

FLORIDA ATLANTIC UNIVERSITY™

Undergraduate Programs—COURSE CHANGE REQUEST¹

UUPC APPROVAL _____
 UFS APPROVAL _____
 SCNS SUBMITTAL _____
 CONFIRMED _____
 BANNER POSTED _____
 CATALOG _____

DEPARTMENT: BIOLOGICAL SCIENCE	COLLEGE: COLLEGE OF SCIENCE
COURSE PREFIX AND NUMBER: OCB 4633L	CURRENT COURSE TITLE: MARINE ECOLOGY LAB
CHANGE(S) ARE TO BE EFFECTIVE (LIST TERM): FALL 2013	____ TERMINATE COURSE (LIST FINAL ACTIVE TERM):
<p>CHANGE TITLE TO:</p> <p>CHANGE PREFIX FROM: TO:</p> <p>CHANGE COURSE NO. FROM: TO:</p> <p>CHANGE CREDITS² FROM: TO:</p> <p>CHANGE GRADING FROM: TO:</p> <p>CHANGE WAC/GORDON RULE STATUS³ ADD* _____ REMOVE _____</p> <p>CHANGE GENERAL EDUCATION REQUIREMENTS⁴ ADD* _____ REMOVE _____</p> <p><small>*WAC and General Education criteria must be clearly indicated in attached syllabus. For WAC Guidelines: www.fau.edu/WAC. Please attach General Education Course Approval Request: www.fau.edu/deanugstudies/GeneralEdCourseApprovalRequests.php</small></p>	<p>CHANGE DESCRIPTION TO:</p> <p>CHANGE PREREQUISITES/MINIMUM GRADES TO*:</p> <p><u>EXISTING</u> BSC 1010,BSC1010L,BSC 1011,BSC 1011L</p> <p><u>NEW PRE/REQ.</u> BSC 1010,BSC1010L,BSC 1011,BSC 1011L,CHM 2045,CHM 2045L CHM 2046,CHM 2046L,CHM 2210,CHM 2211, CHM 2211L</p> <p><u>MINIMUM PASSING GRADE C-</u></p> <p>EXISTING COREQUISITES:</p> <p>CHANGE COREQUISITES TO*:</p> <p>CHANGE REGISTRATION CONTROLS TO:</p> <p><small>*Please list existing and new pre/corequisites, specify AND or OR and</small></p>
Attach syllabus for ANY changes to current course information.	
Should the requested change(s) cause this course to overlap any other FAU courses, please list them here.	Please consult and list departments that might be affected by the change(s) and attach comments. ⁵

Faculty contact, email and complete phone number:
 David Binninger; binninge@fau.edu; 561.297-3323

<p>Approved by:</p> <p>Department Chair: _____</p> <p>College Curriculum Chair: _____</p> <p>College Dean: _____</p> <p>UUPC Chair: _____</p> <p>Undergraduate Studies Dean: _____</p> <p>UFS President: _____</p> <p>Provost: _____</p>	<p>Date:</p> <p>Feb. 27, 2013</p> <p>3/21/13</p> <p>3/20/13</p> <p>3/22/13</p> <p>3/27/13</p>	<ol style="list-style-type: none"> 1. Syllabus must be attached; syllabus checklist recommended; see guidelines and checklist: www.fau.edu/academic/registrar/UUPCinfo 2. Review Provost Memorandum: Definition of a Credit Hour www.fau.edu/provost/files/Definition_Credit_Hour_Memo_2012.pdf 3. WAC approval (attach if necessary) 4. Gen. Ed. approval (attach if necessary) 5. Consent from affected departments (attach if necessary)
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Email this form and syllabus to miennina@fau.edu seven business days before the University Undergraduate Programs Committee meeting so that materials may be viewed on the UUPC website prior to the meeting.

Department of Biological Sciences
Charles E. Schmidt College of Science
Florida Atlantic University

Marine Ecology Lab
1 Credits
Course Syllabus

Instructor: C. Edward Proffitt

E-mail: cproffit@fau.edu

Office Hours: Harbor Branch (HBOI) campus, Marine Science II Room 102, M,Th 9:30-10:30 AM or by appointment

TA Contact Information: Kathryn Tiling, ktiling@fau.edu

This syllabus applies to all sections taught by this instructor and is subject to change at any time by the instructor. Changes may be announced online via blackboard or verbally in class or by email to the class.

Course Location: Educ. Center, Wet Lab: 9:00 AM – 4:00 PM (one hour for lunch), ON ALTERNATE WEDNESDAYS!!!

Course Description/Student learning outcomes: This one credit lab course is designed for students majoring in biological or environmental science, or Honors College with a marine emphasis, who are considering future careers in a marine biological subdiscipline. This is a core course for the Semester-by-the-Sea program at HBOI. This course will cover basic and advanced concepts of the ecology of marine species, communities, and ecosystems. Projects are lab and field based observational and experimental studies. Students are expected to leave this course with a working knowledge of the material and concepts presented.

Course Materials (ALL books are on reserve in the HBOI library). There is no required book

Primary Supplemental text: Bertness, Gaines, and Hay. Marine Community Ecology.

Secondary Supplemental text: Pianka. Evolutionary Ecology. 5th edition.

For each lab, read chapters in these books covering the lab topic for that day (page numbers and additional journal articles will be provided prior to lab)

Course Co-requisite: OCB-4633

Course Prerequisites: BSC 1010,BSC 1010L,BSC 1011,BSC 1011L,CHM 2045,CHM 2045L,CHM 2046,CHM 2046L,CHM 2210,CHM 2211,CHM 2211L, with a Minimum grade of C-

Course Policies and Procedures:

a. **Course Evaluation:** Grades will be based as a percentage of the possible points/student.

There are no tests. Students are evaluated on two primary and several secondary lab reports written on work done in lab. They are also evaluated on course participation.No additional extra credit assignments will be given or accepted.

b. **Total Grade Percentages:**

Major lab reports on two primary experiments for the semester (50%: written & oral components combined)

Minor lab reports (smaller studies) 30% combined

Participation in lab 20%

d. **Grading Scale:** The following scale will be used for computing the final grade.

A = 92 -100%

C+= 78 - 79%

A- = 90 - 91%

C = 70 - 77%

B+= 88 - 89%

D = 60 - 69%

B = 82 - 87%

F = less than 60%

B- = 80 - 81%

2. **Attendance Policy:** Attendance for all labs is required. Students will not be penalized for absences due to participation in University-approved activities, including athletic or scholastics teams, musical and theatrical performances, and debate activities. These students will be allowed to make up missed work without any reduction in the student's final course grade. Reasonable accommodation will also be made for students participating in a religious observance.

3. **Incomplete Grade:** A grade of Incomplete ("I") is reserved for students who are passing a course but have not completed all the required work because of exceptional circumstances. A grade of "I" will only be given under certain conditions and in accordance with the academic policies and regulations put forward in FAU's University Catalog. The student must show exceptional circumstances why requirements cannot be met. A request for an incomplete grade has to be made in writing with supporting documentation, where appropriate. As per university policy, an incomplete grade will only be given to a student who fulfills all of the following criteria:

a. misses multiple labs due to a legitimately documented emergency as defined by the FAU Academic Policies and Regulations (http://www.fau.edu/academic/registrar/09-10_catalog/academics.html)

b. has a grade of C or better

c. submits evidence of the emergency and signs an incomplete agreement.

4. **Safety:** No food or drinks are permitted in the lecture hall.

5. **Classroom Etiquette Policy:** University policy on the use of electronic devices states: "In order to enhance and maintain a productive atmosphere for education, personal communication devices, such as cellular telephones and pagers, are to be disabled in class sessions." You may be asked to leave the class session for noncompliance.

6. **Student Honor Policy:** Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty, including cheating and plagiarism, is considered a serious breach of these ethical standards, because it interferes with the University mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the University community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see University Regulation 4.001 at

http://www.fau.edu/ctl/4.001_Code_of_Academic_Integrity.pdf

Cheating is a serious offense. If you are caught cheating, you will receive an F in the course. In addition, you will be referred to the Dean of Student Services and charged with an academic crime. Test procedures and rules will be stated at the beginning of each exam. Keep your eyes on your own exam.

Disabilities Statement: In compliance with the Americans with Disabilities Act (ADA), students who require special accommodation 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, MOD 1 (954-236-1222); in Jupiter, SR 117 (561-799-8585); or at the Treasure Coast, CO 128 (772-873-3305) – and follow all OSD procedures..

Important Dates: The following dates are based upon the current university academic calendar. Changes to these critical dates have occurred in the past and you are responsible for checking the academic calendar on the university website for any changes during the academic term.

<http://www.fau.edu/registrar/pdf/Docs/acadcal1213.pdf>

M.L.K. Jr. Holiday

- January 21st

Spring Break

- March 4th – 10th

http://www.fau.edu/registrar/schedule/pdf/docs/Spring_2013_Final_Exam_Schedule.pdf

MARINE ECOLOGY LAB (meets every OTHER Wednesday)

Spring 2013 Schedule

FAU Harbor Branch Campus

Instructor: Ed Proffitt, TA Kathryn Tiling

Tentative Lab Schedule		
No.	Lab	Location
1	Lab Orientation; Mangrove study #5.1 (Setup Stage 1)...see below Studies by #	HBOI
2	Mangrove 5.1 (Check Stage 1); Oyster study 4 (Setup)	HBOI
3	Oyster 4 (Check); Mangrove 2 (Measure); Seagrass 3 (Measure); Seagrass 1 (Measure)	HBOI
4	Mangrove 5.1 (Check Stage 1); Mangrove 5.1 and 5.2 (Setup Stage 2); Oyster 4 (Check)	HBOI
5	Oyster 4 (Finish); Seagrass 3 (Measure); Mangrove 5 (Check Stage 2); Drafts Due	HBOI
6	Mangrove 5 (Finish); Seagrass 1 (Measure); Mangrove 2 (Measure)	HBOI
7	Oral Presentations; All Lab Reports Due	HBOI

Abiotic Interactions

Seagrass Communities: We will assess how seagrass structure changes over time.

Study 1: Transects along a water depth gradient in seagrass communities to assess species distribution, utilizing previously established transect.

Location: South HBOI Field; previous transects

Duration: Field Collection: ~2 hours; two time sampling per semester

Design: Minimum 50 meter long transects perpendicular to shoreline

Sampling: Every meter, assess percent cover of each seagrass species in an approximate 50x50cm area centered on the meter point

Prep Notes: Mark transects in the field prior to class

Readings: Marine Community Ecology (Bertness et al.) Seagrass Chapter

Mangrove Communities: Prop root sessile community assessment

Study 2: Transects individual prop roots to assess changes in sessile community over time

Location: North and South HBOI Field; establish new transects (tag)

Duration: Field Collection: ~2 hours; two time sampling per semester

Design: Meter transects along prop roots

Sampling: Every 15cm, assess # live/dead of each sessile species

Prep Notes: Potential comparisons prop roots touching ground/hanging, in deeper/shallow water, N/S HB

Readings: Marine Community Ecology (Bertness et al.) Mangrove and salt marsh Chapters, others TBA

Biotic Interactions

Seagrass Communities: We will assess how seagrass structure influences the associated faunal communities.

Study 3: Assess epifauna colonization in different seagrass species using 30x30cm throw traps.

Location: South HBOI Field followed by HBOI lab

Duration: Field Collection: ~2 hours; Lab Sorting: ~4 hours; one time sampling

Design: 30x30cm throw trap to assess above ground invertebrate utilization of various seagrass species:

Seagrass Species: *H. wrightii*, *T. testudinum*, *S. filiforme*, Bare;

Covariate: Water Depth;

Response Variable: Invertebrate Abundance by Species (30x30cm throw trap) and Seagrass Morphology (collect 10 shoots per trap for above ground morphology)

Replicates: 3 per species (Total: 12 throw traps);

Prep Notes: Currently have 2 - 30x30cm throw traps. If class is larger than usual, will build additional throw traps or split groups between projects (most likely transects)

Readings: TBA – and seagrass and marine invertebrates in Marine Community Ecology

Oyster Communities: We will assess the direct & indirect effects of predators on oyster survival and growth

Study 4: Assess the effect of the hermit crab *Clibanarius* sp. presence on survival of the oyster *C. virginica* by altering success of the gastropod *Melongena corona* predation on oysters

Location: HBOI Lab for prep, Experiment established in South HBOI Field

Duration: Set up: 1 Lab Period; Experiment Length: Majority of Semester (see schedule), Measure: ~2 hour

Design: Does the presence of *Clibanarius* sp. alter predation of *C. virginica* by *Melongena* sp.?

Treatment: *Clibanarius* sp. (2 Level: presence/absence); *Melongena* sp. (2 Level: presence/absence); Note: *C. virginica* sp. present in all treatments (will include oysters set of all different sizes)

Response Variable: *C. virginica* survival; will measure fouling and other interesting developments

*Each oyster marked individually: shell length/width/depth

length
*Each *Melongena* sp. and *Clibanarius* sp. marked individually: shell

Replicates: 5 per treatment combination;

*Cages need tops due to potential for crawling out. Not sure partial enclosures will be useful. All treatments will have a cage so differences will be due to the predators included.

Prep Notes: Students will make cages and collect all organisms during lab. TA will create prototype, and prep sizes etc.

Reading: Proffitt et al. (in review); last years SBTS lab results (provided)

Abiotic-Biotic Interactions

Mangrove Communities: To assess the interactions of salinity on decomposition rates in mangrove communities

Study 5: Assess the effect of salt levels in leaves from all three mangrove species (*R. mangle*, *A. germinans*, *L. racemosa*) on *Melampus* sp. decomposition rates

Part 1: Laboratory Experiment

Location: HBOI Lab

Duration: Experiment Length: Semester Long; Salt Treatments: ~1month,

Decomposition Rates: ~1month

Design: Grow seedlings in different salt treatments, then assess if the different salt exclusion methods of each mangrove species alters decomposition rates by *Melampus* sp. Plants will be grown in individual red solo cups, where salinity will be maintained. These will be grown near Ed Center (TBD).

Treatment: Salt (2 level: 15ppt(low/normal)/45ppt(high));

Covariate: ~Seedling Weight;

Response Variable: Stage 1: Growth in response to salt;

Stage 2: Decomposition rates of green and/or 'fallen leaves' to

Melampus sp.

Replicates: 10 per treatment combination;

Prep Notes: TA will collect propagules/seedlings and sediment prior to class

Part 2: Field Observations

Location: Field

Duration: one time sampling per semester (prior to Part 1 Stage 2)

Design: Collect leaves and pore water samples (salinity) from all three mangroves species at different locations. This will allow site to site comparison of areas with naturally different salinity levels to compare against the experimental treatments.

Sampling: 10 trees per species per site with ~3 sites (Total 90 samples), then exposed to *Melampus* decomposition in the lab.

Prep Notes: To run in conjunction with Part 1 Stage 2.