

General Ecology LABORATORY

Biology 341L (Section 01L, 02L)

Course schedule – Semester Spring 2018

Instructor: Dr. Courtney Murren

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office hours: by email appointment and 1030-1130 W

Lab time: 130-430 W (02L) (HWEA 302) 1-4 TH (01L) (note: this is a portion of the 4 credit General Ecology BIOL341)

Prerequisites: BIOL111/111L; BIOL112/112L, BIOL211/BIOL211D

Co- or pre- requisites: BIOL305; MATH250

Learning outcomes for this course including the laboratory include:

- 1) understanding the influence of abiotic factors on distribution of biodiversity on Earth
- 2) evaluating the principles of biogeochemistry – interactions of organisms and physical environment
- 3) assessing the flow of energy through ecosystems – terrestrial, marine and fresh water systems
- 4) understanding growth, regulation and dynamics of populations
- 5) applying models to understand population and community growth and change
- 6) examining biodiversity through both abundance and richness
- 7) explaining scales and patterns in ecology and biodiversity
- 8) observing how species interact with each other and how these interactions change through time
- 9) appreciating the relationships between ecology and society (conservation, invasion, agriculture, ecosystem services)
- 10) understanding the contribution of observational, laboratory, theoretical and field studies all contribute to ecology
- 11) experiencing how scientists do their work including peer review, and that scientific understanding changes through time with addition of new data and discoveries

Students will develop skills including:

- 1) conducting scientific research by developing or following well described protocols and in open-ended research projects in the field, controlled growth environments and laboratory
- 2) analyzing, writing about and discussing ecological primary literature
- 3) working collaboratively with peers to design and evaluate projects, interpret results, and develop conclusions.

- 4) working with quantitative data for data presentation and analysis and to draw ecological conclusions based on the data
- 5) practice notetaking in discussion, lecture, field and laboratory settings
- 6) practice writing for professional ecological audiences and for the public
- 7) practice peer review and constructive criticism of writing, data, interpretations and conclusions

Tentative schedule of laboratory activities and excursions– pending permissions, localized flooding of field sites and tropical storms.

- 1) 1/10 & 1/11 Add/drop period
- 2) 1/17 & 1/18 Urban ecology 1 - HarborWalk
 - a. Tools for sampling and quantifying (quadrats, transects)
- 3) 1/24 & 1/25 Field lab (Dunes or Forests)
 - a. Field techniques
- 4) 1/31 & 2/1 Greenhouse Species interaction lab – Main Campus
 - a. Manipulative experiment skills: Herbivory and Competition
- 5) 2/7 & 2/8 Using Herbarium materials to test ecological questions
 - a. Computer/digital techniques
- 6) 2/14 & 2/15 Field lab (Dunes or Forests)
 - a. Field techniques
- 7) 2/21 & 2/22 Quantitative data display and analyses - HarborWalk
 - a. Bring laptops pre-load software
- 8) 2/28 & 3/1 Urban Ecology lab - HarborWalk
 - a. Science communication to broad audiences skills
- 9) 3/7 & 3/8 GH Harvest experiment – Main Campus
 - a. Bring laptops
- 10) 3/14 & 3/15 Applications of Ecology landscape/coastal management – Field Lab
- 11) 3/21 & 3/22 SPRING BREAK
- 12) 3/28 & 3/29 – Invasive seaweed lab - GRICE Marine Lab Field lab
 - a. Field lab, be prepared for shore-based ocean sampling
- 13) 4/4 & 4/5 Caw Caw – Field lab
 - a. Caterpillars Count
- 14) 4/11 & 4/12 Dixie Plantation – Field lab
 - a. Caterpillars count
- 15) 4/18 & 4/19 Film analysis and #scicomm

¹This set of subject to change for example if there is a storm event, thus cancellations or access to field sites changes.

Grading policy and information:

As this is a 4 credit course: the laboratory grades are a part of the total semester grade. Please see BIOL 341 lecture syllabus for details and policies and procedures pertinent to this class.

Laboratory specific assignments: 300 points

Assignments will include multi-week projects that rely on several larger projects and weekly activities.

Science communication:

- 1) for the public (group project on downtown Charleston and ecological process)
- 2) for professional audiences (manipulative and observational experiments)

Weekly quantitative assignments with data collection and method completed in class – write ups submitted on OAKS.

Grading Policy: A: 93-100, A-: 90-92; B+: 87-89, B: 83-86, B-: 80-82, C+: 77-79, C: 73-76, C-; 70-72, D+: 67-69; D: 63-66, D-: 60-62, F: <59, other aspects of grading follow the CofC standards. Last day of Add Grades reflect the percentage of total points earned as described on the lecture syllabus for this 4 credit course.

Assignments and late policy: Assignments will be turned in on time to be considered for full credit. Assignments will be due at the start of class as we will have a discussion of the assignment in class. A loss of **5%** will be deducted per day for **any** late assignment. Zero points will be recorded for an assignment if it is not turned in before the assignment is passed back. Suitable methods for turn in assignment – OAKS. If OAKS is down – please bring a printed copy to class.

Absence: The College of Charleston absence policy is in effect in this course. Attendance is a critical and mandatory component of participation in activities in the laboratory portion of this course. Due to the nature of these activities, laboratories cannot be made up.

Policy on electronic devices: All electronic devices may be used during class as long as they allow the student to stay focused on class activities and does not disturb others. No devices may be used during exams. For some laboratory or hands on activities, devices may be essential. Emergency? Respectfully step out of the classroom. Many assignments in lab will use laptops.

College Required Syllabus Material

1. **Center for Student Learning:** I encourage you to utilize the Center for Student Learning's (CSL) academic support services for assistance in study strategies, speaking & writing strategies, and course content. They offer tutoring, Supplemental Instruction, study strategy appointments, and workshops. Students of all abilities have become more successful using these programs throughout their academic career and the services are available to you at no additional cost. For more information regarding these services please visit the CSL website at <http://csl.cofc.edu> or call (843)953-5635.
2. **Center for Disability Services (<http://disabilityservices.cofc.edu/for-faculty/faqs.php>)**
 - Any student eligible for and needing accommodations because of a disability is requested to speak with the professor during the first two weeks of class or as soon as the student has been approved for services so that reasonable accommodations can be arranged.
 - The College will make reasonable accommodations for persons with documented disabilities. Students should apply for services at the Center for Disability Services/SNAP located on the first floor of the Lightsey Center, Suite 104. Students approved for accommodations are responsible

for notifying me as soon as possible and for contacting me one week before accommodation is needed.

3. College of Charleston Honor Code and Academic Integrity

Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when identified, are investigated. Each incident will be examined to determine the degree of deception involved. Incidents where the instructor determines the student's actions are related more to a misunderstanding will be handled by the instructor. A written intervention designed to help prevent the student from repeating the error will be given to the student. The intervention, submitted by form and signed both by the instructor and the student, will be forwarded to the Dean of Students and placed in the student's file.

Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found responsible by the Honor Board for academic dishonesty will receive a XXF in the course, indicating failure of the course due to academic dishonesty. This grade will appear on the student's transcript for two years after which the student may petition for the XX to be expunged. The F is permanent. The student may also be placed on disciplinary probation, suspended (temporary removal) or expelled (permanent removal) from the College by the Honor Board.

Students should be aware that unauthorized collaboration--working together without permission-- is a form of cheating. Unless the instructor specifies that students can work together on an assignment, quiz and/or test, no collaboration during the completion of the assignment is permitted. Other forms of cheating include possessing or using an unauthorized study aid (which could include accessing information via a cell phone or computer), copying from others' exams, fabricating data, and giving unauthorized assistance. Research conducted and/or papers written for other classes cannot be used in whole or in part for any assignment in this class without obtaining prior permission from the instructor. Students can find the complete Honor Code and all related processes in the Student Handbook at <http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php>

College Policy on religious holidays and dates specific to 2017-2018 academic year can be found here: <http://academicaffairs.cofc.edu/documents/procedures-and-practices/statement-of-accommodation.pdf>

Should these dates require accommodation for you, please request accommodation in advance of the date.

Additional notes about safety in the field. Students MAY NOT wear open toed shoes, sandals, flipflops, crocks, tivas in the lab, field OR greenhouse. No tobacco products of any kind are allowed on field trips. No tree climbing permitted. Cell phone use okay in van, and for use of specific apps for data collection. Please let me know if you are having a personal emergency that requires phone use. Bring rain gear when appropriate. Filled water bottles, insect repellent, sun screen, hats recommended. No eating in the laboratory or greenhouse. Additional safety manual posted on OAKS and handed out and discussed in lab.

Waivers. Students must sign appropriate waivers to participate in lab. There are different waivers for van, driving and riding with another student. It is the responsibility of the driver to obtain directions and other instructions from Dr. Murren the morning before the field trip.