CALS Curriculum Committee Meeting
October 21, 2022
McCarty Hall D Rm. 1044/1045
1:00 p.m.

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

Members: S. Ahn, J. Brendemuhl, D. Coenen, J. Czipulis, K. Fogarty, D. Gabriel, V. Hull, P. Inglett, J. Larkin (Chair), T. Martin, G. Nunez, E. Pappo, C. Prince, J. Scheffler, B. Schutzman, M. Sharp, M. Sowcik, A. Watson, J. Weeks, A. Wysocki

Agenda and Index for Materials

Approve Minutes from September 23, 2022 meeting

Dr. Brendemuhl: Update from UCC

Graduate New Course Proposals

1. FAS 6XXX – Freshwater Ecology (req. #17674)

2. FOR 6XXX – Issues in Southeastern Forest Health (req. #17679)

3. HOS 5XXX – Getting Published in Horticulture (req. #17639)

Undergraduate New Course Proposal

4. FAS 4XXX – Freshwater Ecology (req. #17673)

Undergraduate Course Change Proposals

5. ENY 4210 – Insects and Wildlife (req. #17612)

6. FOR 3200C – Foundations of Natural Resources and Conservation (req. #17659)

Curriculum

7. Proposed Revisions to the AEC-CLD Subplan (req. #17650)

8. Proposed Revisions to the WEC 8-Semester Plan (req. #17620)

Minor Revision

9. Proposed Revisions to the WEC Minor (req. #17638)

CALS Curriculum Committee Meeting
September 23, 2022
Submitted by James Fant

Members Present: S. Ahn, J. Brendemuhl, D. Coenen, K. Fogarty, D. Gabriel, V. Hull, J. Larkin, G. Nunez, E. Pappo, C. Prince, J. Scheffler, B. Schutzman, M. Sharp, M. Sowcik, J. Weeks

Substitute: Anne Mathews for Ahn

Visitors: Mariola Edelmann, Estelle Martin, Eric Triplett

Call to Order: The College of Agricultural and Life Sciences Curriculum Committee met in McCarty Hall D Rm. 1044/1045 on September 23, 2022. Dr. Hull called the meeting to order at 1:02 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. Nunez to approve the minutes from the August 19, 2022 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: Grades – https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/
For Graduate Grades: https://catalog.ufl.edu/graduate/regulations/#text
Syllabus Statements – https://cals.ufl.edu/content/PDF/Faculty_Staff/CALS-Syllabus-Policy.pdf
Absences & Make-Ups – https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx
Writing Learning Objectives - https://cals.ufl.edu/content/PDF/Faculty_Staff/cals-course-objectives.pdf.

Update from UCC: 1) Here are the items that were **APPROVED** at the 09/20/22 UCC meeting. A. New courses – WIS 4XXX – Diverse Perspectives in Conservation; EVR 3XXX – Eco-Civic Engagement. B. Changes to UG course – WIS 3553C – Introduction to Conservation Genetics. It was noted that 3000 and 4000 level courses that currently do not have prerequisites will be required to have a prerequisite in the very near future.

Graduate New Course Proposals

1. MCB 6XXX – Post Translational Modifications of Proteins in Microbiology (req. #17085)

A motion was made by Dr. Coenen to approve this item with changes required. The motion was approved. The UCC form needs to include the objectives listed on the syllabus.

Change the effective term and year on the UCC form to read earliest available. The prerequisites need to be removed from the graduate syllabus. Any prior knowledge of the course topic can be discussed during the first class meeting.

2. PCB 6XXX – Human Genomics (req. #17077)

A motion was made by Dr. Nunez to approve this item with changes required. The motion was approved. The degree type on the UCC form needs to be changed from Graduate to Joint. Also, include a one-page document outlining the differences between the graduate and undergraduate courses.

Graduate Course Change Proposal

3. ENY 5212 – Insects and Wildlife (req. #17613)

A motion was made by Dr. Scheffler to approve this item with a change required. The motion was approved. Include a page at the back of the syllabus listing citations for the articles in the reading list.

Curriculum

4. Proposed Ph.D. Concentration in Microbial and Cellular Data Science (req. #17587)

A motion was made by Dr. Scheffler to approve this item conditionally. The motion was approved. Dr. Brendemuhl will discuss formatting changes for this submission with Dr. Triplett.

The meeting was adjourned at **1:56** p.m.

Cover Sheet: Request 17674

6XXX Freshwater Ecology

Info

Process	Course|New|Grad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Jennifer Vogel alpha32605@ufl.edu
Created	9/22/2022 3:41:43 PM
Updated	9/22/2022 3:45:31 PM
Description of request	Request for a new course number for the graduate version of a co-taught ugrad/grad course in Freshwater Ecology

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	SFRC - Fisheries, Aquatic Sciences, and Geomatics 60469000	Terrell Baker III		9/22/2022
FAS 6932 Freshwater Ecology Syllabus August 2022.pdf FAS 4932 Freshwater Ecology Syllabus August 2022.pdf CALS CC Checklist_Freshwater Ecology.pdf FAS4932 and FAS6932 Freshwater Ecology Differentiation Summary.docx External-Consult_Limnology for Freshwater Ecology.pdf External-Consult_Soil and Water for Freshwater Ecology.pdf					9/22/2022 9/22/2022 9/22/2022 9/22/2022 9/22/2022 9/22/2022
College	Pending	CALS - College of Agricultural and Life Sciences			9/22/2022
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					

Course|New for request 17674

Info

Request: 6XXX Freshwater Ecology
Description of request: Request for a new course number for the graduate version of a co-taught ugrad/grad course in Freshwater Ecology
Submitter: Jennifer Vogel alpha32605@ufl.edu
Created: 9/22/2022 3:35:07 PM
Form version: 1

Responses

Recommended Prefix FAS
Course Level 6

Course Number XXX
Lab Code None
Category of Instruction Joint (Ugrad/Grad)
Course Title Freshwater Ecology
Transcript Title Freshwater Ecology
Degree Type Graduate

Delivery Method(s) On-Campus
Co-Listing Yes
Co-Listing Explanation Differentiation summary attached to request.
Effective Term Earliest Available
Effective Year Earliest Available
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 This graduate course is designed to provide students with an understanding of the concepts in freshwater ecology that are important for controlling the traits, distribution, and abundance of aquatic organisms. Material will focus on the major groups of organisms found in freshwater habitats, the physical and chemical properties that are important for structuring freshwater communities, and the ecological processes that affect freshwater communities and ecosystems.
Prerequisites graduate standing
Co-requisites N/A
Rationale and Placement in Curriculum This course is designed to provide fisheries and aquatics and multidisciplinary natural resource graduate students with an understanding of key concepts in freshwater ecology. Material will focus on physical and chemical aspects of freshwater ecosystems, major groups of freshwater organisms, and the ecological processes that affect freshwater communities and ecosystems.
Course Objectives • Identify the principal physical and chemical aspects of freshwater ecosystems and explain how they structure freshwater communities
• Describe common groups of freshwater organisms and the main ways that they interact with one another
• Explain the major ways in which human activities affect freshwater ecosystems and the organisms that live in them
• Predict the effects of freshwater organisms and ecological processes across a variety of conditions
• Consider the strengths and weaknesses of scientific papers focused on freshwater ecology research and examine how they contribute to broader topics

- Produce a presentation that critically evaluates a freshwater ecology paper of your choosing
- Propose new experiments to build on existing knowledge in the field of freshwater ecology

Course Textbook(s) and/or Other Assigned Reading Dodds, W.K. and M. R. Whiles. 2019. Freshwater ecology: concepts and environmental applications of limnology. 3rd edition. Elsevier, San Diego, CA.
Or
Dodds, W.K. 2002. Freshwater ecology: concepts and environmental applications of limnology. 1st edition. Elsevier, San Diego, CA. (available as an E Book through the UF George A. Smathers Libraries)
Reading discussion 1 (water availability)
Meijer, C. G., H. J. Warburton, and A. R. McIntosh. 2021. Disentangling the multiple effects of stream drying and riparian canopy cover on the trophic ecology of a highly threatened fish. Freshwater Biology 66:102-113.

Reading discussion 2 (land use):
Moore, A. A., and M. A. Palmer. 2005. Invertebrate biodiversity in agricultural and urban headwater streams: implications for conservation and management. Ecological Applications 15:1169–1177.

Reading discussion 3 (dissolved organic carbon):
Craig, N., S. E. Jones, B. C. Weidel, and C. T. Solomon. 2015. Habitat, not resource availability, limits consumer production in lake ecosystems. Limnology and Oceanography 60:2079-2089.

Reading discussion 4 (climate change):
Low-Decarie, E., G. Bell, and G. F. Fussmann. 2015. CO2 alters community composition and response to nutrient enrichment of freshwater phytoplankton. Oecologia 177:875-883.

Reading discussion 5 (nutrient pollution, stoichiometry):
Elser, J. J., A. L. Peace, M. Kyle, M. Wojewodzic, M. L. McCrackin, T. Andersen, and D. O. Hessen. 2010. Atmospheric nitrogen deposition is associated with elevated phosphorus limitation of lake zooplankton. Ecology Letters 13:1256–1261.
Schindler, D. W. 1974. Eutrophication and recovery in experimental lakes: implications for lake management. Science 184:897–899. (additional reading – not the focus of the discussion)

Reading discussion 6 (eco-evolutionary dynamics):
Palkovacs, E.P., M. C. Marshall, B. A. Lamphere, B. R. Lynch, D. J. Weese, D. F. Fraser, D. N. Reznick, C. M. Pringle, and M. T. Kinnison. 2009. Experimental evaluation of evolution and coevolution as agents of ecosystem change in Trinidadian streams. Philosophical Transactions of the Royal Society B: Biological Sciences, 364:1617-1628.

Reading discussion 7 (extinctions, biological invasions):
Wilson, K. A., J. J. Magnuson, D. M. Lodge, A. M. Hill, T. K. Kratz, W. L. Perry, and T. V Willis. 2004. A long-term rusty crayfish (Orconectes rusticus) invasion: dispersal patterns and community change in a north temperate lake. Canadian Journal of Fisheries and Aquatic Sciences 61:2255–2266.
Ricciardi, A., and J. B. Rasmussen. 1999. Extinction rates of North American freshwater fauna. Conservation Biology 13:1220–1222. (additional reading – not the focus of the discussion)

Reading discussion 8 (pharmaceuticals):
Rosi, E. J., H. A. Bechtold, D. Snow, M. Rojas, A. J. Reisinger, and J. J. Kelly. 2018. Urban stream microbial communities show resistance to pharmaceutical exposure. Ecosphere 9:e02041.

Reading discussion 9 (biodiversity and ecosystem function):
Cardinale, B. J. 2011. Biodiversity improves water quality through niche partitioning. Nature 472:86–91.

Reading discussion 10 (trophic cascades):
Post, D. M., E. P. Palkovacs, E. G. Schielke and S. I. Dodson. 2008. Intraspecific variation in a predator affects community structure and cascading trophic interactions. Ecology 89:2019-2032.

Reading discussion 11 (fish ecology):
Sass, G. G., J. F. Kitchell, S. R. Carpenter, T. R. Hrabik, A. E. Marburg, and M. G. Turner. 2006. Fish community and food web responses to a whole-lake removal of coarse woody habitat. Fisheries

31:321–330.

Weekly Schedule of Topics Week 1
Wednesday Aug 24 Synchronous activity: course introduction
Friday Aug 26 Synchronous activity: group questions
Topics The importance of freshwater ecosystems
Physical and chemical properties of water and the influence of water properties on aquatic organisms
Readings/Works Dodds and Whiles chapters 1 and 2
Dodds and Whiles appendix: experimental design in aquatic ecology

Week 2 Wednesday August 31 Synchronous activity: group questions
Friday Sept 2 Synchronous activity: reading discussion 1 (water availability)
Topics Movement of light, heat, and chemicals in water
The hydrologic cycle, groundwater, and its connection to surface water
Readings/Works Dodds and Whiles chapters 3 and 4
Meijer et al. 2021*

Week 3
(Labor Day) Wednesday Sept 7 Synchronous activity: group questions
Friday Sept 9 Synchronous activity: reading discussion 2 (land use)
Topics Wetland habitats, adaptations of wetland organisms, human impacts on wetland ecosystems
Flowing waters, human impacts on flowing water ecosystems
Readings/Works Dodds and Whiles chapters 5 and 6 (chapter 5 in 1st edition)
Moore and Palmer 2005*

Week 4 Wednesday Sept 14 Synchronous activity: group questions
Friday Sept 16 Synchronous activity: reading discussion 3 (dissolved organic carbon)
Topics Lakes and reservoirs, lake formation processes and biodiversity, stratification
Readings/Works Dodds and Whiles chapter 7 (chapter 6 in 1st edition)
Craig et al. 2015*

Week 5 Wednesday Sept 21 Synchronous activity: group questions
Friday Sept 23 Synchronous activity: live freshwater organisms
Topics Classification of freshwater organisms
Freshwater microbes
Readings/Works Dodds and Whiles chapters 8 and 9 (chapters 7 and 8 in 1st edition)

Week 6 Monday Sept 26 Synchronous activity: exam review
Wednesday Sept 28 Exam 1
Friday Sept 30 Synchronous activity: group questions
Topics Freshwater animals
Readings/Works Dodds and Whiles chapter 10 (chapter 9 in 1st edition)

Week 7 Wednesday Oct 5 Synchronous activity: group questions
Friday Oct 7 Synchronous activity: reading discussion 4 (climate change)
Topics Chemicals in freshwater ecosystems, drivers of dissolved oxygen concentrations including photosynthesis and respiration
Carbon cycling, leaf litter breakdown
Readings/Works Dodds and Whiles chapters 12 and 13 (chapters 11 and 12 in 1st edition)
Climate change podcast
Low-Decarie et al. 2015*
*answer reading questions for these papers

Week 8 Monday Oct 10 Freshwater animals quiz
Wednesday Oct 12 Synchronous activity: group questions
Friday Oct 14 Synchronous activity: reading discussion 5 (nutrient pollution, stoichiometry)
Topics Nutrients and their cycles
Nutrient use and remineralization by aquatic organisms
Readings/Works Dodds and Whiles chapters 14 and 17 (chapters 13 and 16 in 1st

edition)
Schindler 1974
Elser et al. 2010*

Week 9 Wednesday Oct 19 Synchronous activity: group questions
Friday Oct 21 Synchronous activity: reading discussion 6 (eco-evolutionary dynamics)
Topics Freshwater plants
Evolution and biodiversity
Readings/Works Dodds and Whiles chapter 11 (chapter 10 in 1st edition)
Pond plants video with Dr. Cichra
Ricciardi & Rasmussen 1999
Palkovacs et al. 2009*

Week 10 Wednesday Oct 26 Synchronous activity: group questions
Friday Oct 28 Synchronous activity: reading discussion 7 (extinctions, biological invasions)
Topics Biological invasions
Ecosystem ecology
Readings/Works Dodds and Whiles chapter 24 (chapter 22 in 1st edition)
Wilson et al. 2004*

Week 11 Monday Oct 31 Synchronous activity: exam review
Wednesday Nov 2 Exam 2
Friday Nov 4 Synchronous activity: reading discussion 8 (pharmaceuticals)
Topics Pharmaceuticals
Readings/Works Rosi et al. 2018*

Week 12
(Veterans Day) Monday Nov 7 Synchronous activity: group questions
Wednesday Nov 9 Synchronous activity: reading discussion 9 (biodiversity and ecosystem function)
Topics Chemicals and pollutants
Readings/Works Dodds and Whiles chapter 16 (chapter 14 in 1st edition)
Cardinale 2011*

Week 13 Wednesday Nov 16 Synchronous activity: group questions
Friday Nov 18 Synchronous activity: reading discussion 10 (trophic cascades)
Topics Trophic state and eutrophication
Predation and trophic cascades
Readings/Works Dodds and Whiles chapters 18 and 20 (chapters 17 and 19 in 1st edition)
Post et al. 2008*

Week 14 (Thanksgiving) Monday Nov 21 Synchronous activity: group questions
Topics Microbes: behavior and interactions
Readings/Works Dodds and Whiles chapter 19 (chapter 18 in 1st edition)

Week 15 Wednesday Nov 30 Synchronous activity: group questions
Friday Dec 2 Synchronous activity: reading discussion 11 (fish ecology)
Topics Parasitism, competition, and mutualism
Fish ecology and fisheries
Readings/Works Dodds and Whiles chapters 21 and 23 (chapters 20 and 21 in 1st edition)
Sass et al. 2006*

Week 16 Monday Dec 5 Synchronous activity: group questions
Wednesday Dec 7 Synchronous activity: final exam review
Topics Complex community interactions
Readings/Works Dodds and Whiles chapter 22 (this chapter is absent from 1st edition)

Exam Week Wednesday Dec 14 Final Exam 10 am – 12 pm

Grading Scheme Assignment Percent of Grade
Quiz 5%
Group question participation 5%
Reading discussion participation 10%
Summary reading questions 10%
Presentation 15%
Exam 1 10%
Exam 2 20%
Final Exam 25%
TOTAL 100%

Instructor(s) Dr. Lindsey Reisinger
Attendance & Make-up Yes
Accomodations Yes
UF Grading Policies for assigning Grade Points Yes
Course Evaluation Policy Yes

CALS Curriculum Committee
Submission Checklist

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.

__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_ You MUST comply with the CALS Syllabus Policy, including items 1 through 8 and all standard syllabus statements. This document can be viewed at the committee site(https://cals.ufl.edu/faculty-staff/committees/) by clicking on the Curriculum Committee – Information & Documents heading and scrolling down to Forms, Checklists, and Other documents. The other items included here are all very helpful when making a curriculum submission. Some will be mentioned in other checklist items below.

__x_ Joint course submissions must include both graduate and undergraduate syllabuses and a separate statement 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. Any other information you wish to include needs to be under a different heading such as background or additional information.

_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-course-objectives.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 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://registrar.ufl.edu/pdf/uccconsult.pdf.

__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.

__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 is 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 CALS Syllabus Statements boiler plate must be included in all syllabuses. This document is included in the CALS Syllabus Policy and can be copied and pasted to the syllabus. Do not use the 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. Joel Brendemuhl (brendj@ufl.edu) for further instruction)

External Consultation Results (departments with potential overlap or interest in proposed course, if any)

Department	Name and Title
Department of Geological Sciences	Dr. Ellen Martin, Chair
Phone Number	**E-mail**
352-392-2231	eemartin@ufl.edu

Comments

Dr. Mark Brenner | PCB 5307C Limnology
Freshwater Ecology focuses much more substantially on aquatic organisms and their interactions than this course. Freshwater Ecology also does not have a strong focus on tropical/subtropical ecosystems, which is a focus of the limnology course.
Resolution: I contacted Mark Brenner and we see no issues with your plan.
Ellen Martin

Department	Name and Title
Phone Number	**E-mail**

Comments

Department	Name and Title
Phone Number	**E-mail**

Comments

External Consultation Results (departments with potential overlap or interest in proposed course, if any)

Department	Name and Title
Department of Soil, Water and Ecosystem Sciences	Dr. Matt Whiles, Chair
Phone Number	**E-mail**
352-2943151	mwhiles@ufl.edu

Comments

Similar courses:
Dr. Mark Clark | SWS 4244 Wetlands and SWS5248 Wetlands and Water Quality
Heather Enloe | SWS 4932 Introduction to Water in the Environment
K.S. Inglett | SWS6448 Biogeochemistry of Wetlands and Aquatic Systems
Hey Red – no significant issues from us. There was some concern of overlap if the course ended up as a 3000 level, but not issues with 4000 level. Matt R. Whiles

Department	Name and Title
Phone Number	**E-mail**

Comments

Department	Name and Title
Phone Number	**E-mail**

Comments

FAS 4932 In-person
Freshwater Ecology, 3 credit hours, M W F period 7 (1:55-2:45), MCCC0100
Prerequisites: BSC2005 or BSC2010 or equivalent

Professor: Dr. Lindsey Reisinger
lreisinger1@ufl.edu, (352) 294-1355, Dequine Building 113
Office hours via Zoom Monday 10:00 am - 12:00 pm (https://ufl.zoom.us/j/98700865323)

Text: Dodds, W.K. and M. R. Whiles. 2019. Freshwater ecology: concepts and environmental applications of limnology. 3rd edition. Elsevier, San Diego, CA.

Or

Dodds, W.K. 2002. Freshwater ecology: concepts and environmental applications of limnology. 1st edition. Elsevier, San Diego, CA. (available as an E Book through the UF George A. Smathers Libraries)

Additional papers from the primary literature will be assigned throughout the semester.

Course Description:
This undergraduate course is designed to provide students with an understanding of the concepts in freshwater ecology that are important for controlling the traits, distribution, and abundance of aquatic organisms. Material will focus on the major groups of organisms found in freshwater habitats, the physical and chemical properties that are important for structuring freshwater communities, and the ecological processes that affect freshwater communities and ecosystems.

Student Leaning Outcomes:
At the end of the course, students will be able to:

- Identify the principal physical and chemical aspects of freshwater ecosystems and explain how they structure freshwater communities
- Describe common groups of freshwater organisms and the main ways that they interact with one another
- Explain the major ways in which human activities affect freshwater ecosystems and the organisms that live in them
- Predict the effects of freshwater organisms and ecological processes across a variety of conditions
- Consider the strengths and weaknesses of scientific papers focused on freshwater ecology research and examine how they contribute to broader topics
- Write a critique of a scientific paper and relate it to other primary research papers

Graded work:
A more detailed description and a grading rubric for each assignment will be provided in the class.

Exams, quizzes, and In-class activities
There will be two exams over the course of the semester as well as a final exam. Each exam will be cumulative and cover new material as well as material from earlier in the semester. Later exams contribute more to the grade than early exams. The instructor will provide a set of learning objectives covered by each exam that can be used as a study guide. The in-class activities will provide an opportunity for students to practice answering questions similar to those that will appear on the exams. In addition to exams and in-class activities, there will be a quiz focused on identifying freshwater animals and their ecological roles.

Evaluation of scientific literature
Several assignments are designed to encourage critical evaluation of scientific data and methods in freshwater ecology. Throughout the semester, the class will read and discuss scientific papers. Reading discussions will typically occur once per week on Fridays. Students will answer summary reading

questions about the papers that are that are due prior to class on reading discussion days. These questions are designed to help students summarize the main points of the paper and think critically about the experimental design and strength of the evidence. Students will also write a more in-depth critical review of one scientific paper (4-6 pages double spaced), in which they will summarize the research, analyze the content of the paper, and place the findings into the context of other research.

Attendance and Participation
Class participation is an essential part of the class and is 15% of the grade. Students can participate by attending in-person sessions and answering questions about the material and actively contributing to the discussion in a respectful way. Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/

- Attendance for group question sessions: Attendance will be taken at each session. You are allowed three "personal days" for the semester, after which each absence that does not meet university criteria for "excused" will result in a two-point deduction from your participation grade.
- Attendance for reading discussions: Reading discussions are required because the discussion is an essential part of understanding and evaluating the scientific paper. Each absence from a reading discussion that does not meet university criteria for "excused" will result in a two-point deduction from your participation grade.
- NOTE: If you have personal issues that prohibit you from joining freely in class discussion, e.g., shyness, language barriers, etc., see the instructor as soon as possible to discuss alternative modes of participation.
- Assignments are expected to be turned in on time. In particular, the reading questions and the critical review writing assignment must be turned in on time, prior to the discussion, so that the discussion does not influence the content. Therefore, there will be an automatic deduction of 25% of the grade for any of these assignments if they are turned in late. Late work will not be accepted more than two weeks after its due date or after the final exam.
- Students are expected to take exams and quizzes on the assigned date. If you must miss an exam or quiz on the date it is assigned due to an absence that meets the University criteria for "excused," please email the instructor as soon as possible to reschedule.

Submitting Assignments
The class will be structured as a combination of recorded online lectures, in-person meetings in which students will participate in activities and answer questions focused on class material, and in-person class discussions focused on a scientific paper. Weekly readings will typically consist of a portion of the text from Dodds and Whiles as well as one scientific paper.

Assignments will be submitted online on the UF Canvas E-Learning site. A computer with internet connection is required. The UF Canvas E-Learning site can be accessed at http://elearning.ufl.edu/ using your Gatorlink account. Please contact the computing help desk with questions https://helpdesk.ufl.edu/. You can find the recorded lectures, readings, and assignments for each week in the Modules section.

Evaluation of Student Learning: Click here to see the university grades and grading policies

Assignment	Percent of Grade
Quiz	5%
Group question participation	5%
Reading discussion participation	10%
Summary reading questions	10%
Critical review writing assignment	15%
Exam 1	10%
Exam 2	20%
Final Exam	25%
TOTAL	100%

A 94-100%; A- 90-93.99;
B+ 86-89.99; B 83-85.99; B- 80-82.99;
C+ 76-79.99; C 73-75.99; C- 70-72.99;
D+ 66-69.99; D 63-65.99; D- 60-62.99;
E <60%

Schedule of Class Topics		
Week 1	Wednesday Aug 24	Synchronous activity: course introduction
	Friday Aug 26	Synchronous activity: group questions
	Topics	The importance of freshwater ecosystems Physical and chemical properties of water and the influence of water properties on aquatic organisms
	Readings/Works	Dodds and Whiles chapters 1 and 2 Dodds and Whiles appendix: experimental design in aquatic ecology
Week 2	Wednesday August 31	Synchronous activity: group questions
	Friday Sept 2	Synchronous activity: reading discussion 1 (water availability)
	Topics	Movement of light, heat, and chemicals in water The hydrologic cycle, groundwater, and its connection to surface water
	Readings/Works	Dodds and Whiles chapters 3 and 4 Meijer et al. 2021*
Week 3 (Labor Day)	Wednesday Sept 7	Synchronous activity: group questions
	Friday Sept 9	Synchronous activity: reading discussion 2 (land use)
	Topics	Wetland habitats, adaptations of wetland organisms, human impacts on wetland ecosystems Flowing waters, human impacts on flowing water ecosystems
	Readings/Works	Dodds and Whiles chapters 5 and 6 (chapter 5 in 1st edition) Moore and Palmer 2005*
Week 4	Wednesday Sept 14	Synchronous activity: group questions
	Friday Sept 16	Synchronous activity: reading discussion 3 (dissolved organic carbon)
	Topics	Lakes and reservoirs, lake formation processes and biodiversity, stratification
	Readings/Works	Dodds and Whiles chapter 7 (chapter 6 in 1st edition) Craig et al. 2015*
Week 5	Wednesday Sept 21	Synchronous activity: group questions
	Friday Sept 23	Synchronous activity: live freshwater organisms
	Topics	Classification of freshwater organisms Freshwater microbes
	Readings/Works	Dodds and Whiles chapters 8 and 9 (chapters 7 and 8 in 1st edition)
Week 6	Monday Sept 26	Synchronous activity: exam review
	Wednesday Sept 28	**Exam 1**
	Friday Sept 30	Synchronous activity: group questions
	Topics	Freshwater animals
	Readings/Works	Dodds and Whiles chapter 10 (chapter 9 in 1st edition)
Week 7	Wednesday Oct 5	Synchronous activity: group questions
	Friday Oct 7	Synchronous activity: reading discussion 4 (climate change)
	Topics	Chemicals in freshwater ecosystems, drivers of dissolved oxygen concentrations including photosynthesis and respiration Carbon cycling, leaf litter breakdown
	Readings/Works	Dodds and Whiles chapters 12 and 13 (chapters 11 and 12 in 1st edition) Climate change podcast Low-Decarie et al. 2015*

*answer summary reading questions for these papers

Schedule of Class Topics		
Week 8	Monday Oct 10	**Freshwater animals quiz**
	Wednesday Oct 12	Synchronous activity: group questions
	Friday Oct 14	Synchronous activity: reading discussion 5 (nutrient pollution, stoichiometry)
	Topics	Nutrients and their cycles Nutrient use and remineralization by aquatic organisms
	Readings/Works	Dodds and Whiles chapters 14 and 17 (chapters 13 and 16 in 1st edition) Schindler 1974 Elser et al. 2010*
Week 9	Wednesday Oct 19	Synchronous activity: group questions
	Friday Oct 21	Synchronous activity: reading discussion 6 (eco-evolutionary dynamics)
	Topics	Freshwater plants Evolution and biodiversity
	Readings/Works	Dodds and Whiles chapter 11 (chapter 10 in 1st edition) Pond plants video with Dr. Cichra Ricciardi & Rasmussen 1999 Palkovacs et al. 2009*
Week 10	Wednesday Oct 26	Synchronous activity: group questions
	Friday Oct 28	Synchronous activity: reading discussion 7 (extinctions, biological invasions) **Summary and scientific journal articles for critical review assignment due**
	Topics	Biological invasions Ecosystem ecology
	Readings/Works	Dodds and Whiles chapter 24 (chapter 22 in 1st edition) Wilson et al. 2004*
Week 11	Monday Oct 31	Synchronous activity: exam review
	Wednesday Nov 2	**Exam 2**
	Friday Nov 4	Synchronous activity: reading discussion 8 (pharmaceuticals)
	Topics	Pharmaceuticals
	Readings/Works	Rosi et al. 2018*
Week 12 (Veterans Day)	Monday Nov 7	Synchronous activity: group questions
	Wednesday Nov 9	Synchronous activity: reading discussion 9 (biodiversity and ecosystem function)
	Topics	Chemicals and pollutants
	Readings/Works	Dodds and Whiles chapter 16 (chapter 14 in 1st edition) Cardinale 2011*
Week 13	Wednesday Nov 16	Synchronous activity: group questions
	Friday Nov 18	Synchronous activity: reading discussion 10 (trophic cascades) **Critical review writing assignment due**
	Topics	Trophic state and eutrophication Predation and trophic cascades
	Readings/Works	Dodds and Whiles chapters 18 and 20 (chapters 17 and 19 in 1st edition) Post et al. 2008*
Week 14 (Thanksgiving)	Monday Nov 21	Synchronous activity: group questions
	Topics	Microbes: behavior and interactions
	Readings/Works	Dodds and Whiles chapter 19 (chapter 18 in 1st edition)
Week 15	Wednesday Nov 30	Synchronous activity: group questions
	Friday Dec 2	Synchronous activity: reading discussion 11 (fish ecology)
	Topics	Parasitism, competition, and mutualism Fish ecology and fisheries
	Readings/Works	Dodds and Whiles chapters 21 and 23 (chapters 20 and 21 in 1st edition) Sass et al. 2006*
Week 16	Monday Dec 5	Synchronous activity: group questions
	Wednesday Dec 7	Synchronous activity: final exam review
	Topics	Complex community interactions
	Readings/Works	Dodds and Whiles chapter 22 (this chapter is absent from 1st edition)
Exam Week	Wednesday Dec 14	**Final Exam** 10 am – 12 pm

*answer summary reading questions for these papers

Primary Literature

Reading discussion 1 (water availability)

Meijer, C. G., H. J. Warburton, and A. R. McIntosh. 2021. Disentangling the multiple effects of stream drying and riparian canopy cover on the trophic ecology of a highly threatened fish. Freshwater Biology 66:102-113.

Reading discussion 2 (land use):

Moore, A. A., and M. A. Palmer. 2005. Invertebrate biodiversity in agricultural and urban headwater streams: implications for conservation and management. Ecological Applications 15:1169–1177.

Reading discussion 3 (dissolved organic carbon):

Craig, N., S. E. Jones, B. C. Weidel, and C. T. Solomon. 2015. Habitat, not resource availability, limits consumer production in lake ecosystems. Limnology and Oceanography 60:2079-2089.

Reading discussion 4 (climate change):

Low-Decarie, E., G. Bell, and G. F. Fussmann. 2015. CO_2 alters community composition and response to nutrient enrichment of freshwater phytoplankton. Oecologia 177:875-883.

Reading discussion 5 (nutrient pollution, stoichiometry):

Elser, J. J., A. L. Peace, M. Kyle, M. Wojewodzic, M. L. McCrackin, T. Andersen, and D. O. Hessen. 2010. Atmospheric nitrogen deposition is associated with elevated phosphorus limitation of lake zooplankton. Ecology Letters 13:1256–1261.

Schindler, D. W. 1974. Eutrophication and recovery in experimental lakes: implications for lake management. Science 184:897–899. (additional reading – not the focus of the discussion)

Reading discussion 6 (eco-evolutionary dynamics):

Palkovacs, E.P., M. C. Marshall, B. A. Lamphere, B. R. Lynch, D. J. Weese, D. F. Fraser, D. N. Reznick, C. M. Pringle, and M. T. Kinnison. 2009. Experimental evaluation of evolution and coevolution as agents of ecosystem change in Trinidadian streams. Philosophical Transactions of the Royal Society B: Biological Sciences, 364:1617-1628.

Reading discussion 7 (extinctions, biological invasions):

Wilson, K. A., J. J. Magnuson, D. M. Lodge, A. M. Hill, T. K. Kratz, W. L. Perry, and T. V Willis. 2004. A long-term rusty crayfish (Orconectes rusticus) invasion: dispersal patterns and community change in a north temperate lake. Canadian Journal of Fisheries and Aquatic Sciences 61:2255–2266.

Ricciardi, A., and J. B. Rasmussen. 1999. Extinction rates of North American freshwater fauna. Conservation Biology 13:1220–1222. (additional reading – not the focus of the discussion)

Reading discussion 8 (pharmaceuticals):

Rosi, E. J., H. A. Bechtold, D. Snow, M. Rojas, A. J. Reisinger, and J. J. Kelly. 2018. Urban stream microbial communities show resistance to pharmaceutical exposure. Ecosphere 9:e02041.

Reading discussion 9 (biodiversity and ecosystem function):

Cardinale, B. J. 2011. Biodiversity improves water quality through niche partitioning. Nature 472:86–91.

Reading discussion 10 (trophic cascades):

Post, D. M., E. P. Palkovacs, E. G. Schielke and S. I. Dodson. 2008. Intraspecific variation in a predator affects community structure and cascading trophic interactions. Ecology 89:2019-2032.

Reading discussion 11 (fish ecology):

Sass, G. G., J. F. Kitchell, S. R. Carpenter, T. R. Hrabik, A. E. Marburg, and M. G. Turner. 2006. Fish community and food web responses to a whole-lake removal of coarse woody habitat. Fisheries 31:321–330.

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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. Click here to read the Conduct Code. If you have any questions or concerns, please consult with the instructor in this class.

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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.

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FAS 6932 In-person
Freshwater Ecology, 3 credit hours, M W F period 7 (1:55-2:45), MCCC0100
Prerequisites: none

Professor: Dr. Lindsey Reisinger
lreisinger1@ufl.edu, (352) 294-1355, Dequine Building 113
Office hours via Zoom Monday 10:00 am - 12:00 pm (https://ufl.zoom.us/j/98700865323)

Text: Dodds, W.K. and M. R. Whiles. 2019. Freshwater ecology: concepts and environmental applications of limnology. 3rd edition. Elsevier, San Diego, CA.

Or

Dodds, W.K. 2002. Freshwater ecology: concepts and environmental applications of limnology. 1st edition. Elsevier, San Diego, CA. (available as an E Book through the UF George A. Smathers Libraries)

Additional papers from the primary literature will be assigned throughout the semester.

Course Description:
This graduate course is designed to provide students with an understanding of the concepts in freshwater ecology that are important for controlling the traits, distribution, and abundance of aquatic organisms. Material will focus on the major groups of organisms found in freshwater habitats, the physical and chemical properties that are important for structuring freshwater communities, and the ecological processes that affect freshwater communities and ecosystems.

Student Leaning Outcomes:
At the end of the course, students will be able to:

- Identify the principal physical and chemical aspects of freshwater ecosystems and explain how they structure freshwater communities
- Describe common groups of freshwater organisms and the main ways that they interact with one another
- Explain the major ways in which human activities affect freshwater ecosystems and the organisms that live in them
- Predict the effects of freshwater organisms and ecological processes across a variety of conditions
- Consider the strengths and weaknesses of scientific papers focused on freshwater ecology research and examine how they contribute to broader topics
- Produce a presentation that critically evaluates a freshwater ecology paper of your choosing
- Propose new experiments to build on existing knowledge in the field of freshwater ecology

Graded work:
A more detailed description and a grading rubric for each assignment will be provided in the class.

Exams, quizzes, and In-class activities
There will be two exams over the course of the semester as well as a final exam. Each exam will be cumulative and cover new material as well as material from earlier in the semester. Later exams contribute more to the grade than early exams. Graduate students will answer an additional essay question on each exam that focuses on drawing connections among the scientific papers and other course content or proposing new experiments to build on existing knowledge. The instructor will provide a set of learning objectives covered by each exam that can be used as a study guide. The in-class activities will provide an opportunity for students to practice answering questions similar to those that will appear on the exams. In addition to exams and in-class activities, there will be a quiz focused on identifying freshwater animals and their ecological roles.

Evaluation of scientific literature

Several assignments are designed to encourage critical evaluation of scientific data and methods in freshwater ecology. Throughout the semester, the class will read and discuss scientific papers. Reading discussions will typically occur once per week on Fridays. Graduate students will answer questions about each reading prior to the class discussion. These questions are designed to help students to think critically about the strengths and weaknesses of the research and suggest new methods that could be used to improve our knowledge of the topic. Graduate students will also create a presentation that expands on one of the weekly discussion topics. This will be a conference-style presentation that focuses on a scientific paper (chosen by the student) that is related to the scientific paper we will discuss in class.

Attendance and Participation
Class participation is an essential part of the class and is 15% of the grade. Students can participate by attending in-person sessions and answering questions about the material and actively contributing to the discussion in a respectful way. Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: https://gradcatalog.ufl.edu/graduate/regulations/

- Attendance for group question sessions: Attendance will be taken at each session. You are allowed three "personal days" for the semester, after which each absence that does not meet university criteria for "excused" will result in a two-point deduction from your participation grade.
- Attendance for reading discussions: Reading discussions are required because the discussion is an essential part of understanding and evaluating the scientific paper. Each absence from a reading discussion that does not meet university criteria for "excused" will result in a two-point deduction from your participation grade.
- NOTE: If you have personal issues that prohibit you from joining freely in class discussion, e.g., shyness, language barriers, etc., see the instructor as soon as possible to discuss alternative modes of participation.
- Assignments are expected to be turned in on time. In particular, the reading questions must be turned in on time, prior to the discussion, so that the discussion does not influence the content. Therefore, there will be an automatic deduction of 25% of the grade for any of these assignments if they are turned in late. Late work will not be accepted more than two weeks after its due date or after the final exam.
- Students are expected to take exams and quizzes on the assigned date. If you must miss an exam or quiz on the date it is assigned due to an absence that meets the University criteria for "excused," please email the instructor as soon as possible to reschedule.

Submitting Assignments
The class will be structured as a combination of recorded online lectures, in-person meetings in which students will participate in activities and answer questions focused on class material, and in-person class discussions focused on a scientific paper. Weekly readings will typically consist of a portion of the text from Dodds and Whiles as well as one scientific paper.

Assignments will be submitted online on the UF Canvas E-Learning site. A computer with internet connection is required. The UF Canvas E-Learning site can be accessed at http://elearning.ufl.edu/ using your Gatorlink account. Please contact the computing help desk with questions https://helpdesk.ufl.edu/. You can find the recorded lectures, readings, and assignments for each week in the Modules section.

Evaluation of Student Learning: Click here to see the graduate school grading policies

Assignment	Percent of Grade
Quiz	5%
Group question participation	5%
Reading discussion participation	10%
Summary reading questions	10%
Presentation	15%
Exam 1	10%
Exam 2	20%
Final Exam	25%
TOTAL	100%

A 94-100%; A- 90-93.99;
B+ 86-89.99; B 83-85.99; B- 80-82.99;
C+ 76-79.99; C 73-75.99; C- 70-72.99;
D+ 66-69.99; D 63-65.99; D- 60-62.99;
E <60%

Schedule of Class Topics		
Week 1	Wednesday Aug 24	Synchronous activity: course introduction
	Friday Aug 26	Synchronous activity: group questions
	Topics	The importance of freshwater ecosystems Physical and chemical properties of water and the influence of water properties on aquatic organisms
	Readings/Works	Dodds and Whiles chapters 1 and 2 Dodds and Whiles appendix: experimental design in aquatic ecology
Week 2	Wednesday August 31	Synchronous activity: group questions
	Friday Sept 2	Synchronous activity: reading discussion 1 (water availability)
	Topics	Movement of light, heat, and chemicals in water The hydrologic cycle, groundwater, and its connection to surface water
	Readings/Works	Dodds and Whiles chapters 3 and 4 Meijer et al. 2021*
Week 3 (Labor Day)	Wednesday Sept 7	Synchronous activity: group questions
	Friday Sept 9	Synchronous activity: reading discussion 2 (land use)
	Topics	Wetland habitats, adaptations of wetland organisms, human impacts on wetland ecosystems Flowing waters, human impacts on flowing water ecosystems
	Readings/Works	Dodds and Whiles chapters 5 and 6 (chapter 5 in 1st edition) Moore and Palmer 2005*
Week 4	Wednesday Sept 14	Synchronous activity: group questions
	Friday Sept 16	Synchronous activity: reading discussion 3 (dissolved organic carbon)
	Topics	Lakes and reservoirs, lake formation processes and biodiversity, stratification
	Readings/Works	Dodds and Whiles chapter 7 (chapter 6 in 1st edition) Craig et al. 2015*
Week 5	Wednesday Sept 21	Synchronous activity: group questions
	Friday Sept 23	Synchronous activity: live freshwater organisms
	Topics	Classification of freshwater organisms Freshwater microbes
	Readings/Works	Dodds and Whiles chapters 8 and 9 (chapters 7 and 8 in 1st edition)
Week 6	Monday Sept 26	Synchronous activity: exam review
	Wednesday Sept 28	**Exam 1**
	Friday Sept 30	Synchronous activity: group questions
	Topics	Freshwater animals
	Readings/Works	Dodds and Whiles chapter 10 (chapter 9 in 1st edition)
Week 7	Wednesday Oct 5	Synchronous activity: group questions
	Friday Oct 7	Synchronous activity: reading discussion 4 (climate change)
	Topics	Chemicals in freshwater ecosystems, drivers of dissolved oxygen concentrations including photosynthesis and respiration Carbon cycling, leaf litter breakdown
	Readings/Works	Dodds and Whiles chapters 12 and 13 (chapters 11 and 12 in 1st edition)

		Climate change podcast Low-Decarie et al. 2015*

*answer reading questions for these papers

Schedule of Class Topics		
Week 8	Monday Oct 10	**Freshwater animals quiz**
	Wednesday Oct 12	Synchronous activity: group questions
	Friday Oct 14	Synchronous activity: reading discussion 5 (nutrient pollution, stoichiometry)
	Topics	Nutrients and their cycles Nutrient use and remineralization by aquatic organisms
	Readings/Works	Dodds and Whiles chapters 14 and 17 (chapters 13 and 16 in 1st edition) Schindler 1974 Elser et al. 2010*
Week 9	Wednesday Oct 19	Synchronous activity: group questions
	Friday Oct 21	Synchronous activity: reading discussion 6 (eco-evolutionary dynamics)
	Topics	Freshwater plants Evolution and biodiversity
	Readings/Works	Dodds and Whiles chapter 11 (chapter 10 in 1st edition) Pond plants video with Dr. Cichra Ricciardi & Rasmussen 1999 Palkovacs et al. 2009*
Week 10	Wednesday Oct 26	Synchronous activity: group questions
	Friday Oct 28	Synchronous activity: reading discussion 7 (extinctions, biological invasions)
	Topics	Biological invasions Ecosystem ecology
	Readings/Works	Dodds and Whiles chapter 24 (chapter 22 in 1st edition) Wilson et al. 2004*
Week 11	Monday Oct 31	Synchronous activity: exam review
	Wednesday Nov 2	**Exam 2**
	Friday Nov 4	Synchronous activity: reading discussion 8 (pharmaceuticals)
	Topics	Pharmaceuticals
	Readings/Works	Rosi et al. 2018*
Week 12 (Veterans Day)	Monday Nov 7	Synchronous activity: group questions
	Wednesday Nov 9	Synchronous activity: reading discussion 9 (biodiversity and ecosystem function)
	Topics	Chemicals and pollutants
	Readings/Works	Dodds and Whiles chapter 16 (chapter 14 in 1st edition) Cardinale 2011*
Week 13	Wednesday Nov 16	Synchronous activity: group questions
	Friday Nov 18	Synchronous activity: reading discussion 10 (trophic cascades)
	Topics	Trophic state and eutrophication Predation and trophic cascades
	Readings/Works	Dodds and Whiles chapters 18 and 20 (chapters 17 and 19 in 1st edition) Post et al. 2008*
Week 14 (Thanksgiving)	Monday Nov 21	Synchronous activity: group questions
	Topics	Microbes: behavior and interactions
	Readings/Works	Dodds and Whiles chapter 19 (chapter 18 in 1st edition)
Week 15	Wednesday Nov 30	Synchronous activity: group questions
	Friday Dec 2	Synchronous activity: reading discussion 11 (fish ecology)
	Topics	Parasitism, competition, and mutualism Fish ecology and fisheries
	Readings/Works	Dodds and Whiles chapters 21 and 23 (chapters 20 and 21 in 1st edition) Sass et al. 2006*
Week 16	Monday Dec 5	Synchronous activity: group questions
	Wednesday Dec 7	Synchronous activity: final exam review
	Topics	Complex community interactions
	Readings/Works	Dodds and Whiles chapter 22 (this chapter is absent from 1st edition)
Exam Week	Wednesday Dec 14	**Final Exam** 10 am – 12 pm

*answer reading questions for these papers

Primary Literature

Reading discussion 1 (water availability)

Meijer, C. G., H. J. Warburton, and A. R. McIntosh. 2021. Disentangling the multiple effects of stream drying and riparian canopy cover on the trophic ecology of a highly threatened fish. Freshwater Biology 66:102-113.

Reading discussion 2 (land use):

Moore, A. A., and M. A. Palmer. 2005. Invertebrate biodiversity in agricultural and urban headwater streams: implications for conservation and management. Ecological Applications 15:1169–1177.

Reading discussion 3 (dissolved organic carbon):

Craig, N., S. E. Jones, B. C. Weidel, and C. T. Solomon. 2015. Habitat, not resource availability, limits consumer production in lake ecosystems. Limnology and Oceanography 60:2079-2089.

Reading discussion 4 (climate change):

Low-Decarie, E., G. Bell, and G. F. Fussmann. 2015. CO_2 alters community composition and response to nutrient enrichment of freshwater phytoplankton. Oecologia 177:875-883.

Reading discussion 5 (nutrient pollution, stoichiometry):

Elser, J. J., A. L. Peace, M. Kyle, M. Wojewodzic, M. L. McCrackin, T. Andersen, and D. O. Hessen. 2010. Atmospheric nitrogen deposition is associated with elevated phosphorus limitation of lake zooplankton. Ecology Letters 13:1256–1261.

Schindler, D. W. 1974. Eutrophication and recovery in experimental lakes: implications for lake management. Science 184:897–899. (additional reading – not the focus of the discussion)

Reading discussion 6 (eco-evolutionary dynamics):

Palkovacs, E.P., M. C. Marshall, B. A. Lamphere, B. R. Lynch, D. J. Weese, D. F. Fraser, D. N. Reznick, C. M. Pringle, and M. T. Kinnison. 2009. Experimental evaluation of evolution and coevolution as agents of ecosystem change in Trinidadian streams. Philosophical Transactions of the Royal Society B: Biological Sciences, 364:1617-1628.

Reading discussion 7 (extinctions, biological invasions):

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FAS4932 and FAS6932 Freshwater Ecology

Differentiation Summary

Learning Objectives

FAS4932

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

- Identify the principal physical and chemical aspects of freshwater ecosystems and explain how they structure freshwater communities
- Describe common groups of freshwater organisms and the main ways that they interact with one another
- Explain the major ways in which human activities affect freshwater ecosystems and the organisms that live in them
- Predict the effects of freshwater organisms and ecological processes across a variety of conditions
- Consider the strengths and weaknesses of scientific papers focused on freshwater ecology research and examine how they contribute to broader topics
- Write a critique of a scientific paper and relate it to other primary research papers

FAS6932

- Identify the principal physical and chemical aspects of freshwater ecosystems and explain how they structure freshwater communities
- Describe common groups of freshwater organisms and the main ways that they interact with one another
- Explain the major ways in which human activities affect freshwater ecosystems and the organisms that live in them
- Predict the effects of freshwater organisms and ecological processes across a variety of conditions
- Consider the strengths and weaknesses of scientific papers focused on freshwater ecology research and examine how they contribute to broader topics
- Produce a presentation that critically evaluates a freshwater ecology paper of your choosing
- Propose new experiments to build on existing knowledge in the field of freshwater ecology

Assignments

1. Different assignments focused on critiquing the scientific literature (15% of the grade). The assignment for undergraduates is to write a critique of a paper, which requires them to identify the hypothesis of the paper, correctly describe the methods of the paper, evaluate the strength of the evidence, and consider how it relates to other research on the topic. The undergraduate version of this assignment is a more in-depth version of the reading questions assignments, which are due weekly prior to class discussions of scientific papers. Therefore, undergraduates are able to practice this skill prior to this assignment. The assignment for graduate students is to create a

presentation focused on a scientific paper that they identify. The presentation format requires graduate students to describe the research in more detail (e.g., by explaining the findings in each main figure) and more thoroughly examine how the paper fits in to broader topics (e.g., in the introduction and conclusions section). The graduate students are also tasked with finding the focal paper for the presentation, whereas the undergraduates are provided with a choice of one of three papers.

2. Different reading questions assignments (10% of the grade). The undergraduate reading questions are designed to get the students to identify the purpose of the study, the main methods, and the strengths and weaknesses of the study. The graduate reading questions assume a greater level of understanding and ask students what they could do in a follow-up study to make the findings more convincing.

3. Graduate students will have an additional essay question on each of the 3 exams that focuses on drawing connections among the scientific papers and other course content or proposing new experiments to build on existing knowledge.

Cover Sheet: Request 17679

FOR 6XXX Issues in Southeastern Forest Health

Info

Process	Course|New|Grad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Jennifer Vogel alpha32605@ufl.edu
Created	9/26/2022 1:53:57 PM
Updated	10/14/2022 2:54:12 PM
Description of request	Request for a new course number at the 6000 level for a course focused on myriad threats to forest resources in the Southeaster U.S.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	SFRC - Forest Resources and Conservation 60460000	Terrell Baker III		9/26/2022
CALS CC Checklist_SE Forest health.pdf					9/26/2022
College	Pending	CALS - College of Agricultural and Life Sciences			9/26/2022
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					

Course|New for request 17679

Info

Request: FOR 6XXX Issues in Southeastern Forest Health
Description of request: Request for a new course number at the 6000 level for a course focused on myriad threats to forest resources in the Southeaster U.S.
Submitter: Jennifer Vogel alpha32605@ufl.edu
Created: 10/14/2022 2:53:07 PM
Form version: 4

Responses

Recommended Prefix FOR
Course Level 6

Course Number XXX
Lab Code None
Category of Instruction Advanced
Course Title Issues in Southeastern Forest Health
Transcript Title Issues in SE Forest Health
Degree Type Graduate

Delivery Method(s) Online
Co-Listing No

Effective Term Earliest Available
Effective Year Earliest Available
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 This online course is designed to instruct students how to understand and address invasive and native forest and tree health issues and their management in the southeastern U.S. Topics include threats from insects, pathogens, wildlife, climate change, invasive plants and more. For each forest health topic, students will learn the biology, ecology, and management strategies.
Prerequisites graduate standing
Co-requisites n/a
Rationale and Placement in Curriculum This course covers a wide range of common and increasing threats to the health of foresty resources in the Southeaster United States. The course is useful to graduate degree seeking students in forestry and is a key elective to the Forest Ecosystem Resilience certificate.
Course Objectives By the end of this course, each student will be able to:
- Classify and describe forest health pests of concern, including insects, fungi, plants, and abiotic issues
- Evaluate a forest pest issue and formulate management recommendations via fact sheets.
- Analyze research on a major forest health issue and present in a scientific format

Course Textbook(s) and/or Other Assigned Reading • Dreaden, T., Smith, J., Cram, M., and Coyle, D. (2016). Biology, Diagnosis, and Management of Heterobasidion Root Disease of Southern Pines. Southern Regional Extension Forestry.
• Benton, E., and Cowles, R. (2017) Optimized Insecticide Dosage for Hemlock Woolly Adelgid Control in Hemlock Trees. University of Georgia.

- McNulty, S. Addressing Climate Variability in Working Forests, Agriculture, and Rangelands Fact Sheet. United States Department of Agriculture.
- McNulty, S., Gavazzi, M., Southeastern Climate Fact Sheet. United States Department of Agriculture.

No textbook required
Weekly Schedule of Topics
Week Webinar Online Discussion Assignment

May 10
Heterobasidion root disease *Introductions Course Expectations Canvas quiz

May 17 Oak wilt Forest pathogens Canvas quiz

May 24 Laurel wilt Insect vectors Canvas quiz

May 31 Emerald ash borer Invasive species transport Canvas quiz

June 7 Hemlock woolly adelgid Plant breeding Fact sheet 1 due, Canvas quiz

June 14 Gypsy moth *Herbivores, plant defenses Choose pest, Canvas quiz

June 21 Summer Break

June 28
Southern pine beetle
Cyclical outbreaks
Canvas quiz

July 5 Weather variability Climate change Canvas quiz

July 12 Firewood movement

Pest impacts

Canvas quiz

July 19 Cogongrass Weedy plants Pest review paper, Canvas quiz

July 26 Wildlife and forest health *Synthesis/review Fact sheet 2 due, Canvas quiz

Grading Scheme Learning Module Quiz 25% (11 @ 5 pts each)
Fact Sheets

35% (2 @ 17.5 pts each)
Pest Review Paper

25%
Participation/Discussion15%

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

CALS Curriculum Committee
Submission Checklist

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.

__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_ You MUST comply with the CALS Syllabus Policy, including items 1 through 8 and all standard syllabus statements. This document can be viewed at the committee site(https://cals.ufl.edu/faculty-staff/committees/) by clicking on the Curriculum Committee – Information & Documents heading and scrolling down to Forms, Checklists, and Other documents. The other items included here are all very helpful when making a curriculum submission. Some will be mentioned in other checklist items below.

n/a_ Joint course submissions must include both graduate and undergraduate syllabuses and a separate statement 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. Any other information you wish to include needs to be under a different heading such as background or additional information.

__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-course-objectives.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.

n/a_ Outside consultations are required if there is a possibility of the proposed course covering 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://registrar.ufl.edu/pdf/uccconsult.pdf.

_n/a_ 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.

__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 is 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 CALS Syllabus Statements boiler plate must be included in all syllabuses. This document is included in the CALS Syllabus Policy and can be copied and pasted to the syllabus. Do not use the 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. Joel Brendemuhl (brendj@ufl.edu) for further instruction)

Issues in Southeastern Forest Health – FOR 6XXX

1 Course Overview

Course description:

This online course is designed to expose students to invasive and native forest and tree health issues and their management in the southeastern U.S. Topics include threats from insects, pathogens, wildlife, climate change, invasive plants and more. For each forest health topic, students will learn the biology, ecology, and management strategies.

Course Prerequisites: none

Instructor: Dr Jessica Hartshorn

- Summer 2022
- 3 credits
- Online, asynchronous

- http://elearning.ufl.edu/
- Please use the Canvas message/Inbox feature for fastest response.
- Office hours: in person or virtual (Zoom) scheduled date and times

Textbook(s) and/or readings: There is no required text for the course. Readings will be provided.

Learning Outcomes

By the end of this course, each student will be able to:

- Classify and describe forest health pests of concern, including insects, fungi, plants, and abiotic issues
- Evaluate a forest pest issue and formulate management recommendations via fact sheets
- Analyze research on a major forest health issue and present in a scientific format

2 Course Logistics

Students may access lectures, assignments, readings, and supporting materials through the course Canvas site as they become available.

Technology Requirements:

- A computer or mobile device with high-speed internet connection.
- A webcam, headset and/or microphone, and speakers.
- Latest version of web browser. Canvas supports only the two most recent versions of any given browser.

- Installation of proctoring software may be required and will be provided if so.

Synchronous online sessions may be recorded. Our class sessions may be audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

2.1 Description of Assessments & Activities

Learning Modules

You will have 11 learning modules consisting of recorded webinars available through the Southern Regional Extension Forestry website (http://southernforesthealth.net/webinars). After watching each webinar you will complete a five-question quiz through Canvas that includes multiple choice, short answer, and fill-in-the-blank questions.

Participation

There will be weekly online discussions through Canvas. You are required to post a new comment or other form of discussion (e.g. link to a relevant video along with your own commentary) on that week's topic. For full credit you should be original and creative in your discussion/comment thread. There are 11 total discussions worth 15 points each (see rubric), three of which will be online web conferences. Online web conferences will be recorded and put on Canvas for those who cannot attend. Dr. Hartshorn will send out a Doodle poll before the start of the semester to find a time that works for the greatest number of people.

Fact Sheets

Each student will produce two extension-style fact sheets for pests they choose. The audience will be non-scientific laypeople without forestry, wildlife, or pest knowledge. They do not need to be professionally formatted, but all text, tables, figures etc should contain relevant information which is properly cited (citation style does not matter but should be consistent). A rubric and examples are available on Canvas. Please examine these before creating your own!

Pest Review Paper

Prior to the midterm, you will select a pest on which to write a review paper. The paper should be 5-pages (or fewer), double spaced, 12-point times new roman font, with 1-inch margins. In the paper you will cover: biology, ecology, economic impacts, control methods, common misconceptions or any other relevant information. You should include at least five peer-reviewed sources and, beyond that, other academic or agency, non-peer reviewed sources (e.g. fact sheets) are allowed.

2.2 Grades & Grading Scale

Learning Module Quiz 25% (11 @ 5 pts each)

Fact Sheets 35% (2 @ 17.5 pts each)

Pest Review Paper 25%

Participation/Discussion 15%

For information on current UF policies for assigning grade points, see
Ugrad https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx
Grad https://gradcatalog.ufl.edu/graduate/regulations/

Grading Scale (%)
A 90-100
B+ 85-89.99
B 80-84.99
C+ 75-79.99
C 70-74.99
D+ 65-69.99
D 60-64.99
E < 60

3 Learning Content

Week	Webinar	Online Discussion	Assignment
May 10	Heterobasidion root disease	*Introductions Course Expectations	Canvas quiz
May 17	Oak wilt	Forest pathogens	Canvas quiz
May 24	Laurel wilt	Insect vectors	Canvas quiz
May 31	Emerald ash borer	Invasive species transport	Canvas quiz
June 7	Hemlock woolly adelgid	Plant breeding	Fact sheet 1 due, Canvas quiz
June 14	Gypsy moth	*Herbivores, plant defenses	Choose pest, Canvas quiz
June 21	Summer Break	Summer Break	Summer Break
June 28	Southern pine beetle	Cyclical outbreaks	Canvas quiz
July 5	Weather variability	Climate change	Canvas quiz
July 12	Firewood movement	Pest impacts	Canvas quiz
July 19	Cogongrass	Weedy plants	Pest review paper, Canvas quiz

July 26	Wildlife and forest health	*Synthesis/review	Fact sheet 2 due, Canvas quiz

4 Policies and Requirements

This course plan and syllabus are subject to change in response to student and instructor needs. Any changes will be clearly communicated in advance through Canvas.

4.1 Late Submissions & Make-up Requests

It is the responsibility of the student to access on-line lectures, readings, quizzes, and exams and to maintain satisfactory progress in the course. Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://gradcatalog.ufl.edu/graduate/regulations/

Computer or other hardware failures, except failure of the UF e-Learning system, will not excuse students for missing assignments. Any late submissions due to technical issues MUST be accompanied by the ticket number received from the Helpdesk when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request consideration.

For computer, software compatibility, or access problems call the HELP DESK phone number—352-392-HELP = 352- 392-4357 (option 2).

4.2 Communication Courtesy and Professionalism

Just as in any professional environment, meaningful and constructive dialogue is expected in this class and requires a degree of mutual respect, willingness to listen, and tolerance of opposing points of view. **Respect for individual differences and alternative viewpoints will be maintained in this class at all times.** All members of the class are expected to follow rules of common courtesy, decency, and civility in all interactions. Failure to do so will not be tolerated and may result in loss of participation points and/or referral to the Dean of Students' Office.

4.3 Semester Evaluation Process

Student assessment of instruction is an important part of efforts to improve teaching and learning.

At approximately the mid-point of the semester, the School of Forest, Fisheries, & Geomatics Sciences will request anonymous feedback on student satisfaction on various aspects of this course. These surveys will be sent out through Canvas and are not required but encouraged. This is not the UF Faculty Evaluation!

At the end of the semester, 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/.

4.4 Academic Honesty Policy

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 them 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 academic misconduct or appropriate personnel. 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: http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code.

4.5 Inclusive Learning Environment

This course embraces the University of Florida's Non-Discrimination Policy, which reads,

> *The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans' Readjustment Assistance Act.*

If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see the instructor or refer to the Office of Multicultural & Diversity Affairs website: http://multicultural.ufl.edu.

4.6 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, disability.ufl.edu

4.7 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.

5 Campus Helping Resources

For issues with technical difficulties for e-learning in Canvas, please post your question to the Technical Help Discussion in your course, or contact the UF Help Desk at:

- Learning-support@ufl.edu | (352) 392-HELP - select option 2 | http://elearning.ufl.edu
- Library Help Desk support http://cms.uflib.ufl.edu/ask
- SFFGS Academic Hub https://ufl.instructure.com/courses/303721

5.1 Student Life, Wellness, and Counseling Help

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. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- Counseling and Wellness resources http://www.counseling.ufl.edu/cwc/
- U Matter, We Care http://www.umatter.ufl.edu/
- Career Connections Center http://career.ufl.edu/
- Other resources are available at http://www.distance.ufl.edu/getting-help for online students.

5.2 Student Complaint Process

The School of Forest, Fisheries, & Geomatics Sciences cares about your experience and we will make every effort to address course concerns. We request that our online students complete a course satisfaction survey each semester, which is a time for you to voice your thoughts on how your course is being delivered. You can also submit feedback anytime.

If you have a more urgent concern, your first point of contact should be the Academic Coordinator or the Graduate/Undergraduate Coordinator for the program offering the course. You may also submit a complaint directly to UF administration:

- https://distance.ufl.edu/getting-help/
- https://registrar.ufl.edu/complaint.html

Readings

- Dreaden, T., Smith, J., Cram, M., and Coyle, D. (2016). Biology, Diagnosis, and Management of Heterobasidion Root Disease of Southern Pines. Southern Regional Extension Forestry.
- Benton, E., and Cowles, R. (2017) Optimized Insecticide Dosage for Hemlock Woolly Adelgid Control in Hemlock Trees. University of Georgia.
- McNulty, S. Addressing Climate Variability in Working Forests, Agriculture, and Rangelands Fact Sheet. United States Department of Agriculture.
- McNulty, S., Gavazzi, M., Southeastern Climate Fact Sheet. United States Department of Agriculture.

Cover Sheet: Request 17639

Getting Published Horticulture

Info

Process	Course|New|Grad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Kimberly Moore klock@ufl.edu
Created	9/9/2022 8:37:38 AM
Updated	10/14/2022 4:10:47 PM
Description of request	I am submitting this course as 5000 level addition to the HOS curriculum. I have asked for external consult from HOS, SWSE, and AGR to support this submission.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Environmental Horticulture 60180000	Dean Kopsell	This course will be a valuable addition to our graduate programs.	9/9/2022
External Consult HOS6XXX ENH HOS 4 28 2022.pdf External Consult HOS6XXX ENH KJC.pdf External Consult HOS6XXX ENH_JE.pdf External Consult HOS6XXX SWSE.pdf					9/9/2022 9/9/2022 9/9/2022 9/9/2022
College	Pending	CALS - College of Agricultural and Life Sciences			9/9/2022
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					

Course|New for request 17639

Info

Request: Getting Published Horticulture
Description of request: I am submitting this course as 5000 level addition to the HOS curriculum. I have asked for external consult from HOS, SWSE, and AGR to support this submission.
Submitter: Kimberly Moore klock@ufl.edu
Created: 9/9/2022 8:08:04 AM
Form version: 1

Responses

Recommended Prefix HOS
Course Level 5
Rationale for 5000 level course request We have developed a graduate course that allows students to work through writing the different parts of a refereed manuscript along with selecting a journal and responding to rejection letters. This course compliments existing courses in the College of Agricultural and Life Sciences and builds on content offered in them. This course focuses on plant related publications and journals associated with plant production, growth, and physiology.
Course Number xxx
Lab Code None
Category of Instruction Introductory
Course Title Getting Published in Horticulture
Transcript Title Getting Published
Degree Type Graduate

Delivery Method(s) Online
Co-Listing No

Effective Term Earliest Available
Effective Year Earliest Available
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 This course presents techniques for writing journal manuscripts to submit to horticulture, plant related, and agricultural journals. This course will discuss the elements that go into writing the introduction, materials and methods, results, discussion as well as how to present data. The course also will cover responding to rejection letters, working on manuscript revisions, and providing constructive peer reviews.
Prerequisites None
Co-requisites None
Rationale and Placement in Curriculum This course is designed for graduate students working on their MS or PhD who have data or literature that they wish to turn into a manuscript as part of their degree program. A course on manuscript preparation is needed to coach students on the writing process, word usage, data presentation, and other aspects of manuscript preparation related to plant science research.
Course Objectives Upon successful completion of this course, students will be able to:
1. Compose clear, succinct, and direct take home messages
2. Compare and contrast the use of tables and figures for presenting data
3. Assess components that lead to focused writing
4. Write a draft manuscript from original data/idea

5. Prepare a written response to a rejection letter

Course Textbook(s) and/or Other Assigned Reading Gladon, R.J., W.R. Graves, and J.M. Kelly. 2011. Getting Published in the Life Sciences. John Wiley and Sons, Inc., Hoboken, NJ. ISBN978-1-118-01716-6

Weekly Schedule of Topics May 10 Least Publishable Unit

Lecture – What to expect in this course

Lecture – What is that LPU?

Discussion – Meet your class (10 pts) May 12
Getting Started Exercise (25 pts) May 16

May 17 Outlining and Selecting a Journal
Lecture – Value of Outlining
Discussion – Which journal (10 pts) May 19
Outlining exercise (25 pts) May 23

May 24 Tables and Figures
Lecture – Compare tables vs figures
Does it matter? (10 pts) May 24
Tables and figures exercise (25 pts) May 30
Online class meeting - discussion TBA

May 31 Results
Lecture – Writing take home message

Lecture – Writing the results section

Time to write (10 pts) Jun 2
Take Home message exercise (25 pts) Jun 6

Jun 7 Materials and Methods

Lecture – Writing the Materials and Methods Section

Discussion (10 pts) Jun 9

Jun 14 Revising and Editing

Lecture – Value of editing and peer review

Have a classmate review your paper (0 pts) Jun 20
Online class meeting – discussion TBA

Jun 21 BREAK – NO CLASS

Jun 28 Introduction

Lecture – Writing your Introduction

Discussion (10 pts) Jun 30

Jul 5 Discussion

Lecture – Writing the Discussion

Is the discussion hard to write (10 pts) Jul 7

Jul 12 Abstract

Lecture – Key Element of the Abstract

Share your abstract (10 pts) Jul 14

Jul 19 Dealing with rejections

Rejection letter (25 pts)

Final manuscript (100 pts)

Jul 25

Online class meeting – discussion TBA

Jul 26 Reflection

Reflection (10 pts) Jul 28

Grading Scheme Discussions: We have 10 discussion topics each worth 10 points (100 pts). You need to post your response to the discussion topic by WEDNESDAY each week and to comment on three classmates' posts. The discussion will stay open until Sunday but will be marked down 3 pts for being late.

- Self-introduction
- Selecting a journal
- Authorship – who goes on the author line?
- Finding time to write
- Value of detailed materials and methods section
- Value of editing and peer review
- What is the purpose of the introduction?
- Is the discussion hard to write?
- Share your abstract
- Reflection on the class

Exercises: There are five exercises each worth 25 pts (total 125 pts) to help students put the pieces of the manuscript together. Exercises are due SUNDAY at 5 pm.

- Getting started – writing your hypothesis and objective
- Outlining – create a rough outline of your paper
- Table and figures – create tables and figures with your data
- Take home message - write a clear take home message with data to support it
- Rejection letter – how to respond and deal with rejection

Final manuscript: Students will be expected to turn in a draft manuscript at the end of the semester worth 100 pts. Students are expected to work on their manuscript during the semester. Prior to turning in their manuscript, each student must have it peer reviewed (students will be put into pairs to peer review each other's manuscripts). Students must submit the review document along with their final manuscript to earn full credit. To help prepare the final manuscript, students will be asked to turn in portions of their paper during the semester for comment by the instructor.

The following rubric will be used to grade the final manuscript:

1. Title and additional index words (5 points) a. Is the title appropriate and descriptive of the work? b. Are additional index words given? Do they represent the article without repeating words in the title?
2. Abstract (5 points) a. Is the abstract concise and representative of the article b. Does it summarize results and supply a practical take home message? c. Is it too long? Too short? Length appropriate?
3. Introduction (20 points) a. Are the purpose and objective clearly stated in the paper? b. Does the author recognize and site relevant work/contributions of predecessors? c. Do the facts sited relate to the purpose/objective?
4. Materials and methods (20 points) a. Are technical and experimental methods appropriate for the

study and adequately described? b. Are methods replicable? c. Are controls adequate and well-described? d. Are units of measurement reported correctly? e. Have all organisms, chemical, and other materials been identified properly? f. Is the statistical analysis appropriate for the data?
5. Results (20 points) a. Are results relevant to the objective? b. Does the text duplicate information in the tables or figures? c. Are just facts presented?
6. Discussion (20 points) a. Is the discussion consistent with objectives? b. Have any ideas been over-emphasized or under-emphasized? c. Are author's conclusions logical and easily understood? d. Does the author compare and explain differences in results with other experiment or to previous studies? e. Are conclusions logically derived from the data presented?
7. Table and Figures (5 points) a. Can the table and figure titles be understood independent of the text?
8. Other (5 point) a. Is writing style clear and precise? b. Is the paper too long or short in relation to the importance of the subject?

Instructor(s) Dr. Kimberly Moore
3205 College Ave. Davie FL 33314
954-577-6328
954-475-4125 (fax)
Office hours: Monday 3 pm https://ufl.zoom.us/j/4945104654
Email – klock@ufl.edu

Attendance & Make-up Yes
Accomodations Yes
UF Grading Policies for assigning Grade Points Yes
Course Evaluation Policy Yes

CALS Curriculum Committee
Submission Checklist

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.

KM 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/.

KM You MUST comply with the CALS Syllabus Policy, including items 1 through 8 and all standard syllabus statements. This document can be viewed at the committee site(https://cals.ufl.edu/faculty-staff/committees/) by clicking on the Curriculum Committee – Information & Documents heading and scrolling down to Forms, Checklists, and Other documents. The other items included here are all very helpful when making a curriculum submission. Some will be mentioned in other checklist items below.

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

KM 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.

KM The course description on the UCC form and in the syllabus must match. Any other information you wish to include needs to be under a different heading such as background or additional information.

KM 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-course-objectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

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

KM 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.

KM Outside consultations are required if there is a possibility of the proposed course covering 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/.

KM 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.

KM 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.

KM 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 is included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

KM The most recent version of the CALS Syllabus Statements boiler plate must be included in all syllabuses. This document is included in the CALS Syllabus Policy and can be copied and pasted to the syllabus. Do not use the 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. Joel Brendemuhl (brendj@ufl.edu) for further instruction)

External Consultation Results (departments with potential overlap or interest in proposed course, if any)

Department	Name and Title
HOS	Chris Gunter, Professor and Chair
Phone Number	**E-mail**
352-294-6795	cc.gunter@ufl.edu

Comments

Overall the course looks very useful. It would result in students learning more about publishing. The "coaching" aspect of this course is a good approach.
Suggested changes include not limiting the scope of the course to horticulture journals. Broadening the scope to other journals will be helpful for more students in the department. Requiring manuscript submission will limit the students that successfully complete the course. Fully finished MS my not be achievable, suggest building in more flexibility there. No overlaps with existing courses.

Department	Name and Title
Phone Number	**E-mail**

Comments

Department	Name and Title
Phone Number	**E-mail**

Comments

External Consultation Results (departments with potential overlap or interest in proposed course, if any)

Department	Name and Title
Agronomy	James Estrada - Lecturer
Phone Number	**E-mail**
352-294-1588	estradaj@ufl.edu

Comments

After reviewing the course syllabus, I do not feel that there is significant overlap between HOS6932 (Getting Published in Horticulture) and AGR professional development courses. I suggest, however, that HOS 6932 remain focused on publication in HOS journals to avoid conflicts with AGR6932 - Professional Communications.

Department	Name and Title
Phone Number	**E-mail**

Comments

Department	Name and Title
Phone Number	**E-mail**

Comments

External Consultation Results (departments with potential overlap or interest in proposed course, if any)

Department	Name and Title
Agronomy	James Estrada - Lecturer
Phone Number	**E-mail**
352-294-1588	estradaj@ufl.edu

Comments

After reviewing the course syllabus, I do not feel that there is significant overlap between HOS6932 (Getting Published in Horticulture) and AGR professional development courses. I suggest, however, that HOS 6932 remain focused on publication in HOS journals to avoid conflicts with AGR6932 - Professional Communications.

Department	Name and Title
Phone Number	**E-mail**

Comments

Department	Name and Title
Phone Number	**E-mail**

Comments

External Consultation Results (departments with potential overlap or interest in proposed course, if any)

Department	Name and Title
Soil,Water, and Ecosystem Sciences	Matt Whiles
Phone Number	**E-mail**
(352) 294 3161	mwhiles@ufl.edu

Comments

The SWSE Graduate coordinator, Distance Education coordinator,and Instructor of AGG 5607 (Enloe) discussed possible overlap of HOS 6932 "Getting Published in Horticulture" with existing SWSE writing classes. There is some overlap with AGG 5607: Communicating in Academia that is acceptable. HOS 6932 will be offered in the summer and would be a good offering that our DE students in SWSE would benefit from. The class will compliment what we offer in SWES department. The instructor of AGG 5607 suggests co-listing so students do not take both classes.

Department	Name and Title
Phone Number	**E-mail**

Comments

Department	Name and Title
Phone Number	**E-mail**

Comments

Getting Published in Horticulture

HOS 5xxx (3 credits)

Meeting times

Online asynchronous course

Instructor Contact Information

Dr. Kimberly Moore
3205 College Ave. Davie FL 33314
954-577-6328
954-475-4125 (fax)
Office hours: Monday 3 pm https://ufl.zoom.us/j/4945104654
Email – klock@ufl.edu

Email/phone messages: students can expect a response within 24 hrs. M-F and within 72 hrs. on weekends. My preferred way of communicating with students is using email. I check my UF email frequently every day and on the weekends. If I plan to be out of the office or out of email communication, I will email the class and post an announcement on the class website.

Course Description

This course presents techniques for writing journal manuscripts to submit to horticulture, plant related, and agricultural journals. This course will discuss the elements that go into writing the introduction, materials and methods, results, discussion as well as how to present data. The course also will cover responding to rejection letters, working on manuscript revisions, and providing constructive peer reviews.

Course Learning Objectives

Upon successful completion of this course, students will be able to:

1. Compose clear, succinct, and direct take home messages
2. Compare and contrast the use of tables and figures for presenting data
3. Assess components that lead to focused writing
4. Write a draft manuscript from original data/idea
5. Prepare a written response to a rejection letter

Required Text

Gladon, R.J., W.R. Graves, and J.M. Kelly. 2011. Getting Published in the Life Sciences. John Wiley & Sons, Inc., Hoboken, NJ. ISBN 978-1118017166.

Additional Reading

Schimel, J. 2011. Writing Science: How to Write Papers that Get Cited and Proposals that Get Funded. Oxford University Press, Inc., New York. ISBN 978-0199760244.

Gastel, B. and R.A. Day. 2016. How to Write and Publish a Scientific Paper, 8th Ed. Greenwood Publishing Group, Westport, CN. ISBN 978-1440842801

Day, R.A. 2011. Scientific English, A Guide for Scientists and Other Professionals, 3rd Ed. Greenwood Publishing Group, Westport, CN. ISBN 978-0313391941

Course Prerequisites – None

Weekly Course Schedule

Week beginning on Monday	**Topic and Assignments**	**Due Date –** **at 5 pm**
May 10	**Least Publishable Unit**	
	Lecture – What to expect in this course	
	Lecture – What is that LPU?	
	Discussion – Meet your class (10 pts)	May 12
	Getting Started Exercise (25 pts)	May 16
May 17	**Outlining and Selecting a Journal**	
	Lecture – Value of Outlining	
	Discussion – Which journal (10 pts)	May 19
	Outlining exercise (25 pts)	May 23
May 24	**Tables and Figures**	
	Lecture – Compare tables vs figures	
	Does it matter? (10 pts)	May 24
	Tables and figures exercise (25 pts)	May 30
	Online class meeting - discussion	TBA
May 31	**Results**	
	Lecture – Writing take home message	
	Lecture – Writing the results section	
	Time to write (10 pts)	Jun 2
	Take Home message exercise (25 pts)	Jun 6

Jun 7	**Materials and Methods**	
	Lecture – Writing the Materials and Methods Section	
	Discussion (10 pts)	Jun 9
Jun 14	**Revising and Editing**	
	Lecture – Value of editing and peer review	
	Have a classmate review your paper (0 pts)	Jun 20
	Online class meeting – discussion	TBA
Jun 21	**BREAK – NO CLASS**	
Jun 28	**Introduction**	
	Lecture – Writing your Introduction	
	Discussion (10 pts)	Jun 30
Jul 5	**Discussion**	
	Lecture – Writing the Discussion	
	Is the discussion hard to write (10 pts)	Jul 7
Jul 12	**Abstract**	
	Lecture – Key Element of the Abstract	
	Share your abstract (10 pts)	Jul 14
Jul 19	**Dealing with rejections**	
	Rejection letter (25 pts)	
	Final manuscript (100 pts)	Jul 25
	Online class meeting – discussion	TBA
Jul 26	**Reflection**	
	Reflection (10 pts)	Jul 28

Course Assignments

The week begins on Monday and ends on Sunday. All discussions are to be completed by Wednesday and all assignments need to be completed Sunday 5 pm, Eastern time zone).

The accepted format for all assignments is MS Word files. If there is a malfunction with the class site or computer malfunctions occur, assignments may be emailed or sent via fax. It is the obligation of the student to inform me of such malfunctions immediately.

Discussions: We have 10 discussion topics each worth 10 points (100 pts). You need to post your response to the discussion topic by WEDNESDAY each week and to comment on three classmates' posts. The discussion will stay open until Sunday but will be marked down 3 pts for being late.

- Self-introduction
- Selecting a journal
- Authorship – who goes on the author line?

- Finding time to write
- Value of detailed materials and methods section
- Value of editing and peer review
- What is the purpose of the introduction?
- Is the discussion hard to write?
- Share your abstract
- Reflection on the class

Exercises: There are five exercises each worth 25 pts (total 125 pts) to help students put the pieces of the manuscript together. Exercises are due SUNDAY at 5 pm.

- Getting started – writing your hypothesis and objective
- Outlining – create a rough outline of your paper
- Table and figures – create tables and figures with your data
- Take home message - write a clear take home message with data to support it
- Rejection letter – how to respond and deal with rejection

Final manuscript*:* Students will be expected to turn in a draft manuscript at the end of the semester worth 100 pts. Students are expected to work on their manuscript during the semester. Prior to turning in their manuscript, each student must have it peer reviewed (students will be put into pairs to peer review each other's manuscripts). **Students must submit the review document along with their final manuscript to earn full credit**. To help prepare the final manuscript, students will be asked to turn in portions of their paper during the semester for comment by the instructor.

The following rubric will be used to grade the final manuscript:

1. Title and additional index words (5 points) a. Is the title appropriate and descriptive of the work? b. Are additional index words given? Do they represent the article without repeating words in the title?

2. Abstract (5 points) a. Is the abstract concise and representative of the article b. Does it summarize results and supply a practical take home message? c. Is it too long? Too short? Length appropriate?

3. Introduction (20 points) a. Are the purpose and objective clearly stated in the paper? b. Does the author recognize and site relevant work/contributions of predecessors? c. Do the facts sited relate to the purpose/objective?

4. Materials and methods (20 points) a. Are technical and experimental methods appropriate for the study and adequately described? b. Are methods replicable? c. Are controls adequate and well-described? d. Are units of measurement reported correctly? e. Have all organisms, chemical, and other materials been identified properly? f. Is the statistical analysis appropriate for the data?

5. Results (20 points) a. Are results relevant to the objective? b. Does the text duplicate information in the tables or figures? c. Are just facts presented?

6. Discussion (20 points) a. Is the discussion consistent with objectives? b. Have any ideas been over-emphasized or under-emphasized? c. Are author's conclusions logical and easily understood? d. Does the author compare and explain differences in results with other experiment or to previous studies? e. Are conclusions logically derived from the data presented?

7. Table and Figures (5 points) a. Can the table and figure titles be understood independent of the text?

8. Other (5 point) a. Is writing style clear and precise? b. Is the paper too long or short in relation to the importance of the subject?

Grades for all assignments will be posted seven days after the student turns them in. If the instructor cannot return the assignment within this time frame, the instructor will notify the student as to when the assignment will be graded.

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Grades and grade points

For information on current UF policies for assigning grade points, see https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/.

TOTAL POSSIBLE POINTS & GRADES = 325 pts.

A	(94.5-100%)
A-	(89.5-94.4%)
B+	(87.5-89.4%)
B	(84.5-87.4%)
B-	(79.5-84.4%)
C+	(77.5-79.4%)
C	(74.5-77.4%)
C-	(69.5-74.4%)
D+	(67.5-69.4%)
D	(64.5-67.4%)
D-	(59.5-64.4%)
E	(0-59.4%)

[Top]

More information on UF grading policy may be found at:

UF Graduate Catalog
Grades and Grading Policies

Minimum Technology Requirements

To complete your tasks in this course, you will need a basic understanding of operating a computer and using word processing software.

For help with technical issues or difficulties with Canvas, please contact the UF Help Desk at:

- http://helpdesk.ufl.edu (Links to an external site.)
- (352) 392-HELP (4357)
- Walk-in: HUB 132

Absences and Make-Up Work

Requirements for class attendance and make-up exams, assignments and other work in this course are consistent with university policies that can be found at:

https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/

Online course privacy

Our class sessions may be audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

Online Course Evaluation Process

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/

Academic Honesty

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 academic misconduct to appropriate personnel. 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: http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code .

Software Use

All faculty, staff, and students 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.

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, https://disability.ufl.edu

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.

• University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu Counseling Services, Groups and Workshops, Outreach and Consultation, Self-Help Library, Wellness Coaching

• U Matter We Care, www.umatter.ufl.edu/

• Career Connections Center, First Floor JWRU, 392-1601, https://career.ufl.edu/.

• Student Success Initiative, http://studentsuccess.ufl.edu.

Student Complaints:

• Residential Course: https://sccr.dso.ufl.edu/policies/student-honor-code-studentconduct-code/.

• Online Course: https://distance.ufl.edu/state-authorization-status/#student-complaint

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 career.ufl.edu/.

Library Support: cms.uflib.ufl.edu/ask 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. teachingcenter.ufl.edu/

Writing Studio: 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers. writing.ufl.edu/writing-studio/

Student Complaints On-Campus: sccr.dso.ufl.edu/policies/student-honor- code student-conduct-code/

On-Line Students Complaints: distance.ufl.edu/student-complaint-process/

Cover Sheet: Request 17673

4XXX Freshwater Ecology

Info

Process	Course|New|Ugrad/Pro
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Jennifer Vogel alpha32605@ufl.edu
Created	9/22/2022 3:33:06 PM
Updated	9/22/2022 3:36:42 PM
Description of request	Request for a new course number for the undergraduate version of co-taught ugrad/grad Freshwater Ecology.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	SFRC - Fisheries, Aquatic Sciences, and Geomatics 60469000	Terrell Baker III		9/22/2022
FAS 4932 Freshwater Ecology Syllabus August 2022.pdf FAS 6932 Freshwater Ecology Syllabus August 2022.pdf CALS CC Checklist_Freshwater Ecology.pdf FAS4932 and FAS6932 Freshwater Ecology Differentiation Summary.docx External-Consult_Soil and Water for Freshwater Ecology.pdf					9/22/2022 9/22/2022 9/22/2022 9/22/2022 9/22/2022
College	Pending	CALS - College of Agricultural and Life Sciences			9/22/2022
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					

Course|New for request 17673

Info

Request: 4XXX Freshwater Ecology
Description of request: Request for a new course number for the undergraduate version of co-taught ugrad/grad Freshwater Ecology.
Submitter: Jennifer Vogel alpha32605@ufl.edu
Created: 9/22/2022 3:16:22 PM
Form version: 1

Responses

Recommended Prefix FAS
Course Level 4

Course Number XXX
Lab Code None
Category of Instruction Joint (Ugrad/Grad)
Course Title Freshwater Ecology
Transcript Title Freshwater ecology
Degree Type Baccalaureate

Delivery Method(s) On-Campus
Co-Listing Yes
Co-Listing Explanation Differences between the course levels are explained in the attached differentiation document.
Effective Term Earliest Available
Effective Year Earliest Available
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 This undergraduate course is designed to provide students with an understanding of the concepts in freshwater ecology that are important for controlling the traits, distribution, and abundance of aquatic organisms. Material will focus on the major groups of organisms found in freshwater habitats, the physical and chemical properties that are important for structuring freshwater communities, and the ecological processes that affect freshwater communities and ecosystems.
Prerequisites BSC2005 or BSC2010
Co-requisites N/A
Rationale and Placement in Curriculum This course is designed to provide fisheries and aquatics and multidisciplinary natural resource undergraduate students with an understanding of key concepts in freshwater ecology. Material will focus on physical and chemical aspects of freshwater ecosystems, major groups of freshwater organisms, and the ecological processes that affect freshwater communities and ecosystems."
Course Objectives • Identify the principal physical and chemical aspects of freshwater ecosystems and explain how they structure freshwater communities
• Describe common groups of freshwater organisms and the main ways that they interact with one another
• Explain the major ways in which human activities affect freshwater ecosystems and the organisms that live in them
• Predict the effects of freshwater organisms and ecological processes across a variety of conditions

- Consider the strengths and weaknesses of scientific papers focused on freshwater ecology research and examine how they contribute to broader topics
- Write a critique of a scientific paper and relate it to other primary research papers

Course Textbook(s) and/or Other Assigned Reading Reading discussion 1 (water availability)
Meijer, C. G., H. J. Warburton, and A. R. McIntosh. 2021. Disentangling the multiple effects of stream drying and riparian canopy cover on the trophic ecology of a highly threatened fish. Freshwater Biology 66:102-113.

Reading discussion 2 (land use):
Moore, A. A., and M. A. Palmer. 2005. Invertebrate biodiversity in agricultural and urban headwater streams: implications for conservation and management. Ecological Applications 15:1169–1177.

Reading discussion 3 (dissolved organic carbon):
Craig, N., S. E. Jones, B. C. Weidel, and C. T. Solomon. 2015. Habitat, not resource availability, limits consumer production in lake ecosystems. Limnology and Oceanography 60:2079-2089.

Reading discussion 4 (climate change):
Low-Decarie, E., G. Bell, and G. F. Fussmann. 2015. CO2 alters community composition and response to nutrient enrichment of freshwater phytoplankton. Oecologia 177:875-883.

Reading discussion 5 (nutrient pollution, stoichiometry):
Elser, J. J., A. L. Peace, M. Kyle, M. Wojewodzic, M. L. McCrackin, T. Andersen, and D. O. Hessen. 2010. Atmospheric nitrogen deposition is associated with elevated phosphorus limitation of lake zooplankton. Ecology Letters 13:1256–1261.
Schindler, D. W. 1974. Eutrophication and recovery in experimental lakes: implications for lake management. Science 184:897–899. (additional reading – not the focus of the discussion)

Reading discussion 6 (eco-evolutionary dynamics):
Palkovacs, E.P., M. C. Marshall, B. A. Lamphere, B. R. Lynch, D. J. Weese, D. F. Fraser, D. N. Reznick, C. M. Pringle, and M. T. Kinnison. 2009. Experimental evaluation of evolution and coevolution as agents of ecosystem change in Trinidadian streams. Philosophical Transactions of the Royal Society B: Biological Sciences, 364:1617-1628.

Reading discussion 7 (extinctions, biological invasions):
Wilson, K. A., J. J. Magnuson, D. M. Lodge, A. M. Hill, T. K. Kratz, W. L. Perry, and T. V Willis. 2004. A long-term rusty crayfish (Orconectes rusticus) invasion: dispersal patterns and community change in a north temperate lake. Canadian Journal of Fisheries and Aquatic Sciences 61:2255–2266.
Ricciardi, A., and J. B. Rasmussen. 1999. Extinction rates of North American freshwater fauna. Conservation Biology 13:1220–1222. (additional reading – not the focus of the discussion)

Reading discussion 8 (pharmaceuticals):
Rosi, E. J., H. A. Bechtold, D. Snow, M. Rojas, A. J. Reisinger, and J. J. Kelly. 2018. Urban stream microbial communities show resistance to pharmaceutical exposure. Ecosphere 9:e02041.

Reading discussion 9 (biodiversity and ecosystem function):
Cardinale, B. J. 2011. Biodiversity improves water quality through niche partitioning. Nature 472:86–91.

Reading discussion 10 (trophic cascades):
Post, D. M., E. P. Palkovacs, E. G. Schielke and S. I. Dodson. 2008. Intraspecific variation in a predator affects community structure and cascading trophic interactions. Ecology 89:2019-2032.

Reading discussion 11 (fish ecology):
Sass, G. G., J. F. Kitchell, S. R. Carpenter, T. R. Hrabik, A. E. Marburg, and M. G. Turner. 2006. Fish community and food web responses to a whole-lake removal of coarse woody habitat. Fisheries 31:321–330.

Weekly Schedule of Topics Week 1
Wednesday Aug 24 Synchronous activity: course introduction
Friday Aug 26 Synchronous activity: group questions
Topics The importance of freshwater ecosystems

Physical and chemical properties of water and the influence of water properties on aquatic organisms
Readings/Works Dodds and Whiles chapters 1 and 2
Dodds and Whiles appendix: experimental design in aquatic ecology

Week 2 Wednesday August 31 Synchronous activity: group questions
Friday Sept 2 Synchronous activity: reading discussion 1 (water availability)
Topics Movement of light, heat, and chemicals in water
The hydrologic cycle, groundwater, and its connection to surface water
Readings/Works Dodds and Whiles chapters 3 and 4
Meijer et al. 2021*

Week 3
(Labor Day) Wednesday Sept 7 Synchronous activity: group questions
Friday Sept 9 Synchronous activity: reading discussion 2 (land use)
Topics Wetland habitats, adaptations of wetland organisms, human impacts on wetland ecosystems
Flowing waters, human impacts on flowing water ecosystems
Readings/Works Dodds and Whiles chapters 5 and 6 (chapter 5 in 1st edition)
Moore and Palmer 2005*

Week 4 Wednesday Sept 14 Synchronous activity: group questions
Friday Sept 16 Synchronous activity: reading discussion 3 (dissolved organic carbon)
Topics Lakes and reservoirs, lake formation processes and biodiversity, stratification
Readings/Works Dodds and Whiles chapter 7 (chapter 6 in 1st edition)
Craig et al. 2015*

Week 5 Wednesday Sept 21 Synchronous activity: group questions
Friday Sept 23 Synchronous activity: live freshwater organisms
Topics Classification of freshwater organisms
Freshwater microbes
Readings/Works Dodds and Whiles chapters 8 and 9 (chapters 7 and 8 in 1st edition)

Week 6 Monday Sept 26 Synchronous activity: exam review
Wednesday Sept 28 Exam 1
Friday Sept 30 Synchronous activity: group questions
Topics Freshwater animals
Readings/Works Dodds and Whiles chapter 10 (chapter 9 in 1st edition)

Week 7 Wednesday Oct 5 Synchronous activity: group questions
Friday Oct 7 Synchronous activity: reading discussion 4 (climate change)
Topics Chemicals in freshwater ecosystems, drivers of dissolved oxygen concentrations including photosynthesis and respiration
Carbon cycling, leaf litter breakdown
Readings/Works Dodds and Whiles chapters 12 and 13 (chapters 11 and 12 in 1st edition)
Climate change podcast
Low-Decarie et al. 2015*
*answer summary reading questions for these papers

Week 8 Monday Oct 10 Freshwater animals quiz
Wednesday Oct 12 Synchronous activity: group questions
Friday Oct 14 Synchronous activity: reading discussion 5 (nutrient pollution, stoichiometry)
Topics Nutrients and their cycles
Nutrient use and remineralization by aquatic organisms
Readings/Works Dodds and Whiles chapters 14 and 17 (chapters 13 and 16 in 1st edition)
Schindler 1974
Elser et al. 2010*

Week 9 Wednesday Oct 19 Synchronous activity: group questions
Friday Oct 21 Synchronous activity: reading discussion 6 (eco-evolutionary dynamics)
Topics Freshwater plants

Evolution and biodiversity
Readings/Works Dodds and Whiles chapter 11 (chapter 10 in 1st edition)
Pond plants video with Dr. Cichra
Ricciardi & Rasmussen 1999
Palkovacs et al. 2009*

Week 10 Wednesday Oct 26 Synchronous activity: group questions
Friday Oct 28 Synchronous activity: reading discussion 7 (extinctions, biological invasions)
Summary and scientific journal articles for critical review assignment due
Topics Biological invasions
Ecosystem ecology
Readings/Works Dodds and Whiles chapter 24 (chapter 22 in 1st edition)
Wilson et al. 2004*

Week 11 Monday Oct 31 Synchronous activity: exam review
Wednesday Nov 2 Exam 2
Friday Nov 4 Synchronous activity: reading discussion 8 (pharmaceuticals)
Topics Pharmaceuticals
Readings/Works Rosi et al. 2018*

Week 12
(Veterans Day) Monday Nov 7 Synchronous activity: group questions
Wednesday Nov 9 Synchronous activity: reading discussion 9 (biodiversity and ecosystem function)
Topics Chemicals and pollutants
Readings/Works Dodds and Whiles chapter 16 (chapter 14 in 1st edition)
Cardinale 2011*

Week 13 Wednesday Nov 16 Synchronous activity: group questions
Friday Nov 18 Synchronous activity: reading discussion 10 (trophic cascades)
Critical review writing assignment due
Topics Trophic state and eutrophication
Predation and trophic cascades
Readings/Works Dodds and Whiles chapters 18 and 20 (chapters 17 and 19 in 1st edition)
Post et al. 2008*

Week 14 (Thanksgiving) Monday Nov 21 Synchronous activity: group questions
Topics Microbes: behavior and interactions
Readings/Works Dodds and Whiles chapter 19 (chapter 18 in 1st edition)

Week 15 Wednesday Nov 30 Synchronous activity: group questions
Friday Dec 2 Synchronous activity: reading discussion 11 (fish ecology)
Topics Parasitism, competition, and mutualism
Fish ecology and fisheries
Readings/Works Dodds and Whiles chapters 21 and 23 (chapters 20 and 21 in 1st edition)
Sass et al. 2006*

Week 16 Monday Dec 5 Synchronous activity: group questions
Wednesday Dec 7 Synchronous activity: final exam review
Topics Complex community interactions
Readings/Works Dodds and Whiles chapter 22 (this chapter is absent from 1st edition)

Exam Week Wednesday Dec 14 Final Exam 10 am – 12 pm
Grading Scheme Assignment Percent of Grade
Quiz 5%
Group question participation 5%
Reading discussion participation 10%
Summary reading questions 10%
Critical review writing assignment 15%
Exam 1 10%

Exam 2 20%
Final Exam 25%
TOTAL 100%

Instructor(s) Dr. Lindsey Reisinger
Attendance & Make-up Yes
Accomodations Yes
UF Grading Policies for assigning Grade Points Yes
Course Evaluation Policy Yes

CALS Curriculum Committee
Submission Checklist

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.

__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_ You MUST comply with the CALS Syllabus Policy, including items 1 through 8 and all standard syllabus statements. This document can be viewed at the committee site(https://cals.ufl.edu/faculty-staff/committees/) by clicking on the Curriculum Committee – Information & Documents heading and scrolling down to Forms, Checklists, and Other documents. The other items included here are all very helpful when making a curriculum submission. Some will be mentioned in other checklist items below.

__x_ Joint course submissions must include both graduate and undergraduate syllabuses and a separate statement 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. Any other information you wish to include needs to be under a different heading such as background or additional information.

_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-course-objectives.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 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://registrar.ufl.edu/pdf/uccconsult.pdf.

__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.

__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 is 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 CALS Syllabus Statements boiler plate must be included in all syllabuses. This document is included in the CALS Syllabus Policy and can be copied and pasted to the syllabus. Do not use the 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. Joel Brendemuhl (brendj@ufl.edu) for further instruction)

External Consultation Results (departments with potential overlap or interest in proposed course, if any)

Department	Name and Title
Department of Soil, Water and Ecosystem Sciences	Dr. Matt Whiles, Chair
Phone Number	**E-mail**
352-2943151	mwhiles@ufl.edu

Comments

Similar courses:
Dr. Mark Clark | SWS 4244 Wetlands and SWS5248 Wetlands and Water Quality
Heather Enloe | SWS 4932 Introduction to Water in the Environment
K.S. Inglett | SWS6448 Biogeochemistry of Wetlands and Aquatic Systems
Hey Red – no significant issues from us. There was some concern of overlap if the course ended up as a 3000 level, but not issues with 4000 level. Matt R. Whiles

Department	Name and Title
Phone Number	**E-mail**

Comments

Department	Name and Title
Phone Number	**E-mail**

Comments

FAS 4932 In-person
Freshwater Ecology, 3 credit hours, M W F period 7 (1:55-2:45), MCCC0100
Prerequisites: BSC2005 or BSC2010 or equivalent

Professor: Dr. Lindsey Reisinger
lreisinger1@ufl.edu, (352) 294-1355, Dequine Building 113
Office hours via Zoom Monday 10:00 am - 12:00 pm (https://ufl.zoom.us/j/98700865323)

Text: Dodds, W.K. and M. R. Whiles. 2019. Freshwater ecology: concepts and environmental applications of limnology. 3rd edition. Elsevier, San Diego, CA.

Or

Dodds, W.K. 2002. Freshwater ecology: concepts and environmental applications of limnology. 1st edition. Elsevier, San Diego, CA. (available as an E Book through the UF George A. Smathers Libraries)

Additional papers from the primary literature will be assigned throughout the semester.

Course Description:
This undergraduate course is designed to provide students with an understanding of the concepts in freshwater ecology that are important for controlling the traits, distribution, and abundance of aquatic organisms. Material will focus on the major groups of organisms found in freshwater habitats, the physical and chemical properties that are important for structuring freshwater communities, and the ecological processes that affect freshwater communities and ecosystems.

Student Leaning Outcomes:
At the end of the course, students will be able to:

- Identify the principal physical and chemical aspects of freshwater ecosystems and explain how they structure freshwater communities
- Describe common groups of freshwater organisms and the main ways that they interact with one another
- Explain the major ways in which human activities affect freshwater ecosystems and the organisms that live in them
- Predict the effects of freshwater organisms and ecological processes across a variety of conditions
- Consider the strengths and weaknesses of scientific papers focused on freshwater ecology research and examine how they contribute to broader topics
- Write a critique of a scientific paper and relate it to other primary research papers

Graded work:
A more detailed description and a grading rubric for each assignment will be provided in the class.

Exams, quizzes, and In-class activities
There will be two exams over the course of the semester as well as a final exam. Each exam will be cumulative and cover new material as well as material from earlier in the semester. Later exams contribute more to the grade than early exams. The instructor will provide a set of learning objectives covered by each exam that can be used as a study guide. The in-class activities will provide an opportunity for students to practice answering questions similar to those that will appear on the exams. In addition to exams and in-class activities, there will be a quiz focused on identifying freshwater animals and their ecological roles.

Evaluation of scientific literature
Several assignments are designed to encourage critical evaluation of scientific data and methods in freshwater ecology. Throughout the semester, the class will read and discuss scientific papers. Reading discussions will typically occur once per week on Fridays. Students will answer summary reading

questions about the papers that are that are due prior to class on reading discussion days. These questions are designed to help students summarize the main points of the paper and think critically about the experimental design and strength of the evidence. Students will also write a more in-depth critical review of one scientific paper (4-6 pages double spaced), in which they will summarize the research, analyze the content of the paper, and place the findings into the context of other research.

Attendance and Participation
Class participation is an essential part of the class and is 15% of the grade. Students can participate by attending in-person sessions and answering questions about the material and actively contributing to the discussion in a respectful way. Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/

- Attendance for group question sessions: Attendance will be taken at each session. You are allowed three "personal days" for the semester, after which each absence that does not meet university criteria for "excused" will result in a two-point deduction from your participation grade.
- Attendance for reading discussions: Reading discussions are required because the discussion is an essential part of understanding and evaluating the scientific paper. Each absence from a reading discussion that does not meet university criteria for "excused" will result in a two-point deduction from your participation grade.
- NOTE: If you have personal issues that prohibit you from joining freely in class discussion, e.g., shyness, language barriers, etc., see the instructor as soon as possible to discuss alternative modes of participation.
- Assignments are expected to be turned in on time. In particular, the reading questions and the critical review writing assignment must be turned in on time, prior to the discussion, so that the discussion does not influence the content. Therefore, there will be an automatic deduction of 25% of the grade for any of these assignments if they are turned in late. Late work will not be accepted more than two weeks after its due date or after the final exam.
- Students are expected to take exams and quizzes on the assigned date. If you must miss an exam or quiz on the date it is assigned due to an absence that meets the University criteria for "excused," please email the instructor as soon as possible to reschedule.

Submitting Assignments
The class will be structured as a combination of recorded online lectures, in-person meetings in which students will participate in activities and answer questions focused on class material, and in-person class discussions focused on a scientific paper. Weekly readings will typically consist of a portion of the text from Dodds and Whiles as well as one scientific paper.

Assignments will be submitted online on the UF Canvas E-Learning site. A computer with internet connection is required. The UF Canvas E-Learning site can be accessed at http://elearning.ufl.edu/ using your Gatorlink account. Please contact the computing help desk with questions https://helpdesk.ufl.edu/. You can find the recorded lectures, readings, and assignments for each week in the Modules section.

Evaluation of Student Learning: Click here to see the university grades and grading policies

Assignment	Percent of Grade
Quiz	5%
Group question participation	5%
Reading discussion participation	10%
Summary reading questions	10%
Critical review writing assignment	15%
Exam 1	10%
Exam 2	20%
Final Exam	25%
TOTAL	100%

A 94-100%; A- 90-93.99;
B+ 86-89.99; B 83-85.99; B- 80-82.99;
C+ 76-79.99; C 73-75.99; C- 70-72.99;
D+ 66-69.99; D 63-65.99; D- 60-62.99;
E <60%

Schedule of Class Topics		
Week 1	Wednesday Aug 24	Synchronous activity: course introduction
	Friday Aug 26	Synchronous activity: group questions
	Topics	The importance of freshwater ecosystems Physical and chemical properties of water and the influence of water properties on aquatic organisms
	Readings/Works	Dodds and Whiles chapters 1 and 2 Dodds and Whiles appendix: experimental design in aquatic ecology
Week 2	Wednesday August 31	Synchronous activity: group questions
	Friday Sept 2	Synchronous activity: reading discussion 1 (water availability)
	Topics	Movement of light, heat, and chemicals in water The hydrologic cycle, groundwater, and its connection to surface water
	Readings/Works	Dodds and Whiles chapters 3 and 4 Meijer et al. 2021*
Week 3 (Labor Day)	Wednesday Sept 7	Synchronous activity: group questions
	Friday Sept 9	Synchronous activity: reading discussion 2 (land use)
	Topics	Wetland habitats, adaptations of wetland organisms, human impacts on wetland ecosystems Flowing waters, human impacts on flowing water ecosystems
	Readings/Works	Dodds and Whiles chapters 5 and 6 (chapter 5 in 1st edition) Moore and Palmer 2005*
Week 4	Wednesday Sept 14	Synchronous activity: group questions
	Friday Sept 16	Synchronous activity: reading discussion 3 (dissolved organic carbon)
	Topics	Lakes and reservoirs, lake formation processes and biodiversity, stratification
	Readings/Works	Dodds and Whiles chapter 7 (chapter 6 in 1st edition) Craig et al. 2015*
Week 5	Wednesday Sept 21	Synchronous activity: group questions
	Friday Sept 23	Synchronous activity: live freshwater organisms
	Topics	Classification of freshwater organisms Freshwater microbes
	Readings/Works	Dodds and Whiles chapters 8 and 9 (chapters 7 and 8 in 1st edition)
Week 6	Monday Sept 26	Synchronous activity: exam review
	Wednesday Sept 28	**Exam 1**
	Friday Sept 30	Synchronous activity: group questions
	Topics	Freshwater animals
	Readings/Works	Dodds and Whiles chapter 10 (chapter 9 in 1st edition)
Week 7	Wednesday Oct 5	Synchronous activity: group questions
	Friday Oct 7	Synchronous activity: reading discussion 4 (climate change)
	Topics	Chemicals in freshwater ecosystems, drivers of dissolved oxygen concentrations including photosynthesis and respiration Carbon cycling, leaf litter breakdown
	Readings/Works	Dodds and Whiles chapters 12 and 13 (chapters 11 and 12 in 1st edition) Climate change podcast Low-Decarie et al. 2015*

*answer summary reading questions for these papers

Schedule of Class Topics		
Week 8	Monday Oct 10	**Freshwater animals quiz**
	Wednesday Oct 12	Synchronous activity: group questions
	Friday Oct 14	Synchronous activity: reading discussion 5 (nutrient pollution, stoichiometry)
	Topics	Nutrients and their cycles Nutrient use and remineralization by aquatic organisms
	Readings/Works	Dodds and Whiles chapters 14 and 17 (chapters 13 and 16 in 1st edition) Schindler 1974 Elser et al. 2010*
Week 9	Wednesday Oct 19	Synchronous activity: group questions
	Friday Oct 21	Synchronous activity: reading discussion 6 (eco-evolutionary dynamics)
	Topics	Freshwater plants Evolution and biodiversity
	Readings/Works	Dodds and Whiles chapter 11 (chapter 10 in 1st edition) Pond plants video with Dr. Cichra Ricciardi & Rasmussen 1999 Palkovacs et al. 2009*
Week 10	Wednesday Oct 26	Synchronous activity: group questions
	Friday Oct 28	Synchronous activity: reading discussion 7 (extinctions, biological invasions) **Summary and scientific journal articles for critical review assignment due**
	Topics	Biological invasions Ecosystem ecology
	Readings/Works	Dodds and Whiles chapter 24 (chapter 22 in 1st edition) Wilson et al. 2004*
Week 11	Monday Oct 31	Synchronous activity: exam review
	Wednesday Nov 2	**Exam 2**
	Friday Nov 4	Synchronous activity: reading discussion 8 (pharmaceuticals)
	Topics	Pharmaceuticals
	Readings/Works	Rosi et al. 2018*
Week 12 (Veterans Day)	Monday Nov 7	Synchronous activity: group questions
	Wednesday Nov 9	Synchronous activity: reading discussion 9 (biodiversity and ecosystem function)
	Topics	Chemicals and pollutants
	Readings/Works	Dodds and Whiles chapter 16 (chapter 14 in 1st edition) Cardinale 2011*
Week 13	Wednesday Nov 16	Synchronous activity: group questions
	Friday Nov 18	Synchronous activity: reading discussion 10 (trophic cascades) **Critical review writing assignment due**
	Topics	Trophic state and eutrophication Predation and trophic cascades
	Readings/Works	Dodds and Whiles chapters 18 and 20 (chapters 17 and 19 in 1st edition) Post et al. 2008*
Week 14 (Thanksgiving)	Monday Nov 21	Synchronous activity: group questions
	Topics	Microbes: behavior and interactions
	Readings/Works	Dodds and Whiles chapter 19 (chapter 18 in 1st edition)
Week 15	Wednesday Nov 30	Synchronous activity: group questions
	Friday Dec 2	Synchronous activity: reading discussion 11 (fish ecology)
	Topics	Parasitism, competition, and mutualism Fish ecology and fisheries
	Readings/Works	Dodds and Whiles chapters 21 and 23 (chapters 20 and 21 in 1st edition) Sass et al. 2006*
Week 16	Monday Dec 5	Synchronous activity: group questions
	Wednesday Dec 7	Synchronous activity: final exam review
	Topics	Complex community interactions
	Readings/Works	Dodds and Whiles chapter 22 (this chapter is absent from 1st edition)
Exam Week	Wednesday Dec 14	**Final Exam** 10 am – 12 pm

*answer summary reading questions for these papers

Primary Literature

Reading discussion 1 (water availability)

Meijer, C. G., H. J. Warburton, and A. R. McIntosh. 2021. Disentangling the multiple effects of stream drying and riparian canopy cover on the trophic ecology of a highly threatened fish. Freshwater Biology 66:102-113.

Reading discussion 2 (land use):

Moore, A. A., and M. A. Palmer. 2005. Invertebrate biodiversity in agricultural and urban headwater streams: implications for conservation and management. Ecological Applications 15:1169–1177.

Reading discussion 3 (dissolved organic carbon):

Craig, N., S. E. Jones, B. C. Weidel, and C. T. Solomon. 2015. Habitat, not resource availability, limits consumer production in lake ecosystems. Limnology and Oceanography 60:2079-2089.

Reading discussion 4 (climate change):

Low-Decarie, E., G. Bell, and G. F. Fussmann. 2015. CO_2 alters community composition and response to nutrient enrichment of freshwater phytoplankton. Oecologia 177:875-883.

Reading discussion 5 (nutrient pollution, stoichiometry):

Elser, J. J., A. L. Peace, M. Kyle, M. Wojewodzic, M. L. McCrackin, T. Andersen, and D. O. Hessen. 2010. Atmospheric nitrogen deposition is associated with elevated phosphorus limitation of lake zooplankton. Ecology Letters 13:1256–1261.

Schindler, D. W. 1974. Eutrophication and recovery in experimental lakes: implications for lake management. Science 184:897–899. (additional reading – not the focus of the discussion)

Reading discussion 6 (eco-evolutionary dynamics):

Palkovacs, E.P., M. C. Marshall, B. A. Lamphere, B. R. Lynch, D. J. Weese, D. F. Fraser, D. N. Reznick, C. M. Pringle, and M. T. Kinnison. 2009. Experimental evaluation of evolution and coevolution as agents of ecosystem change in Trinidadian streams. Philosophical Transactions of the Royal Society B: Biological Sciences, 364:1617-1628.

Reading discussion 7 (extinctions, biological invasions):

Wilson, K. A., J. J. Magnuson, D. M. Lodge, A. M. Hill, T. K. Kratz, W. L. Perry, and T. V Willis. 2004. A long-term rusty crayfish (Orconectes rusticus) invasion: dispersal patterns and community change in a north temperate lake. Canadian Journal of Fisheries and Aquatic Sciences 61:2255–2266.

Ricciardi, A., and J. B. Rasmussen. 1999. Extinction rates of North American freshwater fauna. Conservation Biology 13:1220–1222. (additional reading – not the focus of the discussion)

Reading discussion 8 (pharmaceuticals):

Rosi, E. J., H. A. Bechtold, D. Snow, M. Rojas, A. J. Reisinger, and J. J. Kelly. 2018. Urban stream microbial communities show resistance to pharmaceutical exposure. Ecosphere 9:e02041.

Reading discussion 9 (biodiversity and ecosystem function):

Cardinale, B. J. 2011. Biodiversity improves water quality through niche partitioning. Nature 472:86–91.

Reading discussion 10 (trophic cascades):

Post, D. M., E. P. Palkovacs, E. G. Schielke and S. I. Dodson. 2008. Intraspecific variation in a predator affects community structure and cascading trophic interactions. Ecology 89:2019-2032.

Reading discussion 11 (fish ecology):

Sass, G. G., J. F. Kitchell, S. R. Carpenter, T. R. Hrabik, A. E. Marburg, and M. G. Turner. 2006. Fish community and food web responses to a whole-lake removal of coarse woody habitat. Fisheries 31:321–330.

Accomodations 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. Click here to get started with the

Disability Resource Center. 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.

Online Course Evaluation Process

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/

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. Click here to read the Conduct Code. If you have any questions or concerns, please consult with the instructor in this class.

Campus Resources

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 the 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.

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 The first point of contact for student complaints should be the Academic Coordinator for your program. For issues that remain unresolved review the Student Complain Policy.

FAS 6932 In-person
Freshwater Ecology, 3 credit hours, M W F period 7 (1:55-2:45), MCCC0100
Prerequisites: none

Professor: Dr. Lindsey Reisinger
lreisinger1@ufl.edu, (352) 294-1355, Dequine Building 113
Office hours via Zoom Monday 10:00 am - 12:00 pm (https://ufl.zoom.us/j/98700865323)

Text: Dodds, W.K. and M. R. Whiles. 2019. Freshwater ecology: concepts and environmental applications of limnology. 3rd edition. Elsevier, San Diego, CA.

Or

Dodds, W.K. 2002. Freshwater ecology: concepts and environmental applications of limnology. 1st edition. Elsevier, San Diego, CA. (available as an E Book through the UF George A. Smathers Libraries)

Additional papers from the primary literature will be assigned throughout the semester.

Course Description:
This graduate course is designed to provide students with an understanding of the concepts in freshwater ecology that are important for controlling the traits, distribution, and abundance of aquatic organisms. Material will focus on the major groups of organisms found in freshwater habitats, the physical and chemical properties that are important for structuring freshwater communities, and the ecological processes that affect freshwater communities and ecosystems.

The class will be structured as a combination of recorded online lectures, in-person meetings in which students will participate in activities and answer questions focused on class material, and in-person class discussions focused on a scientific paper. Weekly readings will typically consist of a portion of the text from Dodds and Whiles as well as one scientific paper.

Student Leaning Outcomes:
At the end of the course, students will be able to:

- Identify the principal physical and chemical aspects of freshwater ecosystems and explain how they structure freshwater communities
- Describe common groups of freshwater organisms and the main ways that they interact with one another
- Explain the major ways in which human activities affect freshwater ecosystems and the organisms that live in them
- Predict the effects of freshwater organisms and ecological processes across a variety of conditions
- Consider the strengths and weaknesses of scientific papers focused on freshwater ecology research and examine how they contribute to broader topics
- Produce a presentation that critically evaluates a freshwater ecology paper of your choosing
- Propose new experiments to build on existing knowledge in the field of freshwater ecology

Graded work:
A more detailed description and a grading rubric for each assignment will be provided in the class.

Exams, quizzes, and In-class activities
There will be two exams over the course of the semester as well as a final exam. Each exam will be cumulative and cover new material as well as material from earlier in the semester. Later exams contribute more to the grade than early exams. Graduate students will answer an additional essay question on each exam that focuses on drawing connections among the scientific papers and other course content or proposing new experiments to build on existing knowledge. The instructor will provide a set of learning objectives covered by each exam that can be used as a study guide. The in-class activities will provide an opportunity for students to practice answering questions similar to those that

will appear on the exams. In addition to exams and in-class activities, there will be a quiz focused on identifying freshwater animals and their ecological roles.

Evaluation of scientific literature
Several assignments are designed to encourage critical evaluation of scientific data and methods in freshwater ecology. Throughout the semester, the class will read and discuss scientific papers. Reading discussions will typically occur once per week on Fridays. Graduate students will answer questions about each reading prior to the class discussion. These questions are designed to help students to think critically about the strengths and weaknesses of the research and suggest new methods that could be used to improve our knowledge of the topic. Graduate students will also create a presentation that expands on one of the weekly discussion topics. This will be a conference-style presentation that focuses on a scientific paper (chosen by the student) that is related to the scientific paper we will discuss in class.

Attendance and Participation
Class participation is an essential part of the class and is 15% of the grade. Students can participate by attending in-person sessions and answering questions about the material and actively contributing to the discussion in a respectful way. Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: https://gradcatalog.ufl.edu/graduate/regulations/

- Attendance for group question sessions: Attendance will be taken at each session. You are allowed three "personal days" for the semester, after which each absence that does not meet university criteria for "excused" will result in a two-point deduction from your participation grade.
- Attendance for reading discussions: Reading discussions are required because the discussion is an essential part of understanding and evaluating the scientific paper. Each absence from a reading discussion that does not meet university criteria for "excused" will result in a two-point deduction from your participation grade.
- NOTE: If you have personal issues that prohibit you from joining freely in class discussion, e.g., shyness, language barriers, etc., see the instructor as soon as possible to discuss alternative modes of participation.
- Assignments are expected to be turned in on time. In particular, the reading questions must be turned in on time, prior to the discussion, so that the discussion does not influence the content. Therefore, there will be an automatic deduction of 25% of the grade for any of these assignments if they are turned in late. Late work will not be accepted more than two weeks after its due date or after the final exam.
- Students are expected to take exams and quizzes on the assigned date. If you must miss an exam or quiz on the date it is assigned due to an absence that meets the University criteria for "excused," please email the instructor as soon as possible to reschedule.

Submitting Assignments
Assignments will be submitted online on the UF Canvas E-Learning site. A computer with internet connection is required. The UF Canvas E-Learning site can be accessed at http://elearning.ufl.edu/ using your Gatorlink account. Please contact the computing help desk with questions https://helpdesk.ufl.edu/. You can find the recorded lectures, readings, and assignments for each week in the Modules section.

Evaluation of Student Learning: Click here to see the graduate school grading policies

Assignment	Percent of Grade
Quiz	5%
Group question participation	5%
Reading discussion participation	10%
Summary reading questions	10%
Presentation	15%
Exam 1	10%
Exam 2	20%
Final Exam	25%
TOTAL	100%

A 94-100%; A- 90-93.99;
B+ 86-89.99; B 83-85.99; B- 80-82.99;
C+ 76-79.99; C 73-75.99; C- 70-72.99;
D+ 66-69.99; D 63-65.99; D- 60-62.99;
E <60%

Schedule of Class Topics		
Week 1	Wednesday Aug 24	Synchronous activity: course introduction
	Friday Aug 26	Synchronous activity: group questions
	Topics	The importance of freshwater ecosystems Physical and chemical properties of water and the influence of water properties on aquatic organisms
	Readings/Works	Dodds and Whiles chapters 1 and 2 Dodds and Whiles appendix: experimental design in aquatic ecology
Week 2	Wednesday August 31	Synchronous activity: group questions
	Friday Sept 2	Synchronous activity: reading discussion 1 (water availability)
	Topics	Movement of light, heat, and chemicals in water The hydrologic cycle, groundwater, and its connection to surface water
	Readings/Works	Dodds and Whiles chapters 3 and 4 Meijer et al. 2021*
Week 3 (Labor Day)	Wednesday Sept 7	Synchronous activity: group questions
	Friday Sept 9	Synchronous activity: reading discussion 2 (land use)
	Topics	Wetland habitats, adaptations of wetland organisms, human impacts on wetland ecosystems Flowing waters, human impacts on flowing water ecosystems
	Readings/Works	Dodds and Whiles chapters 5 and 6 (chapter 5 in 1st edition) Moore and Palmer 2005*
Week 4	Wednesday Sept 14	Synchronous activity: group questions
	Friday Sept 16	Synchronous activity: reading discussion 3 (dissolved organic carbon)
	Topics	Lakes and reservoirs, lake formation processes and biodiversity, stratification
	Readings/Works	Dodds and Whiles chapter 7 (chapter 6 in 1st edition) Craig et al. 2015*
Week 5	Wednesday Sept 21	Synchronous activity: group questions
	Friday Sept 23	Synchronous activity: live freshwater organisms
	Topics	Classification of freshwater organisms Freshwater microbes
	Readings/Works	Dodds and Whiles chapters 8 and 9 (chapters 7 and 8 in 1st edition)
Week 6	Monday Sept 26	Synchronous activity: exam review
	Wednesday Sept 28	**Exam 1**
	Friday Sept 30	Synchronous activity: group questions
	Topics	Freshwater animals
	Readings/Works	Dodds and Whiles chapter 10 (chapter 9 in 1st edition)
Week 7	Wednesday Oct 5	Synchronous activity: group questions
	Friday Oct 7	Synchronous activity: reading discussion 4 (climate change)
	Topics	Chemicals in freshwater ecosystems, drivers of dissolved oxygen concentrations including photosynthesis and respiration Carbon cycling, leaf litter breakdown
	Readings/Works	Dodds and Whiles chapters 12 and 13 (chapters 11 and 12 in 1st edition) Climate change podcast Low-Decarie et al. 2015*

*answer reading questions for these papers

Schedule of Class Topics		
Week 8	Monday Oct 10	**Freshwater animals quiz**
	Wednesday Oct 12	Synchronous activity: group questions
	Friday Oct 14	Synchronous activity: reading discussion 5 (nutrient pollution, stoichiometry)
	Topics	Nutrients and their cycles Nutrient use and remineralization by aquatic organisms
	Readings/Works	Dodds and Whiles chapters 14 and 17 (chapters 13 and 16 in 1st edition) Schindler 1974 Elser et al. 2010*
Week 9	Wednesday Oct 19	Synchronous activity: group questions
	Friday Oct 21	Synchronous activity: reading discussion 6 (eco-evolutionary dynamics)
	Topics	Freshwater plants Evolution and biodiversity
	Readings/Works	Dodds and Whiles chapter 11 (chapter 10 in 1st edition) Pond plants video with Dr. Cichra Ricciardi & Rasmussen 1999 Palkovacs et al. 2009*
Week 10	Wednesday Oct 26	Synchronous activity: group questions
	Friday Oct 28	Synchronous activity: reading discussion 7 (extinctions, biological invasions)
	Topics	Biological invasions Ecosystem ecology
	Readings/Works	Dodds and Whiles chapter 24 (chapter 22 in 1st edition) Wilson et al. 2004*
Week 11	Monday Oct 31	Synchronous activity: exam review
	Wednesday Nov 2	**Exam 2**
	Friday Nov 4	Synchronous activity: reading discussion 8 (pharmaceuticals)
	Topics	Pharmaceuticals
	Readings/Works	Rosi et al. 2018*
Week 12 (Veterans Day)	Monday Nov 7	Synchronous activity: group questions
	Wednesday Nov 9	Synchronous activity: reading discussion 9 (biodiversity and ecosystem function)
	Topics	Chemicals and pollutants
	Readings/Works	Dodds and Whiles chapter 16 (chapter 14 in 1st edition) Cardinale 2011*
Week 13	Wednesday Nov 16	Synchronous activity: group questions
	Friday Nov 18	Synchronous activity: reading discussion 10 (trophic cascades)
	Topics	Trophic state and eutrophication Predation and trophic cascades
	Readings/Works	Dodds and Whiles chapters 18 and 20 (chapters 17 and 19 in 1st edition) Post et al. 2008*
Week 14 (Thanksgiving)	Monday Nov 21	Synchronous activity: group questions
	Topics	Microbes: behavior and interactions
	Readings/Works	Dodds and Whiles chapter 19 (chapter 18 in 1st edition)
Week 15	Wednesday Nov 30	Synchronous activity: group questions
	Friday Dec 2	Synchronous activity: reading discussion 11 (fish ecology)
	Topics	Parasitism, competition, and mutualism Fish ecology and fisheries
	Readings/Works	Dodds and Whiles chapters 21 and 23 (chapters 20 and 21 in 1st edition) Sass et al. 2006*
Week 16	Monday Dec 5	Synchronous activity: group questions
	Wednesday Dec 7	Synchronous activity: final exam review
	Topics	Complex community interactions
	Readings/Works	Dodds and Whiles chapter 22 (this chapter is absent from 1st edition)
Exam Week	Wednesday Dec 14	**Final Exam** 10 am – 12 pm

*answer reading questions for these papers

Primary Literature

Reading discussion 1 (water availability)

Meijer, C. G., H. J. Warburton, and A. R. McIntosh. 2021. Disentangling the multiple effects of stream drying and riparian canopy cover on the trophic ecology of a highly threatened fish. Freshwater Biology 66:102-113.

Reading discussion 2 (land use):

Moore, A. A., and M. A. Palmer. 2005. Invertebrate biodiversity in agricultural and urban headwater streams: implications for conservation and management. Ecological Applications 15:1169–1177.

Reading discussion 3 (dissolved organic carbon):

Craig, N., S. E. Jones, B. C. Weidel, and C. T. Solomon. 2015. Habitat, not resource availability, limits consumer production in lake ecosystems. Limnology and Oceanography 60:2079-2089.

Reading discussion 4 (climate change):

Low-Decarie, E., G. Bell, and G. F. Fussmann. 2015. CO_2 alters community composition and response to nutrient enrichment of freshwater phytoplankton. Oecologia 177:875-883.

Reading discussion 5 (nutrient pollution, stoichiometry):

Elser, J. J., A. L. Peace, M. Kyle, M. Wojewodzic, M. L. McCrackin, T. Andersen, and D. O. Hessen. 2010. Atmospheric nitrogen deposition is associated with elevated phosphorus limitation of lake zooplankton. Ecology Letters 13:1256–1261.

Schindler, D. W. 1974. Eutrophication and recovery in experimental lakes: implications for lake management. Science 184:897–899. (additional reading – not the focus of the discussion)

Reading discussion 6 (eco-evolutionary dynamics):

Palkovacs, E.P., M. C. Marshall, B. A. Lamphere, B. R. Lynch, D. J. Weese, D. F. Fraser, D. N. Reznick, C. M. Pringle, and M. T. Kinnison. 2009. Experimental evaluation of evolution and coevolution as agents of ecosystem change in Trinidadian streams. Philosophical Transactions of the Royal Society B: Biological Sciences, 364:1617-1628.

Reading discussion 7 (extinctions, biological invasions):

Wilson, K. A., J. J. Magnuson, D. M. Lodge, A. M. Hill, T. K. Kratz, W. L. Perry, and T. V Willis. 2004. A long-term rusty crayfish (Orconectes rusticus) invasion: dispersal patterns and community change in a north temperate lake. Canadian Journal of Fisheries and Aquatic Sciences 61:2255–2266.

Ricciardi, A., and J. B. Rasmussen. 1999. Extinction rates of North American freshwater fauna. Conservation Biology 13:1220–1222. (additional reading – not the focus of the discussion)

Reading discussion 8 (pharmaceuticals):

Rosi, E. J., H. A. Bechtold, D. Snow, M. Rojas, A. J. Reisinger, and J. J. Kelly. 2018. Urban stream microbial communities show resistance to pharmaceutical exposure. Ecosphere 9:e02041.

Reading discussion 9 (biodiversity and ecosystem function):

Cardinale, B. J. 2011. Biodiversity improves water quality through niche partitioning. Nature 472:86–91.

Reading discussion 10 (trophic cascades):

Post, D. M., E. P. Palkovacs, E. G. Schielke and S. I. Dodson. 2008. Intraspecific variation in a predator affects community structure and cascading trophic interactions. Ecology 89:2019-2032.

Reading discussion 11 (fish ecology):

Sass, G. G., J. F. Kitchell, S. R. Carpenter, T. R. Hrabik, A. E. Marburg, and M. G. Turner. 2006. Fish community and food web responses to a whole-lake removal of coarse woody habitat. Fisheries 31:321–330.

Accomodations 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. Click here to get started with the Disability Resource Center. 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.

Online Course Evaluation Process

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/

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. Click here to read the Conduct Code. If you have any questions or concerns, please consult with the instructor in this class.

Campus Resources

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 the 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.

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 The first point of contact for student complaints should be the Academic Coordinator for your program. For issues that remain unresolved review the Student Complain Policy.

FAS4932 and FAS6932 Freshwater Ecology

Differentiation Summary

Learning Objectives

FAS4932

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

- Identify the principal physical and chemical aspects of freshwater ecosystems and explain how they structure freshwater communities
- Describe common groups of freshwater organisms and the main ways that they interact with one another
- Explain the major ways in which human activities affect freshwater ecosystems and the organisms that live in them
- Predict the effects of freshwater organisms and ecological processes across a variety of conditions
- Consider the strengths and weaknesses of scientific papers focused on freshwater ecology research and examine how they contribute to broader topics
- Write a critique of a scientific paper and relate it to other primary research papers

FAS6932

- Identify the principal physical and chemical aspects of freshwater ecosystems and explain how they structure freshwater communities
- Describe common groups of freshwater organisms and the main ways that they interact with one another
- Explain the major ways in which human activities affect freshwater ecosystems and the organisms that live in them
- Predict the effects of freshwater organisms and ecological processes across a variety of conditions
- Consider the strengths and weaknesses of scientific papers focused on freshwater ecology research and examine how they contribute to broader topics
- Produce a presentation that critically evaluates a freshwater ecology paper of your choosing
- Propose new experiments to build on existing knowledge in the field of freshwater ecology

Assignments

1. Different assignments focused on critiquing the scientific literature (15% of the grade). The assignment for undergraduates is to write a critique of a paper, which requires them to identify the hypothesis of the paper, correctly describe the methods of the paper, evaluate the strength of the evidence, and consider how it relates to other research on the topic. The undergraduate version of this assignment is a more in-depth version of the reading questions assignments, which are due weekly prior to class discussions of scientific papers. Therefore, undergraduates are able to practice this skill prior to this assignment. The assignment for graduate students is to create a

presentation focused on a scientific paper that they identify. The presentation format requires graduate students to describe the research in more detail (e.g., by explaining the findings in each main figure) and more thoroughly examine how the paper fits in to broader topics (e.g., in the introduction and conclusions section). The graduate students are also tasked with finding the focal paper for the presentation, whereas the undergraduates are provided with a choice of one of three papers.

2. Different reading questions assignments (10% of the grade). The undergraduate reading questions are designed to get the students to identify the purpose of the study, the main methods, and the strengths and weaknesses of the study. The graduate reading questions assume a greater level of understanding and ask students what they could do in a follow-up study to make the findings more convincing.

3. Graduate students will have an additional essay question on each of the 3 exams that focuses on drawing connections among the scientific papers and other course content or proposing new experiments to build on existing knowledge.

Cover Sheet: Request 17612

ENY4210 Pre requisite change

Info

Process	Course|Modify|Ugrad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Estelle Martin estellemartin@ufl.edu
Created	8/30/2022 5:56:30 PM
Updated	9/23/2022 2:33:01 PM
Description of request	Our current pre-requisite for the course excludes science majors from being able to register for the course.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Entomology and Nematology 60140000	Heather Mcauslane		9/8/2022
INSECTS AND WILDLIFE_SYLLABUS_OLD_ENY4210.docx					9/8/2022
College	Pending	CALS - College of Agricultural and Life Sciences			9/8/2022
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					

Course|Modify for request 17612

Info

Request: ENY4210 Pre requisite change
Description of request: Our current pre-requisite for the course excludes science majors from being able to register for the course.
Submitter: Estelle Martin estellemartin@ufl.edu
Created: 9/8/2022 4:45:46 PM
Form version: 2

Responses

Current Prefix ENY
Course Level 4
Number 210
Lab Code None
Course Title Insects and Wildlife
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? 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

Change Prerequisites? Yes
Current Prerequisites ENY3005L or BSC2005L (or higher)
Proposed Prerequisites BSC 2005 or BSC 2010
Change Co-requisites? No

Rationale Current pre-requisites exclude science majors from being able to register for the course. This semester we had to manually register them

CALS Curriculum Committee
Submission Checklist

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.

EM 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/.

EM You MUST comply with the CALS Syllabus Policy, including items 1 through 8 and all standard syllabus statements. This document can be viewed at the committee site(https://cals.ufl.edu/faculty-staff/committees/) by clicking on the Curriculum Committee – Information & Documents heading and scrolling down to Forms, Checklists, and Other documents. The other items included here are all very helpful when making a curriculum submission. Some will be mentioned in other checklist items below.

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

EM 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. Any other information you wish to include needs to be under a different heading such as background or additional information.

____ 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-course-objectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

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

EM 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.

NA Outside consultations are required if there is a possibility of the proposed course covering 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/.

EM 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.

EM 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.

EM 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 is included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

EM The most recent version of the CALS Syllabus Statements boiler plate must be included in all syllabuses. This document is included in the CALS Syllabus Policy and can be copied and pasted to the syllabus. Do not use the 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. Joel Brendemuhl (brendj@ufl.edu) for further instruction)

INSECTS AND WILDLIFE

ENY4210 Undergraduate | Fall Semester | 3 Credit Hours | Asynchronous online course

INSTRUCTOR

Dr. Estelle Martin

Office: 306, Steinmetz Hall

1881 Natural Area Drive Box 110620

Gainesville, FL 32611

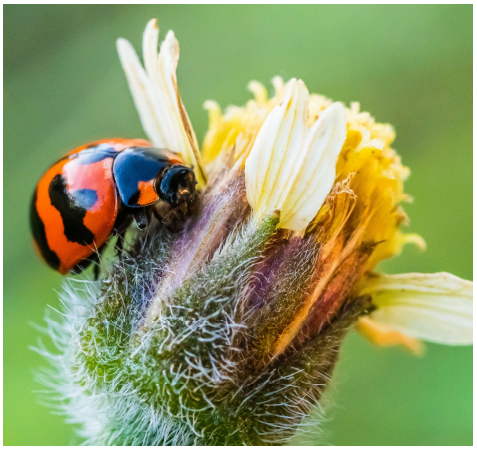
Phone: 352-294-6935

E-Mail: estellemartin@ufl.edu

TA

Kat Halsey

E-Mail: khalsey@ufl.edu



OFFICE HOURS

Tuesdays from 5-6 PM or by appointment. Students are encouraged to contact Kat Halsey at khalsey@ufl.edu or me at estellemartin@ufl.edu to arrange a time to meet with subject line: FALL 2022 - ENY4210 meeting request. All meetings will occur via Zoom. Please allow for a 48h response time.

Course Website

https://ufl.instructure.com/courses/462094

Course Description

Insects and other arthropods and their relationships with wild vertebrate animals.

Prerequisite Knowledge and Skills

As a prerequisite, you must have completed BSC 2005 or BSC 2010

Purpose of Course

This course has several purposes:

(1) to introduce students who are mostly interested in vertebrate animals (wildlife) to the importance of smaller, often overlooked, but ecologically important invertebrates, mostly insects
(2) to introduce students to vertebrate animals that interact with arthropods (mostly insects)
(3) to learn how insects are managed, and how vertebrate animals can be positively or negatively affected by the various practices

Course Goals and/or Objectives

By the end of this course, students will develop an understanding of the ecological relationships of arthropods and pesticides with natural resources, particularly the roles of arthropods as food, nuisance pests, vectors of animal disease, and in natural resource and wildlife conservation. Students will be able to identify the groups of insects (and other arthropods) that are most important as food, nuisance pests, and vectors of animal disease. They will learn methods of arthropod diet assessment and know how different methodologies affect the outcomes of research. They will learn how arthropod populations can be manipulated to favor wildlife and how these principles and practices can be use in wildlife management practices.

Instructional Methods

The class will be conducted entirely online uses Canvas. You are responsible for the course content in Canvas. You should view the lectures and read the text in the order shown in the class outline. You should also view the video clips, which serve to illustrate the items discussed.

Course Technology

You will need internet to access the Canvas course via the UF e-learning site to see the course contents and complete assessments.

Learning Objectives

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

1. Compare the major insect orders
2. Discuss insects external and internal structure
3. Summarize the nutritional value of insect
4. Identify insect orders that are important to wildlife diet
5. Analyze the different impact insects have on animal and environmental health
6. Compare and contrast the different type of disease transmission
7. Discuss strategies for pest control, animal disease control and wildlife management
8. Judge and critique scientific literature related to insects and wildlife interaction
9. Create presentations on insect-vectored diseases that are involved in the regulation of animal populations
10. Create a digital collection of 10 insect orders

Course Format and Requirements

This course is offered as pre-recorded lectures delivered by the eLearning course management system Canvas. Slides are available as PDF as well as transcripts should you care to print them.

Quizzes

There are 14 quizzes. Quizzes are multiple choice tests and must be taken via Canvas unless other arrangements are made in advance. Most Quizzes are worth 20 points unless stated otherwise. You have only one chance to take each Quiz, so prepare in advance. Please take tests using a reliable computer and connections. There are 14 “practice quizzes”. These are not graded, and it is for your use only as a study aid. If you can answer these questions successfully you are acquiring adequate knowledge about the relationship of insects and their relatives that will allow you to be successful for each of the 14 “ends of the module quizzes”. In addition, there is an ‘insect identification quiz’ which will assess your ability for identification of insect orders and insect relatives that are of particular importance to wildlife. This quiz can be taken up to 3 times and the best score will be kept. At the end of each attempt the explanations as to how identification of the images is determined. Finally, there is one “syllabus quiz”, two “course evaluation surveys” (midway and end of course) as well as 2 “assess your knowledge quizzes” (beginning and end of the course). For these, full grade will be given just for complete them.

Discussion

There are 15 discussions. Each discussion is worth 30 points. Up to 20 points will be given for posting and the remaining 10 points will be given for responding to the posts of your peers.

Assignments

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1. Upload 25 unique observations of insects to https://www.inaturalist.org/projects/insects-and-wildlife-fall-2022
    a. These must be your own observations, and not anything you find online!
    b. No pets or captive animals (example, you cannot post a pic of your pet mantis)
2. These 25 insects must represent at least ten different orders

If you are not able to go outside and collect, it is ok you will be able to explore iNaturalist and practice your identification skills by identifying 25 insects from at least 10 different orders!

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- Discussion (300 pts)
- Quizzes (345)
- Assignments (180 pts)
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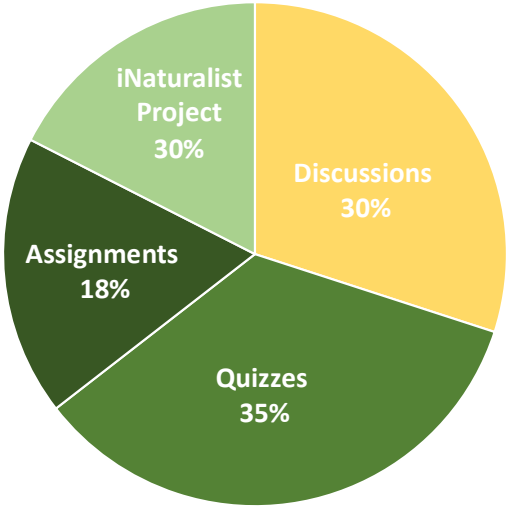

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- U Matter We Care, www.umatter.ufl.edu/

- Career Connections Center, First Floor JWRU, 392-1601, https://career.ufl.edu/.

- Student Success Initiative, http://studentsuccess.ufl.edu.

Student Complaints:

- Residential Course: https://sccr.dso.ufl.edu/policies/student-honor-code-studentconduct-code/.\

- Online Course: https://distance.ufl.edu/state-authorization-status/#student-complaint

LECTURE OUTLINE

Module	Course topic	Assessment	Due Dates
0 (Aug 22-Aug 28)	Course introduction	Syllabus quiz (17 pts) Discussion board (20 pts) Assess your knowledge quiz (14 pts)	Aug 29
1 (Aug 29-Sept 4)	Insects and their relatives	Module 1 Quiz (30 pts) Module 1 Discussion board 1(20 pts) Module 1 Assignment (20 pts)	Sept 6
2 (Sept 5-Sept 11)	Insect structure and function	Module 2 Quiz (30 pts) Module 2 Discussion board 2 (20 pts) No assignment	Sept 12
3 (Sept 12-Sept 18)	Food resources for wildlife	Module 3 Quiz (10 pts) Module 3 Discussion board (20 pts) Module 3 Assignment (20 pts)	Sept 19
4 (Sept 19-Sept 25)	Wildlife diets	Module 4 Quiz (30 pts) Module 4 Discussion board (20 pts) Module 4 Assignment (20 pts)	Sept 26
5 (Sept 26-Oct 2)	Insects important as food for wildlife	Module 5 Quiz (30 pts) Module 5 Discussion board (20 pts) Insect Identification Quiz (30 pts) No assignment	Oct 3
6 (Oct 3-Oct 9)	Insects and ecosystems	Module 6 Quiz (10 pts) Module 6 Discussion board (20 pts) Module 6 Assignment (20 pts)	Oct 10
7 (Oct 10-Oct 16)	Transmission of disease agents to wildlife by arthropods	Module 7 Quiz (10 pts) Module 7 Discussion board (20 pts) Mid-course evaluation (**5 pts Extra Credit**) No assignment	Oct 17
8 (Oct 17-Oct 23)	Infectious disease agents transmitted to wildlife by arthropods	Module 8 Quiz (10 pts) Module 8 Discussion board (20 pts) Module 8 Assignment (20 pts)	Oct 24
9 (Oct 24-Oct 30)	Parasitic disease agents transmitted to wildlife by arthropods	Module 9 Quiz (20 pts) Module 9 Discussion board (20 pts) Module 9 Assignment (20 pts)	Nov 1
10 (Oct 31-Nov 6)	Arthropods as parasites of wildlife	Module 10 Quiz (30 pts) Module 10 Discussion board (20 pts) Module 10 Assignment (20 pts)	Nov 7
11 (Nov 7-Nov 13)	Pesticides and their effects on wildlife	Module 11 Quiz (30 pts) Module 11 Discussion board (20 pts) Module 11 Assignment (20pts)	Nov 14
12 (Nov 14-Nov 20)	Alternatives to insecticides	Module 12 Quiz (10 pts) Module 12 Discussion board (20 pts) No assignment	Nov 21
13 (Nov 21-Nov 27)	No class	No assignments but feel free to work ahead!!!	
14 (Nov 28-Dec 4)	Insect-wildlife relationships	Module 14 Quiz (10 pts) Module 14 Discussion board (20 pts) Module 14 Assignment (20 pts) End-course evaluation (**5 pts Extra Credit**)	Dec 5
15 (Dec 5-Dec 11)	Insect and wildlife conservation	Module 15 Quiz (10 pts) Module 15 Discussion board (20 pts) No assignment Assess your knowledge quiz (14 pts)	Dec 12
Throughout the semester	Semester Project	iNaturalist Insects and Wildlife F2022 (175 pts) iNaturalist Insects and Wildlife University of Florida (**10 pts Extra Credit**)	

Full list of reading used in this course:

1. Genovesi P, Secchi M, Boitani L. Diet of stone martens: an example of ecological flexibility. Journal of Zoology. 1996;238 3:545-55; doi: https://doi.org/10.1111/j.1469-7998.1996.tb05412.x. https://zslpublications.onlinelibrary.wiley.com/doi/abs/10.1111/j.1469-7998.1996.tb05412.x.
2. Belovsky GE, Slade JB. Insect herbivory accelerates nutrient cycling and increases plant production. Proceedings of the National Academy of Sciences. 2000;97 26:14412-7; doi: doi:10.1073/pnas.250483797. https://www.pnas.org/doi/abs/10.1073/pnas.250483797.
3. Allen CR, Epperson DM, Garmestani AS. Red Imported Fire Ant Impacts on Wildlife: A Decade of Research. The American Midland Naturalist. 2004;152 1:88-103. http://www.jstor.org/stable/3566646.
4. Holdo RM, McDowell LR. Termite Mounds as Nutrient–Rich Food Patches for Elephants. Biotropica. 2004;36 2:231-9; doi: https://doi.org/10.1111/j.1744-7429.2004.tb00314.x. https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1744-7429.2004.tb00314.x.
5. Hocking MD, Reimchen TE. Consumption and distribution of salmon (Oncorhynchus spp.) nutrients and energy by terrestrial flies. Canadian Journal of Fisheries and Aquatic Sciences. 2006;63 9:2076-86; doi: 10.1139/f06-110. https://cdnsciencepub.com/doi/abs/10.1139/f06-110.
6. Adams SM, Adams AS, Holben WE. Tri-trophic linkages in disease: pathogen transmission to rainbow trout through stonefly prey. Environ Entomol. 2009;38 4:1022-7; doi: 10.1603/022.038.0409.
7. Boone A, Kraft JP, Stapp P. Scavenging by mammalian carnivores on prairie dog colonies: implications for the spread of plague. Vector borne and zoonotic diseases (Larchmont, NY). 2009;9 2:185-90; doi: 10.1089/vbz.2008.0034.
8. Cully JF, Jr., Johnson TL, Collinge SK, Ray C. Disease limits populations: plague and black-tailed prairie dogs. Vector borne and zoonotic diseases (Larchmont, NY). 2010;10 1:7-15; doi: 10.1089/vbz.2009.0045.
9. Dinsmore SJ, Smith MD. Mountain plover responses to plague in Montana. Vector borne and zoonotic diseases (Larchmont, NY). 2010;10 1:37-45; doi: 10.1089/vbz.2009.0046.
10. Bakaloudis DE, Vlachos CG, Papakosta MA, Bontzorlos VA, Chatzinikos EN. Diet composition and feeding strategies of the stone marten (Martes foina) in a typical Mediterranean ecosystem. TheScientificWorldJournal. 2012;2012:163920; doi: 10.1100/2012/163920.
11. Dobermann D, Swift JA, Field LM. Opportunities and hurdles of edible insects for food and feed. Nutrition Bulletin. 2017;42 4:293-308; doi: https://doi.org/10.1111/nbu.12291. https://onlinelibrary.wiley.com/doi/abs/10.1111/nbu.12291.
12. Meusemann K, Trautwein M, Friedrich F, Beutel RG, Wiegmann BM, Donath A, et al. Are fleas highly modified Mecoptera? Phylogenomic resolution of Antliophora (Insecta: Holometabola). bioRxiv. 2020:2020.11.19.390666; doi: 10.1101/2020.11.19.390666. https://www.biorxiv.org/content/biorxiv/early/2020/11/20/2020.11.19.390666.full.pdf.

INSECTS AND WILDLIFE

ENY5212 Graduate | Fall Semester | 3 Credit Hours | Asynchronous online course

INSTRUCTOR

Dr. Estelle Martin

Office: 306, Steinmetz Hall

1881 Natural Area Drive Box 110620

Gainesville, FL 32611

Phone: 352-294-6935

E-Mail: estellemartin@ufl.edu

TA

Kat Halsey

E-Mail: khalsey@ufl.edu

OFFICE HOURS

Tuesdays from 5-6 PM or by appointment. Students are encouraged to contact Kat Halsey at khalsey@ufl.edu or me at estellemartin@ufl.edu to arrange a time to meet with subject line: FALL 2022 - ENY 5212 meeting request. All meetings will occur via Zoom. Please allow for a 48h response time.

Course Website

https://ufl.instructure.com/courses/462094

Course Description

Insects and other arthropods and their relationships with wild vertebrate animals.

Prerequisite Knowledge and Skills

There is no prerequisite

Purpose of Course

This course has several purposes:

(1) to introduce students who are mostly interested in vertebrate animals (wildlife) to the importance of smaller, often overlooked, but ecologically important invertebrates, mostly insects
(2) to introduce students to vertebrate animals that interact with arthropods (mostly insects)
(3) to learn how insects are managed, and how vertebrate animals can be positively or negatively affected by the various practices

Course Goals and/or Objectives

By the end of this course, students will develop an understanding of the ecological relationships of arthropods and pesticides with natural resources, particularly the roles of arthropods as food, nuisance pests, vectors of animal disease, and in natural resource and wildlife conservation. Students will be able to identify the groups of insects (and other arthropods) that are most important as food, nuisance pests, and vectors of animal disease. They will learn methods of arthropod diet assessment and know how different methodologies affect the outcomes of research. They will learn how arthropod populations can be manipulated to favor wildlife and how these principles and practices can be use in wildlife management practices.

Instructional Methods

The class will be conducted entirely online uses Canvas. You are responsible for the course content in Canvas. You should view the lectures and read the text in the order shown in the class outline. You should also view the video clips, which serve to illustrate the items discussed.

Course Technology

You will need internet to access the Canvas course via the UF e-learning site to see the course contents and complete assessments.

Learning Objectives

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

1. Compare the major insect orders
2. Discuss insects external and internal structure
3. Summarize the nutritional value of insect
4. Identify insect orders that are important to wildlife diet
5. Analyze the different impact insects have on animal and environmental health
6. Compare and contrast the different type of disease transmission
7. Discuss strategies for pest control, animal disease control and wildlife management
8. Judge and critique scientific literature related to insects and wildlife interaction
9. Create presentations on insect-vectored diseases that are involved in the regulation of animal populations
10. Employ databases to find relevant journal articles related to insects and wildlife
11. Create a digital collection of 10 insect orders

Course Format and Requirements

This course is offered as pre-recorded lectures delivered by the eLearning course management system Canvas. Slides are available as PDF as well as transcripts should you care to print them.

Quizzes

There are 14 quizzes. Quizzes are multiple choice tests and must be taken via Canvas unless other arrangements are made in advance. Most Quizzes are worth 20 points unless stated otherwise. You have only one chance to take each Quiz, so prepare in advance. Please take tests using a reliable computer and connections. There are 14 “practice quizzes”. These are not graded, and it is for your use only as a study aid. If you can answer these questions successfully you are acquiring adequate knowledge about the relationship of insects and their relatives that will allow you to be successful for each of the 14 “ends of the module quizzes”. In addition, there is an ‘insect identification quiz’ which will assess your ability for identification of insect orders and insect relatives that are of particular importance to wildlife. This quiz can be taken up to 3 times and the best score will be kept. At the end of each attempt the explanations as to how identification of the images is determined. Finally, there is one “syllabus quiz”, two “course evaluation surveys” (midway and end of course) as well as 2 “assess your knowledge quizzes” (beginning and end of the course). For these, full grade will be given just for complete them.

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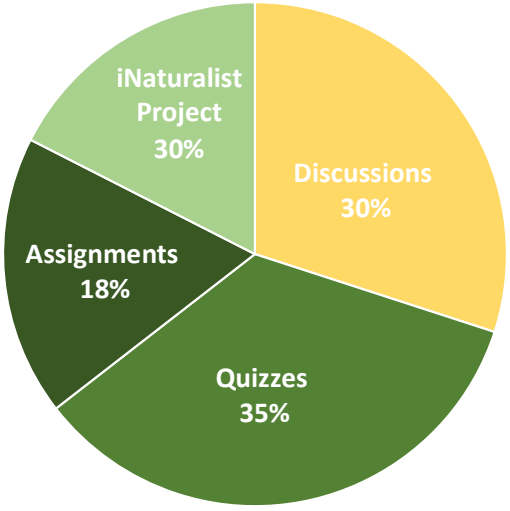

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  Self-Help Library
  Wellness Coaching

- U Matter We Care, www.umatter.ufl.edu/

- Career Connections Center, First Floor JWRU, 392-1601, https://career.ufl.edu/.

- Student Success Initiative, http://studentsuccess.ufl.edu.

Student Complaints:

- Residential Course: https://sccr.dso.ufl.edu/policies/student-honor-code-studentconduct-code/.\

- Online Course: https://distance.ufl.edu/state-authorization-status/#student-complaint

LECTURE OUTLINE

Module	Course topic	Assessment	Due Dates
0 (Aug 22-Aug 28)	Course introduction	Syllabus quiz (17 pts) Discussion board (20 pts) Assess your knowledge quiz (14 pts)	Aug 29
1 (Aug 29-Sept 4)	Insects and their relatives	Module 1 Quiz (30 pts) Module 1 Discussion board 1(20 pts) Module 1 Assignment (20 pts)	Sept 6
2 (Sept 5-Sept 11)	Insect structure and function	Module 2 Quiz (30 pts) Module 2 Discussion board 2 (20 pts) No assignment	Sept 12
3 (Sept 12-Sept 18)	Food resources for wildlife	Module 3 Quiz (10 pts) Module 3 Discussion board (20 pts) Module 3 Assignment (20 pts)	Sept 19
4 (Sept 19-Sept 25)	Wildlife diets	Module 4 Quiz (20 pts) Module 4 Discussion board (30 pts) Module 4 Assignment (20 pts)	Sept 26
5 (Sept 26-Oct 2)	Insects important as food for wildlife	Module 5 Quiz (30 pts) Module 5 Discussion board (20 pts) Insect Identification Quiz (30 pts) No assignment	Oct 3
6 (Oct 3-Oct 9)	Insects and ecosystems	Module 6 Quiz (10 pts) Module 6 Discussion board (20 pts) Module 6 Assignment (20 pts)	Oct 10
7 (Oct 10-Oct 16)	Transmission of disease agents to wildlife by arthropods	Module 7 Quiz (10 pts) Module 7 Discussion board (20 pts) Mid-course evaluation (**5 pts Extra Credit**) No assignment	Oct 17
8 (Oct 17-Oct 23)	Infectious disease agents transmitted to wildlife by arthropods	Module 8 Quiz (10 pts) Module 8 Discussion board (20 pts) Module 8 Assignment (20 pts)	Oct 24
9 (Oct 24-Oct 30)	Parasitic disease agents transmitted to wildlife by arthropods	Module 9 Quiz (20 pts) Module 9 Discussion board (20 pts) Module 9 Assignment (20 pts)	Nov 1
10 (Oct 31-Nov 6)	Arthropods as parasites of wildlife	Module 10 Quiz (30 pts) Module 10 Discussion board (20 pts) Module 10 Assignment (20 pts)	Nov 7
11 (Nov 7-Nov 13)	Pesticides and their effects on wildlife	Module 11 Quiz (30 pts) Module 11 Discussion board (20 pts) Module 11 Assignment (20pts)	Nov 14
12 (Nov 14-Nov 20)	Alternatives to insecticides	Module 12 Quiz (10 pts) Module 12 Discussion board (20 pts) No assignment	Nov 21
13 (Nov 21-Nov 27)	No class	No assignments but feel free to work ahead!!!	
14 (Nov 28-Dec 4)	Insect-wildlife relationships	Module 14 Quiz (10 pts) Module 14 Discussion board (20 pts) Module 14 Assignment (20 pts) End-course evaluation (**5 pts Extra Credit**)	Dec 5
15 (Dec 5-Dec 11)	Insect and wildlife conservation	Module 15 Quiz (10 pts) Module 15 Discussion board (320 pts) No assignment Assess your knowledge quiz (14 pts)	Dec 12
Throughout the semester	Semester Project	iNaturalist Insects and Wildlife F2022 (150 pts) iNaturalist Insects and Wildlife University of Florida (**10 pts Extra Credit**)	

Full list of reading used in this course:

1. Genovesi P, Secchi M, Boitani L. Diet of stone martens: an example of ecological flexibility. Journal of Zoology. 1996;238 3:545-55; doi: https://doi.org/10.1111/j.1469-7998.1996.tb05412.x. https://zslpublications.onlinelibrary.wiley.com/doi/abs/10.1111/j.1469-7998.1996.tb05412.x.
2. Belovsky GE, Slade JB. Insect herbivory accelerates nutrient cycling and increases plant production. Proceedings of the National Academy of Sciences. 2000;97 26:14412-7; doi: doi:10.1073/pnas.250483797. https://www.pnas.org/doi/abs/10.1073/pnas.250483797.
3. Allen CR, Epperson DM, Garmestani AS. Red Imported Fire Ant Impacts on Wildlife: A Decade of Research. The American Midland Naturalist. 2004;152 1:88-103. http://www.jstor.org/stable/3566646.
4. Holdo RM, McDowell LR. Termite Mounds as Nutrient–Rich Food Patches for Elephants. Biotropica. 2004;36 2:231-9; doi: https://doi.org/10.1111/j.1744-7429.2004.tb00314.x. https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1744-7429.2004.tb00314.x.
5. Hocking MD, Reimchen TE. Consumption and distribution of salmon (Oncorhynchus spp.) nutrients and energy by terrestrial flies. Canadian Journal of Fisheries and Aquatic Sciences. 2006;63 9:2076-86; doi: 10.1139/f06-110. https://cdnsciencepub.com/doi/abs/10.1139/f06-110.
6. Adams SM, Adams AS, Holben WE. Tri-trophic linkages in disease: pathogen transmission to rainbow trout through stonefly prey. Environ Entomol. 2009;38 4:1022-7; doi: 10.1603/022.038.0409.
7. Boone A, Kraft JP, Stapp P. Scavenging by mammalian carnivores on prairie dog colonies: implications for the spread of plague. Vector borne and zoonotic diseases (Larchmont, NY). 2009;9 2:185-90; doi: 10.1089/vbz.2008.0034.
8. Cully JF, Jr., Johnson TL, Collinge SK, Ray C. Disease limits populations: plague and black-tailed prairie dogs. Vector borne and zoonotic diseases (Larchmont, NY). 2010;10 1:7-15; doi: 10.1089/vbz.2009.0045.
9. Dinsmore SJ, Smith MD. Mountain plover responses to plague in Montana. Vector borne and zoonotic diseases (Larchmont, NY). 2010;10 1:37-45; doi: 10.1089/vbz.2009.0046.
10. Bakaloudis DE, Vlachos CG, Papakosta MA, Bontzorlos VA, Chatzinikos EN. Diet composition and feeding strategies of the stone marten (Martes foina) in a typical Mediterranean ecosystem. TheScientificWorldJournal. 2012;2012:163920; doi: 10.1100/2012/163920.
11. Dobermann D, Swift JA, Field LM. Opportunities and hurdles of edible insects for food and feed. Nutrition Bulletin. 2017;42 4:293-308; doi: https://doi.org/10.1111/nbu.12291. https://onlinelibrary.wiley.com/doi/abs/10.1111/nbu.12291.
12. Meusemann K, Trautwein M, Friedrich F, Beutel RG, Wiegmann BM, Donath A, et al. Are fleas highly modified Mecoptera? Phylogenomic resolution of Antliophora (Insecta: Holometabola). bioRxiv. 2020:2020.11.19.390666; doi: 10.1101/2020.11.19.390666. https://www.biorxiv.org/content/biorxiv/early/2020/11/20/2020.11.19.390666.full.pdf.

INSECTS AND WILDLIFE

ENY4210 Undergraduate | **ENY5212** Graduate | Fall Semester | 3 Credit Hours | Online OnCourse

Website: https://ufl.instructure.com/courses/462094

Differences between ENY4212 and ENY5212

Module 1 Assignment (20pts)

Module 2 Discussion (30 points)

Module 3 Assignment (20 points)

Module 4 Assignment (20 points)

Module 6 Discussion (30 points)

Module 8 Assignment (20 points)

Module 14 Assignment (20 points)

Total point difference (**160 points**)

Total points (**1000 points**)

Assignment difference between the two levels 16%. Assignments/Discussions with differential grading between the two levels are highlighted in yellow in the outline below

LECTURE OUTLINE

Module	Course topic	Assessment	Due Dates
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3 (Sept 12-Sept 18)	Food resources for wildlife	Module 3 Quiz (10 pts) Module 3 Discussion board (30 pts) Module 3 Assignment (20 pts)	Sept 19
4 (Sept 19-Sept 25)	Wildlife diets	Module 4 Quiz (30 pts) Module 4 Discussion board (30 pts) Module 4 Assignment (20 pts)	Sept 26

5 **(Sept 26-Oct 2)**	Insects important as food for wildlife	Module 5 Quiz (30 pts) Module 5 Discussion board (30 pts) Insect Identification Quiz (30 pts) No assignment	Oct 3
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15 **(Dec 5-Dec 11)**	Insect and wildlife conservation	Module 15 Quiz (10 pts) Module 15 Discussion board (30 pts) No assignment Assess your knowledge quiz (14 pts)	Dec 12
Throughout the semester	Semester Project	iNaturalist Insects and Wildlife F2022 (25 pts) iNaturalist Insects and Wildlife University of Florida (**10 pts Extra Credit**)	

INSECTS AND WILDLIFE

ENY 4210 (UNDERGRADUATE LEVEL)
SEMESTER: Fall, 3 CREDIT HOURS
ONLINE ONLY

INSTRUCTOR:
Dr. Estelle Martin
Office: 3206, Steinmetz Hall
1881 Natural Area Drive Box 110620
Gainesville, FL 32611
Phone: 352-294-6935
E-mail: estellemartin@ufl.edu

OFFICE HOURS:

- By appointment only
- Students are encourage to contact Kat Halsey at khalsey@ufl.edu or me at estellemartin@ufl.edu to arrange a time to meet with subject line: **FALL 2022 - ENY4210 or ENY 5212 meeting request**. All meetings will occur via Zoom. Please allow for a 48h response time.

COURSE WEBSITE: https://ufl.instructure.com/courses/396353

COURSE DESCRIPTION: Insects and other arthropods and their relationships with wild vertebrate animals.

PREREQUISITE KNOWLEDGE AND SKILLS: As a prerequisite, you must have completed ENY3005L or BSC2005L (or higher).

PURPOSE OF COURSE: This course has several purposes: (1) to introduce students who are mostly interested in vertebrate animals (wildlife) to the importance of smaller, often overlooked, but ecologically important invertebrates, mostly insects; (2) to introduce students

to vertebrate animals that interact with arthropods (mostly insects); (3) to learn how insects are managed, and how vertebrate animals can be positively or negatively affected by the various practices.

COURSE GOALS AND/OR OBJECTIVES: By the end of this course, students will develop an understanding of the ecological relationships of arthropods and pesticides with natural resources, particularly the roles of arthropods as food, nuisance pests, vectors of animal disease, and in natural resource and wildlife conservation. Students will be able to identify the groups of insects (and other arthropods) that are most important as food, nuisance pests, and vectors of animal disease. They will learn methods of arthropod diet assessment and know how different methodologies affect the outcomes of research. They will learn how arthropod populations can be manipulated to favor wildlife and how these principals and practices can be use in wildlife management practices.

INSTRUCTIONAL METHODS: The class will be conducted entirely online uses Canvas. You are responsible for the course content in Canvas. You should view the lectures and read the text in the order shown in the class outline. You should also view the video clips, which serve to illustrate the items discussed.

COURSE TECHNOLOGY: You will need internet access to the UF Canvas eLearning site to see the course contents and complete assessments.

LEARNING OBJECTIVES:

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

1. Compare the major insect orders
2. Discuss insects external and internal structure
3. Summarize the nutritional value of insect
4. Identify insect orders that are important to wildlife diet
5. Analyze the different impact insects have on animal and environmental health
6. Compare and contrast the different type of disease transmission
7. Discuss strategies for pest control, animal disease control and wildlife management
8. Judge and critique scientific literature related to insects and wildlife interaction
9. Create presentations on insect-vectored diseases that are involved in the regulation of animal populations
10. Employ databases to find relevant journal articles related to insects and wildlife

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15 (Dec 5-Dec 11)	Insect and wildlife conservation	Module 15 Quiz (10 pts) Module 15 Discussion board (30 pts) No assignment Assess your knowledge quiz (14 pts)	Dec 12
Throughout the semester	Semester Project	iNaturalist Insects and Wildlife F2022 (25 pts) iNaturalist Insects and Wildlife University of Florida (**10 pts Extra Credit**)	

COURSE FORMAT AND REQUIREMENTS:

This course is offered as pre-recorded lectures delivered by the eLearning course management system Canvas. Slides are available as PDF as well as transcripts should you care to print them.

There are 14 quizzes, 15 discussions, 9 assignments and one semester project for this course.

Quizzes are multiple choice tests and must be taken via Canvas unless other arrangements are made in advance

Also, there are 14 “practice quizzes”. These are not graded and it is for your use only as a study aid. If you can answer these questions successfully you are acquiring adequate knowledge about the relationship of insects and their relatives that will allow you to be successful for each of the 14 “end of the module quizzes”

In addition, there is an ‘insect identification quiz’ which will assess your ability for identification of insect orders and insect relatives that are of particular importance to wildlife. This quiz can be taken up to 3 times and the best score will be kept. At the end of each attempt the explanations as to how identification of the images is determined.

In addition, there also is one “syllabus quiz”, two “course evaluation surveys” (midway and end of course) as well as 2 “assess your knowledge quizzes” (beginning and end of the course). For these, full grade will be given just for complete the quiz.

Among the 9 assignments, some are design as presentation of journal articles (1-2 page summary that may be accompanied by the production of a short video). The list of the journal articles is listed below:

Chapter - Journal article
6 - Insect herbivory and nutrients
6 - Salmon flies and nutrients
6 - Termites and elephants
6 - Ticks and global warming
8 - Plague and mountain plover
8 - Plague and prairie dogs
8 - Scavenging and plague
8 - Trout disease and stoneflies
9 - Chagas disease in Brazil
10 - Fire ants and wildlife
11 - Pesticides and intoxication
13 - Bats limit arthropods
13 - Bats limit insects
13 - Beehive-elephants
14 - Plague and vector control
14 - Tick control

Semester project:

The goal of this semester project is to have fun and go outside to look for insects! We will use the iNaturalist plateform to record our encounters with insects. During the semester, you will need to:

1. Upload 25 **unique observations** of insects to https://www.inaturalist.org/projects/insects-and-wildlife-fall-2022
    - These must be your own observations, and not anything you find online!
    - No pets or captive animals (example, you can not post a pic of your pet mantis)

2. These 25 insects must represent at least **10 different orders**

If you are not able to go outside and collect it is ok you will be able to explore iNaturalist and practice your identification skills by identifying 25 insects from at least **10 different orders**!

Insect and wildlife interactions can be fascinating and you will have the opportunity to get 10 points extra credit by capturing examples of arthropod and wildlife interaction and posting them to the project: https://www.inaturalist.org/projects/arthropods-and-wildlife-e94e59cb-6965-4fd0-8d0c-21daeb7c431d

COURSE COMMUNICATIONS: Please post course related question on the discussion board and send private question related to the course or grades to Estellemartin@ufl.edu

NETIQUETTE: COMMUNICATION COURTESY: All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats.

TEXTBOOK: There are no required textbook. Most of the content for this course was developed using Capinera, J.L. 2010. Insects and Wildlife. Arthropods and their Relationships with Wild Vertebrate Animals. Wiley-Blackwell, Oxford, UK.

ADDITIONAL RESOURCES: All other materials are provided via the eLearning site.

HOW THIS COURSE RELATES TO THE STUDENT LEARNING OUTCOMES:

Biology students – will develop competence in the basic terminology, concepts, methodologies and theories used within the biological sciences; and will develop ability to analyze biological information and develop reasoned solutions to problems.

Wildlife biology students – will develop knowledge of scientific, social and ethical arenas of wildlife ecology and conservation; skills for critical reasoning in conservation management; knowledge of Florida wildlife species and their biology, ecology, natural history and behavior; principles and applications of wildlife management practices, population dynamics and habitat management; and application of biological principles to solve problems in wildlife conservation and preserve biological diversity.

Entomology students - will allow students to demonstrate knowledge of insects, other arthropods and/or nematodes, including their relationship with the environment and humans

COURSE POLICIES:

ATTENDANCE POLICY: There is no attendance policy, but it will be difficult to pass the course unless you read the book carefully, and listen to the lectures. Students are encouraged to work on this class weekly since **All writing assignments are due by the date posted and must be submitted using Canvas.**

QUIZ/EXAM POLICY: You have only one chance to take each test, so prepare in advance. Please take tests using a reliable computer and connections. All assignments are due on the Monday of the following week and the whole content of the course will be available to student as they start the course. To earn points, quizzes, discussion posts and assignments, must be completed and submitted before the Monday of the following course week. All late submissions will be docked 10 points on the individual component grade for each 24 hrs after each deadline. Contact me in advance (minimum of two weeks) if there will be a problem with the dates of the

scheduled tests. The insect identification quiz you will be allowed three attempts and the highest score will be recorded.

COURSE GRADING: Students are responsible for the content of the lectures. The quizzes, discussion board and assignments are weighted equally, and the points assigned for each evaluation is listed in the "assessment" column of the lecture outline table (see above).

- Discussion (450 pts, 45.5% of total points)
- Quizzes (345, 34.5% of total points)
- Assignments (180 pts, 18% of total points)
- INaturalist Semester project (25 pts, 2.5% of total points)
- Total (1000 pts, 100%)

The final grade, based on accumulation of points, will be assigned as:

A	93– 100
A-	90– 92.9
B+	87– 89.9
B	83– 86.9
B-	80- 82.9
C+	77- 79.9
C	73- 76.9
C-	70- 72.9
D+	67- 69.9
D	63- 66.9
D-	60- 62.9
E	<59.9 and below

Grade point equivalencies for grades are found at: https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

UF POLICIES:

Grades and Grade Points
For information on current UF policies for assigning grade points, see https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/.

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/.

COVID Response Statements
For face to face courses a statement informing students of COVID related practices such as: We will have face-to-face instructional sessions to accomplish the student learning objectives of

this course. In response to COVID-19, the following policies and requirements are in place to maintain your learning environment and to enhance the safety of our in-classroom interactions.
• You are required to wear approved face coverings at all times during class and within buildings. Following and enforcing these policies and requirements are all of our responsibility. Failure to do so will lead to a report to the Office of Student Conduct and Conflict Resolution.
• This course has been assigned a physical classroom with enough capacity to maintain physical distancing (6 feet between individuals) requirements. Please utilize designated seats and maintain appropriate spacing between students. Please do not move desks or stations.
• Sanitizing supplies are available in the classroom if you wish to wipe down your desks prior to sitting down and at the end of the class. • Follow your instructor's guidance on how to enter and exit the classroom. Practice physical distancing to the extent possible when entering and exiting the classroom.
• If you are experiencing COVID-19 symptoms (Click here for guidance from the CDC on symptoms of coronavirus), please use the UF Health screening system and follow the instructions on whether you are able to attend class. Click here for UF Health guidance on what to do if you have been exposed to or are experiencing Covid-19 symptoms.
• Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work. Find more information in the university attendance policies.

For online course with recorded materials a statement informing students of privacy related issues such as: Our class sessions may be audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

Online Course Evaluation Process
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/.

Academic Honesty
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 academic misconduct to appropriate personnel. 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:http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code.

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.

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, https://disability.ufl.edu/

Campus Helping Resources
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. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575,* **www.counseling.ufl.edu**
  Counseling Services Groups and Workshops Outreach and Consultation Self-Help Library Wellness Coaching

- U Matter We Care, **www.umatter.ufl.edu/**
- *Career Connections Center,* First Floor JWRU, 392-1601, https://career.ufl.edu/. Student Complaints:
    - Residential Course: https://sccr.dso.ufl.edu/policies/student-honor-code-student- conduct-code/.
    - Online Course: http://www.distance.ufl.edu/student-complaint-process

Cover Sheet: Request 17659

Reduce FOR3200C credit from three hours to one hour

Info

Process	Course|Modify|Ugrad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Timothy Martin tamartin@ufl.edu
Created	9/19/2022 3:42:57 PM
Updated	10/18/2022 1:24:05 PM
Description of request	Reduce FOR 3200C, Foundations of Natural Resources and Conservation from three hours credit to one hour credit.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Forest Resources and Conservation 60460000	Terrell Baker III		9/19/2022
No document changes					
College	Pending	CALS - College of Agricultural and Life Sciences			9/19/2022
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					

Course|Modify for request 17659

Info

Request: Reduce FOR3200C credit from three hours to one hour
Description of request: Reduce FOR 3200C, Foundations of Natural Resources and Conservation from three hours credit to one hour credit.
Submitter: Timothy Martin tamartin@ufl.edu
Created: 9/19/2022 3:46:45 PM
Form version: 3

Responses

Current Prefix FOR
Course Level 3
Number 200
Lab Code C
Course Title Foundations of Natural Resources and Conservation
Effective Term Earliest Available
Effective Year 2023
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 3
Proposed Credit Hours 1
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 Yes
Change Course Description? No

Change Prerequisites? No

Change Co-requisites? No

Rationale Some learning outcomes in the 3-credit version of the course have been picked up by other courses in the required curriculum for the FRC and NRC majors. As a result, this course is being reduced to 1 credit, with appropriate reduction in learning outcomes covered by the course. Curricula for FRC and NRC majors will be updated to reflect this change. This course is not required for any other majors.

CALS Curriculum Committee
Submission Checklist

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.

__TM__ 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/.

__TM__ You MUST comply with the CALS Syllabus Policy, including items 1 through 8 and all standard syllabus statements. This document can be viewed at the committee site(https://cals.ufl.edu/faculty-staff/committees/) by clicking on the Curriculum Committee – Information & Documents heading and scrolling down to Forms, Checklists, and Other documents. The other items included here are all very helpful when making a curriculum submission. Some will be mentioned in other checklist items below.

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

__NA__ 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.

__TM__ The course description on the UCC form and in the syllabus must match. Any other information you wish to include needs to be under a different heading such as background or additional information.

__TM__ 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-course-objectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

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

NA 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.

NA Outside consultations are required if there is a possibility of the proposed course covering 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/.

TM 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.

TM 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.

TM 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 is included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

TM The most recent version of the CALS Syllabus Statements boiler plate must be included in all syllabuses. This document is included in the CALS Syllabus Policy and can be copied and pasted to the syllabus. Do not use the 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. Joel Brendemuhl (brendj@ufl.edu) for further instruction)

Foundations of Natural Resources and Conservation – FOR3200C – 1 credit version

1 Course Overview

Course description:

Overview of current and historical views of forest conservation, utilization and policy; principles of forest biology, ecology, Silviculture and management relevant to future courses and careers; basic field research, communications and computer skills.

- Semester: Summer B
- Format face-to-face
- On campus, Gainesville

Course Prerequisites: 3FY or instructor permission

Instructor:

Dr. Tim Martin (he/him)
359 Newins-Ziegler Hall
tamartin@ufl.edu
352-846-0866

- Please use the Canvas message/Inbox feature for fastest response.
- Office hours: in-person or virtual (Zoom) office hours Mondays 12:15-1:30, or by appointment

Textbook(s) and/or readings: There is no required text for the course. Readings will be provided for each learning topic. Readings will be taken from the following sources, among others:

Bettinger, P., K. Boston, J. Siry, and D.L. Grebner. 2017. Forest Management and Planning, Second Edition. Academic Press, London. 362 p.

Dawson, C.P., and J.C. Hendee. 2020. Introduction to Forests and Renewable Resources, Ninth Edition. Waveland Press, Long Grove, Illinois. 504 p.

Grebner, D.L., P. Bettinger, J.P. Siry, and K. Boston. 2022. Introduction to Forestry and Natural Resources, Second Edition. Academic Press, London. 512 p.

Kendrick, B., and B. Walsh. 2007. A History of Florida Forests, University Press of Florida, Gainesville, Florida. 585 p.

Leopold, A. 1949. A Sand County Almanac, with Essays on Conservation from Round River. Ballantine Books, New York. 295 p.

2 Learning Outcomes

By the end of this course, each student will be able to:

- Apply foundational concepts in natural resources and conservation to subsequent courses in their curriculum, and to their professional careers.

3 Course Logistics

Monday field trips, 8:00am – 12:15am; attendance required for two of these dates

Tuesdays, 8:00am – 10:00 am, Larson Hall 330

Students may access lectures, assignments, readings, and supporting materials through the course Canvas site as they become available.

Technology Requirements:

- A computer or mobile device with high-speed internet connection.
- A webcam, headset and/or microphone, and speakers.
- Latest version of web browser. Canvas supports only the two most recent versions of any given browser. What browser am I using?
- Installation of proctoring software may be required and will be provided if so.

Synchronous online sessions may be recorded. By sharing your video, screen, or audio during any synchronous online class sessions, you are consenting to being recorded for the benefit of students who cannot attend live as well as for class review during the current semester. If you have special circumstances or concerns about privacy, it is your responsibility to discuss it with your instructor.

3.1 Description of Assessments & Activities

Weekly Quizzes - over material covered in lecture (5 total). Posted weekly at 1:00 p.m. on Tuesdays, and due by 11:59 p.m. on the following Sunday

In-class / Field Trip Activities and Assessments - In-class / field trip activities or assessments that accompany each lecture or field trip will require you to answer questions or brainstorm solutions to forest management challenges.

Each student independently submits answers to in-class activities during class or the field trip. If you do not attend class/field trip or do not participate by answering a question, you will not receive credit for that week's activity. Due at the end of class or field trip.

Team Project - In collaboration with your assigned group, assemble a 10-minute video in which at least 3 out of 5 team members prepares a short (two minute) segment highlighting a natural resource management entity near their location. The video should include the name and category of the entity, the location where your footage was obtained, the mission statement or goals of the entity, and a video highlight from the location showing an example of natural resource management in support of the mission statement or goals. The team should coordinate before starting to get the biggest variety of examples possible; try to avoid having three city parks! The final video should be edited together, with a

brief (two minute) introduction and a conclusion (if necessary) to frame the topic. At the end, include a selfie of each group member in the field, and a list of each group members' roles in the project.

Field Trips – Weekly field trips to natural resource management entities enable students to see and interact with natural resources and natural resource managers. Students are expected to attend at least two field trips.

3.2 Grades & Grading Scale

Weekly Quizzes – 35% of course points (7% each)

In-Class Activities and Assessments – 35% of course points (5% each)

Team Project – 20% of course points

Field Trip Attendance – 10% of course points

For information on current UF policies for assigning grade points, see
Ugrad https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx
Grad https://catalog.ufl.edu/graduate/regulations/#text

Grading Scale (%)
A 100% to 94.00%
A- 93.99% to 90.00%
B+ 89.99% to 87.00%
B 86.99% to 84.00%
B- 83.99% to 80.00%
C+ 79.99% to 77.00%
C 76.99% to 74.00%
C- 73.99% to 70.00%
D+ 69.99% to 67.00%
D 66.99% to 64.00%
D- 63.99% to 61.00%
E 60.99% to 0.00%

3.3 Learning Content

Week	Monday Field Trip	Tuesday Lecture Topic
1	Class orientation	History of NR Management
2	Loblolly flatwoods	Fundamentals of NR Management
3	Prescribed fire at ACF, weather permitting	Public land survey system,
4	Morningside Nature Center	Land ownership and stewardship
5	Rayonier	NR management in other countries
6	Sweetwater Wetlands Park	Discussion of team projects

Due Dates:

Quizzes – Open 1:00 p.m. on Tuesdays, due 11:59 p.m. on Sunday

In-Class Activities and Assessments – At the end of each Tuesday lecture

Team Project – July 29, 11:59 p.m.

3.4 Readings

There is no required text for the course. Readings will be provided for each learning topic. Readings will be taken from the following sources, among others:

Bettinger, P., K. Boston, J. Siry, and D.L. Grebner. 2017. Forest Management and Planning, Second Edition. Academic Press, London. 362 p.

Dawson, C.P., and J.C. Hendee. 2020. Introduction to Forests and Renewable Resources, Ninth Edition. Waveland Press, Long Grove, Illinois. 504 p.

Grebner, D.L., P. Bettinger, J.P. Siry, and K. Boston. 2022. Introduction to Forestry and Natural Resources, Second Edition. Academic Press, London. 512 p.

Kendrick, B., and B. Walsh. 2007. A History of Florida Forests, University Press of Florida, Gainesville, Florida. 585 p.

Leopold, A. 1949. A Sand County Almanac, with Essays on Conservation from Round River. Ballantine Books, New York. 295 p.

4 Policies and Requirements

This course plan and syllabus are subject to change in response to student and instructor needs. Any changes will be clearly communicated in advance through Canvas.

4.1 Late Submissions & Make-up Requests

It is the responsibility of the student to access on-line lectures, readings, quizzes, and exams and to maintain satisfactory progress in the course. 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/ugrad/current/regulations/info/attendance.aspx

Computer or other hardware failures, except failure of the UF e-Learning system, will not excuse students for missing assignments. Any late submissions due to technical issues MUST be accompanied by the ticket number received from the Helpdesk when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request consideration.

For computer, software compatibility, or access problems call the HELP DESK phone number—352-392-HELP = 352- 392-4357 (option 2).

4.2 Communication Courtesy and Professionalism

Just as in any professional environment, meaningful and constructive dialogue is expected in this class and requires a degree of mutual respect, willingness to listen, and tolerance of opposing points of view. **Respect for individual differences and alternative viewpoints will be maintained in this class at all times.** All members of the class are expected to follow rules of common courtesy, decency, and civility in all interactions. Failure to do so will not be tolerated and may result in loss of participation points and/or referral to the Dean of Students' Office.

4.3 Semester Evaluation Process

Student assessment of instruction is an important part of efforts to improve teaching and learning.

At approximately the mid-point of the semester, the School of Forest, Fisheries, & Geomatics Sciences will request anonymous feedback on student satisfaction on various aspects of this course. These surveys will be sent out through Canvas and are not required but encouraged. This is not the UF Faculty Evaluation!

At the end of the semester, 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/.

4.4 Academic Honesty Policy

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 them 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 academic misconduct or appropriate personnel. 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: http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code.

4.5 Inclusive Learning Environment

This course embraces the University of Florida's Non-Discrimination Policy, which reads,

> *The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans' Readjustment Assistance Act.*

If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see the instructor or refer to the Office of Multicultural & Diversity Affairs website: http://multicultural.ufl.edu.

4.6 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, http://www.disability.ufl.edu

4.7 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.

5 Campus Helping Resources

For issues with technical difficulties for e-learning in Canvas, please post your question to the Technical Help Discussion in your course, or contact the UF Help Desk at:

- Learning-support@ufl.edu | (352) 392-HELP - select option 2 | http://elearning.ufl.edu
- Library Help Desk support http://cms.uflib.ufl.edu/ask
- SFFGS Academic Hub https://ufl.instructure.com/courses/303721

5.1 Student Life, Wellness, and Counseling Help

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. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- Counseling and Wellness resources http://www.counseling.ufl.edu/cwc/
- U Matter, We Care http://www.umatter.ufl.edu/
- Career Connections Center http://career.ufl.edu/
- Student Success Initiative http://studentsuccess.ufl.edu
- Other resources are available at http://www.distance.ufl.edu/getting-help for online students.

5.2 Student Complaint Process

The School of Forest, Fisheries, & Geomatics Sciences cares about your experience and we will make every effort to address course concerns. We request that our online students complete a course satisfaction survey each semester, which is a time for you to voice your thoughts on how your course is being delivered. You can also submit feedback anytime.

If you have a more urgent concern, your first point of contact should be the Academic Coordinator or the Graduate/Undergraduate Coordinator for the program offering the course. You may also submit a complaint directly to UF administration:

- https://distance.ufl.edu/getting-help/
- https://registrar.ufl.edu/complaint.html

Foundations of Natural Resources and Conservation – FOR3200C – 3 credit version

1 Course Overview

Course description:

Overview of current and historical views of forest conservation, utilization and policy; principles of forest biology, ecology, Silviculture and management relevant to future courses and careers; basic field research, communications and computer skills.

- Semester: Summer B
- Format face-to-face
- On campus, Gainesville

Course Prerequisites: 3FY or instructor permission

Instructor:

Dr. Tim Martin (he/him)
359 Newins-Ziegler Hall
tamartin@ufl.edu
352-846-0866

- Please use the Canvas message/Inbox feature for fastest response.
- Office hours: in-person or virtual (Zoom) office hours Mondays 12:15-1:30, or by appointment

Textbook(s) and/or readings: There is no required text for the course. Readings will be provided for each learning topic. Readings will be taken from the following sources, among others:

Bettinger, P., K. Boston, J. Siry, and D.L. Grebner. 2017. Forest Management and Planning, Second Edition. Academic Press, London. 362 p.

Dawson, C.P., and J.C. Hendee. 2020. Introduction to Forests and Renewable Resources, Ninth Edition. Waveland Press, Long Grove, Illinois. 504 p.

Grebner, D.L., P. Bettinger, J.P. Siry, and K. Boston. 2022. Introduction to Forestry and Natural Resources, Second Edition. Academic Press, London. 512 p.

Kendrick, B., and B. Walsh. 2007. A History of Florida Forests, University Press of Florida, Gainesville, Florida. 585 p.

Leopold, A. 1949. A Sand County Almanac, with Essays on Conservation from Round River. Ballantine Books, New York. 295 p.

2 Learning Outcomes

By the end of this course, each student will be able to:

- Access a network of alumni and other professionals in the field of natural resources and conservation.
- Make informed decisions about curricula, extracurricular activities, and internships that will support a fulfilling career.
- Apply foundational concepts in natural resources and conservation to subsequent courses in their curriculum, and to their professional careers.

3 Course Logistics

Monday field trips, 8:00am – 12:15am

Tuesdays, 8:00am – 10:45am, Larson Hall 330

Wednesdays, 8:00am – 10:45am, Larson Hall 330

Students may access lectures, assignments, readings, and supporting materials through the course Canvas site as they become available.

Technology Requirements:

- A computer or mobile device with high-speed internet connection.
- A webcam, headset and/or microphone, and speakers.
- Latest version of web browser. Canvas supports only the two most recent versions of any given browser. What browser am I using?
- Installation of proctoring software may be required and will be provided if so.

Synchronous online sessions may be recorded. By sharing your video, screen, or audio during any synchronous online class sessions, you are consenting to being recorded for the benefit of students who cannot attend live as well as for class review during the current semester. If you have special circumstances or concerns about privacy, it is your responsibility to discuss it with your instructor.

3.1 Description of Assessments & Activities

Weekly Quizzes - over material covered in lecture (5 total). Posted weekly at 1:00 p.m. on Tuesdays, and due by 11:59 p.m. on the following Sunday

In-class / Field Trip Activities and Assessments - In-class / field trip activities or assessments that accompany each lecture or field trip will require you to answer questions or brainstorm solutions to forest management challenges.

Each student independently submits answers to in-class activities during class or the field trip. If you do not attend class/field trip or do not participate by answering a question, you will not receive credit for that week's activity. Due at the end of class or field trip.

Team Project - In collaboration with your assigned group, assemble a 10-minute video in which at least 3 out of 5 team members prepares a short (two minute) segment highlighting a natural resource

management entity near their location. The video should include the name and category of the entity, the location where your footage was obtained, the mission statement or goals of the entity, and a video highlight from the location showing an example of natural resource management in support of the mission statement or goals. The team should coordinate before starting to get the biggest variety of examples possible; try to avoid having three city parks! The final video should be edited together, with a brief (two minute) introduction and a conclusion (if necessary) to frame the topic. At the end, include a selfie of each group member in the field, and a list of each group members' roles in the project.

Professional Networking Assignment - Select a professional who has your "dream job" and request an interview. As soon as you select the professional you plan to interview, let us know, so no one person is bombarded with multiple interview requests. Prepare questions before conducting the interview, which among others, should include: 1) What steps did you take to reach your career goals?; 2.) What training/networking helped you achieve your goals?; 3.) What are your favorite and least favorite aspects of your job?; and 4) Describe a day-in-the-life while working. Prepare an essay that describes the interview and reflects on what you learned from the interview. What is your roadmap to success?

Written assignments should be single-spaced and 500-1000 words in length and in essay format (i.e., do not submit in question-answer format). They will be graded for content and thought as well as grammar and spelling, as indicated on the grading rubric, which is posted on Canvas.

Questions for career exploration panels (5 total) - Review the videos or other background material posted on Canvas about each speaker. The links will be in the current week's Canvas module. You may do any additional research that you like, as well. Provide three well-thought-out questions for EACH PANELST. These questions should be thoughtful and interesting, non-repetitive, and go beyond the superficial level. On the day of the panel, you will meet with your team to choose the best or most interesting questions from your team to ask each panelist and/or questions to ask the entire panel.

Field Trips – Weekly field trips to natural resource management entities enable students to see and interact with natural resources and natural resource managers. Field trips are not graded, but students are expected to attend at least two field trips.

3.2 Grades & Grading Scale

Weekly Quizzes – 15% of course points (3% each)

In-Class Activities and Assessments – 15% of course points (about 1.5% each)

Team Project – 15% of course points

Professional Networking Assignment – 30% of course points

Questions for career exploration panels – 25% of course points (5% each)

For information on current UF policies for assigning grade points, see
Ugrad https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx
Grad https://catalog.ufl.edu/graduate/regulations/#text

Grading Scale (%)

A	100% to 94.00%
A-	93.99% to 90.00%
B+	89.99% to 87.00%
B	86.99% to 84.00%
B-	83.99% to 80.00%
C+	79.99% to 77.00%
C	76.99% to 74.00%
C-	73.99% to 70.00%
D+	69.99% to 67.00%
D	66.99% to 64.00%
D-	63.99% to 61.00%
E	60.99% to 0.00%

3.3 Learning Content

Week	Monday Field Trip	Tuesday Lecture Topic	Wednesday Career Panel
1	Class orientation	History of NR Management	SFFGS School and club representatives
2	Loblolly flatwoods	Fundamentals of NR Management	Professional society representatives
3	Prescribed fire at ACF, weather permitting	Public land survey system,	State and federal agencies
4	Morningside Nature Center	Land ownership and stewardship	Outreach, Peace Corps, environmental law
5	Rayonier	NR management in other countries	Private sector: corporate, consulting, NGO
6	Sweetwater Wetlands Park	Discussion of team projects	Discussion of team projects

Due Dates:

Quizzes – Open 1:00 p.m. on Tuesdays, due 11:59 p.m. on Sunday

In-Class Activities and Assessments – At the end of each Tuesday lecture

Team Project – July 29, 11:59 p.m.

Professional Networking Assignment – August 5, 11:59 p.m.

Questions for Career Panelists – 11:59 p.m. on the Tuesday night before each Wednesday panel

3.4 Readings

There is no required text for the course. Readings will be provided for each learning topic. Readings will be taken from the following sources, among others:

Bettinger, P., K. Boston, J. Siry, and D.L. Grebner. 2017. Forest Management and Planning, Second Edition. Academic Press, London. 362 p.

Dawson, C.P., and J.C. Hendee. 2020. Introduction to Forests and Renewable Resources, Ninth Edition. Waveland Press, Long Grove, Illinois. 504 p.

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Leopold, A. 1949. A Sand County Almanac, with Essays on Conservation from Round River. Ballantine Books, New York. 295 p.

4 Policies and Requirements

This course plan and syllabus are subject to change in response to student and instructor needs. Any changes will be clearly communicated in advance through Canvas.

4.1 Late Submissions & Make-up Requests

It is the responsibility of the student to access on-line lectures, readings, quizzes, and exams and to maintain satisfactory progress in the course. 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/ugrad/current/regulations/info/attendance.aspx

Computer or other hardware failures, except failure of the UF e-Learning system, will not excuse students for missing assignments. Any late submissions due to technical issues MUST be accompanied by the ticket number received from the Helpdesk when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request consideration.

For computer, software compatibility, or access problems call the HELP DESK phone number—352-392-HELP = 352- 392-4357 (option 2).

4.2 Communication Courtesy and Professionalism

Just as in any professional environment, meaningful and constructive dialogue is expected in this class and requires a degree of mutual respect, willingness to listen, and tolerance of opposing points of view. **Respect for individual differences and alternative viewpoints will be maintained in this class at all times.** All members of the class are expected to follow rules of common courtesy, decency, and civility in all interactions. Failure to do so will not be tolerated and may result in loss of participation points and/or referral to the Dean of Students' Office.

4.3 Semester Evaluation Process

Student assessment of instruction is an important part of efforts to improve teaching and learning.

At approximately the mid-point of the semester, the School of Forest, Fisheries, & Geomatics Sciences will request anonymous feedback on student satisfaction on various aspects of this course. These surveys will be sent out through Canvas and are not required but encouraged. This is not the UF Faculty Evaluation!

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4.4 Academic Honesty Policy

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 them 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 academic misconduct or appropriate personnel. 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: http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code.

4.5 Inclusive Learning Environment

This course embraces the University of Florida's Non-Discrimination Policy, which reads,

> *The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans' Readjustment Assistance Act.*

If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see the instructor or refer to the Office of Multicultural & Diversity Affairs website: http://multicultural.ufl.edu.

4.6 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, http://www.disability.ufl.edu

4.7 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.

5 Campus Helping Resources

For issues with technical difficulties for e-learning in Canvas, please post your question to the Technical Help Discussion in your course, or contact the UF Help Desk at:

- Learning-support@ufl.edu | (352) 392-HELP - select option 2 | http://elearning.ufl.edu
- Library Help Desk support http://cms.uflib.ufl.edu/ask
- SFFGS Academic Hub https://ufl.instructure.com/courses/303721

5.1 Student Life, Wellness, and Counseling Help

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. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- Counseling and Wellness resources http://www.counseling.ufl.edu/cwc/
- U Matter, We Care http://www.umatter.ufl.edu/
- Career Connections Center http://career.ufl.edu/
- Student Success Initiative http://studentsuccess.ufl.edu
- Other resources are available at http://www.distance.ufl.edu/getting-help for online students.

5.2 Student Complaint Process

The School of Forest, Fisheries, & Geomatics Sciences cares about your experience and we will make every effort to address course concerns. We request that our online students complete a course satisfaction survey each semester, which is a time for you to voice your thoughts on how your course is being delivered. You can also submit feedback anytime.

If you have a more urgent concern, your first point of contact should be the Academic Coordinator or the Graduate/Undergraduate Coordinator for the program offering the course. You may also submit a complaint directly to UF administration:

- https://distance.ufl.edu/getting-help/
- https://registrar.ufl.edu/complaint.html

Cover Sheet: Request 17650

Updating AEC-CLD Undergraduate Curriculum

Info

Process	Specialization|New/Modify/Close|Ugrad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Lisa Lundy lisalundy@ufl.edu
Created	9/16/2022 9:51:48 AM
Updated	9/26/2022 1:45:51 PM
Description of request	The AEC-CLD specialization faculty proposed the following changes to the AEC-CLD Undergraduate Curriculum.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Agricultural Education and Communication 514926000	Brian Myers		9/16/2022
No document changes					
College	Pending	CALS - College of Agricultural and Life Sciences			9/16/2022
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					

Specialization|Modify for request 17650

Info

Request: Updating AEC-CLD Undergraduate Curriculum
Description of request: The AEC-CLD specialization faculty proposed the following changes to the AEC-CLD Undergraduate Curriculum.
Submitter: Lisa Lundy lisalundy@ufl.edu
Created: 9/26/2022 1:44:59 PM
Form version: 2

Responses

Specialization Name AEC-CLD
Change name of Specialization No

Specialization Code CLD
Effective Term Earliest Available
Effective Year Earliest Available
Is this an Undergraduate Innovation Academy Program Yes
Current Curriculum for Specialization 1.) AEC 3033C Research and Business Writing in Agricultural and Life Sciences is a critical tracking course and a required prerequisite for students wishing to transfer with their AA degree.
2.) An internship (AEC 4948 Agricultural Communication Internship or AEC 4943 Leadership Development Internship) or an approved elective is required.
3.) AEC 4930 Communication and Leadership Development Capstone Experience is required.
4.) The Advanced Communication & Leadership Development requirement requires students to choose 3 courses from the list:
o AEC 3209 Instructional and Event Planning in Agricultural and Life Sciences
o AEC 4036 Advanced Agricultural Communication Production
o AEC 4417 Leadership for Personal and Organizational Change
o AEC 4465 Global Leadership
o FYC 4408 Organizational Leadership for Nonprofits
o PUR 3000 Principles of Public Relations
Proposed Changes 1.) AEC 3033C Research and Business Writing in Agricultural and Life Sciences will be removed from critical tracking and will be required for all students in the specialization to take at UF. Transfer students will no longer be required to take this course in their AA before entering UF.
2.) An internship, AEC 4946 Communication and Leadership Development (new course number approved July 2021) will now be required. An approved elective is no longer an option to meet this requirement.
3.) AEC 4930 Communication and Leadership Development Capstone Experience will not be required. Some of the assignments covered in this course will be incorporated into the now required internship, AEC 4946.
4.) The Advanced Communication & Leadership Development requirement will require students to choose 4 courses from the list. Additional courses added to the list (AEC 3071, AEC 3313, and AEC 4500)
a. AEC 3071 Social Media Strategy and Leadership for Agricultural and Life Sciences
b. AEC 3209 Instructional and Event Planning in Agricultural and Life Sciences
c. AEC 3313 Development and Role of Extension Education
d. AEC 4036 Advanced Agricultural Communication Production
e. AEC 4417 Leadership for Personal and Organizational Change
f. AEC 4465 Global Leadership
g. AEC 4500 Program Development and Evaluation
h. FYC 4408 Organizational Leadership for Nonprofits
i. PUR 3000 Principles of Public Relations
UF Online currciculum change No
Pedagogical Rationale/Justification Our AEC strategic plan calls for a 3-year rotation of our undergraduate curriculum. Year 1 is our teacher education specialization, Year 2 is our CLD specialization and Year 3 is our minors and certificates. During the 2021-2022 Academic Year, our AEC-CLD faculty engaged in a planned curriculum review. We reviewed current curriculum, assessment data and graduation exit-survey data. We looked at peer institutions. We surveyed

students, faculty, graduates of the program, and industry stakeholders/potential employers. We compiled all of this data and reviewed it. We then held a day-long retreat in May 2022 for our CLD faculty. After conferring, we decided to recommend the proposed changes to our curriculum:

Recommendation 1: AEC 3033C Research and Business Writing in Agricultural and Life Sciences will be removed from critical tracking and will be required for all students in the specialization to take at UF. Transfer students will no longer be required to take this course in their AA before entering UF. - This is an important class for understanding the value of science communication and developing writing skills. Despite this, many of our CLD students come in as transfer students with an equivalent course that precludes them taking this course. We feel this is a critical curricular experience for our students to take this class at UF with our AEC faculty. As such, we propose remove this as a transfer requirement so students will instead take this class at UF.

Recommendation 2: An internship, AEC 4946 Communication and Leadership Development (new course number approved July 2021) will now be required. An approved elective is no longer an option to meet this requirement. - While we currently list an internship requirement, students have been afforded the opportunity to substitute this requirement with a relevant elective. Our survey results and other data emphasized the critical need for students to have an internship experience in their program. This often makes the difference in whether students are able to find employment post-graduation. There are ample paid and unpaid internship opportunities for students. We have the structure in place to support them finding and completing an internship. We also have the Orange and New internal internship experience for students who are unable to leave campus or find an external internship.

Recommendation 3: AEC 4930 Communication and Leadership Development Capstone Experience will not be required. Some of the assignments covered in this course will be incorporated into the now required internship, AEC 4946. - While this class was offering students useful professional development, incorporating a 1-credit course into their programs was proving complicated. Instead, we've decided to incoporate this into the now-required internship course. This frees students up to to take one more 3-credit course in their program.

Recommendation 4: Pursuant to recommendation 3, the Advanced Communication & Leadership Development requirement will now require students to choose 4 courses from the list below. In the past, they were required to choose 3. Additional courses added to the list (AEC 3071, AEC 3313, and AEC 4500).
a. AEC 3071 Social Media Strategy and Leadership for Agricultural and Life Sciences
b. AEC 3209 Instructional and Event Planning in Agricultural and Life Sciences
c. AEC 3313 Development and Role of Extension Education
d. AEC 4036 Advanced Agricultural Communication Production
e. AEC 4417 Leadership for Personal and Organizational Change
f. AEC 4465 Global Leadership
g. AEC 4500 Program Development and Evaluation
h. FYC 4408 Organizational Leadership for Nonprofits
i. PUR 3000 Principles of Public Relations
Impact on Other Programs There is no impact to other programs or departments since all of courses included in the changes are within the AEC department.
Assessment Data Review Described in "Pedagogical Rationale/Justification"
Academic Learning Compact and Academic Assessment Plan Changes to the Academic Learning Compact:
Remove: Communication and leadership development specialization: Achieve a minimum grade of C in AEC 4052, the communication and leadership development capstone experience, as evaluated by a committee of faculty.

Change: Achieve a minimum grade of C in a department internship course (AEC 4942, AEC 4943, AEC 4944 or AEC 4948) or a capstone experience course (AEC 4052).
To: Achieve a minimum grade of C in a department internship course (AEC 4942, AEC 4943, or AEC 4946).

Changes to the Academic Assessment Plan:
Changes in the assessment methods for SLOs will be made.

Catalog Copy Yes

COMMUNICATION AND LEADERSHIP DEVELOPMENT

With a focus on disseminating scientific knowledge, agricultural education and communication professionals empower communities to gain a balanced understanding of food systems, natural resources, and related sciences. Agricultural Education and Communication students supplement core technical agriculture courses with teaching, leadership, or media experiences.

UNDERGRADUATE CATALOG

- Agricultural Education
- Communication and Leadership Development

ABOUT THIS PROGRAM

- **College:** Agricultural and Life Sciences
- **Degree:** Bachelor of Science
- **Specializations:** Agricultural Education | Communication and Leadership Development
- **Credits for Degree:** 120

To graduate with this major, students must complete all university, college, and major requirements.

Department Information

- Overview
- Critical Tracking
- Model Semester Plan
- Academic Learning Compact

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.

SEMESTER ONE		CREDITS
Select one:		3-4
AEB 2014	Economic Issues, Food and You (Gen Ed Social and Behavioral Sciences)	
ECO 2013	Principles of Macroeconomics (Gen Ed Social and Behavioral Sciences)	
ECO 2023	Principles of Microeconomics (Gen Ed Social and Behavioral Sciences)	
AEB 3103	Principles of Food and Resource Economics (Gen Ed Social and Behavioral Sciences)	
BSC 2005	Biological Sciences (**Critical Tracking**; State Core Gen Ed Biological and Physical Sciences)	3
Select one:		1
BSC 2005L	Laboratory in Biological Sciences (**Critical Tracking**; Gen Ed Biological Sciences)	
Any Gen Ed Biological Sciences or Physical Sciences Laboratory (**Critical Tracking**)		
State Core Gen Ed Composition; Writing Requirement		3

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Elective		2
State Core Gen Ed Humanities		3
	Credits	**15-16**
SEMESTER TWO		
Quest 1 (Gen Ed Humanities)		3
AEC 3030C	Effective Oral Communication (**Critical Tracking**)	3
MAC 1140	Precalculus Algebra (**Critical Tracking**; State Core Gen Ed Mathematics)	3
Gen Ed Biological or Physical Sciences		3
Elective		3
	Credits	**15**
SEMESTER THREE		
PSY 2012	General Psychology (**Critical Tracking**; State Core Gen Ed Social and Behavioral Sciences)	3
STA 2023	Introduction to Statistics 1 (recommended; Gen Ed Mathematics)	3
American history or political science elective (Gen Ed Social and Behavioral Sciences)		3
Gen Ed Composition; Writing Requirement		3
Gen Ed Diversity or International		3
	Credits	**15**

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SEMESTER FOUR		
Quest 2 (Gen Ed Physical Sciences)		3
~~AEC 3033C~~	~~Research and Business Writing in Agricultural and Life Sciences (**Critical Tracking**; Writing Requirement)~~	~~3~~
AEC 3065	Issues in Agricultural and Life Sciences	3
Agriculture/natural resource elective		3
Electives		6
	Credits	**15**
SEMESTER FIVE		
AEC 3070C	Digital Media Production in Agricultural and Life Sciences (**Critical Tracking**)	3
AEC 3073	Intercultural Communication (Gen Ed Social and Behavioral Sciences with Diversity or International)	3
AEC 3413	Working with People: Interpersonal Leadership Skills	3
AEC 3414	Leadership Development	3
~~AEC 4031~~	~~The Communication Process in Agricultural and Life Sciences (**Critical Tracking**; Writing Requirement)~~	~~3~~
AEC 3033C	Research and Business Writing in Agricultural and Life Sciences (Writing Requirement)	3
	Credits	**15**
SEMESTER SIX		

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~~AEB 3133~~	~~Principles of Agribusiness Management~~	~~3~~
AEC 4031	The Communication Process in Agricultural and Life Sciences (**Critical Tracking**: Writing Requirement)	3
~~AEC 4035~~	~~Communication Practices for Agricultural and Life Sciences~~	~~3~~
Select two:		6
AEC 3071	Social Media Strategy and Leadership for Agricultural and Life Sciences	
AEC 3209	Instructional and Event Planning in Agricultural and Life Sciences	
AEC 3313	Development and Role of Extension Education	
AEC 4036	Advanced Agricultural Communication Production	
AEC 4417	Leadership for Personal and Organizational Change	
AEC 4465	Global Leadership	
AEC 4500	Program Development and Evaluation	
FYC 4408	Organizational Leadership for Nonprofits	
PUR 3000	Principles of Public Relations	
Select one:		3
AEC 3322	Moral Leadership in Agriculture and Natural Resources	
AEB 4085	Agricultural Risk Management and the Law (fall)	
AEB 4123	Agricultural and Natural Resource Law (spring)	

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AEB 4126	Agricultural and Natural Resource Ethics	
Similar ethics course		
Approved elective in area of concentration		3
	Credits	**15**
SUMMER AFTER SEMESTER SIX		
~~Select one:~~		~~3~~
~~AEC 4943~~	~~Leadership Development Internship~~	
~~AEC 4948~~	~~Agricultural Communication Internship~~	
AEC 4946	Communication & Leadership Development Internship	3
~~Approved elective~~		
	Credits	~~3~~3
SEMESTER SEVEN		
~~Select one:~~		~~3~~
~~AEB 4085~~	~~Agricultural Risk Management and the Law (fall)~~	
~~AEB 4123~~	~~Agricultural and Natural Resource Law (spring)~~	
~~AEB 4126~~	~~Agricultural and Natural Resource Ethics~~	
~~Similar ethics course~~		

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AEC 4035	Communication Practices for Agricultural and Life Sciences	3
AEC 4434	Communication and Leadership in Groups and Teams (**Critical Tracking**)	3
~~Agriculture/natural resource elective~~		~~3~~
AEB 3133	Principles of Agribusiness Management 3	3
Approved electives in area of concentration		6
	Credits	**15**
SEMESTER EIGHT		
~~AEC 4930~~	~~Communication and Leadership Development Capstone Experience~~	~~1~~
Select ~~one~~two:		6~~3~~
AEC 3071	Social Media Strategy and Leadership for Agricultural and Life Sciences	
AEC 3209	Instructional and Event Planning in Agricultural and Life Sciences	
AEC 3313	Development and Role of Extension Education	
AEC 4036	Advanced Agricultural Communication Production	
AEC 4417	Leadership for Personal and Organizational Change	
AEC 4465	Global Leadership	
AEC 4500	Program Development and Evaluation	
FYC 4408	Organizational Leadership for Nonprofits	

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PUR 3000	Principles of Public Relations	
Agriculture/natural resource elective		3
Approved elective in area of concentration		3~~5~~
	Credits	**12**
	Total Credits	**120**

Plan of Study Grid

University of Florida

Cover Sheet: Request 17620

WEC 8-Semester Plan revisions

Info

Process	Major Curriculum|Modify|Ugrad/Pro
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Kelley Graff kelleygraff@ufl.edu
Created	9/1/2022 10:12:47 AM
Updated	10/12/2022 2:36:08 PM
Description of request	Revise current WEC 8-semester plan for BS_WEC 05 degree. Uploaded plan with comments and also a "cleaner" looking example.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Wildlife Ecology and Conservation 60470000	Eric Hellgren		9/9/2022
No document changes					
College	Pending	CALS - College of Agricultural and Life Sciences			9/9/2022
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					
Academic Assessment Committee Notified					
No document changes					
College Notified					
No document changes					

Major|Modify_Curriculum for request 17620

Info

Request: WEC 8-Semester Plan revisions
Description of request: Revise current WEC 8-semester plan for BS_WEC 05 degree.

Uploaded plan with comments and also a "cleaner" looking example.
Submitter: Kelley Graff kelleygraff@ufl.edu
Created: 9/8/2022 12:59:22 PM
Form version: 5

Responses

Major Name Wildlife Ecology and Conservation
Major Code WEC
Degree Program Name BS_WEC 05
Undergraduate Innovation Academy Program No
Effective Term Earliest Available
Effective Year Earliest Available
Current Curriculum for Major This request is to update the 8-semester plan, to create a minimum grade policy on major core courses, and to add/delete courses from the current outdated plan.
Proposed Curriculum Changes Update the 8-semester plan by adding Major Core Classes and adding/deleting courses from the current plan.

There are 8 courses that we would like to highlight as Major Core Classes
1. WIS 2920
2. SWS 3022/3022L
3. WIS 3402/3402L
4. WIS 3401
5. WIS 4945/4945L
6. WIS 3553C
7. WIS 4601C
8. WIS 4501

We would like to add this statement:
Coursework For The Major:
Students must earn minimum grades of C, attained within two attempts (including withdrawals), are required in major core courses. Students must maintain a 2.5 or higher GPA on all critical-tracking courses. A 2.0 cumulative GPA is also required to successfully complete the degree.
UF Online Curriculum Change No
Pedagogical Rationale/Justification Faculty members voted to require a minimum grade of C or higher in all major core classes. The current 8-semester plan needs revision to delete courses no longer offered and add new courses.
Impact on Enrollment, Retention, Graduation WEC does not anticipate a high number of students negatively impacted by changing the grade requirement on major core classes to a minimum grade of C or higher. Statistical data pulled from 2017-2022 demonstrated less than 2.5% of students earned a C- or lower in the 8 core courses. The enrollment total during this time period was 2,863. By changing the minimum acceptable grade to a C or higher in WEC core courses this action will lead to increased timely graduation. In addition, the minimum grade change will increase student's competitiveness for graduate programs and employment opportunities.
Assessment Data Review N/A
Academic Learning Compact and Academic Assessment Plan N/A
Catalog Copy Yes

- Overview
- Academic Learning Compact

The department also co-administers a major in natural resource conservation with the School of Forest, Fisheries, and Geomatics Sciences.
More Info

Preprofessional

This specialization satisfies the coursework requirements for admission to the Doctor of Veterinary Medicine program. Students pursuing admission to the College of Veterinary Medicine must take six credits of general education composition, nine credits of humanities and six credits of social and behavioral sciences.

Wildlife Ecology and Conservation

Students in this specialization train in the biological, social, physical and management sciences, and excel at both the scientific and human dimensions of managing wildlife and natural resources. With appropriate choice of electives and course options, graduates satisfy requirements for certification as an associate wildlife biologist with The Wildlife Society.

Commented [GD1]: Add Specialization after conservation

Commented [GD2]: Coursework for the major
All students enrolled in the Wildlife Ecology and Conservation specialization must complete 27 credit hours of major core courses earning a minimum grade of C or higher, attained within two attempts. College core courses include: WIS 2920, SWS 3022/3022L, WIS 3401, WIS 3402/3402L, WIS 3553CWIS 4945/4945L; WIS 4501, and WIS 4601C.

Students must maintain a minimum 2.50 GPA in major critical tracking courses. Major critical tracking courses include: CHM 2045/2045L, BSC 2010/2010L, BSC 2011/2011L, MAC 2311, STA 2023, and ECO 2023.

SEMESTER ONE		CREDITS
BSC 2010 & 2010L	Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory 1 (**Critical Tracking**; Gen Ed Biological Sciences)	4
WIS 2920	Wildlife Colloquium	
State Core Gen Ed Composition; Writing Requirement: 6,000 words		3
State Core Gen Ed Humanities		3
Elective		2
	Credits	**13**
SEMESTER TWO		
Quest 1 (Gen Ed Humanities)		3
Select one:		3-4
AEB 2014	Economic Issues, Food and You (**Critical Tracking**)	
AEB 3103	Principles of Food and Resource Economics (**Critical Tracking**)	
ECO 2023	Principles of Microeconomics (**Critical Tracking**; Gen Ed Social and Behavioral Sciences)	
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 (**Critical Tracking**; State Core Gen Ed Mathematics)	3
State Core Gen Ed Social and Behavioral Sciences		3
	Credits	**16-17**
SEMESTER THREE		
AEC 3030C	Effective Oral Communication	3
AEC 3033C	Research and Business Writing in Agricultural and Life Sciences (Writing Requirement: 6,000 words)	3

Commented [GD1]: Add "Major Core Coures"

CHM 2045 & 2045L	General Chemistry 1 and General Chemistry 1 Laboratory (**Critical Tracking**; State Core Gen Ed Biological Sciences and Physical Sciences)	4
Select one:		
FOR 3153C	Forest Ecology	
PCB 3601C	Plant Ecology	
PCB 4043C	General Ecology	
WIS 3404	Natural Resource Ecology	
Gen Ed Composition; Writing Requirement: 6,000 words		3
	Credits	**16-17**
SEMESTER FOUR		
Quest 2 (Gen Ed Social and Behavioral Sciences)		3
MAC 2311	Analytic Geometry and Calculus 1 (**Critical Tracking**; Gen Ed Mathematics)	4
SWS 3022 & 3022L	Introduction to Soils in the Environment and Introduction to Soils in the Environment Laboratory (Gen Ed Physical Sciences)	
WIS 3402 & 3402L	Wildlife of Florida and Wildlife of Florida Laboratory	
	Credits	**15**
SEMESTER FIVE		
Select one plant diversity and taxonomy course (1 of 2):		3-4
BOT 2011C	Plant Diversity	
BOT 2710C	Practical Plant Taxonomy	
BOT 3151C	Local Flora of North Florida	
FNR 3131C	Dendrology/Forest Plants	
ORH 3513C	Environmental Plant Identification and Use	
Select one:		

Commented [GD2]: Can you add header "General Ecology Course"

Commented [GD3]: Add "Major Core Course"

Commented [GD4]: Add "Major Core Course"

Commented [GD5]: Can you add a header "Invertebrate Biology Course"

ENY 3005 & 3005L	Principles of Entomology and Principles of Entomology Laboratory	
ENY 4210	Insects and Wildlife	
ZOO 4205C	Invertebrate Biodiversity	
Select one:		
FOR 3434C	Forest Resources Information Systems	
GIS 3043	Foundations of Geographic Information Systems	
GIS 3072C	Geographic Information Systems	
URP 4273	Survey of Planning Information Systems	
WIS 3401	Wildlife Ecology and Management (**Critical Tracking**)	
Select one:		
WIS 4934	Topics in Wildlife Ecology and Conservation (Large Mammal Ecology and Management)	
ZOO 4307C	Vertebrate Biodiversity	
ZOO 4472C	Avian Biology	
ZOO 4926	Special Topics in Zoology (Mammalogy)	
ZOO 4926	Special Topics in Zoology (Herpetology)	
	Credits	
SEMESTER SIX		
Select one plant diversity and taxonomy course (2 of 2):		3-4
BOT 2011C	Plant Diversity	
BOT 2710C	Practical Plant Taxonomy	
BOT 3151C	Local Flora of North Florida	
FNR 3131C	Dendrology/Forest Plants	
ORH 3513C	Environmental Plant Identification and Use	

Commented [GD6]: Add header "Geographical Information Course"

Commented [GD7]: Add "Major Core Course" Keep critical tracking comment too. I would also recommend placing this course above the Select One section as it is not associated with the GIS courses listed above.

Commented [GD8]: Can you add header "Vertebrate/Wildlife Biology Course"? Add 1. WIS 4934 Conservation of Amphibians and Reptiles. 2. WIS 4934 Invasion/Ecology of Amphibians and Reptiles. 3. WIS 4934 The Primates. 4. ANT 3555 The Primates.

Commented [GD9]: Delete "Topics in Wildlife Ecology and Conservation". This course recently was issued a permanent number. As a result, on separate line please list WIS 4424 Large Mammal Ecology and Management

Commented [GD10]: Delete course as Mammalogy hasn't been taught in a number of years

Commented [GD11]: ZOO 4629 has new permanent course number. Please change course number to ZOO 4462C Herpetology.

WIS 3553C	Introduction to Conservation Genetics (**Critical Tracking**)	
WIS 4945	Wildlife Techniques	
Focus course		3
	Credits	**13-14**
SEMESTER SEVEN		
FNR 4660 or ECP 3302	Natural Resource Policy and Economics or Environmental Economics and Resource Policy	
Select one:		
FNR 4070C	Environmental Education Program Development	
FOR 3202	Society and Natural Resources	
FOR 4664	Sustainable Ecotourism Development	
WIS 4523	Human Dimensions of Natural Resource Conservation	
WIS 4554 or WIS 4203C	Conservation Biology or Landscape Ecology and Conservation	3
WIS 4601C	Quantitative Wildlife Ecology (**Critical Tracking**)	
Focus course		
	Credits	
SEMESTER EIGHT		
WIS 4501	Introduction to Wildlife Population Ecology (**Critical Tracking**)	
Focus courses		6
Electives		6
	Credits	**15**
	Total Credits	**119-126**

Plan of Study Grid

Additional electives may be needed to complete the 120 credits required for graduation. Students can choose any courses as electives.

Commented [GD12]: Add "Major Core Course" Keep critical tracking comment

Commented [GD13]: Add "Major Core Course"

Commented [GD14]: Add "Summer after Semester 6" section with WIS 4945 L Wildlife Techniques Lab 1 credit. Add "Major Core Course".

Commented [GD15]: Add title to this section of Human Dimension Courses. Add WIS 4934 Diverse Perspectives in Conservation to this list.

Commented [GD16]: Please place these courses above the "Select One Section" to create division so students understand these classes aren't part of the select one list.

Commented [GD17]: Add "Major Core Course". Keep Critical Tracking comment. Please place this course above the "Select One" comment to eliminate any confusion that this course is part of the human dimension course requirements.

Commented [GD18]: Add "Major Core Course" Keep Critical Tracking comment

State core courses can be selected to meet the university's requirements for writing, international and diversity focused courses.

Cover Sheet: Request 17638

WEC Minor Update

Info

Process	Minor|Modify/Ugrad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Kelley Graff kelleygraff@ufl.edu
Created	9/8/2022 8:41:44 AM
Updated	9/9/2022 9:04:44 AM
Description of request	WEC wishes to add WIS 3404 Natural Resource Ecology as a course option for the Wildlife Ecology and Conservation minor. This course would be one of four required ecology courses. FOR 3153C Forest Ecology; PCB 3601C Plant Ecology; PCB 4043C General Ecology; WIS 3404 Natural Resource Ecology

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Wildlife Ecology and Conservation 60470000	Eric Hellgren		9/9/2022
WEC Minor update.docx Syllabus_NREcology_2022.pdf					9/8/2022 9/8/2022
College	Pending	CALS - College of Agricultural and Life Sciences			9/9/2022
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					

Minor|Modify for request 17638

Info

Request: WEC Minor Update
Description of request: WEC wishes to add WIS 3404 Natural Resource Ecology as a course option for the Wildlife Ecology and Conservation minor. This course would be one of four required ecology courses. FOR 3153C Forest Ecology; PCB 3601C Plant Ecology; PCB 4043C General Ecology; WIS 3404 Natural Resource Ecology
Submitter: Kelley Graff kelleygraff@ufl.edu
Created: 9/8/2022 8:26:26 AM
Form version: 1

Responses

Name Wildlife Ecology and Conservation
Code WEC
Effective Term Earliest Available
Effective Year Earliest Available
Proposed Changes Add a fourth general ecology course (WIS 3404) to the minor. Acceptable courses FOR 3153 Forest Ecology; PCB 3601 Plant Ecology; PCB 4043C General Ecology; WIS 3404 Natural Resource Ecology
Pedagogical Rationale/Justification WIS 3404 Natural Resource Ecology is an ecology course that is used in the WEC major to satisfy the general ecology common requirement. WEC will be adding this course to our minor to satisfy this requirement too.
Impact on Other Programs Adding WIS 3404 will give students another option to satisfy the ecology requirement for the minor. The course is taken by several departments and therefore WEC schedules with a large seat count. The class is offered online which makes increasing capacity easy.
Catalog Copy Yes

Natural Resource Ecology—WIS 3404

3 Credits, Fall Semester 2022, University of Florida

Course Syllabus

Instructor/TA contacts: Dr. Steve A. Johnson (he/him): tadpole@ufl.edu; Office—352.846.0557
Teaching Assistant: Sylvia Van Boskirk (she/her), svanboskirk@ufl.edu
We will do our best to respond to all emails within 24 hours.

Office hours: *Dr. J*: Newins-Ziegler Hall Room 216; Wednesdays 2-5 P.M. via phone, Zoom, or Skype (please make an appointment). **Email any time within Canvas only.**

Ms. Sylvia Van Boskirk: Email with questions or to arrange an appointment to meet with her.

Course prereqs: General Biology (BSC 2011 or equivalent course) or permission of instructor

Course schedule: Flexible: this is an asynchronous, online course and you will work at your own pace to some extent. However, it is your responsibility to keep up with course assignments and meet posted deadlines for quizzes, exams, and assignments. There are no scheduled class meeting times.

Course format: This is an online course, and you will access course materials, take quizzes and exams, turn in assignments, and communicate with Dr. Johnson via **e-Learning in Canvas**, UF's online course management system. The course name in Canvas is "Natural Resource Ecology Fall 2022." Please be sure to visit the course Canvas site ASAP and view the Welcome Video at course home page to learn how the course is organized in Canvas. Also study this syllabus, and the course calendar posted Canvas—a PDF of this syllabus is available at the course Canvas site. **Regularly visit the course Canvas site for important course announcements, and be sure the check your Canvas email daily.**

Course website: Course materials (e.g., readings, quizzes, exams, various assignments, lectures) and announcements will be posted at the Canvas site for the course. As a UF student registered for the class you should have access to this the course "Natural Resource Ecology Fall 2022.". You will need your Gatorlink username and password to log into Canvas at elearning.ufl.edu (click the orange "Log In To e-Learning" button).

Required course text: *Ecology 5th Ed.* (2020) W.D. Bowman and S.D. Hacker, Sinauer Associates, Inc. (Sinauer is now part of Oxford University Press), ISBN 9781605359212 (The cover of the book has an image of a tide pool in British Columbia.) The textbook should be available at the UF

Bookstore in paperback, which can be shipped to you or you can pick up you copy at the bookstore. You can also purchase an e-book copy through the UF Bookstore. You should be able to purchase a relatively low-cost version of the eBook via the bookstore's All Access program by visiting this site: bsd.ufl.edu/AllAccess. You can also purchase the book online through a variety of vendors, such as Amazon.com. Another way to purchase the book is directly from the publisher's site: https://learninglink.oup.com/students At this site choose the 3rd option "My instructor is not assigning the resources in a platform. I'd like to use the resources for self-study online." Then just follow the directions to get started with Oxford Learning Link.

The course text **IS REQUIRED** and you must have a copy of the 5th Edition—you need the book the first week of class. You will need the registration code on the inside cover (if you purchase a new print version) to access the book's digital course materials. You should be provided a code if you purchase an eBook via the UF Bookstore. If you buy a used book you will need to purchase a code to access the textbook companion website, which you can get at the publisher's webpage as described above.

Course text website: https://learninglink.oup.com/access/bowman5e You must register before you can access this website, and you need the unique registration code to do so. If you purchase a used book this code may not be valid. But no worries, you can purchase a code to access the textbook companion website—again, visit https://learninglink.oup.com/access/bowman5e to do this--you may need to click the "Getting Started for Students" link. On the website you will find chapter summaries, outlines, problem sets, and flashcards with key terms, as well as other helpful resources. The text website is there for you to use, so please take advantage of it. **You will have to visit the course text website to complete some Problem Sets**.

Additional requirements: Since this is an online course, you need a working knowledge of computers and some commonly used programs (e.g., MS Word, Excel). Obviously, you will need a computer and a reliable internet connection. You will also need to become very familiar with the e-Learning in Canvas system. Visit https://elearning.ufl.edu/e-learning-basics/uf-e-learning-faqs/ to view FAQs about using e-Learning at UF and the Canvas system in particular. Also please visit the Student Help page for e-learning at UF: https://elearning.ufl.edu/student-help/

Web browsers: Because it's built using web standards, Canvas runs on Windows, Mac, Linux, iOS, Android, or any other device with a modern web browser. Canvas supports the last two versions of most browsers. It is **highly recommend** updating to the **newest version** of whatever browser you are using as well as the most up-to-date Flash plug-in.

Web browsers currently supported include: Chrome, Safari, Firefox, and Edge. Canvas no longer supports Internet Explorer. Note that your computer's operating system (OS) may affect browser function. Failure to use one of these browsers will cause problems. For more information on approved browser versions and other required apps please visit https://community.canvaslms.com/docs/DOC-10720

UF course catalog description: Application of ecological principles and natural history information to conserve and sustainably manage natural resources with an emphasis on animals and plants.

Course description in more detail: The course describes how ecological concepts and processes are applied at various scales to conserve and manage renewable natural resources (e.g., plants, animals, water, soil) in terrestrial and aquatic systems—it explains how ecological science is applied to help solve real-world problems. In most cases, these problems are caused by the actions of people, and the course emphasizes potential conservation and management strategies to mitigate anthropogenic issues such as, but not limited to, habitat fragmentation, invasive species, disease, and climate change.

The course focuses on interactions within and among species and how they are affected by their abiotic environment. It explores numerous biological principles (e.g., nutrient and water cycles, population growth, symbioses, biodiversity, etc.) and emphasizes how these principles are applied to effectively manage natural resources. The course also provides a broad foundation of important ecological principles while emphasizing how ecological phenomena in terrestrial and aquatic systems are influenced by the actions of humans—natural resource examples are used to illustrate key ideas and concepts. This course uses case studies to illustrate the application of ecological principles to conserve and manage natural resources.

Information delivery consists of recorded lectures, web-based learning activities, problem sets, and textbook readings. Text readings provide a broad foundation of general ecological principles, whereas recorded lectures emphasize and explain the application of ecological principles to conservation and management of natural resources. There is no formal lab associated with the course.

Fundamental Goals and Learning Objectives: The general goals and major learning outcomes for the course are listed below. Specific learning objectives are provided for each lecture. Review the 'Summary' boxes at the end of each text chapter for important concepts that students should understand.

- Explain how different ecological principles are applied to solve specific problems affecting the conservation and management of natural resources at different spatial and temporal scales

- Understand and define the concept of biodiversity, describe ecological and socioeconomic values of biodiversity, and make science-based arguments as to why biodiversity should be conserved

- Describe how and why natural systems are organized at scales ranging from biome to population and provide examples

- Explain how biotic and abiotic factors affect the abundance and distribution of plants and animals and understand how organisms adapt and evolve in response to changing environments; analyze the role of climate change in this context and discuss strategies for mitigating negative effects of climate change on renewable resources

- Understand and define basic interactions within and among species (e.g., competition, predation, symbioses), and explain how these interactions can be manipulated to manage populations of plants and animals to meet specific objectives

- Explain energy flow through food webs, and nutrient (e.g., carbon) and water cycles and how the flow of energy is affected by the actions of humans

Assessments:
Quizzes: There are 14 quizzes in this course. The first quiz is to ensure you are familiar with the syllabus and the course calendar (Quiz 1 Syllabus Quiz). The other 13 quizzes cover information presented in the book chapters—these quizzes must be completed weekly by 10:00 P.M. on Thursdays. **Questions for the quizzes** (except for the Syllabus Quiz) **are based exclusively on the text chapter readings that are assigned each week (many questions emphasize detailed information)**. See the "Course Lecture and Reading Schedule" below and the module pages in Canvas for each week's text reading assignments. The number of chapters covered by a particular quiz varies from 1-3, depending on the assigned chapter readings in a week. Read the chapters before you attempt the quizzes! You must take quizzes online in Canvas. Quiz questions are multiple choice and true/false. To help you master the material presented in the text, you have the option of taking each quiz up to four times. Questions are randomly drawn from a larger pool by the Canvas system. Each quiz has five questions from each text chapter assigned that week. Quizzes are timed, and the time allotted for each quiz is proportional to the number of chapters covered by a quiz—5 minutes per chapter. Once you start a quiz in Canvas you must finish it in the allotted time—the "clock keeps ticking" in Canvas as soon as you open a quiz and only stops after the allotted time has passed. Your official quiz score is your best score on any quiz, assuming you take a quiz more than once. Weekly quizzes (including the Syllabus Quiz) are worth a total of 145 points (each question is worth 1 point). All the quizzes for each module of the course will be available on the date that module opens in Canvas, but they close at different times. Quizzes must be completed before their closing date and time. Consult the Critical Dates & Deadlines table below for a list of open/due dates and times for quizzes. To "make-up" a quiz, students must provide a legitimate, documented excuse for not completing the quiz on time. Access quizzes at the Module page in Canvas—you should see links to quizzes on the Module overview page and under the Assessments heading within each Module page.

Exams: There are three exams in this course; the first covers material assigned for Modules 1-2, the second exam is on material assigned for Modules 3-4, and the third exam covers material for Modules 5-6 (exams are not cumulative). Exam questions cover material presented in recorded lectures (see View Presentation headings for each Module page in Canvas). Exam questions are multiple choice and true/false. Like quizzes, exams are administered in Canvas, and they are timed. Unlike quizzes however, you may only take each exam ONCE. Each exam is worth 100

points. Each exam will only be open in Canvas for a limited time on specific dates. Consult the Critical Dates & Deadlines table below for a list of open/due dates and times for exams. To "make-up" an exam, students must provide a legitimate, documented excuse for not completing the exam on time. Access exams via the Modules pages in Canvas—you should see links to exams on the Module overview page and under the Assessments heading within each Module page.

Problem Sets: There are four Problem Sets assigned for this course. Consult the Critical Dates & Deadlines table below and the Problem Set assignment sheets for a list of open/due dates and times for these assignments. Information for completing the Problem Sets is outlined in the assignment sheets (PDF files) that you download at the Canvas site. On the Module pages these assignments are listed under the Assessments heading at the bottom of the page. Most of the Problem Sets must be completed by visiting the course text website. Each Problem Set is worth 50 points, regardless of the number of questions, for a total of 200 points. Values for individual questions are adjusted accordingly, depending on the total number of questions for each Problem Set. Late Problems Sets are not accepted without a legitimate, documented excuse. **Please do not wait until the last minute to complete and submit Problem Sets** to avoid technical glitches that might delay your ability to upload the assignment on time. Access Problem Sets via the Modules link in Canvas—you should see links to Problem Sets on the Module overview page and under the Assessments heading within each Module page.

Online Learning Activities: The 'OLA' sheets contain lists of links for a variety of information sources that will allow you to further explore topics within each module. You are strongly encouraged to explore these, but that is not a requirement. This is your chance to dig a bit deeper on a specific topic—you will learn more by doing this, so please make some time to check out the resources on the 'OLA' sheets. If you find that a link no longer works or have a suggestion for additional resources that could be added, please email Dr. J in Canvas.

Points and Final Grade:	**Points**
Quizzes (14)	145 pts.
Exams (3)	300 pts.
Problem Sets (4)	200 pts.
Total	**645 pts.**

Grades: **A** (90%>), **B** (80 - 89.9%), **C** (70 – 79.9%), **D** (60 – 69.9%), **E** (<60%)
Scores are not 'curved'.

Course Lecture & Reading Schedule

(Consult the Critical Dates & Deadlines table below on page 10 for due dates and times for exams, quizzes, and assignments)

Week Date	Modules: Assignments, Lecture Topics, Online Learning Activities, Text Readings	Bowman et al. Readings
Module 1—Organisms and Their Environment		
Module 1: Aug. 24 to Oct. 4 Assignments & Quizzes/Exams -Quiz 1 Syllabus, Quizzes 2-3 -Problem Set 1: see assignment sheet posted in Canvas		
1 Aug. 24	**Case Study Lecture**: Course Introduction **Online Learning Activities**: Activities emphasize ecological connections and focus on amphibian declines and malformations. **Text Reading Topics**: Ecological Connections	*Chapter 1* *Web of Life*
2 Aug. 29	**Case Study Lecture**: Climate Change Impacts on Future Biome Distribution **Online Learning Activities**: Interactive web pages allow exploration of our planet's major biomes as well as numerous research sites in the US that are part of the LTER network **Text Reading Topics**: Climate and Biomes	*Chapters 2 & 3* *Physical Env.* *Biosphere*
3 Sept. 5	**Case Study Lecture**: Thermal Effects on Pythons in Florida **Online Learning Activities**: Activities offer a look at the fundamental processes that affect Earth's climate, provide specific examples of how animals deal with extremes in temperature, and more **Text Reading Topics**: Coping with Environmental Variation	*Chapters 4 & 5* *Env. Var.-Temp.& Water* *Env. Var.-Energy*
Module 2—Ecosystems		
Module 2: Sept. 12 to Oct. 4 Assignments & Quizzes/Exams -Quizzes 4-6, Exam 1 -Problem Set 2: see assignment sheet posted in Canvas		
4 Sept. 12	**Case Study Lecture**: Hydrothermal and Seep Vent Community Structure **Online Learning Activities**: Video clips explore the unique organisms of deep-sea hydrothermal vent communities and the response of global plant growth to climate change **Text Reading Topics**: Primary and Secondary Production	*Chapter 20* *Production*
5 Sep. 19	**Case Study Lecture**: Brown Treesnake Trophic Cascades **Online Learning Activities**: Videos and simulations emphasize the complex relationships among species in trophic cascades **Text Reading Topics**: Food Webs, Energy Flow	*Chapter 21* *Energy Flow & Food Webs*

6 Sept. 26	**Case Study Lecture**: Biological Soil Crusts Conservation and Ecology **Online Learning Activities**: Animations and video clips explain nutrient cycling, eutrophication, and acid rain impacts **Text Reading Topics**: Nutrient Cycling	*Chapter 22* *Nutrient Supply & Cycling*
Module 3—Natural Communities		
Module 3: Oct. 3 to Nov. 1 Assignments & Quizzes/Exams -Quizzes 7-8		
7 Oct. 3	**Case Study Lecture**: Row Crops as Biofuels **Online Learning Activities**: Videos, animations, and news articles highlight ecological engineers, the process of succession, and biofuels **Text Reading Topics**: Community Structure and Change	*Chapters 16, 17, 19* *Communities*
8 Oct. 10	**Case Study Lecture**: Road Effects on Herpetofauna **Online Learning Activities**: Explore and learn about biogeography and continental drift **Text Reading Topics**: Biogeography	*Chapter 18* *Biogeography*
Module 4—Populations		
Module 4: Oct. 17 to Nov. 1 Assignments & Quizzes/Exams -Quizzes 9-10, Exam 2 -Problem Set 3: see assignment sheet posted in Canvas		
9 Oct. 17	**Case Study Lecture**: Salamander Life History and Conservation **Online Learning Activities**: Explore reproductive strategies of marine invertebrates and plants, and learn about conservation efforts for Kiwis in New Zealand **Text Reading Topics**: Species Life Histories, Population Distribution and Abundance	*Chapters 7 & 9* *Life History* *Pop. Dist. & Abundance*
10 Oct. 24	**Case Study Lecture**: Pond-breeding Amphibians as Metapopulations **Online Learning Activities**: Simulations and animations explain and illustrate important concepts of the growth of populations. **Text Reading Topics**: Growth, Regulation, and Dynamics of Populations	*Chapters 10 & 11* *Pop. Dynamics* *Pop. Growth Reg.*
Module 5—Interactions Among Organisms		
Module 5: Oct. 31 to Dec. 16 Assignments & Quizzes/Exams -Quizzes 11-12 -Problem Set 4: see assignment sheet posted in Canvas		
11	**Case Study Lecture**: Sundew/Spider Competition	*Chapters 12 & 14* *Predation*

Oct. 31	**Online Learning Activities**: Videos demonstrate and discuss competition and evolution of chemical defenses in plants and animals **Text Reading Topics**: Competition & Predation	*Competition*
12 Nov. 7	**Case Study Lecture**: Biological Control of Invasive Anurans **Online Learning Activities**: As you will learn in these videos, truth can be stranger than fiction—explore the intriguing topics of parasitism and mutualism **Text Reading Topics**: Parasitism, Mutualism, Commensalism	*Chapters 13 & 15* *Parasitism* *Mutualism & Commensalism*
13 Nov. 14	**Case Study Lecture**: Florida Panther Conservation: Genetic Introgression **Online Learning Activities**: Video clips and animations illustrate processes of natural selection and speciation **Text Reading Topics**: Evolution, Behavioral Ecology	*Chapters 6 & 8* *Evol. & Ecol.* *Behav. Ecol.*
Module 6—Applied Ecology		
Module 6: Nov. 21 to Dec. 16 Assignments & Quizzes/Exams -Quiz 14, Exam 3		
14 Nov. 21	**Text Reading Topics**: Landscape Ecology & Ecosystem Management **Enjoy the Thanksgiving Break!**	*Chapter 24* *Landscape Ecol.*
15 Nov. 28	**Case Study Lectures**: Assisted Migration Case Study & Swallow-tailed Kite Case Study **Online Learning Activities**: Explore a variety on online resources that address climate change impacts **Text Reading Topics**: Global Ecology, Conserv. Biology	*Chapters 23 & 25* *Global Ecol.* *Conserv. Biology*
16 Dec. 5	**Case Study Lecture**: Red-cockaded Woodpecker Management and Conservation **Online Learning Activities**: Explore a collection of topics ranging from partnerships to fight invasive species to efforts to save endangered species *NOTE: The material in this lecture is covered on Exam 3*	

Critical Dates & Deadlines

(This is best source for critical dates in this course!)

Assignment	Available Date	Available Time	Due Date(s)	Due Time
Quiz 1 Syllabus Quiz	24-Aug-22	7:00 AM	**1-Sept-22**	10:00 PM
Quiz 2 Chps 1,2,3	24-Aug-22	7:00 AM	**8-Sept-22**	10:00 PM
Quiz 3 Chps 4,5	24-Aug-22	7:00 AM	**8-Sept-22**	10:00 PM
Problem Set 1	24-Aug-22	7:00 AM	**9-Sept-22**	10:00 PM
Quiz 4 Chp 20	12-Sept-22	7:00 AM	**15-Sept-22**	10:00 PM
Quiz 5 Chp 21	12-Sept-22	7:00 AM	**22-Sept-22**	10:00 PM
Quiz 6 Chp 22	12-Sept-22	7:00 AM	**29-Sept-22**	10:00 PM
Problem Set 2	12-Sept-22	7:00 AM	**30-Sept-22**	10:00 PM
Exam 1	3-Oct-22	12:01 PM (noon)	**4-Oct-22**	10:00 PM
Quiz 7 Chps 16,17,19	3-Oct-22	7:00 AM	**6-Oct-22**	10:00 PM
Quiz 8 Chp 18	3-Oct-22	7:00 AM	**13-Oct-22**	10:00 PM
Quiz 9 Chps 7,9	17-Oct-22	7:00 AM	**20-Oct-22**	10:00 PM
Quiz 10 Chps 10,11	17-Oct-22	7:00 AM	**27-Oct-22**	10:00 PM
Problem Set 3	3-Oct-22	7:00 AM	**28-Oct-22**	10:00 PM
Exam 2	31-Oct-22	12:01 PM (noon)	**1-Nov-22**	10:00 PM
Quiz 11 Chps 12,14	31-Oct-22	7:00 AM	**3-Nov-22**	10:00 PM
Quiz 12 Chps 13,15	31-Oct-22	7:00 AM	**10-Nov-22**	10:00 PM
Quiz 13 Chps 6,8	31-Oct-22	7:00 AM	**17-Nov-22**	10:00 PM
Problem Set 4	31-Oct-22	7:00 AM	**18-Nov-22**	10:00 PM
Quiz 14 Chps 23,24,25	21-Nov-22	7:00 AM	**1-Dec-22**	10:00 PM
Exam 3	6-Dec-22	12:01 PM (noon)	**7-Dec-22**	10:00 PM

***Note: All due date times are Eastern Standard Time.**

Getting help with technology:
For IT help regarding issues with the course involving the Canvas site, first check the student Help Desk Canva FAQs https://elearning.ufl.edu/student-help/student-help-faqs/. You can also get to this page by clicking the "Student Help" link in the blue at the top of the Canvas log in page https://elearning.ufl.edu. Within Canvas you can also get help by clicking the "Help" icon in lower left of the blue Canvas header. If you still need assistance after exploring the sites listed above, contact the UF Computing Help Desk (352-392-4357, helpdesk@ufl.edu).

Frequently Asked Questions

1. *How do I access the online learning management system used for this course?*

This course is delivered in the Canvas learning management system. You will need a Gatorlink account to log on to e-Learning in Canvas. To log on to UF's e-Learning in Canvas site, go to http://lss.at.ufl.edu/ and click on the orange "Log In To e-Learning" at the right of the page; you may be prompted to enter your Gatorlink username and password. Once you have entered your Gatorlink username and password your Canvas page will load, and all the Canvas courses you are registered for will be available to you via your Dashboard. This course will appear as **Natural Resource Ecology Fall 2022**. If you are new to Canvas, please check out the Quickstart Guide for Students: https://elearning.ufl.edu/student-help/keep-learning/quickstart-guide-for-students/

2. *Where do I get the required text and instructional materials for this course?*

The required course text, which you will need the first week of class, can be acquired in a variety of ways. See the "Required course text" heading on the first page of this syllabus for details. Supplemental readings and all other materials will be available as PDFs at the course Canvas site.

3. *Do I have to have Internet access at home?*

No, but you are strongly encouraged to have reliable Internet access at home. The University also has many student computer labs available to students who wish to use them and wifi is available across campus.

4. *What computer programs will I need to use in this course?*

Adobe Acrobat reader is free software required to view and print course materials that are available in Canvas as PDF files. To download the free reader, go to http://get.adobe.com/reader/.

e-Learning in Canvas is the centrally-supported course management system at UF. It is the online source for the learning resources and assignments in this course. For a list of FAQs regarding e-Learning in Canvas, go to https://elearning.ufl.edu/student-help/student-help-faqs/.

Data Manipulation is important for organizing, visualizing, and presenting scientific data. One of the easiest ways to do this is with a spreadsheet and the functions available in a spreadsheet program such as Microsoft Excel. You will need to ability to organize and present data in tables and graphs to complete Problem Sets in this course.

A **Web Browser** is essential and Canvas supports most browsers. However, it is HIGHLY RECOMMENDED that you use the most recent version of the browser: **Chrome** 102 and 103, **Firefox** 101 and 102, **Edge** 102 and 103, and **Safari** 14 and 15 (Mac only).

Java is required to view and complete the simulations at the course text website, which are required for most of the Problem Sets. You can download Java free at http://www.java.com/en/

5. *Where do I get help with computer problems and other technical help?*

If you have a question or problem using technology required for this course, including using Canvas, here are the steps you should take.

1. Consult the UF e-Learning Canvas FAQs page https://elearning.ufl.edu/student-help/student-help-faqs/
2. Email the UF Help Desk helpdesk@ufl.edu
3. Call the UF Help Desk [352-392-HELP (4357) call the Help Desk for urgent questions]
4. Email the course instructor in Canvas and at tadpole@ufl.edu

The UF Computing Help Desk is available by phone or email at: (352) 392-HELP (4357) and helpdesk@ufl.edu 24 hours a day. They are also open at the HUB for walk-ins M-F from 8AM-10PM and S-S from 8AM-5PM. Before calling the UF help desk try to figure out the issue yourself by visiting the websites listed under number 1 above. See the 'Getting help with technology' section on page 9 of this syllabus for more information.

6. *What is the University policy on 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.

7. *What if I need special accommodations to take the course?*

The UF 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.

Contact the Disability Resource Center by phone: (325) 392-8565, the UF Gainesville campus, Room 0001 Reid Hall, or online at: https://disability.ufl.edu/ .

8. *How long will I have to wait for a response from the instructor to my e-mail?*

On weekdays, your instructor should respond to emails within 24 hours, but this may not always happen due to meetings and professional obligations. Emails sent on weekends will not be answered until Monday.

9. *What will help me succeed in this course?*

Strong discipline and desire to succeed: You'll need to log in to the course Canvas site regularly to check for messages and to participate in discussions. There is a great deal of reading in this course, so you need to make a commitment to completing the assigned readings on a regular basis. Just because there are not regularly scheduled meeting times does not mean you don't have to devote time to this course. You should expect to have to devote 4-6 hours a week working on this course. Quizzes are scheduled weekly to help ensure that you don't get behind with course reading assignments.

Ability to work well independently: You'll develop the support of fellow learners all taking the same coursework together, but it will be different than a typical classroom environment. But you will be required to work well independently.

Below are some **Best Practices** provided by the UF Help Desk for taking quizzes and exams in Canvas.

- Don't wait until the last minute. Know when the quiz/exam must be completed and leave yourself plenty of time.
- Make sure you have a dependable internet connection; WIRED rather than wireless if possible.
- Be sure you are using the most recent version of your web browser when logging into Canvas.
- Make sure you read all instructions carefully before beginning the exams.
- If you lose internet connection, or your browser crashes, the timer will continue to count down. Log back in as quickly as possible and resume the test! You may need to click the "Resume Quiz/Exam" button.
- If you encounter any unexpected behavior (error messages, inability to log in, etc.,) take a screen shot of the problem (**Print Scrn)** and paste (**CTRL+V**) into a program like Word. Save this file. This is important so

that your instructor knows your problem is legitimate, and to assist the UF Computing Help Desk in helping you fix the problem.

- If you encounter problems that prevent you from taking an exam, immediately call the UF Computing Help Desk at 352-392-4357. Keep the ticket number for future reference.
- When you are done with an exam, *be sure you submit it*!

University of Florida Policy Statements

Grades and Grade Points
For information on current UF policies for assigning grade points, see:
https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

Absences 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/

Course Evaluation Process
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/.

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 Honor Code specifies a number of behaviors that are in violation of this code and the possible sanctions. Click here to read the Honor Code. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

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 Resources
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

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
Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center. Click here to get started with the Disability Resource Center. 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.

Online Course Evaluation Process
Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Click here for guidance on how to give feedback in a professional and respectful manner. 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 ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students here.

WILDLIFE ECOLOGY AND CONSERVATION

MINOR

- Home
- Undergraduate Catalog
- Colleges and Schools
- Agricultural and Life Sciences, College of
- Wildlife Ecology and Conservation Minor

The Wildlife Ecology and Conservation minor introduces the basic principles of ecology and their application to the challenges of biodiversity conservation and sustainability, especially with regard to wildlife and wildlife habitat.

ABOUT THIS PROGRAM

- **College:** Agricultural and Life Sciences
- **Credits:** 15-16

Department Information

Related Programs

REQUIRED COURSES

Code	Title	Credits
Select one:		
FOR 3153C	Forest Ecology	
PCB 3601C	Plant Ecology	
PCB 4043C	General Ecology	
WIS 3401	Wildlife Ecology and Management	3
WIS courses (3000 level or above)		9
Total Credits		**15-16**

Commented [GD1]: Add WIS 3404 Natural Resource Ecology to the ecology (Select one) section.

Code	Title	Credits
Course List		