

Process	Specialization|New/Modify/Close|Ugrad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Anthony Auletta anthonyauletta@ufl.edu
Created	2/2/2026 5:28:27 PM
Updated	2/2/2026 5:39:15 PM
Description of request	Minor updates to the degree audit and model semester plan for the ENY major, Pre-Professional specialization (to accommodate several recent updates to core courses and the inclusion of Quest 3).

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Entomology and Nematology 60140000	Jennifer Weeks		2/2/2026
Catalog Copy- Entomology & Nematology- Preprofessional (Residential) February 2026.docx					2/2/2026
College	Pending	CALS - College of Agricultural and Life Sciences			2/2/2026
No document changes					
Associate Provost for Undergraduate Affairs					
No document changes					
University Curriculum Committee					
No document changes					
Office of the Registrar					
No document changes					
Catalog					
No document changes					
Student Academic Support System					
No document changes					
College Notified					
No document changes					

Original file: Cover sheet.pdf

Specialization|Modify for request 22553

Info

Request: Updates to ENY major specialization- Pre-Professional
Description of request: Minor updates to the degree audit and model semester plan for the ENY major, Pre-Professional specialization (to accommodate several recent updates to core courses and the inclusion of Quest 3).
Submitter: Anthony Auletta anthonyauletta@ufl.edu
Created: 2/2/2026 5:18:08 PM
Form version: 1

Responses

Specialization Name Entomology & Nematology- Pre-Professional
Change name of Specialization No

Specialization Code PRO
Effective Term Earliest Available
Effective Year Earliest Available
Is this an Undergraduate Innovation Academy Program Yes
Current Curriculum for Specialization I. Critical Tracking Courses: Students must complete all of the following with a grade of C or above and a critical tracking GPA of at least 2.5:

(1) BSC2010 + BSC2010L (Integrated Principles of Biology 1 with Lab) [4 credits]

(2) BSC2011 + BSC2011L (Integrated Principles of Biology 2 with Lab) [4 credits]

(3) CHM2045 + CHM2045L (General Chemistry 1 with Lab) [4 credits]

(4) CHM2046 + 2046L (General Chemistry 2 with Lab) [4 credits]

(5) MAC2311 (Analytic Geometry & Calculus 1) [4 credits]

II. Core Requirements for the Specialization: Students must satisfy all of the requirements below with a grade of C or above in all courses:

(1) Principles of Entomology: Complete ENY3005 + ENY3005L (Principles of Entomology with Lab) [4 credits]

(2) Insect Classification: Complete ENY4161 (Insect Classification) [3 credits]

(3) Medical & Veterinary Entomology: Complete ENY4660 + 4660L (Medical & Veterinary Entomology with Lab) [3 credits]

(4) Principles of Nematology: Complete NEM3002 (Principles of Nematology) [3 credits]

(5) Genetics Course [3 credits required]: Choose one of the following options: AGR3303 (Genetics) or PCB3063 (Genetics)

(6) Evolution Course [3 credits required]: Choose one of the following options: PCB4674 (Evolution) or ENY4455C (Social Insects)

(7) Insect Ecology or Behavior Course: Choose one of the following options [3 credits required]: ALS3153 (Agricultural Ecology), ENY3451C (Insect Behavior), ENY4201 (Insect Ecology), ENY4202 (Ecology of Vector-Borne Disease), ENY4208 (Ecology & Conservation of Pollinators), ENY4210 (Insects & Wildlife), ENY4453 (Behavioral Ecology & Systematics), ENY4455C (Social Insects), ENY4571 (Honeybee Biology), or ENY4573 (Beekeeping 1)

(8) Microbiology Course: Complete MCB3020 + MCB3020L (Basic Biology of Microorganisms with Lab) [4 credits]

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(9) Vertebrate Anatomy/Physiology Course [4 credits required]: Choose one of the following options: APK2100C (Applied Human Anatomy with Lab), APK2105C (Applied Human Physiology with Lab), ZOO3713C (Functional Vertebrate Anatomy), or ZOO4307C (Vertebrate Biodiversity)

(10) Organic Chemistry Courses [8 credits required]: Complete all of the following: CHM2210 (Organic Chemistry 1) and CHM2211 + CHM2211L (Organic Chemistry 2 with Lab)

(11) Biochemistry Course [4 credits required]: Choose one of the following options: BCH3025 (Fundamentals of Biochemistry), BCH4024 (Introduction to Biochemistry and Molecular Biology), or CHM3217 (Organic Chemistry & Biochemistry 1)

(12) Physics Courses [10 credits required]: Complete all of the following: PHY2053 + PHY2053L (Physics 1 with Lab) and PHY2054 + PHY2054L (Physics 2 with Lab)

(13) Statistics Course: Complete STA2023 (Intro to Statistics 1) [3 credits]

(14) CURE Course: Complete ENY2890C (Insect Research CURE) [3 credits]

III. Elective Requirements for the Specialization: Students must satisfy all of the requirements below with a grade of C or above in all courses:

(1) Approved Biological Science Electives: Complete 15 credits of biological science electives from the list below. Other upper-division (3000- or 4000-level) biological science courses may be used as electives with prior approval from an academic advisor in the Entomology & Nematology Department. **Proposed Changes** Below is the updated curriculum; summary of changes follows.

I. Critical Tracking Courses: Students must complete all of the following with a grade of C or above and a critical tracking GPA of at least 2.5:

(1) BSC2010 + BSC2010L (Integrated Principles of Biology 1 with Lab) [4 credits]

(2) BSC2011 + BSC2011L (Integrated Principles of Biology 2 with Lab) [4 credits]

(3) CHM2045 + CHM2045L (General Chemistry 1 with Lab) [4 credits]

(4) CHM2046 + 2046L (General Chemistry 2 with Lab) [4 credits]

(5) MAC2311 (Analytic Geometry & Calculus 1) [4 credits]

II. Core Requirements for the Specialization: Students must satisfy all of the requirements below with a grade of C or above in all courses:

(1) Principles of Entomology: Complete ENY3005 + ENY3005L (Principles of Entomology with Lab) [4 credits]

(2) Insect Classification: Complete ENY4161 (Insect Classification) [4 credits]

(3) Medical & Veterinary Entomology: Complete ENY4660 + 4660L (Medical & Veterinary Entomology with Lab) [4 credits]

(4) Principles of Nematology: Complete NEM3002 (Principles of Nematology) [3 credits]

(5) Genetics Course [3 credits required]: Choose one of the following options: AGR3303 (Genetics) or PCB3063 (Genetics)

(6) Evolution Course [3 credits required]: Choose one of the following options: PCB4674 (Evolution) or ENY4455C (Social Insects)

(7) Insect Ecology or Behavior Course: Choose one of the following options [3 credits required]: ALS3153 (Agricultural Ecology), ENY3451C (Insect Behavior), ENY4201 (Insect Ecology), ENY4202 (Ecology of Vector-Borne Disease), ENY4208 (Ecology & Conservation of Pollinators), ENY4210

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(Insects & Wildlife), ENY4453 (Behavioral Ecology & Systematics), ENY4455C (Social Insects), ENY4571 (Honeybee Biology), or ENY4573 (Beekeeping 1)

(8) Microbiology Course: Complete MCB3020 + MCB3020L (Basic Biology of Microorganisms with Lab) [4 credits]

(9) Vertebrate Anatomy/Physiology Course [4 credits required]: Choose one of the following options: APK2100C (Applied Human Anatomy with Lab), APK2105C (Applied Human Physiology with Lab), ZOO3713C (Functional Vertebrate Anatomy), or ZOO4307C (Vertebrate Biodiversity)

(10) Organic Chemistry Courses [8 credits required]: Complete all of the following: CHM2210 (Organic Chemistry 1) and CHM2211 + CHM2211L (Organic Chemistry 2 with Lab)

(11) Biochemistry Course [4 credits required]: Choose one of the following options: BCH3025 (Fundamentals of Biochemistry), BCH4024 (Introduction to Biochemistry and Molecular Biology), or CHM3217 (Organic Chemistry & Biochemistry 1)

(12) Physics Courses [10 credits required]: Complete all of the following: PHY2053 + PHY2053L (Physics 1 with Lab) and PHY2054 + PHY2054L (Physics 2 with Lab)

(13) Statistics Course: Complete STA2023 (Intro to Statistics 1) [3 credits]

(14) CURE Course: Complete ENY2890C (Insect Research CURE) [3 credits]

III. Elective Requirements for the Specialization: Students must satisfy all of the requirements below with a grade of C or above in all courses:

(1) Approved Biological Science Electives: Complete 13 credits of biological science electives from the list below. Other upper-division (3000- or 4000-level) biological science courses may be used as electives with prior approval from an academic advisor in the Entomology & Nematology Department.

Summary of Changes:
1. Insect Classification (ENY 4161) is upgraded from 3 to 4 credits [submission pending approval]
2. Medical & Veterinary Entomology (ENY 4660) is upgraded from 2 to 3 credits [submission pending approval]
3. Number of elective credits reduced from 15 to 13, to compensate for the increase in credits to ENY 4161 and ENY 4660

In addition, we have added Quest 3 to the model semester plan for this specialization (see attached catalog copy)
UF Online currciculum change No
Pedagogical Rationale/Justification We need to update our degree audits and model semester plans for all of our ENY major specializations to accommodate 2 recent curriculum changes: increasing ENY 4161 from 3 to 4 credits, and increasing ENY 4660 from 2 to 3 credits. In addition, we adjusted the number of elective requirements to maintain a 120 credit total for the degree, and we added Quest 3 to the model semester plan as required by the university.
Impact on Other Programs We anticipate no impacts to other programs outside of ENY.
Assessment Data Review See separate submissions for updates to ENY 4161 and ENY 4660 for details. The changes here are just to accommodate the changes in credits to those courses.
Academic Learning Compact and Academic Assessment Plan No changes.
Catalog Copy Yes

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Preprofessional

Entomology and Nematology are interdisciplinary biological sciences that focus on the study of insects, mites, ticks, spiders, nematodes, and related organisms. These creatures can have both helpful and harmful effects on food security, the environment, and the health of humans and other animals. Entomology and Nematology students study ecology, behavior, physiology, evolution, systematics, biodiversity conservation, arthropods of medical and veterinary significance, the management of insect/nematode pests, and invertebrates as models in many different fields of research, including biomedical sciences, bioinspired engineering, and biotechnology.

Undergraduate Catalog

- Biological Science of Insects
- Preprofessional
- Urban Pest Management

About this Program

- **College:** Agricultural and Life Sciences
- **Degree:** Bachelor of Science
- **Specializations:** Biological Science of Insects | Preprofessional | Urban Pest Management
- **Credits for Degree:** 120

To graduate with this major, students must complete all university, college, and major requirements.

Department Information

The Entomology and Nematology Department prepares students for exciting careers in a large variety of fields. Entomology and Nematology majors can enter medical, veterinary, or dental school; progress to graduate study in entomology, nematology, or any of several other biological sciences such as ecology and evolutionary biology, horticulture, or zoology; or move directly to a variety of careers (including industry and government positions) in fields such as pest management, agriculture, ecotourism, biosecurity, science policy, and education
Website

CONTACT

Email | 352.273.3974

P.O. Box 110620
1881 Natural Area Drive, Bldg. 970
STEINMETZ HALL
GAINESVILLE FL 32611-0620
Map

Curriculum

- Beekeeping Certificate
- Combination Degrees
- Entomology and Nematology
- Entomology and Nematology Minor
- Entomology and Nematology Minor UF Online
- Landscape Pest Management Certificate
- Medical Entomology Certificate
- Pest Control Technology Certificate
- Urban Pest Management Certificate

OVERVIEW TAB:

The Department of Entomology and Nematology offers the major. Faculty within the department specialize in a diverse array of fields, including systematics and evolutionary biology, ecology, behavior, physiology, medical and veterinary entomology, genomics and molecular biology, apiculture, agricultural and urban pest management, biodiversity conservation, and more. The department has a long tradition of sending students to graduate school and professional programs (including medical, veterinary, and dental school). Given the widespread importance of insects and nematodes, there are many employment opportunities for students with a degree in Entomology & Nematology.

Preprofessional

The Preprofessional specialization prepares students for professional programs in medicine, veterinary medicine, dentistry, optometry, osteopathy, and more. It is designed to help students meet the most common prerequisites for medical and veterinary school, while also providing a foundation in insect science (including medical and veterinary entomology). Students in this specialization are encouraged to meet with a pre-health advisor as well as their major advisor in Entomology & Nematology.
More Info

Specialization Coursework

Below is a summary of the critical tracking courses and core and elective requirements. In addition to these courses, students must also complete all university- and college-level requirements (e.g., General Education coursework).

A grade of C or above is required for all critical tracking, core, and elective courses. Students must also maintain a cumulative GPA of at least 2.0 and a critical tracking GPA of at least 2.5.

Critical Tracking Courses

Course List

Code	Title	Credits
BSC 2010 & 2010L	Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory 1	4
BSC 2011 & 2011L	Integrated Principles of Biology 2 and Integrated Principles of Biology Laboratory 2	4
CHM 2045 & 2045L	General Chemistry 1 and General Chemistry 1 Laboratory	4
CHM 2046 & 2046L	General Chemistry 2 and General Chemistry 2 Laboratory	4
MAC 2311	Analytic Geometry and Calculus 1	4

Core Requirements

Course List

Code	Title	Credits
CHM 2210	Organic Chemistry 1	3
CHM 2211 & 2211L	Organic Chemistry 2 and Organic Chemistry Laboratory	5
ENY 2890C	Insect Research CURE	3
ENY 3005 & 3005L	Principles of Entomology and Principles of Entomology Laboratory	4
ENY 4161	Insect Classification	~~3~~4
ENY 4660 & 4660L	Medical and Veterinary Entomology and Medical and Veterinary Entomology Laboratory	~~3~~4
MCB 3020 & 3020L	Basic Biology of Microorganisms and Laboratory for Basic Biology of Microorganisms	4
NEM 3002	Principles of Nematology	3
PHY 2053 & 2053L	Physics 1 and Laboratory for Physics 1	5

Course List

Code	Title	Credits
PHY 2054 & 2054L	Physics 2 and Laboratory for Physics 2	5
STA 2023	Introduction to Statistics 1	3
Approved Biochemistry course [1]		3
Approved Evolution course [1]		3
Approved Genetics course [1]		3
Approved Insect Ecology or Behavior course [1]		3
Approved Vertebrate Anatomy or Physiology course [1]		4

Elective Requirements

~~15~~ 13 credits of 3000- or 4000-level courses in Entomology & Nematology or other biological sciences[1], subject to approval by an academic advisor in the Entomology & Nematology program.

[1]

See an academic advisor in for a list of courses that can be used to satisfy this requirement. Students are encouraged to use their elective credits to take any other courses that are required for admission to their intended professional program. Pre-med students may wish to take biomedical science courses as electives. Pre-vet students are encouraged to take courses in animal science or veterinary science as electives.

CRITICAL TRACKING TAB:

Critical Tracking records each student's progress in courses that are required for progress toward each major. Please note the critical-tracking requirements below on a per-semester basis.

Equivalent critical-tracking courses as determined by the State of Florida Common Course Prerequisites may be used for transfer students.

Semester 1

- Complete 2 of 5 critical-tracking courses, excluding labs: BSC 2010/BSC 2010L , BSC 2011/BSC 2011L, CHM 2045/CHM 2045L, CHM 2046/CHM 2046L, MAC 2311
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical tracking courses
- 2.0 UF GPA required

Semester 2

- Complete 1 additional critical-tracking course, excluding labs
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical tracking courses
- 2.0 UF GPA required

Semester 3

- Complete 1 additional critical-tracking course, excluding labs
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical tracking courses
- 2.0 UF GPA required

Semester 4

- Complete 1 additional critical-tracking course, excluding labs
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical tracking courses
- 2.0 UF GPA required

Semester 5

- Complete all critical-tracking courses, including labs
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical tracking courses
- 2.0 upper division GPA required
- 2.0 UF GPA required

Semester 6

- Complete either the Evolution or Genetics requirement: PCB 4674, ENY 4455C, AGR 3303, or PCB 3063 (grade of C or above required)
- 2.0 upper division GPA required
- 2.0 UF GPA required

Semester 7

- Complete either CHM 2210 or PHY 2053 (grade of C or above required)
- 2.0 upper division GPA required
- 2.0 UF GPA required

Semester 8

- Complete either CHM 2211 or PHY 2054 (grade of C or above required)
- 2.0 upper division GPA required
- 2.0 UF GPA required

MODEL SEMESTER PLAN TAB:

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold. These courses must be completed by the terms as listed above in the Critical Tracking criteria.

This semester plan represents an example progression through the major. Actual courses and course order may be different depending on the student's academic record and scheduling availability of courses. Prerequisites still apply. A grade of C or above is required for all critical tracking, core, and elective courses. Students must also maintain a cumulative GPA of at least 2.0 and a critical tracking GPA of at least 2.5.

Plan of Study Grid

	Semester One	**Credits**
BSC 2010 & 2010L	Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory 1 (**Critical Tracking**; State Core Gen Ed Biological Sciences)	4
MAC 2311	Analytic Geometry and Calculus 1 (**Critical Tracking**; State Core Gen Ed Mathematics)	4
State Core Gen Ed Composition (University Writing Requirement: 6000 Words)		3
State Core Gen Ed Humanities		3
	Credits	14
	Semester Two	
Quest 1 (Gen Ed Humanities; Gen Ed Diversity Focus; University Writing Requirement: 4000 words)		3
BSC 2011 & 2011L	Integrated Principles of Biology 2 and Integrated Principles of Biology Laboratory 2 (**Critical Tracking**; Gen Ed Biological Sciences)	4
STA 2023	Introduction to Statistics 1 (Gen Ed Mathematics)	3
CALS Economics Requirement; select one:		3-4
AEB 2014	Economic Issues, Food and You	
AEB 3103	Principles of Food and Resource Economics	
ECO 2013	Principles of Macroeconomics	

ECO 2023	Principles of Microeconomics	
State Core Gen Ed Social and Behavioral Sciences		3
	Credits	16-17
	Semester Three	
CHM 2045 & 2045L	General Chemistry 1 and General Chemistry 1 Laboratory (**Critical Tracking**; Gen Ed Physical Sciences)	4
ENY 3005 & 3005L	Principles of Entomology and Principles of Entomology Laboratory (Gen Ed Biological Sciences)	4
CALS Advanced Oral Communication course; select one:		3
AEC 3030C	Effective Oral Communication	
SPC 2608	Introduction to Public Speaking	
Gen Ed Composition (University Writing Requirement: 6000 Words)		3
	Credits	14
	Semester Four	
Quest 2 (Gen Ed Social and Behavioral Sciences; Gen Ed International Focus; University Writing Requirement: 2000 words)		3
CHM 2046 & 2046L	General Chemistry 2 and General Chemistry 2 Laboratory (**Critical Tracking**)	4
~~ENY 2890C~~	~~Insect Research CURE~~	~~3~~
NEM 3002	Principles of Nematology	3
Genetics course; select one:		3-4
AGR 3303	Genetics (**Critical Tracking**)	
PCB 3063	Genetics (**Critical Tracking**)	
Approved electives [1]		4
	Credits	~~16~~17-~~17~~18
	Semester Five	
ENY 4161	Insect Classification	~~3~~4
CHM 2210	Organic Chemistry 1 (**Critical Tracking**)	3
Vertebrate Anatomy or Physiology course		4
APK 2100C	Applied Human Anatomy with Laboratory	
APK 2105C	Applied Human Physiology with Laboratory	
ZOO 3713C	Functional Vertebrate Anatomy	
ZOO 4307C	Vertebrate Biodiversity	
ENY 2890C	Insect Research CURE (**Quest 3**)	3

~~Approved electives~~ [~~1~~]		~~6~~
	Credits	~~16~~14
	Semester Six	
CHM 2211 & 2211L	Organic Chemistry 2 and Organic Chemistry Laboratory (**Critical Tracking**)	5
Evolution course; select one:		3-4
ENY 4455C	Social Insects (**Critical Tracking**)	
PCB 4674	Evolution (**Critical Tracking**)	
CALS Advanced Written Communication Course; University Writing Requirement: 6000 words; select one:		3
AEC 3033C	Research and Business Writing in Agricultural and Life Sciences	
ENC 2210	Technical Writing	
ENC 3254	Professional Writing in the Discipline	
Approved elective [1]		3
	Credits	14-15
	Semester Seven	
ENY 4660 & 4660L	Medical and Veterinary Entomology and Medical and Veterinary Entomology Laboratory	~~3~~4
PHY 2053 & 2053L	Physics 1 and Laboratory for Physics 1 (**Critical Tracking**)	5
Biochemistry course; select one:		4
BCH 3025	Fundamentals of Biochemistry	
BCH 4024	Introduction to Biochemistry and Molecular Biology	
CHM 3217	Organic Chemistry/Biochemistry 1	
Approved elective [1]		3
	Credits	~~15~~16
	Semester Eight	
PHY 2054 & 2054L	Physics 2 and Laboratory for Physics 2 (**Critical Tracking**)	5
MCB 3020 & 3020L	Basic Biology of Microorganisms and Laboratory for Basic Biology of Microorganisms	4
Insect Ecology or Behavior course; select one:		3
ALS 3153	Agricultural Ecology	
ENY 3451C	Insect Behavior	
ENY 4201	Insect Ecology	
ENY 4202	Ecology of Vector-Borne Disease	
ENY 4208	Ecology and Conservation of Pollinators	

ENY 4210	Insects and Wildlife	
ENY 4453	Behavioral Ecology and Systematics	
ENY 4455C	Social Insects	
ENY 4571	Honey Bee Biology	
ENY 4573	Beekeeping I	
Approved elective [1]		3
	Credits	15
	Total Credits	120

[1]

3000- or 4000-level courses in Entomology & Nematology or other biological sciences, subject to approval by an academic advisor in the Entomology & Nematology program.

ACADEMIC LEARNING COMPACT TAB:

The Entomology and Nematology curriculum develops an excellent knowledge base and an understanding of concepts and fundamental practices. Through formal courses, laboratory experimentation, and individual research experience, students will learn how the scientific method is applied to the biological world at the whole organism and population levels. Students will learn to evaluate hypotheses, to acquire and interpret experimental data, and to communicate results effectively in appropriate styles. Special focus will be information on insect identification, morphology, behavior, physiology, and ecology.

Before Graduating Students Must

- Pass the Entomology and Nematology competency exam, which will be tailored to individual specializations.
- Complete requirements for the baccalaureate degree, as determined by faculty.

Students in the Major Will Learn to

Student Learning Outcomes | SLOs

Content

1. Identify insects and describe and explain insect morphology, physiology, and behavior.

Critical Thinking

2. Acquire, analyze and synthesize entomological information.

Communication

3. Communicate proficiently in the sciences in oral and written forms.

Curriculum Map

I = Introduced; R = Reinforced; A = Assessed

Academic Learning Compact 3

Courses	SLO 1	SLO 2	SLO 3
AEC 3030C			A
AEC 3033C			A
ENY 3005	I, A	I, A	I
ENY 3005L	A	A	
ENY 4161	R, A		R, A

Assessment Types

- Assignments
- Exams
- Course grades
- Research collection

Cover Sheet: Request 22554

Updates to ENY major specialization- Urban Pest Management

Info

Process	Specialization|New/Modify/Close|Ugrad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Anthony Auletta anthonyauletta@ufl.edu
Created	2/2/2026 5:34:24 PM
Updated	2/2/2026 5:38:47 PM
Description of request	Minor updates to the degree audit and model semester plan for the ENY major, Urban Pest Management specialization (to accommodate several recent updates to core courses and the inclusion of Quest 3).

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Entomology and Nematology 60140000	Jennifer Weeks		2/2/2026
Catalog Copy- Entomology & Nematology- Urban Pest Management (Residential) Feb 2026.docx Catalog Copy- Entomology & Nematology- Urban Pest Management (UF Online) Feb 2026.docx					2/2/2026 2/2/2026
College	Pending	CALS - College of Agricultural and Life Sciences			2/2/2026
No document changes					
Associate Provost for Undergraduate Affairs					
No document changes					
University Curriculum Committee					
No document changes					
Office of the Registrar					
No document changes					
Catalog					
No document changes					
Student Academic Support System					
No document changes					
College Notified					
No document changes					

Original file: Cover sheet.pdf

Specialization|Modify for request 22554

Info

Request: Updates to ENY major specialization- Urban Pest Management
Description of request: Minor updates to the degree audit and model semester plan for the ENY major, Urban Pest Management specialization (to accommodate several recent updates to core courses and the inclusion of Quest 3).
Submitter: Anthony Auletta anthonyauletta@ufl.edu
Created: 2/2/2026 5:30:14 PM
Form version: 1

Responses

Specialization Name Entomology & Nematology- Urban Pest Management
Change name of Specialization No

Specialization Code UPM
Effective Term Earliest Available
Effective Year Earliest Available
Is this an Undergraduate Innovation Academy Program Yes
Current Curriculum for Specialization I. Critical Tracking Courses: Students must complete all of the following with a grade of C or above and a critical tracking GPA of at least 2.5:

(1) BSC2010 + BSC2010L (Integrated Principles of Biology 1 with Lab) [4 credits]

(2) BSC2011 + BSC2011L (Integrated Principles of Biology 2 with Lab) [4 credits]

(3) CHM2045 + CHM2045L (General Chemistry 1 with Lab) [4 credits]

(4) PHY2004 + 2004L (Applied Physics 1 with Lab) [4 credits] or PHY2020 (Intro to Principles of Physics) [3 credits] *(5) MAC1147 (Precalculus Algebra & Trigonometry) [4 credits] or MAC1140 (Precalculus Algebra) + MAC1114 (Trigonometry) [6 credits] or MAC2311 (Analytic Geometry & Calculus 1) [4 credits]

II. Core Requirements for the Specialization: Students must satisfy all of the requirements below with a grade of C or above in all courses:

(1) Principles of Entomology: Complete ENY3005 + ENY3005L (Principles of Entomology with Lab) [4 credits]

(2) Insect Classification: Complete ENY4161 (Insect Classification) [3 credits]

(3) Medical & Veterinary Entomology Lecture: Complete ENY4660 (Medical & Veterinary Entomology) [2 credits]

(4) Principles of Nematology: Complete NEM3002 (Principles of Nematology) [3 credits]

(5) Urban Entomology Core Courses [6 credits required]: Complete all of the following: ENY3222C (Biology & Identification of Urban Pests) and ENY3225C (Principles of Urban Pest Management)

(6) Integrated Pest Management Course [3 credits required]: Choose one of the following options: IPM3022 (Fundamentals of Pest Management) or IPM4114 (Insect Pest & Vector Management)

(7) Turf & Ornamental Entomology: Complete ENY3510C (Turf & Ornamental Entomology) [3 credits]

(8) Ecology Course [3 credits required]: Choose one of the following options: ALS3153 (Agricultural Ecology), ENY4201 (Insect Ecology), ENY4202 (Ecology of Vector-Borne Disease), ENY4208 (Ecology & Conservation of Pollinators), ENY4210 (Insects & Wildlife), PCB4043C (General Ecology), or WIS3401 (Wildlife Ecology & Management)

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(9) Insect Behavior Course [3 credits required]: Choose one of the following options: ENY3451C (Insect Behavior), ENY4453 (Behavioral Ecology & Systematics), ENY4455C (Social Insects), ENY4571 (Honeybee Biology), or ENY4573 (Beekeeping 1)

(10) Biosecurity and Invasive Species Course [3 credits required]: Choose one of the following options: ALS4161 (Exotic Species & Biosecurity Issues), ALS4162 (Consequences of Biological Invasions), or ALS4163 (Challenges in Plant Resource Protection)

(11) Microbiology Course [4 credits required]: Choose one of the following options: MCB2000 + MCB2000L (Microbiology with Lab) or MCB3020 + MCB3020L (Basic Biology of Microorganisms with Lab)

(12) Built Environment Courses [6 credits required]: Choose two of the following options: AEB4085 (Agricultural Risk Management and the Law), AEB4123 (Agricultural and Natural Resource Law), ALS 3133 (Agricultural and Environmental Quality), AOM3220 (Agricultural Construction and Maintenance), AOM3734 (Irrigation Principles and Practices in Florida), BCN1210 (Construction Materials), FOR4664 (Sustainable Ecotourism Development), HSC4507 (Environmental Toxicology in Public Health), or SWS3022 (Introduction to Soils in the Environment)

(13) Statistics Course: Complete STA2023 (Intro to Statistics 1) [3 credits]

(14) Pest Management Internship: Complete ENY4230 (Urban Pesticide Application) [3 credits]

III. Elective Requirements for the Specialization: Students must satisfy all of the requirements below with a grade of C or above in all courses:

(1) Approved Biological Science Electives: Complete 13 credits of biological science electives from the list below. Other upper-division (3000- or 4000-level) biological science courses may be used as electives with prior approval from an academic advisor in the Entomology & Nematology Department.

Pre-approved electives to be listed: ALS3153, ALS4161, ALS4162, ALS4163, ENY2041C, ENY3007C, ENY3222C, ENY3225C, ENY3451C, ENY3510C, ENY3563, ENY3564L, ENY3830, ENY3830L, ENY4201, ENY4201L, ENY4202, ENY4208, ENY4210, ENY4453, ENY4455C, ENY4571, ENY4573, ENY4574, ENY4590C, ENY4592, ENY4660L, ENY4701, ENY4823, ENY4932, IPM3022, IPM4114, PMA4570C

(2) Approved Business Electives: Complete 9 credits of business electives from the list below. Other business courses may be used as electives with prior approval from an academic advisor in the Entomology & Nematology Department.

Pre-approved electives to be listed: ACG2021, AEB4424, BUL4310, ENT3003, ENT4614, FIN3403, MAN3025, MAR3023, MAR4403, MAR4832
Proposed Changes Below is the updated curriculum; summary of changes follows.

I. Critical Tracking Courses: Students must complete all of the following with a grade of C or above and a critical tracking GPA of at least 2.5:

(1) BSC2010 + BSC2010L (Integrated Principles of Biology 1 with Lab) [4 credits]

(2) BSC2011 + BSC2011L (Integrated Principles of Biology 2 with Lab) [4 credits]

(3) CHM2045 + CHM2045L (General Chemistry 1 with Lab) [4 credits]

(4) PHY2004 + 2004L (Applied Physics 1 with Lab) [4 credits] or PHY2020 (Intro to Principles of Physics) [3 credits] *(5) MAC1147 (Precalculus Algebra & Trigonometry) [4 credits] or MAC1140 (Precalculus Algebra) + MAC1114 (Trigonometry) [6 credits] or MAC2311 (Analytic Geometry & Calculus 1) [4 credits]

II. Core Requirements for the Specialization: Students must satisfy all of the requirements below with a grade of C or above in all courses:

(1) Principles of Entomology: Complete ENY3005 + ENY3005L (Principles of Entomology with Lab) [4

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credits]

(2) Insect Classification: Complete ENY4161 (Insect Classification) [4 credits]

(3) Medical & Veterinary Entomology Lecture: Complete ENY4660 (Medical & Veterinary Entomology) [3 credits]

(4) Principles of Nematology: Complete NEM3002 (Principles of Nematology) [3 credits]

(5) Urban Entomology Core Courses [6 credits required]: Complete all of the following: ENY3222C (Biology & Identification of Urban Pests) and ENY3225C (Principles of Urban Pest Management)

(6) Integrated Pest Management Course [3 credits required]: Choose one of the following options: IPM3022 (Fundamentals of Pest Management) or IPM4114 (Insect Pest & Vector Management)

(7) Turf & Ornamental Entomology: Complete ENY3510C (Turf & Ornamental Entomology) [3 credits]

(8) Ecology Course [3 credits required]: Choose one of the following options: ALS3153 (Agricultural Ecology), ENY4201 (Insect Ecology), ENY4202 (Ecology of Vector-Borne Disease), ENY4208 (Ecology & Conservation of Pollinators), ENY4210 (Insects & Wildlife), PCB4043C (General Ecology), or WIS3401 (Wildlife Ecology & Management)

(9) Insect Behavior Course [3 credits required]: Choose one of the following options: ENY3451C (Insect Behavior), ENY4453 (Behavioral Ecology & Systematics), ENY4455C (Social Insects), ENY4571 (Honeybee Biology), or ENY4573 (Beekeeping 1)

(10) Biosecurity and Invasive Species Course [3 credits required]: Choose one of the following options: ALS4161 (Exotic Species & Biosecurity Issues), ALS4162 (Consequences of Biological Invasions), or ALS4163 (Challenges in Plant Resource Protection)

(11) Microbiology Course [4 credits required]: Choose one of the following options: MCB2000 + MCB2000L (Microbiology with Lab) or MCB3020 + MCB3020L (Basic Biology of Microorganisms with Lab)

(12) Built Environment Courses [6 credits required]: Choose two of the following options: AEB4085 (Agricultural Risk Management and the Law), AEB4123 (Agricultural and Natural Resource Law), ALS 3133 (Agricultural and Environmental Quality), AOM3220 (Agricultural Construction and Maintenance), AOM3734 (Irrigation Principles and Practices in Florida), BCN1210 (Construction Materials), FOR4664 (Sustainable Ecotourism Development), HSC4507 (Environmental Toxicology in Public Health), or SWS3022 (Introduction to Soils in the Environment)

(13) Statistics Course: Complete STA2023 (Intro to Statistics 1) [3 credits]

(14) Pest Management Internship: Complete ENY4230 (Urban Pesticide Application) [3 credits]

III. Elective Requirements for the Specialization: Students must satisfy all of the requirements below with a grade of C or above in all courses:

(1) Approved Biological Science Electives: Complete 12 credits of biological science electives from the list below. Other upper-division (3000- or 4000-level) biological science courses may be used as electives with prior approval from an academic advisor in the Entomology & Nematology Department.

Pre-approved electives to be listed: ALS3153, ALS4161, ALS4162, ALS4163, ENY2041C, ENY3007C, ENY3222C, ENY3225C, ENY3451C, ENY3510C, ENY3563, ENY3564L, ENY3830, ENY3830L, ENY4201, ENY4201L, ENY4202, ENY4208, ENY4210, ENY4453, ENY4455C, ENY4571, ENY4573, ENY4574, ENY4590C, ENY4592, ENY4660L, ENY4701, ENY4823, ENY4932, IPM3022, IPM4114, PMA4570C

(2) Approved Business Electives: Complete 8 credits of business electives from the list below. Other business courses may be used as electives with prior approval from an academic advisor in the Entomology & Nematology Department.

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Pre-approved electives to be listed: ACG2021, AEB4424, BUL4310, ENT3003, ENT4614, FIN3403, MAN3025, MAR3023, MAR4403, MAR4832

Summary of Changes:
1. Insect Classification (ENY 4161) is upgraded from 3 to 4 credits [submission pending approval]
2. Medical & Veterinary Entomology (ENY 4660) is upgraded from 2 to 3 credits [submission pending approval]
3. Number of business elective credits reduced from 9 to 8, to compensate for the increase in credits to ENY 4161 and ENY 4660
4. Number of science elective credits reduced from 13 to 12, to compensate for the increase in credits to ENY 4161 and ENY 4660

In addition, we have added Quest 3 to the model semester plan for this specialization (see attached catalog copy)
UF Online currciculum change Yes
Pedagogical Rationale/Justification We need to update our degree audits and model semester plans for all of our ENY major specializations to accommodate 2 recent curriculum changes: increasing ENY 4161 from 3 to 4 credits, and increasing ENY 4660 from 2 to 3 credits. In addition, we adjusted the number of elective requirements to maintain a 120 credit total for the degree, and we added Quest 3 to the model semester plan as required by the university.
Impact on Other Programs We anticipate no impacts to other programs outside of ENY.

Assessment Data Review See separate submissions for updates to ENY 4161 and ENY 4660 for details. The changes here are just to accommodate the changes in credits to those courses.

Academic Learning Compact and Academic Assessment Plan No changes.
Catalog Copy Yes

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Urban Pest Management

Entomology and Nematology are interdisciplinary biological sciences that focus on the study of insects, mites, ticks, spiders, nematodes, and related organisms. These creatures can have both helpful and harmful effects on food security, the environment, and the health of humans and other animals. Entomology and Nematology students study ecology, behavior, physiology, evolution, systematics, biodiversity conservation, arthropods of medical and veterinary significance, the management of insect/nematode pests, and invertebrates as models in many different fields of research, including biomedical sciences, bioinspired engineering, and biotechnology.

Undergraduate Catalog

- Biological Science of Insects
- Preprofessional
- Urban Pest Management

About this Program

- **College:** Agricultural and Life Sciences
- **Degree:** Bachelor of Science
- **Specializations:** Biological Science of Insects | Preprofessional | Urban Pest Management
- **Credits for Degree:** 120

To graduate with this major, students must complete all university, college, and major requirements.

Department Information

The Entomology and Nematology Department prepares students for exciting careers in a large variety of fields. Entomology and Nematology majors can enter medical, veterinary, or dental school; progress to graduate study in entomology, nematology, or any of several other biological sciences such as ecology and evolutionary biology, horticulture, or zoology; or move directly to a variety of careers (including industry and government positions) in fields such as pest management, agriculture, ecotourism, biosecurity, science policy, and education
Website

CONTACT

Email | 352.273.3974

P.O. Box 110620
1881 Natural Area Drive, Bldg. 970
STEINMETZ HALL
GAINESVILLE FL 32611-0620
Map

Curriculum

- Beekeeping Certificate
- Combination Degrees
- Entomology and Nematology
- Entomology and Nematology Minor
- Entomology and Nematology Minor UF Online
- Landscape Pest Management Certificate
- Medical Entomology Certificate
- Pest Control Technology Certificate
- Urban Pest Management Certificate

OVERVIEW TAB:

The Department of Entomology and Nematology offers the major. Faculty within the department specialize in a diverse array of fields, including systematics and evolutionary biology, ecology, behavior, physiology, medical and veterinary entomology, genomics and molecular biology, apiculture, agricultural and urban pest management, biodiversity conservation, and more. The department has a long tradition of sending students to graduate school and professional programs (including medical, veterinary, and dental school). Given the widespread importance of insects and nematodes, there are many employment opportunities for students with a degree in Entomology & Nematology.

Urban Pest Management

The Urban Pest Management specialization prepares students for entry to careers in the pest control industry. It provides students with a foundation in the biology of insects, nematodes, and other organisms, with an emphasis on applications of entomology to solve pest problems in residential and commercial properties. This specialization includes a hands-on internship with pest control specialists as well as several business electives to prepare students for management responsibilities in industry careers. Students who plan to attend graduate school for urban entomology should consider the Biological Science of Insects specialization with urban entomology electives instead.

COURSEWORK

In addition to these courses, students must also complete all university- and college-level requirements (e.g., General Education coursework).

A grade of C or above is required for all critical tracking, core, and elective courses. Students must also maintain a cumulative GPA of at least 2.0 and a critical tracking GPA of at least 2.5.

Critical Tracking Courses

Course List

Code	Title	Credits
BSC 2010 & 2010L	Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory 1	4
BSC 2011 & 2011L	Integrated Principles of Biology 2 and Integrated Principles of Biology Laboratory 2	4
CHM 2045 & 2045L	General Chemistry 1 and General Chemistry 1 Laboratory	4
Select one Mathematics option:		4-6
MAC 2311	Analytic Geometry and Calculus 1	
MAC 1147	Precalculus Algebra and Trigonometry	
MAC 1140 & MAC 1114	Precalculus Algebra and Trigonometry	
Select one Physics option:		3-4
PHY 2004 & 2004L	Applied Physics 1 and Laboratory for Applied Physics 1	
PHY 2020	Introduction to Principles of Physics	

Core Requirements

Course List

Code	Title	Credits
ENY 3005 & 3005L	Principles of Entomology and Principles of Entomology Laboratory	4
ENY 3222C	Biology and Identification of Urban Pests	3
ENY 3225C	Principles of Urban Pest Management	3
ENY 3510C	Turf and Ornamental Entomology	3
ENY 4161	Insect Classification	~~3~~4
ENY 4230	Urban Pesticide Application	1-6
ENY 4660	Medical and Veterinary Entomology	~~2~~3
IPM 3022	Fundamentals of Pest Management	3

Course List

Code	Title	Credits
or IPM 4114	Insect Pest and Vector Management	
Select one:		4
MCB 2000 & 2000L	Microbiology and Microbiology Laboratory	
MCB 3020 & 3020L	Basic Biology of Microorganisms and Laboratory for Basic Biology of Microorganisms	
NEM 3002	Principles of Nematology	3
STA 2023	Introduction to Statistics 1	3
Approved Ecology course [1]		3
Approved Biosecurity course [1]		3
Approved Insect Behavior course [1]		3
2 Approved Built Environment courses [1]		6

Elective Requirements

- ~~13~~ 12 credits of 3000/4000-level courses in Entomology and Nematology or other biological sciences[1], subject to approval by an academic advisor in the Entomology and Nematology program.
- ~~9~~ 8 credits of business electives[1], subject to approval by an academic advisor in the Entomology and Nematology program.

[1] See an academic advisor in Entomology and Nematology for a list of courses that can be used to satisfy this requirement.

CRITICAL TRACKING TAB:

Critical Tracking records each student's progress in courses that are required for progress toward each major. Please note the critical-tracking requirements below on a per-semester basis.

Equivalent critical-tracking courses as determined by the State of Florida Common Course Prerequisites may be used for transfer students.

SEMESTER 1

- Complete 2 of 5 critical-tracking courses, excluding labs:
  - BSC 2010/BSC 2010L

    - BSC 2011/BSC 2011L
    - CHM 2045/CHM 2045L
    - (PHY 2004/PHY 2004L) or PHY 2020
    - (MAC 1140 and MAC 1114) or MAC 1147 or MAC 2311
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical tracking courses
- 2.0 UF GPA required

SEMESTER 2

- Complete 1 additional critical-tracking course, excluding labs
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical tracking courses
- 2.0 UF GPA required

SEMESTER 3

- Complete 1 additional critical-tracking course, excluding labs
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical tracking courses
- 2.0 UF GPA required

SEMESTER 4

- Complete 1 additional critical-tracking course, excluding labs
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical tracking courses
- 2.0 UF GPA required

SEMESTER 5

- Complete all critical-tracking courses, including labs
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical tracking courses
- 2.0 upper-division GPA required
- 2.0 UF GPA required

SEMESTER 6

- Complete at least 1 Urban Entomology courses: ENY 3222C or ENY 3225C (grade of C or above required)
- 2.0 upper-division GPA required
- 2.0 UF GPA required

SEMESTER 7

- Complete at least 1 of the following upper-level entomology requirements: ENY 4161 or ENY 4660 (grade of C or above required)
- 2.0 upper-division GPA required
- 2.0 UF GPA required

SEMESTER 8

- Complete a minimum of 3 credits of ENY 4230 (grade of C or above required)
- 2.0 upper-division GPA required
- 2.0 UF GPA required

MODEL SEMESTER PLAN TAB:

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold. These courses must be completed by the terms as listed above in the Critical Tracking criteria.

This semester plan represents an example progression through the major. Actual courses and course order may be different depending on the student's academic record and scheduling availability of courses. Prerequisites still apply. A grade of C or above is required for all critical tracking, core, and elective courses. Students must also maintain a cumulative GPA of at least 2.0 and a critical tracking GPA of at least 2.5.

Plan of Study Grid

	Semester One	**Credits**
BSC 2010 & 2010L	Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory 1 (**Critical Tracking**; State Core Gen Ed Biological Sciences)	4
Select one (**Critical Tracking**; State Core Gen Ed Mathematics): [1]		4
MAC 1147	Precalculus Algebra and Trigonometry	
MAC 2311	Analytic Geometry and Calculus 1	
State Core Gen Ed Composition (Writing Requirement: 6000 Words)		3
State Core Gen Ed Humanities		3
	Credits	14
	Semester Two	
Quest 1 (Gen Ed Humanities with Diversity)		3

BSC 2011 & 2011L	Integrated Principles of Biology 2 and Integrated Principles of Biology Laboratory 2 (**Critical Tracking**; Gen Ed Biological Sciences)	4
STA 2023	Introduction to Statistics 1 (Gen Ed Mathematics)	3
State Core Gen Ed Social and Behavioral Sciences		3
Gen Ed Composition (Writing Requirement: 6000 Words)		3
	Credits	16
	Semester Three	
Quest 2 (Gen Ed Social and Behavioral Sciences with International)		3
CHM 2045 & 2045L	General Chemistry 1 and General Chemistry 1 Laboratory (**Critical Tracking**; State Core Gen Ed Physical Sciences)	4
ENY 3005 & 3005L	Principles of Entomology and Principles of Entomology Laboratory (Gen Ed Biological Sciences)	4
Writing course (Writing Requirement: 6000 words)		3
	Credits	14
	Semester Four	
Select one CALS Advanced Oral Communication course:		3
AEC 3030C	Effective Oral Communication	
SPC 2608	Introduction to Public Speaking	
Select one CALS Economics requirement:		3-4
AEB 2014	Economic Issues, Food and You	
AEB 3103	Principles of Food and Resource Economics	
ECO 2013	Principles of Macroeconomics	
ECO 2023	Principles of Microeconomics	
Select one Integrated Pest Management course:		3
IPM 3022	Fundamentals of Pest Management	
IPM 4114	Insect Pest and Vector Management	
Select one option (**Critical Tracking**):		3-4
PHY 2004 & 2004L	Applied Physics 1 and Laboratory for Applied Physics 1	
PHY 2020	Introduction to Principles of Physics	
NEM 3002	Principles of Nematology	3
	Credits	15-17
	Semester Five	
Select two Built Environment courses:		6

AEB 4085	Agricultural Risk Management and the Law	
AEB 4123	Agricultural and Natural Resource Law	
ALS 3133	Agricultural and Environmental Quality	
AOM 3220	Agricultural Construction and Maintenance	
AOM 3734	Irrigation Principles and Practices in Florida	
BCN 1210	Construction Materials	
FOR 4664	Sustainable Ecotourism Development	
HSC 4507	Environmental Toxicology Applications in Public Health	
SWS 3022	Introduction to Soils in the Environment	
ENY 3222C	Biology and Identification of Urban Pests (**Critical Tracking**)	3
ENY 3510C	Turf and Ornamental Entomology	3
ENY 4161	Insect Classification (**Critical Tracking**)	~~3~~4
	Credits	~~15~~16

Semester Six

Select one CALS Advanced Written Communication course (Writing Requirement: 6000 words):		3
AEC 3033C	Research and Business Writing in Agricultural and Life Sciences	
ENC 2210	Technical Writing	
ENC 3254	Professional Writing in the Discipline	
Select one Ecology course:		3-4
ALS 3153	Agricultural Ecology	
ENY 4201	Insect Ecology	
ENY 4202	Ecology of Vector-Borne Disease	
ENY 4208	Ecology and Conservation of Pollinators	
ENY 4210	Insects and Wildlife	
PCB 4043C	General Ecology	
WIS 3401	Wildlife Ecology and Management	
ENY 3225C	Principles of Urban Pest Management (**Critical Tracking**)	3
Approved Biological Science elective [2]		3
Approved Business elective [3]		~~3~~4
	Credits	~~15~~16-~~16~~17

Semester Seven

Select one Biosecurity course		3
ALS 4161	Exotic Species and Biosecurity Issues	
ALS 4162	Consequences of Biological Invasions	
ALS 4163	Challenges in Plant Resource Protection	

Select one Insect Behavior course		3
ENY 3451C	Insect Behavior	
ENY 4453	Behavioral Ecology and Systematics	
ENY 4455C	Social Insects	
ENY 4571	Honey Bee Biology	
ENY 4573	Beekeeping I	
ENY 4660	Medical and Veterinary Entomology (**Critical Tracking**)	~~2~~3
Approved Biological Science electives [3]		~~4~~3
Approved Business elective [3]		~~3~~4
	Credits	15
	Semester Eight	
ENY 4230	Urban Pesticide Application **(Quest 3)** [4]	3
Select one Microbiology course with lab:		4
MCB 2000 & 2000L	Microbiology and Microbiology Laboratory	
MCB 3020 & 3020L	Basic Biology of Microorganisms and Laboratory for Basic Biology of Microorganisms	
Approved Biological Science electives [2]		6
~~Approved Business elective [3]~~		~~3~~
	Credits	~~16~~13
	Total Credits	120

1

This requirement can also be fulfilled by taking MAC 1140 and MAC 1114.

2

3000/4000-level courses in Entomology and Nematology or other biological sciences, subject to approval by an academic advisor in the Entomology and Nematology program.

3

Consult an academic advisor in the Entomology and Nematology program for a list of approved business electives.

4

To be conducted under the supervision of a licensed pest management professional. See an advisor for more information.

ACADEMIC LEARNING COMPACT TAB:

The Entomology and Nematology curriculum develops an excellent knowledge base and an understanding of concepts and fundamental practices. Through formal courses, laboratory experimentation, and individual research experience, students will learn how the scientific method is applied to the biological world at the whole organism and population levels. Students will learn to evaluate hypotheses, to acquire and interpret experimental data, and to communicate results effectively in appropriate styles. Special focus will be information on insect identification, morphology, behavior, physiology, and ecology.

Before Graduating Students Must

- Pass the Entomology and Nematology competency exam, which will be tailored to individual specializations.
- Complete requirements for the baccalaureate degree, as determined by faculty.

Students in the Major Will Learn to

Student Learning Outcomes | SLOs

Content

1. Identify insects and describe and explain insect morphology, physiology, and behavior.

Critical Thinking

2. Acquire, analyze and synthesize entomological information.

Communication

3. Communicate proficiently in the sciences in oral and written forms.

Curriculum Map

I = Introduced; R = Reinforced; A = Assessed

Academic Learning Compact 3

Courses	SLO 1	SLO 2	SLO 3
AEC 3030C			A
AEC 3033C			A
ENY 3005	I, A	I, A	I

Academic Learning Compact 3

Courses	SLO 1	SLO 2	SLO 3
ENY 3005L	A	A	
ENY 4161	R, A		R, A

Assessment Types

- Assignments
- Exams
- Course grades
- Research collection

Urban Pest Management

- Home
- Undergraduate Catalog
- Colleges and Schools
- Agricultural and Life Sciences | College of
- Entomology and Nematology UF Online

Entomology and Nematology are interdisciplinary biological sciences that focus on the study of insects, mites, ticks, spiders, nematodes, and related organisms. These creatures can have both helpful and harmful effects on food security, the environment, and the health of humans and other animals. Entomology and Nematology students study ecology, behavior, physiology, evolution, systematics, biodiversity conservation, arthropods of medical and veterinary significance, the management of insect/nematode pests, and invertebrates as models in many different fields of research, including biomedical sciences, bioinspired engineering, and biotechnology.

Undergraduate Catalog

- Biological Science of Insects
- Urban Pest Management

About this Program

- **College:** Agricultural and Life Sciences
- **Degree:** Bachelor of Science
- **Specializations:** Biological Science of Insects | Urban Pest Management
- **Contact:** 1.855.99GATOR
- **Credits for Degree:** 120

To graduate with this major, students must complete all university, college, and major requirements.

Department Information

The Entomology and Nematology Department prepares students for exciting careers in a large variety of fields. Entomology and Nematology majors can enter medical, veterinary, or dental school; progress to graduate study in entomology, nematology, or any of several other biological sciences such as ecology and evolutionary biology, horticulture, or zoology; or move directly to a variety of careers (including industry and government positions) in fields such as pest management, agriculture, ecotourism, biosecurity, science policy, and education
Website

CONTACT

Email | 352.273.3974

P.O. Box 110620
1881 Natural Area Drive, Bldg. 970
STEINMETZ HALL
GAINESVILLE FL 32611-0620
Map

Curriculum

- Beekeeping Certificate
- Combination Degrees
- Entomology and Nematology
- Entomology and Nematology Minor
- Entomology and Nematology Minor UF Online
- Landscape Pest Management Certificate
- Medical Entomology Certificate
- Pest Control Technology Certificate
- Urban Pest Management Certificate

OVERVIEW TAB:

The Department of Entomology and Nematology offers the major. Faculty within the department specialize in a diverse array of fields, including systematics and evolutionary biology, ecology, behavior, physiology, medical and veterinary entomology, genomics and molecular biology, apiculture, agricultural and urban pest management, biodiversity conservation, and more. The department has a long tradition of sending students to graduate school and professional programs (including medical, veterinary, and dental school). Given the widespread importance of insects and nematodes, there are many employment opportunities for students with a degree in Entomology & Nematology.

Urban Pest Management

The Urban Pest Management specialization prepares students for entry to careers in the pest control industry. It provides students with a foundation in the biology of insects, nematodes, and other organisms, with an emphasis on applications of entomology to solve pest problems in residential and commercial properties. This specialization includes a hands-on internship with pest control specialists as well as several business electives to prepare students for management responsibilities in industry careers. Students who plan to attend graduate school for urban entomology should consider the Biological Science of Insects specialization with urban entomology electives instead.

COURSEWORK

In addition to these courses, students must also complete all university- and college-level requirements (e.g., General Education coursework).

A grade of C or above is required for all critical tracking, core, and elective courses. Students must also maintain a cumulative GPA of at least 2.0 and a critical tracking GPA of at least 2.5.

Critical Tracking Courses

Course List

Code	Title	Credits
BSC 2010 & 2010L	Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory 1	4
BSC 2011 & 2011L	Integrated Principles of Biology 2 and Integrated Principles of Biology Laboratory 2	4
CHM 2045 & 2045L	General Chemistry 1 and General Chemistry 1 Laboratory	4
Select one Mathematics option:		4-6
MAC 2311	Analytic Geometry and Calculus 1	
MAC 1147	Precalculus Algebra and Trigonometry	
MAC 1140 & MAC 1114	Precalculus Algebra and Trigonometry	
Select one Physics option:		3-4
PHY 2004 & 2004L	Applied Physics 1 and Laboratory for Applied Physics 1	
PHY 2020	Introduction to Principles of Physics	

Core Requirements

Course List

Code	Title	Credits
ENY 3005 & 3005L	Principles of Entomology and Principles of Entomology Laboratory	4
ENY 3222C	Biology and Identification of Urban Pests	3
ENY 3225C	Principles of Urban Pest Management	3
ENY 3510C	Turf and Ornamental Entomology	3
ENY 4161	Insect Classification	~~3~~4
ENY 4230	Urban Pesticide Application	1-6
ENY 4660	Medical and Veterinary Entomology	~~2~~3
IPM 3022	Fundamentals of Pest Management	3

Course List

Code	Title	Credits
or IPM 4114	Insect Pest and Vector Management	
Select one:		4
MCB 2000 & 2000L	Microbiology and Microbiology Laboratory	
MCB 3020 & 3020L	Basic Biology of Microorganisms and Laboratory for Basic Biology of Microorganisms	
NEM 3002	Principles of Nematology	3
STA 2023	Introduction to Statistics 1	3
Approved Ecology course [1]		3
Approved Biosecurity course [1]		3
Approved Insect Behavior course [1]		3
2 Approved Built Environment courses [1]		6

Elective Requirements

- ~~13~~ 12 credits of 3000/4000-level courses in Entomology and Nematology or other biological sciences[1], subject to approval by an academic advisor in the Entomology and Nematology program.
- ~~9~~ 8 credits of business electives[1], subject to approval by an academic advisor in the Entomology and Nematology program.

[1] See an academic advisor in Entomology and Nematology for a list of courses that can be used to satisfy this requirement.

CRITICAL TRACKING TAB:

Critical Tracking records each student's progress in courses that are required for progress toward each major. Please note the critical-tracking requirements below on a per-semester basis.

Equivalent critical-tracking courses as determined by the State of Florida Common Course Prerequisites may be used for transfer students.

SEMESTER 1

- Complete 2 of 5 critical-tracking courses, excluding labs:
  - BSC 2010/BSC 2010L

    - BSC 2011/BSC 2011L
    - CHM 2045/CHM 2045L
    - (PHY 2004/PHY 2004L) or PHY 2020
    - (MAC 1140 and MAC 1114) or MAC 1147 or MAC 2311
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

SEMESTER 2

- Complete 1 additional critical-tracking course, excluding labs
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

SEMESTER 3

- Complete 1 additional critical-tracking course, excluding labs
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

SEMESTER 4

- Complete 1 additional critical-tracking course, excluding labs
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

SEMESTER 5

- Complete all critical-tracking courses, including labs
- Grade of C or above required for all critical tracking courses
- 2.5 GPA required for all critical-tracking courses
- 2.0 upper-division GPA required
- 2.0 UF GPA required

SEMESTER 6

- Complete at least 1 Urban Entomology courses: ENY 3222C or ENY 3225C (grade of C or above required)
- 2.0 upper-division GPA required
- 2.0 UF GPA required

SEMESTER 7

- Complete at least 1 of the following upper-level entomology requirements: ENY 4161 or ENY 4660 (grade of C or above required)
- 2.0 upper-division GPA required
- 2.0 UF GPA required

SEMESTER 8

- Complete a minimum of 3 credits of ENY 4230 (grade of C or above required)
- 2.0 upper-division GPA required
- 2.0 UF GPA required

MODEL SEMESTER PLAN TAB:

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold. These courses must be completed by the terms as listed above in the Critical Tracking criteria.

This semester plan represents an example progression through the major. Actual courses and course order may be different depending on the student's academic record and scheduling availability of courses. Prerequisites still apply. A grade of C or above is required for all critical tracking, core, and elective courses. Students must also maintain a cumulative GPA of at least 2.0 and a critical tracking GPA of at least 2.5.

Plan of Study Grid

	Semester One	**Credits**
BSC 2010 & 2010L	Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory 1 (**Critical Tracking**; State Core Gen Ed Biological Sciences)	4
Select one (**Critical Tracking**; State Core Gen Ed Mathematics): [1]		4
MAC 1147	Precalculus Algebra and Trigonometry	
MAC 2311	Analytic Geometry and Calculus 1	
State Core Gen Ed Composition (Writing Requirement: 6000 Words)		3
State Core Gen Ed Humanities		3
	Credits	14
	Semester Two	
Quest 1 (Gen Ed Humanities with Diversity)		3

BSC 2011 & 2011L	Integrated Principles of Biology 2 and Integrated Principles of Biology Laboratory 2 (**Critical Tracking**; Gen Ed Biological Sciences)	4
STA 2023	Introduction to Statistics 1 (Gen Ed Mathematics)	3
State Core Gen Ed Social and Behavioral Sciences		3
Gen Ed Composition (Writing Requirement: 6000 Words)		3
	Credits	16
	Semester Three	
Quest 2 (Gen Ed Social and Behavioral Sciences with International)		3
CHM 2045 & 2045L	General Chemistry 1 and General Chemistry 1 Laboratory (**Critical Tracking**; State Core Gen Ed Physical Sciences)	4
ENY 3005 & 3005L	Principles of Entomology and Principles of Entomology Laboratory (Gen Ed Biological Sciences)	4
Writing course (Writing Requirement: 6000 words)		3
	Credits	14
	Semester Four	
Select one CALS Advanced Oral Communication course:		3
AEC 3030C	Effective Oral Communication	
SPC 2608	Introduction to Public Speaking	
Select one CALS Economics requirement:		3-4
AEB 2014	Economic Issues, Food and You	
AEB 3103	Principles of Food and Resource Economics	
ECO 2013	Principles of Macroeconomics	
ECO 2023	Principles of Microeconomics	
Select one Integrated Pest Management course:		3
IPM 3022	Fundamentals of Pest Management	
IPM 4114	Insect Pest and Vector Management	
Select one option (**Critical Tracking**):		3-4
PHY 2004 & 2004L	Applied Physics 1 and Laboratory for Applied Physics 1	
PHY 2020	Introduction to Principles of Physics	
NEM 3002	Principles of Nematology	3
	Credits	15-17
	Semester Five	
Select two Built Environment courses:		6

AEB 4085	Agricultural Risk Management and the Law	
AEB 4123	Agricultural and Natural Resource Law	
ALS 3133	Agricultural and Environmental Quality	
AOM 3220	Agricultural Construction and Maintenance	
AOM 3734	Irrigation Principles and Practices in Florida	
BCN 1210	Construction Materials	
FOR 4664	Sustainable Ecotourism Development	
HSC 4507	Environmental Toxicology Applications in Public Health	
SWS 3022	Introduction to Soils in the Environment	
ENY 3222C	Biology and Identification of Urban Pests (**Critical Tracking**)	3
ENY 3510C	Turf and Ornamental Entomology	3
ENY 4161	Insect Classification (**Critical Tracking**)	~~3~~4
	Credits	~~15~~16

Semester Six

Select one CALS Advanced Written Communication course (Writing Requirement: 6000 words):		3
AEC 3033C	Research and Business Writing in Agricultural and Life Sciences	
ENC 2210	Technical Writing	
ENC 3254	Professional Writing in the Discipline	
Select one Ecology course:		3-4
ALS 3153	Agricultural Ecology	
ENY 4201	Insect Ecology	
ENY 4202	Ecology of Vector-Borne Disease	
ENY 4208	Ecology and Conservation of Pollinators	
ENY 4210	Insects and Wildlife	
PCB 4043C	General Ecology	
WIS 3401	Wildlife Ecology and Management	
ENY 3225C	Principles of Urban Pest Management (**Critical Tracking**)	3
Approved Biological Science elective [2]		3
Approved Business elective [3]		~~3~~4
	Credits	~~15~~16-~~16~~17

Semester Seven

Select one Biosecurity course		3
ALS 4161	Exotic Species and Biosecurity Issues	
ALS 4162	Consequences of Biological Invasions	
ALS 4163	Challenges in Plant Resource Protection	

Select one Insect Behavior course		3
ENY 3451C	Insect Behavior	
ENY 4453	Behavioral Ecology and Systematics	
ENY 4455C	Social Insects	
ENY 4571	Honey Bee Biology	
ENY 4573	Beekeeping I	
ENY 4660	Medical and Veterinary Entomology (**Critical Tracking**)	~~23~~
Approved Biological Science electives [3]		~~43~~
Approved Business elective [3]		~~34~~
	Credits	~~1516~~
	Semester Eight	
ENY 4230	Urban Pesticide Application ~~(~~**~~Quest 3~~**~~)~~ [4]	3
Select one Microbiology course with lab:		4
MCB 2000 & 2000L	Microbiology and Microbiology Laboratory	
MCB 3020 & 3020L	Basic Biology of Microorganisms and Laboratory for Basic Biology of Microorganisms	
Approved Biological Science electives [2]		6
~~Approved Business elective [3]~~		~~3~~
	Credits	~~16~~13
	Total Credits	120

1

This requirement can also be fulfilled by taking MAC 1140 and MAC 1114.

2

3000/4000-level courses in Entomology and Nematology or other biological sciences, subject to approval by an academic advisor in the Entomology and Nematology program.

3

Consult an academic advisor in the Entomology and Nematology program for a list of approved business electives.

4

To be conducted under the supervision of a licensed pest management professional. See an advisor for more information.

ACADEMIC LEARNING COMPACT TAB:

The Entomology and Nematology curriculum develops an excellent knowledge base and an understanding of concepts and fundamental practices. Through formal courses, laboratory experimentation, and individual research experience, students will learn how the scientific method is applied to the biological world at the whole organism and population levels. Students will learn to evaluate hypotheses, to acquire and interpret experimental data, and to communicate results effectively in appropriate styles. Special focus will be information on insect identification, morphology, behavior, physiology, and ecology.

BEFORE GRADUATING STUDENTS MUST

- Pass the Entomology and Nematology competency exam, which will be tailored to individual specializations.
- Complete requirements for the baccalaureate degree, as determined by faculty.

STUDENTS IN THE MAJOR WILL LEARN TO

Student Learning Outcomes | SLOs

Content

1. Identify insects and describe and explain insect morphology, physiology, and behavior.

Critical Thinking

2. Acquire, analyze and synthesize entomological information.

Communication

3. Communicate proficiently in the sciences in oral and written forms.

Curriculum Map

I = Introduced; R = Reinforced; A = Assessed

ASSESSMENT TYPES

- Assignments
- Exams
- Course grades

- Research collection

Cover Sheet: Request 22325

New Graduate Certificate - Water Policy

Info

Process	Certificate|New|Grad|Revised
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Konda Reddy krr@ufl.edu
Created	12/19/2025 2:53:51 PM
Updated	1/14/2026 12:41:26 PM
Description of request	We request the creation of the Graduate Certificate - Water Policy that addresses a growing need for interdisciplinary training in water governance, equipping students with legal, economic, and scientific tools to tackle complex water challenges across scales. As water issues increasingly intersect with climate change, infrastructure, equity, and resource management, this certificate prepares students for leadership in policy-making and sustainable management. Housed in the School of Natural Resources and Environment and administered by the UF Water Institute, the certificate complements existing programs by offering structured, cross-disciplinary coursework focused on governance and policy. It enhances the academic experience by creating a formal pathway for students interested in water policy, connecting faculty across colleges, and fostering collaboration among traditionally siloed disciplines.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Interdisciplinary Ecology	Konda Reddy		1/14/2026
Combined LOS with Index Water Policy Certificate.pdf					1/14/2026
College	Pending	CALS - College of Agricultural and Life Sciences			1/14/2026
No document changes					
OIPR					
No document changes					
Graduate Council					
No document changes					
Graduate School Notified					
No document changes					
University Curriculum Committee Notified					
No document changes					
Office of the Registrar					
No document changes					
OIPR Notified					
No document changes					
Academic Assessment Committee Notified					
No document changes					

Original file: Cover sheet.pdf

Step	Status	Group	User	Comment	Updated
Student Academic Support System					
No document changes					
College Notified					
No document changes					

Original file: Cover sheet.pdf

Certificate|New for request 22325

Info

Request: New Graduate Certificate - Water Policy
Description of request: We request the creation of the Graduate Certificate - Water Policy that addresses a growing need for interdisciplinary training in water governance, equipping students with legal, economic, and scientific tools to tackle complex water challenges across scales. As water issues increasingly intersect with climate change, infrastructure, equity, and resource management, this certificate prepares students for leadership in policy-making and sustainable management.
Housed in the School of Natural Resources and Environment and administered by the UF Water Institute, the certificate complements existing programs by offering structured, cross-disciplinary coursework focused on governance and policy. It enhances the academic experience by creating a formal pathway for students interested in water policy, connecting faculty across colleges, and fostering collaboration among traditionally siloed disciplines.

Submitter: Konda Reddy krr@ufl.edu
Created: 1/14/2026 12:42:43 PM
Form version: 6

Responses

Certificate Name Water Policy
Transcript Title Water Policy
Credits 10
Level Graduate
CIP Code 26.1301
Degree Program Interdisciplinary Ecology
Effective Term Earliest Available
Effective Year 2026
Certificate Description The Graduate Certificate in Water Policy offers interdisciplinary training in water governance, integrating law, economics, policy, and science. Designed to prepare future leaders, it emphasizes applying legal frameworks, policy analysis, and scientific principles to address complex water challenges across local, national, and global contexts through a 10-credit curriculum.
Requirements for Admission

- Applicants must hold a bachelor's degree from an accredited U.S. institution or an international equivalent in a related field.
- Current UF graduate students in relevant programs are eligible to apply.
- Working professionals in water management may also apply.
- Students may pursue the certificate without enrolling in a degree program.
- Per UF policy, courses applied toward this certificate may not be counted toward another certificate program.
- All students must develop a Plan of Study that aligns with the certificate's completion requirements.

Requirements for Completion

- Minimum Credit Hours: Students must complete at least 10 credit hours, including:
- Core Area Courses (1 course in each area):
- Law: Focus: Water rights, regulatory frameworks, institutional governance
- Policy and Economics: Focus: Decision-making, resource allocation, stakeholder engagement
- Science: Hydrological systems, water quality, environmental processes
- Interdisciplinary Seminar (1 credit hour): Mandatory seminar addressing current issues in water policy, used to assess student learning outcomes. Must be taken after the completion of the 3 core courses.
- Additional guidelines:
- Petitions for course substitutions may be considered based on academic background and professional experience.
- Undergraduate courses cannot be used to satisfy certificate requirements.
- A course may be petitioned to count toward a different core area, but no course may count toward more than one core area.

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- All coursework must be completed with a minimum overall GPA of 3.0.
- Only grades of A, A-, B+, B, B-, C+, C, or S are accepted, per Graduate Council policy.
- The School of Natural Resources and Environment (SNRE) will supervise the courses taken.

Approved Courses by Core Area
Law
- LAW 6460 – Land Use Law
- LAW 6465 – Conservation Clinic
- LAW 6470 – Environmental Law
- LAW 6472 – Natural Resources Law
- LAW 6492 – Water Law

Policy and Economics
- PHC 6424 – Environmental Policy and Risk Management
- EES 6051 – Advanced Environmental Planning and Design
- FAS 6705 – Fisheries and Aquaculture: An Economics Perspective
- FNR 5625 – Managing Public Lands and Waters
- FNR 6669 – Policy & Economics of Natural Resources
- LAA 6382 – Ecological and Environmental Policy Seminar
- URP 6421 – Environmental Land Use Planning and Management

Water Science
- FAS 6275 – Freshwater Ecology
- SWS 5234 – Environmental Soil, Water, and Land Use
- SWS 5248 – Wetlands and Water Quality
- SWS 5308 – Ecology of Waterborne Pathogens
- SWS 5551 – Soils, Water, and Public Health
- SWS 6992 – Aquatic Toxicology
- SWS 5208 – Sustainable Agricultural and Urban Land Management
- SWS 5246 – Water Resource Sustainability
- EES 6309 – Wetland Design and Restoration
- ENV 6508 – Wetland Hydrology
- GEO 6282 – Fluvial Morphology and Processes
- AOM 6736 – Principles and Issues in Environmental Hydrology
- GLY 5827 – Groundwater Geology
- GLY 5245 – Hydrogeochemistry
- GLY 5247 – Surface and Ground Water Interactions
- PCB 5338 – Principles of Ecosystem Ecology

Rationale and Place in Curriculum The Graduate Certificate in Water Policy addresses a growing need for interdisciplinary training in water governance, equipping students with legal, economic, and scientific tools to tackle complex water challenges across scales. As water issues increasingly intersect with climate change, infrastructure, equity, and resource management, this certificate prepares students for leadership in policy-making and sustainable management.
Housed in the School of Natural Resources and Environment and administered by the UF Water Institute, the certificate complements existing programs by offering structured, cross-disciplinary coursework focused on governance and policy. It enhances the academic experience by creating a formal pathway for students interested in water policy, connecting faculty across colleges, and fostering collaboration among traditionally siloed disciplines.

Overlap with Existing Certificates and Justification
While the Water Policy Certificate shares thematic relevance with several existing programs, it is distinct in its interdisciplinary and governance-centered approach. Below is a summary of overlaps and justifications:
Wetland and Water Resource Management Certificate
- Overlap: Both address water resource management and sustainability.
- Distinction: The Wetland certificate focuses on scientific and technical competencies for wetland restoration and water quality protection, emphasizing hydrology, soil-water interactions, and ecosystem functions.
- Justification: The Water Policy Certificate emphasizes policy integration and governance, preparing students to evaluate and design strategies across legal, economic, and scientific domains.

Natural Resource Policy & Administration Certificate
- Overlap: Both involve policy and administrative training for environmental professionals.
- Distinction: The Natural Resource certificate offers broad training across various natural

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resources, with less emphasis on water-specific governance or interdisciplinary synthesis.
- Justification: The Water Policy Certificate provides targeted training in water governance, making it ideal for students focused on water-related policy and leadership.

Hydrologic Sciences Academic Concentration (HSAC)
- Overlap: Both engage with water-related topics and scientific analysis.
- Distinction: HSAC emphasizes advanced scientific training in hydrology, water chemistry, and modeling, preparing students for technical and research roles.
- Justification: The Water Policy Certificate focuses on governance and applied policy analysis, integrating science with law and economics to address real-world water challenges.

Student Learning Outcomes Understanding Water Policy and Governance (Knowledge)
Explain key legal frameworks, institutions, and policy traditions across governance levels. Compare how these systems influence water law and policy over time and across regions.
Evaluating Water Policy Outcomes (Skills)
Analyze water policy decisions using legal, economic, political, and scientific tools. Evaluate the effectiveness and feasibility of policy alternatives in diverse contexts.
Designing and Communicating Sustainable Water Management (professional behavior)
Apply interdisciplinary knowledge to design sustainable water management strategies that integrate environmental, social, and economic dimensions. Communicate these solutions effectively to varied audiences using appropriate formats and policy language.

Foundational knowledge is established through the completion of one course in each of three core areas: Law, Policy and Economics, and Science. After completing these core courses, students participate in a mandatory interdisciplinary seminar, which serves as the program's integrative experience. In this seminar, students apply and synthesize concepts from across disciplines to demonstrate their understanding of water governance, evaluate policy outcomes using interdisciplinary tools, and design and communicate sustainable water management strategies. These learning outcomes are assessed through a final paper or presentation.

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Water Policy Certificate Letters of Support

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Index of Letters of Support by Core Area

Law

- LAW 6460 – Land Use Law (p. 6)
- LAW 6465 – Conservation Clinic (p. 6)
- LAW 6470 – Environmental Law (p. 6)
- LAW 6472 – Natural Resources Law (p. 6)
- LAW 6942 – Water Law (p. 6)

Policy and Economics

- PHC 6424 – Environmental Policy and Risk Management
- EES 6051 – Advanced Environmental Planning and Design (p. 3)
- FAS 6705 – Fisheries and Aquaculture: An Economics Perspective (p. 8)
- FNR 5625 – Managing Public Lands and Waters (p. 16-17)
- FNR 6669 – Policy & Economics of Natural Resources (p. 14)
- LAA 6382 – Ecological and Environmental Policy Seminar (p. 20-21)
- URP 6421 – Environmental Land Use Planning and Management (p. 9-10)

Water Science

- FAS 6275 – Freshwater Ecology (p. 15)
- SWS 5234 – Environmental Soil, Water, and Land Use (p. 7)
- SWS 5248 – Wetlands and Water Quality (p. 7)
- SWS 5308 – Ecology of Waterborne Pathogens (p. 7)
- SWS 5551 – Soils, Water, and Public Health (p. 7)
- SWS 6992 – Aquatic Toxicology (p. 7)
- SWS 5208 – Sustainable Agricultural and Urban Land Management (p. 7)
- SWS 5246 – Water Resource Sustainability (p. 7)
- EES 6309 – Wetland Design and Restoration (p. 3)
- ENV 6508 – Wetland Hydrology (p. 3)
- GEO 6282 – Fluvial Morphology and Processes (p. 4)
- AOM 6736 – Principles and Issues in Environmental Hydrology (p. 2)
- GLY 5827 – Groundwater Geology (p. 5)
- GLY 5245 – Hydrogeochemistry (p. 5)
- GLY 5247 – Surface and Ground Water Interactions (p. 5)
- PCB 5338 – Principles of Ecosystem Ecology (p.18)

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Institute of Food and Agricultural Sciences
Agricultural and Biological Engineering Department

Frazier Rogers Hall
PO Box 110570
Gainesville, FL 32611-0570
352-392-1864
gkiker@ufl.edu
https://abe.ufl.edu/

October 31, 2025

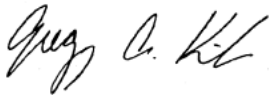
Dear University of Florida Graduate Certificate Review Committee,

I am writing to express the support of the Department of Agricultural and Biological Engineering for the proposed Graduate Certificate in Water Policy, coordinated by the Water Institute and the School of Natural Resources and Environment. We are pleased that the course AOM 6736 Principles and Issues in Environmental Hydrology is included in the certificate curriculum. This certificate does not conflict with any existing certificates or concentrations in our department and is expected to be a net benefit to our academic programs.

We believe this interdisciplinary certificate will offer students a valuable framework for understanding the complex interactions between water science, policy, and management. It will enhance the visibility and impact of existing courses, including the one listed above, and provide students with a coherent academic pathway to engage with pressing water-related challenges.

Thank you for your consideration of this proposal. We look forward to contributing to the success of this initiative.

Sincerely,



Gregory A Kiker, Professor and Chair, Agricultural & Biological Engineering
gkiker@ufl.edu 352-392-1864

The Foundation for The Gator Nation

An Equal Opportunity Institution

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Herbert Wertheim College of Engineering
Engineering School of Sustainable Infrastructure & Environment
Department of Environmental Engineering Sciences

217 Black Hall
PO Box 116450
Gainesville, FL 32611-6450
352-846-2836
edouglas@ufl.edu

October 31, 2025

Dear Review Committee,

I am writing to express the support of the Department of Environmental Engineering Sciences for the proposed Graduate Certificate in Water Policy, coordinated by the Water Institute and the School of Natural Resources and Environment.

We are pleased that the following courses from our School are included in the certificate curriculum:

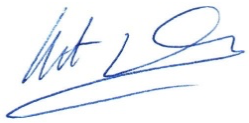
- EES 6309 Wetland Design and Restoration
- EES6051 Advanced Environmental Planning and Design
- ENV 6508 Wetland Hydrology
- ENV 6932 Environmental Systems Processing

Additional course offerings may be available in future semesters. This certificate does not conflict with any existing certificates or concentrations in our School and is expected to be a net benefit to our academic programs. However, it is important that the certificate administration process clearly communicate that these courses may have prerequisites or other requirements.

We believe this interdisciplinary certificate will offer students a valuable framework for understanding the complex interactions between water science, policy, and management. It will enhance the visibility and impact of existing courses—including those listed above—and provide students with a coherent academic pathway to engage with pressing water-related challenges.

Thank you for including our courses in this certificate. We look forward to contributing to the success of this initiative.

Sincerely,



Elliot P. Douglas, Ph.D., F.ASEE
Head & Professor, Environmental Engineering Sciences
Professor, Engineering Education
Distinguished Teaching Scholar
ASEE Vice President of Finance

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UF UNIVERSITY of FLORIDA
College of Liberal Arts & Sciences
Department of Geography

Geography
University of Florida

3141 Turlington Hall
PO Box 117315
Gainesville, FL 32611-7315
352-392-0494
352-392-8855 Fax

21 October 2025

Dear University of Florida Graduate Certificate Review Committee,

I am writing to affirm the support of the Department of Geography for the proposed Graduate Certificate in Water Policy, coordinated by the Water Institute and the School of Natural Resources and Environment.

We are pleased that the following courses from our department are included in the certificate curriculum:

- GEO 6348 Extreme floods seminar
- GEO 6938 Selected Topics in Geography: Water, Risk, and Extreme Events
- GEO 6938 Selected Topics in Geography: Principles of Geographic Hydrology

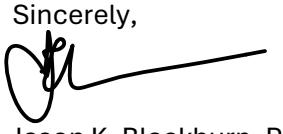
This certificate does not conflict with any existing certificates or concentrations in our department and is expected to be a net benefit to our academic programs. Note too, the special topics courses are working through the approvals process for permanent number now.

We believe this interdisciplinary certificate will offer students a valuable framework for understanding the complex interactions between water science, policy, and management. It will enhance the visibility and impact of existing courses and provide students with a coherent academic pathway to engage with pressing water-related challenges.

Thank you for your consideration of this proposal. We look forward to contributing to the success of this initiative.

Sincerely,

Sincerely,



Jason K. Blackburn, PhD
Professor and Chair, Department of Geography
Associate Director for Research Resources, Emerging Pathogens Institute
jkblackburn@ufl.edu

Original file: Combined LOS with Index Water Policy Certificate.pdf

UF UNIVERSITY of FLORIDA

Department of Geological Sciences

241 Williamson Hall
PO Box 112120
Gainesville, FL 32611-2120
352-392-6219
352-392-9294 Fax

October 13, 2025

Dear University of Florida Graduate Certificate Review Committee,

I am writing to express the support of the Department of Geological Sciences for the proposed Graduate Certificate in Water Policy, coordinated by the Water Institute and the School of Natural Resources and Environment.

We are pleased that the following courses from our department are included in the certificate curriculum:

- GLY 5827 – Groundwater Geology
- GLY 5245 – Hydrogeochemistry
- GLY 5247 – Surface and Ground Water Interactions

This certificate does not conflict with any existing certificates or concentrations in our department and is expected to be a net benefit to our academic programs.

We believe this interdisciplinary certificate will offer students a valuable framework for understanding the complex interactions between water science, policy, and management. It will enhance the visibility and impact of existing courses—including those listed above—and provide students with a coherent academic pathway to engage with pressing water-related challenges.

Thank you for your consideration of this proposal. We look forward to contributing to the success of this initiative.

Sincerely,

Jonathan B. Martin
Distinguished Professor

Original file: Combined LOS with Index Water Policy Certificate.pdf

UF UNIVERSITY of FLORIDA

Levin College of Law
Office of the Dean

Merritt E. McAlister
Interim Dean and Levin, Mabie & Levin Professor

Spessard L. Holland Law Center
PO Box 117620
Gainesville, FL 32611-7620
352-273-0600
www.law.ufl.edu

November 3, 2025

University of Florida
Graduate Certificate Review Committee

Dear Review Committee members,

I am writing to express the support of the Levin College of Law for the proposed Graduate Certificate in Water Policy, coordinated by the Water Institute and the School of Natural Resources and Environment.

We are pleased that the following courses from our College are included in the certificate curriculum:

LAW 6460	Land Use Law
LAW 6465	Conservation Clinic
LAW 6470	Environmental Law
LAW 6472	Natural Resources Law
LAW6930	Water Law

This certificate does not conflict with any existing certificates or concentrations in our College and is expected to be a net benefit to our academic programs.

We believe this interdisciplinary certificate will offer students a valuable framework for understanding the complex interactions between water science, policy, and management. It will enhance the visibility and impact of existing courses—including those listed above—and provide students with a coherent academic pathway to engage with pressing water-related challenges.

Thank you for your consideration of this proposal. We look forward to contributing to the success of this initiative.

Sincerely,

Merritt E. McAlister

UF | UNIVERSITY of FLORIDA

UF/IFAS
Department of Soil, Water, and Ecosystem Sciences

2181 McCarty Hall A
POB 110290
Gainesville, FL 32611-0290
352-294-3151
352-392-3399 Fax

September 9, 2025

Dear University of Florida Graduate Certificate Review Committee,

Please accept this letter expressing the support of the Department of Soil, Water, and Ecosystem Sciences for the proposal of a new certificate in *Water Policy*, coordinated by the Water Institute and the School of Natural Resources and Environment. This certificate would include courses from our department in its curriculum. This certificate does not conflict with any certificates or concentrations in our department, and it should be a net benefit to our program. Thank you for your consideration.

Sincerely

P. Chris Wilson
Professor, Graduate Coordinator, and Interim Chair

(352) 294-3166 | pcwilson@ufl.edu

Gainesville, 10/08/25

Dear University of Florida Graduate Certificate Review Committee,

I am writing to express my enthusiastic support for the proposed certificate in **Water Policy**, coordinated by the Water Institute and the School of Natural Resources and Environment. I am pleased that my course, FAS6705: Fisheries and aquaculture: An economics perspective, is included in the curriculum for this certificate.

This interdisciplinary certificate will offer students a valuable framework for understanding the complex interactions between water science, policy, and management. I believe it will enhance the visibility and impact of existing courses—including mine—and provide students with a coherent academic pathway to engage with pressing water-related challenges.

I fully support the development of this certificate and look forward to advising and mentoring students who choose to pursue it. I believe it will serve as a meaningful credential for both students and professionals, while also advancing the University of Florida's mission to prepare graduates capable of addressing urgent environmental and societal issues.

Thank you for your consideration of this proposal. I look forward to contributing to the success of this initiative.

Sincerely,

Frank Asche

Professor

Original file: Combined LOS with Index Water Policy Certificate.pdf

From: Frank,Kathryn
To: Carton de Grammont,Paloma
Subject: Re: Request for Support Letter – Water Policy Certificate Proposal
Date: Wednesday, October 8, 2025 5:40:01 PM

Paloma,

This is fine with me and my dept chair. It's nice to support the certificate.

Best regards,
Kathryn Frank

From: Carton de Grammont,Paloma <palomacgl@ufl.edu>
Date: Wednesday, October 8, 2025 at 4:38 PM
To: Frank,Kathryn <kifrank@ufl.edu>
Subject: Request for Support Letter – Water Policy Certificate Proposal

Dear Kathryn,

The Water Institute, in collaboration with the School of Natural Resources and Environment (SNRE), is in the process of proposing a new **Graduate Certificate in Water Policy**. This certificate will offer interdisciplinary training in water governance, integrating law, economics, policy, and science.

Designed to prepare future leaders, the program emphasizes the application of legal frameworks, policy analysis, and scientific principles to address complex water challenges at local, national, and global scales. The 10-credit curriculum includes one course in each of three core areas—Law, Policy and Economics, and Water Science—followed by a required interdisciplinary seminar that serves as the program's integrative experience.

Your course, **URP6421 Environmental Land Use Planning and Management**, has been identified as one of the offerings in the Policy and Economics core area. We'd like to confirm that you're comfortable with its inclusion and, if so, request a brief letter of support to include in our application to the Graduate School.

Attached to this email are:

- A summary of the certificate proposal
- A template letter of support for your convenience

Alternatively, a simple reply to this email stating your approval and support for the certificate would also suffice.

We would appreciate receiving your response by **October 31st**. Please don't hesitate to reach out with any questions or concerns—we're happy to address them.

Original file: Combined LOS with Index Water Policy Certificate.pdf

Thank you very much, and I hope you have a great day!

Best regards,

Paloma Carton de Grammont, Ph.D.
Assistant Director,
2026 Water Institute Symposium co-chair,

Learn more about the 2026 UF Water Institute Biennial Symposium:
https://conference.ifas.ufl.edu/waterinstitute/index.php
Learn more about our work: https://waterinstitute.ufl.edu/
For the latest, follow us on social media: Twitter Facebook Instagram LinkedIn
Support water science and education—donate to our Planning Fund today!

Original file: Combined LOS with Index Water Policy Certificate.pdf

From:	Kiker,Gregory A
To:	Carton de Grammont,Paloma; Noble,Shannon M
Cc:	Muneepeerakul,Rachata
Subject:	RE: courses for water policy certificate
Date:	Thursday, May 15, 2025 2:32:01 PM
Attachments:	AOM6736 2024 Syllabus.pdf image001.png AOM4643 2024 DE and UFO Syllabus.pdf

---

I have had pre-law students take my AOM 4643 Principles and Issues in Environmental Hydrology which even has a model-based role play of the Apalachicola/Chattahoochee/Flint system! It is meant for non-engineers and is online…

This is based on Wendy Graham's original course so it has to be good!

From: Carton de Grammont,Paloma <palomacgl@ufl.edu>
Sent: Thursday, May 15, 2025 2:26 PM
To: Kiker,Gregory A <gkiker@ufl.edu>; Noble,Shannon M <shannon.noble@ufl.edu>
Cc: Muneepeerakul,Rachata <rmuneepe@ufl.edu>
Subject: RE: courses for water policy certificate

Hi Greg

Thanks for catching that up, I was confused as why ABE was offering economics courses!

No, we do not have any course from ABE

We have 3 main topics:

- Law (here we will have courses that students in water science can take)
- Policy, management and economics (for both water science and law students)
- Water science (here we want courses that law students can take)

Attached is the current list we have gathered

I would appreciate any suggestions

Thanks

Paloma

From: Kiker,Gregory A <gkiker@ufl.edu>
Sent: Thursday, May 15, 2025 2:20 PM
To: Noble,Shannon M <shannon.noble@ufl.edu>; Carton de Grammont,Paloma

Original file: Combined LOS with Index Water Policy Certificate.pdf

<palomacgl@ufl.edu>
Cc: Muneepeerakul,Rachata <rmuneepe@ufl.edu>
Subject: RE: courses for water policy certificate

Hi Paloma:
I think the courses you are mentioning are FRE courses (AEB) not ag & bio engineering (ABE). Do you have any ABE courses selected?

Thanks
Greg

Gregory A. Kiker, Professor and Interim Chair
Agricultural & Biological Engineering
University of Florida
352-294-6745
gkiker@ufl.edu

From: Noble,Shannon M <shannon.noble@ufl.edu>
Sent: Thursday, May 15, 2025 1:50 PM
To: Carton de Grammont,Paloma <palomacgl@ufl.edu>
Cc: Kiker,Gregory A <gkiker@ufl.edu>; Muneepeerakul,Rachata <rmuneepe@ufl.edu>
Subject: RE: courses for water policy certificate

Hi Paloma!

Nice to hear from you! I am copying Greg Kiker our Interim Chair/Grad Coordinator and Rachata Muneepeerakul, Interim Grad Coordinator on your request. They should be able to help you select the best courses to include.

Thank you!
Shannon

From: Carton de Grammont,Paloma <palomacgl@ufl.edu>
Sent: Thursday, May 15, 2025 1:21 PM
To: Noble,Shannon M <shannon.noble@ufl.edu>
Subject: courses for water policy certificate

Hi Sharon

We are designing a new certificate on Water policy and are collecting the list of courses that students can take

From ABE we have these two courses and I just wanted to make sure they are current

AEB 7453	Natural Resource Economics
AEB6453	Natural Resource and Environmental Economics

Also, are there other courses that you think can be included? We are interested in any course that has a components of water management, policy, planning, economics, governance, as well as general courses on water science

If you have a list of all the current courses from ABE I could just scroll through those and see if there are any that fit

Thank you!

Paloma

Paloma Carton de Grammont, Ph.D.
Assistant Director

UF | Water Institute
UNIVERSITY of FLORIDA

Learn more about our work: https://waterinstitute.ufl.edu/
For the latest, follow us on social media: Twitter Facebook Instagram LinkedIn
Support water science and education—donate to our Planning Fund today!

Original file: Combined LOS with Index Water Policy Certificate.pdf

College of Agriculture and Life Sciences
School of Forest, Fisheries, and Geomatics Sciences

1745 McCarty Rd
PO Box 110410
Gainesville, FL 32611
352-392-4848

Dear Graduate Curriculum Committee,

I am writing in strong support of the proposed Graduate Certificate in *Water Policy,* to be housed in the School of Natural Resources and Environment (SNRE) and administered in collaboration with the University of Florida (UF) Water Institute. As a faculty member specializing in natural resource economics and policy, I see this certificate as a timely and valuable addition to our graduate offerings at the University of Florida.

The certificate's interdisciplinary structure—requiring coursework in law, policy and economics, and science—will provide students with an integrated perspective that mirrors the complexity of real-world water governance challenges. From my own teaching and research, I know that water issues rarely fall neatly into a single disciplinary box. Instead, they demand a blend of legal, economic, and ecological understanding. This certificate directly addresses that need, giving students both the intellectual framework and applied tools to navigate water policy debates at local, national, and global scales.

I am particularly enthusiastic about the emphasis on economics and policy analysis within the curriculum. Graduate students increasingly recognize that technical or scientific training alone does not prepare them to evaluate tradeoffs, design incentives, or assess the feasibility of water management strategies. By grounding students in decision-making frameworks, stakeholder engagement processes, and interdisciplinary problem-solving, the certificate will prepare them to be leaders in both academic and applied policy settings.

Importantly, the proposed certificate is complementary to, not duplicative of, existing UF offerings. While other programs focus on wetland restoration, hydrological science, or general environmental policy, this certificate uniquely centers on *water governance*—the integration of law, economics, and science to address pressing water challenges. Its addition will strengthen UF's reputation as a national leader in water scholarship and policy engagement.

I fully support the development of this certificate and look forward to advising and mentoring students who choose to pursue it. I believe it will serve as a valuable credential for students and professionals alike, while also advancing UF's mission to prepare graduates who can tackle urgent environmental and societal challenges.

Sincerely,

Kotryna Klizentyte, Ph.D.
Assistant Professor
Natural Resource Economics and Policy
School of Forest, Fisheries, and Geomatics Sciences

Dear University of Florida Graduate Certificate Review Committee,

I am writing to express my enthusiastic support for the proposed certificate in Water Policy, coordinated by the Water Institute and the School of Natural Resources and Environment. I am pleased that my course, Freshwater Ecology (FAS 6275), is included in the curriculum for this certificate.

This interdisciplinary certificate will offer students a valuable framework for understanding the complex interactions between water science, policy, and management. I believe it will enhance the visibility and impact of existing courses—including mine—and provide students with a coherent academic pathway to engage with pressing water-related challenges.

I fully support the development of this certificate and look forward to advising and mentoring students who choose to pursue it. I believe it will serve as a meaningful credential for both students and professionals, while also advancing the University of Florida's mission to prepare graduates capable of addressing urgent environmental and societal issues.

Thank you for your consideration of this proposal. I look forward to contributing to the success of this initiative.

Sincerely,

Lindsey Reisinger

Assistant Professor of Freshwater Ecology

Original file: Combined LOS with Index Water Policy Certificate.pdf

From: Stein,Taylor Verne
To: Carton de Grammont,Paloma
Cc: Klizentyte,Kotryna
Subject: Re: Request for Support Letter – Water Policy Certificate Proposal
Date: Wednesday, October 8, 2025 2:44:54 PM

Paloma,

Thanks for the email, and yes, I'm fully supportive of including this course. I'm copying the co-instructor, Kotryna Klizentyte, who I also know is supportive.

Cheers,

Taylor

Get Outlook for iOS

From: Carton de Grammont,Paloma <palomacgl@ufl.edu>
Sent: Wednesday, October 8, 2025 2:35 PM
To: Stein,Taylor Verne <tstein@ufl.edu>
Subject: Request for Support Letter – Water Policy Certificate Proposal

Dear Taylor,

The Water Institute, in collaboration with the School of Natural Resources and Environment (SNRE), is in the process of proposing a new **Graduate Certificate in Water Policy**. This certificate will offer interdisciplinary training in water governance, integrating law, economics, policy, and science.

Designed to prepare future leaders, the program emphasizes the application of legal frameworks, policy analysis, and scientific principles to address complex water challenges at local, national, and global scales. The 10-credit curriculum includes one course in each of three core areas—Law, Policy and Economics, and Water Science—followed by a required interdisciplinary seminar that serves as the program's integrative experience.

Your course, **FNR5625 Managing Public Lands and Waters**, has been identified as one of the offerings in the Policy and Economics core area. We'd like to confirm that you're comfortable with its inclusion and, if so, request a brief letter of support to include in our application to the Graduate School.

Attached to this email are:

- A summary of the certificate proposal
- A template letter of support for your convenience

Original file: Combined LOS with Index Water Policy Certificate.pdf

Alternatively, a simple reply to this email stating your approval and support for the certificate would also suffice.

We would appreciate receiving your response by **October 31st**. Please don't hesitate to reach out with any questions or concerns—we're happy to address them.

Thank you very much, and I hope you have a great day!

Best regards,

Paloma Carton de Grammont, Ph.D.
Assistant Director,
2026 Water Institute Symposium co-chair,

UF | Water Institute
UNIVERSITY of FLORIDA

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https://conference.ifas.ufl.edu/waterinstitute/index.php
Learn more about our work: https://waterinstitute.ufl.edu/
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Support water science and education—donate to our Planning Fund today!

College of Liberal Arts and Sciences
Department of Biology
Amanda L. Subalusky
Assistant Professor
asubalusky@ufl.edu

220 Bartram Hall
PO Box 118525
Gainesville, FL 32611-8525
352-294-6311
352-392-3704 Fax

3 November 2025

Dear University of Florida Graduate Certificate Review Committee,

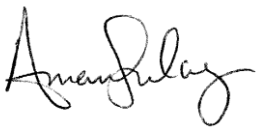
I am writing to express my enthusiastic support for the proposed certificate in Water Policy, coordinated by the Water Institute and the School of Natural Resources and Environment. I am pleased that my course, PCB5338 Principles of Ecosystem Ecology, is included in the curriculum for this certificate.

This interdisciplinary certificate will offer students a valuable framework for understanding the complex interactions between water science, policy, and management. I believe it will enhance the visibility and impact of existing courses—including mine—and provide students with a coherent academic pathway to engage with pressing water-related challenges.

I fully support the development of this certificate and look forward to advising and mentoring students who choose to pursue it. I believe it will serve as a meaningful credential for both students and professionals, while also advancing the University of Florida's mission to prepare graduates capable of addressing urgent environmental and societal issues.

Thank you for your consideration of this proposal. I look forward to contributing to the success of this initiative.

Sincerely,



Dr. Amanda Subalusky
Assistant Professor
Department of Biology
University of Florida

Original file: Combined LOS with Index Water Policy Certificate.pdf

Original file: Combined LOS with Index Water Policy Certificate.pdf

From: Volk,Michael Ives
To: Carton de Grammont,Paloma
Subject: Re: Request for Support Letter – Water Policy Certificate Proposal
Date: Thursday, October 9, 2025 9:04:12 AM

Dear Paloma,
Thank you for reaching out. I am out of town, but wanted to confirm that I approve having our course listed, and also support this certificate.

Best,

Mike

Michael Volk, PLA
Research Associate Professor + Associate Director
Center for Landscape Conservation Planning
Department of Landscape Architecture
University of Florida
Phone: 352-262-3018
Center: http://conservation.dcp.ufl.edu/

From: Carton de Grammont,Paloma <palomacgl@ufl.edu>
Date: Wednesday, October 8, 2025 at 4:41 PM
To: Volk,Michael Ives <mikevolk@ufl.edu>
Subject: Request for Support Letter – Water Policy Certificate Proposal

Dear Michael,

The Water Institute, in collaboration with the School of Natural Resources and Environment (SNRE), is in the process of proposing a new **Graduate Certificate in Water Policy**. This certificate will offer interdisciplinary training in water governance, integrating law, economics, policy, and science.

Designed to prepare future leaders, the program emphasizes the application of legal frameworks, policy analysis, and scientific principles to address complex water challenges at local, national, and global scales. The 10-credit curriculum includes one course in each of three core areas—Law, Policy and Economics, and Water Science—followed by a required interdisciplinary seminar that serves as the program's integrative experience.

Your course, **LAA 6382 Ecological and Environmental Policy Seminar**, has been identified as one of the offerings in the Policy and Economics core area. We'd like to confirm that you're comfortable with its inclusion and, if so, request a brief letter of support to include in our application to the Graduate School.

Original file: Combined LOS with Index Water Policy Certificate.pdf

Attached to this email are:

- A summary of the certificate proposal
- A template letter of support for your convenience

Alternatively, a simple reply to this email stating your approval and support for the certificate would also suffice.

We would appreciate receiving your response by **October 31st**. Please don't hesitate to reach out with any questions or concerns—we're happy to address them.

Thank you very much, and I hope you have a great day!

Best regards,

Paloma Carton de Grammont, Ph.D.
Assistant Director,
2026 Water Institute Symposium co-chair,

UF | Water Institute
UNIVERSITY of FLORIDA

Learn more about the 2026 UF Water Institute Biennial Symposium:
https://conference.ifas.ufl.edu/waterinstitute/index.php
Learn more about our work: https://waterinstitute.ufl.edu/
For the latest, follow us on social media: Twitter Facebook Instagram LinkedIn
Support water science and education—donate to our Planning Fund today!

Original file: Combined LOS with Index Water Policy Certificate.pdf

Cover Sheet: Request 22555

Updates to ENY minor

Info

Process	Minor|Modify/Ugrad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Anthony Auletta anthonyauletta@ufl.edu
Created	2/2/2026 5:43:43 PM
Updated	2/2/2026 5:48:23 PM
Description of request	Slight updates to the degree audit and catalog page for the ENY minor (to accommodate recent updates to one of the required courses).

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Entomology and Nematology 60140000	Jennifer Weeks		2/2/2026
Catalog Copy- Entomology & Nematology Minor (Residential) Feb 2026.docx Catalog Copy- Entomology & Nematology Minor (UF Online) Feb 2026.docx					2/2/2026 2/2/2026
College	Pending	CALS - College of Agricultural and Life Sciences			2/2/2026
No document changes					
Associate Provost for Undergraduate Affairs					
No document changes					
University Curriculum Committee					
No document changes					
Office of the Registrar					
No document changes					
Catalog					
No document changes					
Student Academic Support System					
No document changes					
College Notified					
No document changes					

Original file: Cover sheet.pdf

Minor|Modify for request 22555

Info

Request: Updates to ENY minor
Description of request: Slight updates to the degree audit and catalog page for the ENY minor (to accommodate recent updates to one of the required courses).
Submitter: Anthony Auletta anthonyauletta@ufl.edu
Created: 2/2/2026 5:36:49 PM
Form version: 1

Responses

Name Entomology & Nematology
Code ENY
Effective Term Earliest Available
Effective Year Earliest Available
Proposed Changes We have recently submitted a separate request to update ENY 4161 from a 3 credit course to a 4 credit course. Since ENY 4161 is a required course for the ENY minor, it necessitates some slight changes to the degree audit and catalog page for the minor.

The current requirements for the minor are as follows:
(1) ENY3005- Principles of Entomology [3 credits]
(2) ENY3005L- Principles of Entomology Lab [1 credit]
(3) ENY4161- Insect Classification [3 credits]
(4) 8-9 credits of Entomology & Nematology electives, chosen in consultation with an academic advisor in ENY.
Total credits required for the minor = 15-16

The proposed new requirements for the minor are as follows:
(1) ENY3005- Principles of Entomology [3 credits]
(2) ENY3005L- Principles of Entomology Lab [1 credit]
(3) ENY4161- Insect Classification [4 credits]
(4) 7-9 credits of Entomology & Nematology electives, chosen in consultation with an academic advisor in ENY.
Total credits required for the minor = 15-17

The following courses should be listed as pre-approved minor electives in students' degree audits:
ALS3153, ALS4161, ALS4162, ALS4163, ENY2041C, ENY2890C*, ENY3007C, ENY3222C, ENY3225C, ENY3228, ENY3451C, ENY3510C, ENY3563, ENY3564L, ENY3830, ENY3830L, ENY4201, ENY4201L, ENY4202, ENY4208, ENY4210, ENY4221, ENY4230, ENY4453, ENY4455C, ENY4571, ENY4573, ENY4574, ENY4590C, ENY4592, ENY4660, ENY4660L, ENY4701, ENY4823, ENY4932, IPM3022, IPM4114, NEM3002, PMA4570C
Pedagogical Rationale/Justification We need to update our degree audits and catalog pages for our ENY minor to accommodate a recent curriculum change (increasing ENY 4161 from 3 to 4 credits).
Impact on Other Programs We anticipate no impacts to other programs outside of ENY.

Catalog Copy Yes

Original file: Submitted form version 1.pdf

Entomology and Nematology

Minor

- Home
- Undergraduate Catalog
- Colleges and Schools
- Agricultural and Life Sciences, College of
- Entomology and Nematology
- Entomology and Nematology minor

Entomology and Nematology are interdisciplinary biological sciences that focus on the study of insects, mites, ticks, spiders, nematodes, and related organisms. These creatures can have both helpful and harmful effects on food security, the environment, and the health of humans and other animals. The Entomology and Nematology minor is available to students in any major who wish to gain more knowledge and experience with these organisms. Given the broad importance of insects and nematodes, an Entomology and Nematology minor can complement many different fields of study.

About this Program

- **College:** Agricultural and Life Sciences
- **Credits:** 15-16 | Completed with minimum grades of C

The Entomology and Nematology Department prepares students for exciting careers in a large variety of fields. Entomology and Nematology majors can enter medical, veterinary, or dental school; progress to graduate study in entomology, nematology, or any of several other biological sciences such as ecology and evolutionary biology, horticulture, or zoology; or move directly to a variety of careers (including industry and government positions) in fields such as pest management, agriculture, ecotourism, biosecurity, science policy, and education.
Website

CONTACT

Email | 352.273.3974

P.O. Box 110620
1881 Natural Area Drive, Bldg. 970
STEINMETZ HALL
GAINESVILLE FL 32611-0620
Map

Curriculum

- Beekeeping Certificate

- Combination Degrees
- Entomology and Nematology
- Entomology and Nematology Minor
- Entomology and Nematology Minor UF Online
- Landscape Pest Management Certificate
- Medical Entomology Certificate
- Pest Control Technology Certificate
- Urban Pest Management Certificate

Required Courses

A grade of C or above is required for all minor courses, including electives.

Course List

Code	Title	Credits
ENY 3005 & 3005L	Principles of Entomology and Principles of Entomology Laboratory	4
ENY 4161	Insect Classification	~~3~~4
Approved Entomology & Nematology Electives (see below for details)		~~8~~7-~~9~~9
Total Credits		15-~~16~~17

Approved Electives

Students may use any course offered by the Entomology & Nematology Department as an elective for the minor, except for the following: ENY 1001, ENY 2040, and Entomology & Nematology Quest 2 courses.

The following courses are all acceptable electives for the minor:

- ALS 3153: Agricultural Ecology
- ALS 4161: Exotic Species and Biosecurity Issues
- ALS 4162: Consequences of Biological invasions
- ALS 4163: Challenges in Plant Resource Protection
- ENY 2041C: Practical Beekeeping
- ENY 2890C: Insect Research CURE
- ENY 3007C: Life Science
- ENY 3222C: Biology and Identification of Urban Pests
- ENY 3225C: Principles of Urban Pest Management
- ENY 3228: Urban Vertebrate Pest Management
- ENY 3451C: Insect Behavior
- ENY 3510C: Turf and Ornamental Entomology
- ENY 3563: Introduction to Tropical Entomology
- ENY 3564L: Tropical Entomology Field Laboratory
- ENY 3830: Spider Biology

- ENY 3830L: Spider Biology Lab
- ENY 4201: Insect Ecology
- ENY 4201L: Insect Ecology Lab
- ENY 4202: Ecology of Vector-Borne Disease
- ENY 4208: Ecology and Conservation of Pollinators
- ENY 4210: Insects and Wildlife
- ENY 4221: Termite Biology and Control
- ENY 4230: Urban Integrated Pest Management Internship
- ENY 4453: Behavioral Ecology and Systematics
- ENY 4455C: Social Insects
- ENY 4571: Honey Bee Biology
- ENY 4573: Beekeeping I
- ENY 4574: Beekeeping II
- ENY 4590C: Mosquito Identification
- ENY 4592: Mosquito Biology
- ENY 4660: Medical and Veterinary Entomology
- ENY 4660L: Medical and Veterinary Entomology Laboratory
- ENY 4701: Forensic Entomology
- ENY 4823: Molecular Biology of Insects and Nematodes
- ENY 4932: Special Topics in Entomology and Nematology
- IPM 3022: Fundamentals of Pest Management
- IPM 4114: Insect Pest and Vector Management
- NEM 3002: Principles of Nematology
- PMA 4570C: Field Techniques in IPM

Students may also use a maximum of 3 credits of supervised research/extension in Entomology & Nematology (ENY 4900, ENY/NEM 4911, or ENY/NEM 4915) towards the elective requirement.

Students are strongly encouraged to contact an academic advisor in the Entomology & Nematology program to discuss their coursework for the minor before registration.

Entomology and Nematology

Minor | UF Online

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Entomology and Nematology are interdisciplinary biological sciences that focus on the study of insects, mites, ticks, spiders, nematodes, and related organisms. These creatures can have both helpful and harmful effects on food security, the environment, and the health of humans and other animals. The Entomology and Nematology minor is available to students in any major who wish to gain more knowledge and experience with these organisms. Given the broad importance of insects and nematodes, an Entomology and Nematology minor can complement many different fields of study.

About this Program

- **College:** Agricultural and Life Sciences
- **Credits:** 15-~~16~~ 17 | Completed with minimum grades of C

The Entomology and Nematology Department prepares students for exciting careers in a large variety of fields. Entomology and Nematology majors can enter medical, veterinary, or dental school; progress to graduate study in entomology, nematology, or any of several other biological sciences such as ecology and evolutionary biology, horticulture, or zoology; or move directly to a variety of careers (including industry and government positions) in fields such as pest management, agriculture, ecotourism, biosecurity, science policy, and education.
Website

CONTACT

Email | 352.273.3974

P.O. Box 110620
1881 Natural Area Drive, Bldg. 970
STEINMETZ HALL
GAINESVILLE FL 32611-0620
Map

Curriculum

- Beekeeping Certificate

- Combination Degrees
- Entomology and Nematology
- Entomology and Nematology Minor
- Entomology and Nematology Minor UF Online
- Landscape Pest Management Certificate
- Medical Entomology Certificate
- Pest Control Technology Certificate
- Urban Pest Management Certificate

Required Courses

A grade of C or above is required for all minor courses, including electives.

Course List

Code	Title	Credits
ENY 3005 & 3005L	Principles of Entomology and Principles of Entomology Laboratory	4
ENY 4161	Insect Classification	~~3~~4
Approved Entomology & Nematology Electives (see below for details)		~~8~~7-9
Total Credits		15-~~16~~17

Approved Electives

Students may use any course offered by the Entomology & Nematology Department as an elective for the minor, except for the following: ENY 1001, ENY 2040, and Entomology & Nematology Quest 2 courses.

The following courses are all acceptable electives for the minor:

The following courses are all acceptable electives for the minor:

- ALS 3153: Agricultural Ecology
- ALS 4161: Exotic Species and Biosecurity Issues
- ALS 4162: Consequences of Biological invasions
- ALS 4163: Challenges in Plant Resource Protection
- ENY 2890C: Insect Research CURE
- ENY 3007C: Life Science
- ENY 3222C: Biology and Identification of Urban Pests
- ENY 3225C: Principles of Urban Pest Management
- ENY 3451C: Insect Behavior
- ENY 3510C: Turf and Ornamental Entomology
- ENY 3563: Introduction to Tropical Entomology
- ENY 4202: Ecology of Vector-Borne Disease
- ENY 4210: Insects and Wildlife

- ENY 4230: Urban Integrated Pest Management Internship
- ENY 4571: Honey Bee Biology
- ENY 4573: Beekeeping I
- ENY 4574: Beekeeping II
- ENY 4592: Mosquito Biology
- ENY 4660: Medical and Veterinary Entomology
- ENY 4932: Special Topics in Entomology and Nematology
- IPM 3022: Fundamentals of Pest Management
- IPM 4114: Insect Pest and Vector Management
- NEM 3002: Principles of Nematology

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