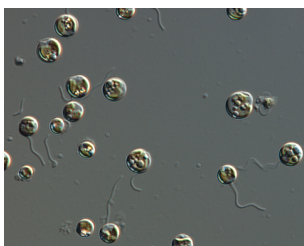


MARINE BOTANY (BIO 312)

Lecture/lab topics will be consistent, field trip orders etc. may be subject to change.



Pavlova sp. - Microalgae



Ulva sp. - Macroalgae



Mangrove



Tidepool community

Instructor: Dr. S. Anne Boettger

Email: aboettger@wcupa.edu

Background text: Algae. LE Graham, LW Wilcox. Benjamin Cummings. ISBN -10# 0136603335.

Marine Botany. CJ Dawes. Wiley. ISBN -10# 0471192082. (both not mandatory)

Field guide: A Field Guide to the Atlantic Seashore: From the Bay of Fundy to Cape Hatteras (Peterson Field Guides) by KL Gosner (Author, Illustrator), RT Peterson (Editor). ISBN-10#: 061800209X

COURSE OBJECTIVES Marine Botany explores the startling diversity and environmental dynamics of micro- and macroalgae, seagrasses, mangroves, and salt marshes as well as phytoplankton (minute, free-floating photosynthetic planktonic organisms) and benthic communities (attached plants) that comprise the flourishing botanical garden submerged in and around the surface of our vast oceans. This course will introduce students to identifying and classifying microscopic and macroscopic algae and seagrasses from marine and estuarine habitats. Fieldwork along the East coast of the United States will focus on the identification and ecology of its unique marine macroflora. Topics to be covered include: seaweed and seagrass structure, taxonomy and classification, reproduction and life histories, distribution and ecology, human impacts on marine plants, and the impacts of marine plants on human affairs, collection and preservation of marine plants, and production of herbarium specimen.

- identification organismal groups based on their characteristics
- comparison and contrast of phyla and classes with emphasis on function and adaptation to the environment
- identification and recognition of local species and major taxonomic groups
- application of structure, physiology and ecology in adaptation to the organism's lifestyle
- human uses of cyanobacteria and algae

GRADING POLICY A letter grade will be assigned based on your performance in the course. Grades are not rounded up at the end of the course. The letter grades are as follows: A = 90-100% B = 80-89.99% C = 70-79.99% D = 60-60.99% F < 60%. (+) and (-) will be assigned according to University policy.

Students earn grades for the amount of knowledge obtained from the course not for effort/time spent working.

COURSE TOPICS

Date	Morning 8.30-11.30am	Afternoon 1-5pm	Evening 7-9pm
Sun			Student orientation (after

			dinner, about 6.45pm)
Week 1			
Mon	Course Introduction Introductory lecture	Boat trip Chincoteague Channel: plankton and bottom trawls	Identification of specimens/ lab work
Tues	Greenbackville	Lecture: Abiotic/Biotic Factors	Identification of specimens/ lab work
Wed		Lecture/Lab Physiological Ecology, Algal Pigments	Identification of specimens/algal pigments
Thur	Guard Shore/Saxis Beach	Lecture/Lab Cyanobacteria	Identification of specimens/ lab work
Fri		EXAM I	
Sat	Saturday off		
Sun	Sunday off		
Week 2			
Mon	Lecture/Lab Euglenoids/ Dinoflagellates, Diatoms	Parker trip	Identification of specimens/ lab work
Tues	Lecture/Lab Phaeophytes	Tom's Cove	Bioluminescence
Wed	Lecture/Lab Rhodophytes	Kayak trip Chincoteague channel	Identification of specimens/ lab work
Thur	Lecture/Lab Chlorophytes	Chincoteague Memorial Park	Identification of specimens/ lab work
Fri		EXAM II	
Sat	Saturday off		
Sun	Sunday off		
Mon	Lecture Human uses	Project work	Project work
Tues	Lecture Mangroves and Rocky Shores	Indian River inlet	Identification of specimens/ lab work
Wed	Lecture Saltmarshes and Seagrass beds	Saltmarsh/ seagrass trip (Queens Sound), low tide 4pm, 0.02 ft	Identification of specimens/ lab work
Thur	Savage Neck Dune profiles	Lecture: Dunes, Zonation and the Maritime Forest	
Fri		EXAM III	

COURSE ASSESSMENTS

	Possible Points
2 exams (lecture, lab and identification combined)	100
Field project	60
In class identification/quizzes (5 identifications/quizzes)	50
Overall participation	15

Exams The comprehensive exams will consist of material covered during the week and in week 2 may be cumulative due to the material coverage from the field work. Student understanding of the topic

covered will be evaluated in form of an exam set up as 20-25 stations, each with comprehensive questions regarding organismal structure, function, ecology and lifestyle with comprehension of organismal identification.

Marine Botany Project The class will be split into groups of 2-3 students and each group will be able to choose a location, though possible example locations will be designated by Dr. Boettger. Each group will have time during the third week to visit their respective environments and create an environmental portrait including inorganic and organic characteristics, a profile of the autotrophs and investigation autotroph/heterotroph interactions. When conducting your project work you should take pictures of the environment and prepare

In Class Identification/Quizzes There will be 5 in class identifications that will help prepare you for exams and also contribute to your overall class grade. These identifications will include organisms, tissues, cells etc. that have been covered previously.

Overall Participation Your participation during the course is a way to ensure the understanding of the materials that cover a group of organisms which is incredibly diverse and comprises the majority of animals. Participation will be determined by answering questions, involvement in class discussion, identification etc.

Final Course Grades Final grades will be calculated by Dr. Boettger once EXAM III and the notebooks have been graded. Grades will be posted on D2L and through WCU and transferred to your home institution if you have completed (and received acceptance) of the visiting student form through your home institution.

COURSE POLICIES

1. Work safely! Be careful with delicate specimens and slides to assure that yourself and the specimens do not incur any harm. In addition follow all instructions that Dr. Boettger and the employees of the Chincoteague Bay Field Station disperse, particularly when on board of vessels and kayaks. Bring closed shoes with a secure tread to work on vessels or in rocky environments.

2. Academic dishonesty is considered to be a violation of the Undergraduate Student Academic Integrity Policy for West Chester University students (Undergraduate Catalogue). Plagiarism is one form of academic dishonesty that may occur particularly in a writing emphasis course, though it is often unintentional. To avoid plagiarism in this writing emphasis course it is important that students understand what plagiarism is, how serious it is and how to avoid it. Plagiarism means taking an original piece of work or idea/concept, and allowing others to believe it is your own. Unintentional plagiarism ranges from examples as minor poor paraphrasing to failing to cite an author for “your” idea and as involved as cutting and pasting paragraphs from different sources (websites, paper publications etc.) and including them into your work. Unfortunately, the line between plagiarism and paraphrasing is very fine. However, these unintentional mistakes are no excuse for academic dishonesty and will be handled in accordance with the Undergraduate Catalogue. It is therefore your responsibility as a student to include the proper citations of author(s) of any idea/concept that is not your own. If you ever have doubts, consult your instructor.

Any materials, in exams field notebooks etc. that is identical between two plus students will be considered a violation of academic integrity. Though you are encouraged to work together (after all, that is what scientists do), you should always compose your thoughts in your own words

3. Clean up after yourself EVERY TIME. We will use the lab space assigned to us for both lectures and lab work. You therefore need to keep the workspace clean or else we will have to delay every work by having to clean up first.

4. Dr. Boettger will make lab atlases, additional reading materials etc. available for your use in lab. PLEASE do not misuse these books. When the first book walks out, you will no longer have access to these materials for background information.

5. We will bring back live specimens into the lab to work with for the duration of the course. The entire class should be involved in checking and cultivating these specimens to assure we have the materials available when required.

6. Fridays are set aside for exams. Since the material we are covering in all aspects of the class (lecture, lab, fieldwork) is completely interconnected we will have one extensive exam each Friday afternoon, which will address concepts, animal information, structure, function, lifestyle and animal human interaction. These exams will be conducted by students accessing between 20-25 stations with extensive questions at their own pace. Exams will commence each Friday at 1pm and will continue until everyone is done or 3.30pm. Please notice that with these exams, the lab space will not be open for studying anylonger on Friday mornings (starting at 9.30am), so that Dr. Boettger may set up these exams.

ACADEMIC & PERSONAL INTEGRITY

It is the responsibility of each student to adhere to the university's standards for academic integrity. Violations of academic integrity include any act that violates the rights of another student in academic work, that involves misrepresentation of your own work, or that disrupts the instruction of the course. Other violations include (but are not limited to): cheating on assignments or examinations; plagiarizing, which means copying any part of another's work and/or using ideas of another and presenting them as one's own without giving proper credit to the source; selling, purchasing, or exchanging of term papers; falsifying of information; and using your own work from one class to fulfill the assignment for another class without significant modification. Proof of academic misconduct can result in the automatic failure and removal from this course. For questions regarding Academic Integrity, the No-Grade Policy, Sexual Harassment, or the Student Code of Conduct, students are encouraged to refer to the Department Undergraduate Handbook, the Undergraduate Catalog, the *Ram's Eye View*, and the University website at www.wcupa.edu.

STUDENTS WITH DISABILITIES

If you have a disability that requires accommodations under the Americans with Disabilities Act (ADA), please present your letter of accommodations and meet with me as soon as possible so that I can support your success in an informed manner. Accommodations cannot be granted retroactively. If you would like to know more about West Chester University's Services for Students with Disabilities (OSSD), please visit them at 223 Lawrence Center. The OSSD hours of Operation are Monday – Friday, 8:30 a.m. – 4:30 p.m. Their phone number is 610-436-2564, their fax number is 610-436-2600, their email address is ossd@wcupa.edu, and their website is at www.wcupa.edu/ussss/ossd.

EXCUSED ABSENCES POLICY FOR UNIVERSITY-SANCTIONED EVENTS

Students are advised to carefully read and comply with the excused absences policy for university-sanctioned events contained in the WCU Undergraduate Catalog. In particular, please note that the "responsibility for meeting academic requirements rests with the student," that this policy does not excuse students from completing required academic work, and that professors can require a "fair alternative" to attendance on those days that students must be absent from class in order to participate in a University-Sanctioned Event.

REPORTING INCIDENTS OF SEXUAL VIOLENCE

West Chester University and its faculty are committed to assuring a safe and productive educational environment for all students. In order to meet this commitment and to comply with Title IX of the Education Amendments of 1972 and guidance from the Office for Civil Rights, the University requires faculty members to report incidents of sexual violence shared by students to the University's Title IX Coordinator, Ms. Lynn Klingensmith. The only exceptions to the faculty member's reporting obligation are when incidents of sexual violence are communicated by a student during a classroom discussion, in a writing assignment for a class, or as part of a University-approved research project. Faculty members are obligated to report sexual violence or any other abuse of a student who was, or is, a child (a person under 18 years of age) when the abuse allegedly occurred to the person designated in the University protection of minors policy. Information regarding the reporting of sexual violence and the resources that are available to victims of sexual violence is set forth at the webpage for the Office of Social Equity at <http://www.wcupa.edu/admin/social.equity/>.

ELECTRONIC MAIL POLICY

It is expected that faculty, staff, and students activate and maintain regular access to University provided e-mail accounts. Official university communications, including those from your instructor, will be sent through your university e-mail account. You are responsible for accessing that mail to be

sure to obtain official University communications. Failure to access will not exempt individuals from the responsibilities associated with this course.