

**FOR 4110 / FOR 5159**  
**Ecology and Restoration of the Longleaf Pine Ecosystem**  
**(3 Credits)**  
**Spring 2025**  
**100% Online**  
<http://elearning.ufl.edu/>

**Instructor:**

Dr. Debbie Miller, Professor  
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Preferred method of communication via email through Canvas.

**Office Hours:** Available by Zoom Monday's 2-4 CST (3-5 EST) follow link to join Zoom meeting: <https://ufl.zoom.us/j/99572368919>.  
Anytime by cell phone and email. Or, in person Monday's 9-11 or by appointment

**Teaching Assistants:**

Nkem Nwosu  
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**Office Hours:** Available by Zoom Monday's 2-4 CST (3-5 EST) follow link to join Zoom meeting: <https://ufl.zoom.us/j/99572368919>.  
Anytime by cell phone and email. Or, in person Monday's 9-11 or by appointment

**Technical support:** visit the [helpdesk website](#) or call 352-392-4357.

**Prerequisite:** None; Ecology course recommended.

**Recommended textbook:**

Jose, S., Jokela, E.J. and Miller, D.L. 2006. The Longleaf Pine Ecosystem: Ecology, Silviculture and Restoration. Springer Science, New York.

**Reading list provided in weekly schedule.**

**Catalog description:** History, structure, function, and ecological and economic importance of longleaf pine ecosystems; regeneration ecology, stand developmental dynamics and management, restoration techniques, and socioeconomic and political and policy aspects of restoration.

**Student learning outcomes:**

The following course related performance goals would be expected from the students at the conclusion of the course:

1. Summarize the key concepts and factors that define the ecological and economic importance of longleaf pine ecosystems
2. Explain the forcing variables that led to longleaf pine replacement and barriers to restoration
3. Describe theoretical and technical knowledge from ecology, soils and other bio-physical sciences that form the scientific foundation for ecological restoration
4. Apply various techniques used in ecological restoration, evaluation, and monitoring to formulate appropriate management protocols
5. Discuss the socio-economic, policy and political dimensions of ecological restoration

## **Course Logistics:**

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

Online course requires weekly assignments

## **Technology Requirements:**

- A computer or mobile device with high-speed internet connection.
- Latest version of web browser. Canvas supports only the two most recent versions of any given browser.

## **Assessments and Activities:**

### **Weekly assignments:**

#### **Lecture Summaries with Student Questions:**

Lecture summary assignments are a one-page summary of the selected lectures. Page format should be single spaced, one-inch margins, and 12-point font. The text should be written in paragraph form with complete sentences. Please provide your name only with no other additional header. The summary must include **(1)** objective of the lecture **(2)** major discussion points **(3)** overall message **(4)** your thoughts on the topic **(5)** any suggestions for improvement of the lecture format or content. Each of the five components listed above should be identified in the text, i.e., “the overall message of the lecture was...” Students that do not follow the format instructions will lose 2 points.

**Student Questions:** Write two questions based on the lecture content to be evaluated for use as test questions.

#### **Journal Article Summaries:** FOR 5159 Graduate Students only

Journal article summary assignments are a one-page summary of the selected refereed articles. Page format should be single spaced with one-inch margins and 12-point font. The text should be written in paragraph form with complete sentences. Please provide your name only with no other additional header. The summary must include **(1)** objective of the article **(2)** major discussion points **(3)**

overall message (4) your thoughts on the topic (5) suggestion of an additional study that would further the information provided in the article reviewed. Each of the five components listed above should be identified in the text, i.e., “the overall message of the article was...”. Students that do not follow the format instructions will lose 2 points.

### **Weekly Quizzes:**

Weekly quizzes consist of two quiz questions based on the corresponding module content (i.e., lectures, required readings). These quizzes are designed to help you understand the style of questions and type of information that will be included on tests. THESE QUESTIONS WILL NOT BE THE ONLY QUESTIONS ON TESTS.

### **Discussion Thread:**

Discussion thread assignments require students to post one original comment and two replies to fellow students. The original comment post is due by the following Monday, and the reply to posts should occur throughout that week with final comments due Friday, except for Discussion #3 when the final post is due Wednesday, April 24. Each post (original comment and replies to fellow students) should be at least 4 to 5 sentences, and the commentary must be substantial (i.e., “I agree” is not enough). At least one post should include a reference from a journal article, book (other than the discussion prompt reading(s) and the recommended textbook), or reliable website (i.e., USDA, NRCS, etc.) or provide information from personal experience (research/job related). Post early and often. Points will be deducted for posts submitted too late in the week for peer response.

### **Interview a Restoration Professional: FOR 5159 Graduate Students only**

Identify a restoration professional (Ecologist, Forester, Wildlife biologist, etc.); call them and obtain permission for the interview. Come up with a set of questions and send the questions to the individual in advance. There is no specific number of questions or format required (you have creative freedom). On the day of the interview either meet this individual in person or call over the phone. Ask the questions and write down the responses. Make sure to send the draft report to the professional so that he or she is comfortable with your interpretations of the answers. Once you receive the approval from the restoration professional, submit the report.

### **Abstracts of Scientific Articles:**

Abstract assignments require students to select a full-length article from a scientific journal (see the list of journals below) that deals with any topic that reinforces or expands upon material covered in this course. Prepare a summary (Abstracts are generally 250 words or less) that includes:

1. Gives a complete reference to include the author(s), year, article title, name of journal, volume, and page numbers. Use the format found in the example below (4 points; wrong citation format will not receive any points).
2. Describes the topic studied and methods used (2 points).
3. Gives the findings that resulted from the research (2 points).
4. Describes what you found most interesting about the article (1 point).
5. Describes the relevance of the article to topics covered in this course (1 point).

**Do not use articles provided throughout this course.**

Example Citation Format:

Jenkins, M.A., Jose, S., and White, P.S. 2007. Impacts of an exotic fungal disease forest community composition and structure and the resulting effects on foliar calcium cycling. *Ecological Applications* 17:869-881

List of journals:

<i>Ecology</i>	<i>Journal of forestry</i>
<i>Ecological Applications</i>	<i>Journal of Wildlife Management</i>
<i>Ecological Engineering</i>	<i>Forest Ecology and Management</i>
<i>Ecological Restoration</i>	<i>Plant Ecology</i>
<i>Journal of Ecology</i>	<i>Restoration Ecology</i>
<i>Journal of Applied Ecology</i>	<i>Oecologia</i>
<i>Wetlands</i>	<i>Others acceptable with prior approval</i>

**Term Paper or Narrated PowerPoint:**

Graduate students (FOR 5159) must choose the term paper option.  
Undergraduate students may choose the term paper OR narrated PowerPoint.

Term Paper:

In consultation with the instructor, each student will choose a topic for a synthesis paper. The synthesis paper should follow the format given below or the review article format of any major ecology journal. This assignment is a review of the literature. It should not cover material already provided in lectures except as introductory material. The topic could be related to longleaf, but it can be about restoration of another ecosystem. This should not be a rehash of what we have already covered but a deeper insight into a topic of interest.

Format for term paper:

1. Introduction (including a rationale and need for the synthesis)
2. Objectives of your paper
3. Synthesis of the topic (this may contain various sub-sections)
4. Discussion
5. Conclusion
6. Literature Cited
7. Relevant Tables
8. Relevant Figures

SUGGESTED LENGTH: 10-page text (sections 1-5) + Literature Cited + Tables and Figures. Page format should be double spaced with one-inch margins, and 10- or 12-point font. A minimum of 10 relevant *journal articles* should be used in preparing your term paper.

Narrated PowerPoint:

In consultation with the instructor, each student will choose a topic and prepare a 10-minute narrated PowerPoint presentation. This PowerPoint will be posted in CANVAS for the next class to use and should not cover material already provided in lectures. A minimum of 5 relevant *journal articles* and 5 *other relevant* references should be used in preparing your PowerPoint. A Literature Cited

section must be provided to document the references used in preparation of the PowerPoint.

**Tests:**

The mid-term exam will cover the first half of the course and the final exam will cover the second half of the course. Final exam is not cumulative. Students will have multiple choice, true/false, short answer questions, and essay questions. Exams must be taken within the allotted time, which is short. You cannot use notes or other materials and if you try, you will find you are not able to complete the test in the allotted time. Further instructions will be given in the beginning of each exam.

# Course Grading System

Assessment Type <sup>1</sup>	Undergraduate students (FOR 4110) Points	Graduate students (FOR 5159) Points
Lecture summaries with student questions	70 (7 total, 10 points each)	40 (4 total, 10 points each)
Journal article summaries	none	30 (3 total, 10 points each)
Weekly quizzes	20 (10 total, 2 points each)	20 (10 total, 2 points each)
Discussion threads	30 (3 total, 10 points each)	30 (3 total, 10 points each)
Interview with a restoration professional	none	25
Abstracts of scientific articles	20 (2 total, 10 points each)	20 (2 total, 10 points each)
Narrated PowerPoint or Term paper <sup>2</sup>	50	50
Tests <sup>3</sup>	100 (2 total, 50 points each)	100 (2 total, 50 points each)

<sup>1</sup> **Late work will be penalized 5% per day**

<sup>2</sup> **Term paper required for FOR5159**

<sup>3</sup> Make-up tests will be given only if the student has been excused prior to the scheduled date of the test and should be taken within seven days of the original test date.

Letter grades will be assigned as follows:

<u>Letter Grade</u>	<u>Numeric Value</u>
A	94-100
A <sup>-</sup>	90-93
B <sup>+</sup>	87-89
B	84-86
B <sup>-</sup>	80-82
C <sup>+</sup>	77-79
C	74-76
C <sup>-</sup>	70-73
D <sup>+</sup>	67-69
D	64-66
D <sup>-</sup>	61-63
E	<60

## Grades and grade 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>

## Learning Content:

### Spring 2025 Course Schedule

Week	Lecture Topics	Speaker(s)	Readings	Due next Monday
1	Course Introduction Longleaf Introduction	Debbie Miller	LL Ch. 1, 2	Class Introductions
2	Principles of Restoration Ecology	Megan Brown Debbie Miller	The SER International Primer on Ecological Restoration	Lecture Summary #1 with Questions Quiz 1
3	Introduction to Soils Unifying Characteristics and Variation of the Longleaf Ecosystem	Ashlynn Smith Debbie Miller	Brady & Weil, Ch. 3, pp. 86-87	Abstract #1 Quiz 2
4	Longleaf Pine Landscapes Landscape & Communities: Disturbance	Debbie Miller	LL Ch. 3 Graduate students only: Mugnani et al., 2019	Lecture Summary #2 with Questions Quiz 3 Graduate students: Journal Article Summary #1
5	Regeneration Ecology	John Tracy	LL Ch. 4, 5, 7 Mitchell et al., 2006	Lecture Summary #3 with Questions Quiz 4
6	A Fuels Perspective on Restoration of Long Unburned Longleaf Pine Ecosystems Regeneration Systems: Natural vs. Planting	Kevin Heirs Scott Sager	LL Ch. 9 Graduate students only: Varner et al., 2016	Lecture Summary #4 with Questions Quiz 5 Graduate students: Journal Article Summary

Week	Lecture Topics	Speaker(s)	Readings	Due next Monday
	Planting Basics: Timing, Types of Seedlings, Care of Seedlings, Machine vs. Hand Planting, and Supervising the Operation			#2
7	Mechanical Basics  Mowing/Mulching, Chopping, Discing, Scalping, Raking, Bedding  Chemical Basics: Purpose, Safety, Terminology, and Common Chemicals Used in Forest Vegetation Management  Chemical Delivery Systems: Aerial, Ground-Vehicle, Hand/Backpack  Growth and Yield Modeling	Scott Sager  Kimberly Bohn	LL Ch. 8  Shaw & Long, 2007	Abstract #2  Quiz 6
8	<b>No lecture; Midterm Exam</b>			
9	Restoring the Understory	Johanna Freeman	LL Ch. 10  PowerPoint by Denhof  Graduate students only: Wiggers et al., 2013	Lecture Summary #5 with Questions  Quiz 7  Graduate students: Journal Article Summary #3
10	<b>Spring Break</b>			
11	Vertebrate Fauna of Longleaf Pine Associated Communities  RCW Ecology, Status, and Management  Updated Status of RCWs on Eglin AFB  Gopher Tortoise Biology and Management on Eglin AFB  Reticulated Flatwoods	Debbie Miller  Kristina Witter  Kathy Gault	LL Ch. 6, 11  See Discussion Thread Assignment #1	Discussion #1  Quiz 8



<b>Week</b>	<b>Lecture Topics</b>	<b>Speaker(s)</b>	<b>Readings</b>	<b>Due next Monday</b>
	Salamander Biology and Management on Eglin AFB			
12	Invasive Plants of LLP Ecosystem  Cogongrass in Longleaf Pine Ecosystems	Ashlynn Smith  Longleaf Alliance – Ed ODaniels	Williams & Jackson, 2007  Ewel & Putz, 2004  Hall & Hastings, 2007	Lecture Summary #6 with Questions  Quiz 9
13	Case study: Deer Lake State Park	Ashlynn Smith  Jeff Talbert	LL Ch. 12  PowerPoint by Gordon Ralph & Poole pp. 222-242	Discussion #2  Graduate students: Interview with Restoration Professional
14	Economics Of Longleaf Ecosystem	Tyler Carney	LL Ch. 13	Lecture Summary #7 with Questions  Quiz 10  Term Paper OR PowerPoint
15	Role of Public-Private Partnerships	Vernon Compton	LL Ch. 14  Compton et al., 2006	Discussion #3

Week	Lecture Topics	Speaker(s)	Readings	Due next Monday
16	Final Exam			April 26 – May 1

## 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.

### Make-up exam policy:

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with University policies which can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

### 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.

### Semester 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

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

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

### **Plagiarism Policy:**

**Do not submit work previously submitted to another class to fulfill requirements of this class.** All work submitted through Canvas will be evaluated by the software **Turnitin**. **Turnitin** compares student submission to billions of websites and other papers submitted and highlights exact matches. Instructors will verify if students obtained their information from appropriate sources and properly cited those sources.

UF Plagiarism Policy: <http://regulations.ufl.edu/chapter4/4041.pdf>

Plagiarism Definition: A student shall not represent as the student’s own work all or any portion of the work of another. Plagiarism includes but is not limited to:

- Quoting oral or written materials including but not limited to those found on the internet, whether published or unpublished, without proper attribution
- Submitting a document or assignment which in whole or in part is identical or substantially identical to a document or assignment not authorized by the student
- Unauthorized use of materials or resources
- Prohibited collaboration or consultation
- Submission of paper or academic work purchased or obtained for an outside source

### **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.*

## **Privacy Statement**

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.

## **In-class recordings:**

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

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

## **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. See the "Get Started With the DRC" webpage on the Disability Resource Center site <https://disability.ufl.edu/get-started/>. 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.

## Software Use:

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

## Campus Helping Resources:

### Whole Gator App

The Whole Gator and website and app connects UF students with resources dedicated to supporting overall health and well-being. In **addition to many of** the resources below it also has strategies to practice self-care. <https://one.ufl.edu/whole-gator/topics>

### Health and Wellness :

- U Matter, We Care: If you or someone you know is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu), 352-392-1575, or visit U Matter, We Care website to refer or report a concern and a team member will reach out to the student in distress.
- Counseling and Wellness Center: Visit the Counseling and Wellness Center website or call 352-392-1575 for information on crisis services as well as non- crisis services.
- Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the Student Health Care Center website.
- University Police Department: Visit UF Police Department website or call 352-392-1111 (or 9-1-1 for emergencies).
- UF Health Shands Emergency Room / Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; Visit the UF Health Emergency Room and Trauma Center website.
- GatorWell Health Promotion Services: For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the GatorWell website or call 352-273- 4450.
- Student Success Initiative, <http://studentsuccess.ufl.edu>

### Academic Resources

- E-learning technical support: Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at [helpdesk@ufl.edu](mailto:helpdesk@ufl.edu).
- Career Connections Center: Reitz Union Suite 1300, 352-392- 1601. Career assistance and counseling services.
- Library Support: Various ways to receive assistance with respect to using the libraries or finding resources. Call 866-281-6309 or email [ask@ufl.libanswers.com](mailto:ask@ufl.libanswers.com) for more information.
- Teaching Center: 1317 Turlington Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.

- Writing Studio: Daytime (9:30am-3:30pm): 2215 Turlington Hall, 352-846-1138 | Evening (5:00pm-7:00pm): 1545 W University Avenue (Library West, Rm. 339). Help brainstorming, formatting, and writing papers.

### **Student Complaints:**

- Academic Complaints: Office of the Ombuds; Visit the Complaint Portal webpage for more information.
- Enrollment Management Complaints (Registrar, Financial Aid, Admissions): View the Student Complaint Procedure webpage for more information.
- Residential Course: <https://www.ombuds.ufl.edu/complaint-portal/>
- Online Course: <https://pfs.tnt.aa.ufl.edu/state-authorization-status/#student-complaint>

