

# FLORIDA ATLANTIC UNIVERSITY™

## Graduate Programs—NEW COURSE PROPOSAL<sup>1</sup>

|                 |           |
|-----------------|-----------|
| UGPC            | APPROVAL  |
| UFS             | APPROVAL  |
| SCNS            | SUBMITTAL |
| CONFIRMED _____ |           |
| BANNER _____    | POSTED    |
| CATALOG _____   |           |

DEPARTMENT: BIOLOGICAL SCIENCES

COLLEGE: C.E.S. COLLEGE OF SCIENCE

**RECOMMENDED COURSE IDENTIFICATION:**

PREFIX BOT COURSE NUMBER 6604 LAB CODE (L or C) C

(TO OBTAIN A COURSE NUMBER, CONTACT [M.JENNING@FAU.EDU](mailto:M.JENNING@FAU.EDU))

COMPLETE COURSE TITLE: PLANT ECOLOGY

**EFFECTIVE DATE**

(first term course will be offered)

SPRING 2017

CREDITS<sup>2</sup>: 4

**TEXTBOOK INFORMATION:**

- 1) THE ECOLOGY OF PLANTS (2/E)
- 2) HANDOUTS AND RESEARCH PAPERS DISTRIBUTED VIA BLACKBOARD

GRADING (SELECT ONLY ONE GRADING OPTION): REGULAR  SATISFACTORY/UNSATISFACTORY \_\_\_\_\_

**COURSE DESCRIPTION, NO MORE THAN THREE LINES:**

An introduction to the fundamentals of plant ecology, the major ecosystems of South Florida, and the ecology of their characteristic vegetation. The ecology of plants will be examined at four basic levels of organization: the individual plant, plant populations, plant communities, and ecosystems.

**PREREQUISITES\*:**

NONE

**COREQUISITES\*:**

NONE

**REGISTRATION CONTROLS (MAJOR, COLLEGE, LEVEL)\*:**

\* PREREQUISITES, COREQUISITES AND REGISTRATION CONTROLS WILL BE ENFORCED FOR ALL COURSE SECTIONS.

MINIMUM QUALIFICATIONS NEEDED TO TEACH THIS COURSE: GRADUATE-LEVEL DEGREE IN A RELATED FIELD, WITH SPECIALIZATION IN THE PERTINENT FIELDS, CONTINGENT UPON DEPARTMENTAL APPROVAL

**Faculty contact, email and complete phone number:**

Brian Bencoter, Ph.D.  
[Brian.Bencoter@fau.edu](mailto:Brian.Bencoter@fau.edu)  
954-236-1141

**Please consult and list departments that might be affected by the new course and attach**


comment  
ts.  
-NA-

|   |   |  |
|---|---|--|
| <p><b>Approved by:</b></p> <p>Department Chair: <u><i>Brian Bencoter</i></u></p> <p>College Curriculum Chair: _____</p> <p>College Dean: _____</p> <p>UGPC Chair: _____</p> <p>Graduate College Dean: _____</p> <p>UFS President: _____</p> <p>Provost: _____</p> | <p><b>Date:</b></p> <p><u>02.09.16</u></p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> | <ol style="list-style-type: none"> <li>1. Syllabus must be attached; see guidelines for requirements: <a href="http://www.fau.edu/provost/files/course_syllabus.2011.pdf">www.fau.edu/provost/files/course_syllabus.2011.pdf</a></li> <li>2. Review Provost Memorandum: <b>Definition of a Credit Hour</b> <a href="http://www.fau.edu/provost/files/Definition_Credit_Hour_Memo_2012.pdf">www.fau.edu/provost/files/Definition_Credit_Hour_Memo_2012.pdf</a></li> <li>3. Consent from affected departments (attach if necessary)</li> </ol> |
|---|---|--|

Email this form and syllabus to [UGPC@fau.edu](mailto:UGPC@fau.edu) one week before the University Graduate Programs Committee meeting so that materials may be viewed on the UGPC website prior to the meeting.  
FAUnewcrseGrad—Revised September 2013



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**TO:** University Graduate Programs Committee (UGPC)  
**FROM:** Rodney Murphey, Ph.D.  
Professor and Chair   
Department of Biological Sciences  
**DATE:** February 8th, 2016  
**RE:** New Course Proposal Consent

To Whom It May Concern:

This note constitutes acknowledgement and consent of the Department of Biological Sciences for the creation of a new course within the department: **BOT 6604: Plant Ecology**

Best Regards,

Rodney Murphey, Ph.D.  
Chairman, Department of Biological Sciences  
Director, Life Science Initiative on the MacArthur Campus

## Syllabus

**Instructor:** Dr. Brian W. Benscoter  
**Office:** Davie West 437  
**Lab:** Davie West 434  
**Phone:** 954-236-1141 (office & voicemail)  
**Email:** [Brian.Benscoter@FAU.edu](mailto:Brian.Benscoter@FAU.edu)  
**Office Hours:** Mon, Wed. 12:30-1:30pm, or by appointment (*due to unexpected circumstances, instructor may not be available at scheduled times*)  
**TA & Office Hours:** TBD  
**Class Time:** Tues. 12-4:50pm ES 103  
**Course Website:** Course information, schedule, reading materials, announcements, and handouts will be available through Blackboard ([blackboard.fau.edu](http://blackboard.fau.edu))

**Course Description:** This course will provide an introduction to the fundamentals of plant ecology, the major ecosystems of South Florida, and the ecology of their characteristic vegetation. The ecology of plants will be examined at four basic levels of organization: the individual plant, plant populations, plant communities, and ecosystems. **Note:** This course is not a survey of plant taxonomy; likewise, human ecology or environmental science topics including environmental engineering, policy, or philosophy will not be covered.

**Course Objectives:** The goal of this course is to familiarize students with the fundamental concepts and current advancements in plant ecology with application to the major plant associations of South Florida.

Students completing the course should:

1. Demonstrate comprehension of the fundamental concepts in plant ecology, as presented in lectures, assigned readings, and class discussions,
2. Apply general ecological concepts to specific topics relevant to the vegetation of south Florida ecosystems,
3. Critically read, interpret, and critique literature in plant ecology and develop their skills in scientific communication through analysis of the primary literature and class discussions.

**Co-Requisite:** None

**Pre-Requisite:** None

**Credits:** 4 cr.

**Texts:** The Ecology of Plants, 2<sup>nd</sup> Edition by Gurevitch, Scheiner, & Fox. 2006. Sinauer Publishing, ISBN: 978-0-87893-294-8 (**required**)-available at FAU bookstore

Ecosystems of Florida by Myers and Ewel, eds. 1991. University of Central Florida Press, Orlando (**optional**)

Plant Biology, 2<sup>nd</sup> Edition by Graham, Graham, & Wilcox, (**optional**) or similar introductory plant biology text for additional background help as needed.

**Lab Materials:** Students should have a notebook or binder for taking notes and recording data during lab exercises. As several lab exercises will take place outdoors (where rain is always a possibility), a notebook with water resistant paper is recommended for taking field notes.

Students should dress appropriately for the lab. Sneakers or boots, long pants, a hat, sunglasses and sunblock are recommended for all outdoor exercises. Students should also bring adequate drinking water. Closed-toe shoes are required during lab sessions in the greenhouse or Davie West building.

**Evaluation:** The course grade for the lecture will be based on three components:

|                           |             |
|---------------------------|-------------|
| Term Paper & Presentation | 30%         |
| Project Report            | 20%         |
| Mid-Term Exam             | 20%         |
| Final Exam                | 20%         |
| Participation             | 10%         |
| <b>Total</b>              | <b>100%</b> |

**Grading Scale:** Mid-term and final grades will be determined as a percentage of total possible points earned (rounded to nearest percent) and converted to letter grades as defined below.

**Note:** No grades of D+ or D- will be assigned.

|             |             |
|-------------|-------------|
| A = 93-100% | C+ = 77-79% |
| A- = 90-92% | C = 73-76%  |
| B+ = 87-89% | C- = 70-72% |
| B = 83-86%  | D = 65-69%  |
| B- = 80-82% | F = <65%    |

**Term Paper & Presentation:** Students will prepare a term paper focused on a student-chosen topic in Plant Ecology. The final paper should be no more than 8 pages in length (double spaced, 1" margins, 12pt Times font), not including the title page, literature cited or any tables/figures you may want to include. Formatting should follow the style guidelines for *Essay Reviews* in the *Journal of Ecology* (<http://www.journalofecology.org/view/0/authorGuideline.html>). The paper must include critical analysis and incorporation of *at least 4 papers* from the primary literature.

Students are required to submit a written (typed) topic statement (no more than 1 page) outlining the focus and objective of their paper. The topic statement should include references and copies of at least 2 primary publications you plan to use for the paper. ***Students must arrange to meet with the instructor*** (during office hours or by appointment) within the first 2 weeks to discuss their topic (i.e., by January 20); you must bring the written topic statement and references to this meeting. If necessary, revised topic statements are ***due no later than January 27th***.

Associated with the term paper will be a peer-review exercise similar to the process involved in the publication of scientific manuscripts. More detailed instructions will be given closer to the due date (see lab schedule); in general, each student will submit their review paper to a hypothetical journal for which the instructor will be the "editor". Each student will then be assigned two papers from their classmates to review for acceptance (or rejection) by the "journal". Reviews will be returned to the authors, who will have an opportunity to revise their paper before final submission. Scientific manuscripts are rarely accepted without any suggested revisions, and authors are expected to provide detailed, itemized responses to the comments provided by the reviewers (whether they agree or not!). Students will be graded on the final version of their paper and their responses to the comments provided by the peer reviewers, as well as their critique of the assigned papers.

Students will also give an oral presentation to the class, including responding to questions from the audience (instructor and classmates) at the end of the presentation. These presentations will take place during scheduled class sessions and will be in the format of a short classroom lecture, with 30 minutes for the presentation followed by audience questions. Additionally, students must provide a contemporary (<5 years since publication) article from the primary, peer-reviewed literature related to their chosen topic to the instructor at least 1 week prior to their presentation. The article will be distributed to the rest of the class via Blackboard and the student presenter will lead a class discussion of the paper following their presentation.

**Project Report:** Students will design and implement an experiment to be completed by the end of the semester. Examples of projects from prior semesters include: meta-analysis of the distribution of sea grasses in the Indian River Lagoon; heat stress tolerance for seed germination of invasive plant species; effect of invasion by a parasitic plant on host leaf water stress; effect of water depth on plant photosynthetic capacity. This exercise will span several weeks of the semester, culminating in the collection and analysis of data and preparation of a lab report on their experiment. Experiments must be of the appropriate scope and focus to allow for completion and preparation of the final report within the duration of the semester and within the bounds of available resources (e.g., space, supplies, and instrumentation). Time will be allotted during the scheduled class meetings for students to work on their projects; accommodations can be made for students to access facilities or make use of instruments outside of the scheduled lab periods, subject to approval by the instructor. The final lab report will be the only graded component of the exercise, although involvement in the other aspects of the exercise will influence the lab participation grade.

**Mid-Term & Final Exams:** There will be a mid-term and a final exam (possibly with take-home components) emphasizing material from the lectures and assigned readings (text & literature), primarily consisting of essay and short answer questions synthesizing and integrating concepts in plant ecology as they relate to south Florida vegetation.

**Class Participation and Attendance:** Attendance at class is not mandatory but participation is. If students do not attend class, they cannot participate which will be reflected in the grade.

**Blackboard & Email:** The course Blackboard site and your official FAU email address will be used throughout the semester to distribute information related to the class and for course-related announcements. It is the student's responsibility to frequently check both Blackboard and their FAU email account; failure to do so may incur penalties. **Note:** Any and all official changes to the course schedule (e.g., assignment or exam dates) will be posted on Blackboard.

**Classroom Etiquette:** Please refrain from consuming food or beverages during class, as it may prove disruptive to other members of the class. **All cell phones, pagers, mp3 players, or other electronic devices must be powered off during class.** Disruptive or inappropriate conduct of any kind will not be tolerated. Determination of inappropriate conduct is solely the discretion of the instructor. Any conduct deemed unbecoming of the classroom will be addressed by the instructor and the offending person(s) may be asked to leave. Repeated or extreme inappropriate conduct may result in more serious disciplinary action. Threats, bullying, or similar actions toward students, faculty, or staff during or outside of class will be immediately reported to the University Police Department.

**Make-up or Late Exams & Assignments:** There will be no make-up exams or alternative assignments except for documented medical emergencies or legal obligations (subpoena or jury duty). "I woke up with the flu" or "My car wouldn't start" are not emergencies. Any potentially applicable scheduling conflict (religious holiday, legal obligation, medical procedure, etc) must be discussed with the instructor as soon as possible and, when possible, at least 2 weeks prior to the date in question. **All assignments are due at the beginning of class on the due date, unless otherwise specified by the instructor.** Late assignments or take-home exam elements will be accepted, but with a full letter grade (10%) reduction per day or part thereof.

**Academic Integrity:** The scientific field is largely a self-regulating entity, centered on the integrity of the researcher to honestly and accurately conduct research and report scientific findings. Research institutions, corporations, and professional organizations develop specific codes of ethics to which their members are expected to abide. These ethical standards, both formal and informal, facilitate the scientific process and in most cases alleviate the need for exhaustive and time-consuming measures to maintain the integrity of scientific knowledge in the eyes of fellow scientists as well as the public.

Any form of academic dishonesty will not be tolerated. Florida Atlantic University has a strict and detailed Code of Academic Integrity that can be found on the FAU website at [http://www.fau.edu/ctl/4.001\\_Code\\_of\\_Academic\\_Integrity.pdf](http://www.fau.edu/ctl/4.001_Code_of_Academic_Integrity.pdf) . Any student suspected of violating the Code of Academic Integrity by the instructor will be given a grade of zero for the assignment and the matter will be turned over to the University for further action.

**Students with Learning Challenges:** In compliance with the Americans with Disabilities Act (ADA), students who require reasonable accommodations due to a disability to properly execute coursework must register with the Office for Students with Disabilities (OSD) – in Boca Raton, SU 133 (561-297-3880); in Davie, LA 240 (954-236-1222); in Jupiter, SR 110 (561-799-8010); at Treasure Coast, CO 117 (772-873-3441) – and follow all OSD procedures.

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**Course Schedule\***

| <b>Week</b> | <b>Dates</b> | <b>Topic</b>                 | <b>Reading<sup>1</sup></b> | <b>Assignment</b>               |
|-------------|--------------|------------------------------|----------------------------|---------------------------------|
| 1           | Jan 10       | Course Introduction          |                            |                                 |
| 2           | Jan 17       | Soils & Plant Nutrition      | Ch. 4                      |                                 |
| 3           | Jan 24       | Plant Water Dynamics         | Ch. 3                      | <i>Topic Statement Due</i>      |
| 4           | Jan 31       | Photosynthesis               | Ch. 2                      |                                 |
| 5           | Feb 7        | Climate & Plant Distribution | Ch. 17                     |                                 |
| 6           | Feb 14       | Plant Life History           | Ch 7 & 8                   |                                 |
| 7           | Feb 21       | Mid-Term Exam                |                            |                                 |
| 8           | Feb 28       | Plant Communities            | Ch 9 & 10                  | <i>"Manuscript" Due (2/27)</i>  |
| 9           | Mar 7        | <b>Spring Break-No Class</b> |                            |                                 |
| 10          | Mar 14       | Disturbance and Succession   | Ch. 12                     |                                 |
| 11          | Mar 21       | Biodiversity                 | Ch 13 & 16                 | <i>Peer Review Due</i>          |
| 12          | Mar 24       | Ecosystems of S. Florida     | **                         |                                 |
| 13          | Mar 28       | Student Presentations        | **                         | <i>Revised "Manuscript" Due</i> |
| 14          | Apr 4        | Student Presentations        | **                         |                                 |
| 15          | Apr 11       | Student Presentations        | **                         |                                 |
| 16          | Apr 25       | Reading Day – No Class       |                            | <i>Project Report Due</i>       |
|             |              | <b>FINAL EXAM (TBD)</b>      |                            |                                 |

\* Course schedule is tentative; material covered during a given week may vary based on the progression of the class.

\*\*Supplemental reading materials will be provided through Blackboard

<sup>1</sup>Assigned readings are from the course text, The Ecology of Plants, 2<sup>nd</sup> ed. Readings should be completed BEFORE the date for which they are assigned. Additional readings from outside the text may be assigned; these will either be distributed in class or made available on Blackboard.

**Other Important Dates:**

|                                |               |
|--------------------------------|---------------|
| First day of class             | Jan. 9        |
| Last day to drop/add courses   | Jan. 13       |
| Last day for course withdrawal | April 7       |
| Spring Break                   | Mar. 6-12     |
| Reading Days                   | Apr. 25-26    |
| Final Exams                    | Apr. 27-May 3 |