Course Syllabus – Biological Oceanography

Biological Oceanography, ES CI 465/BIOL 495
Summer Session 1, May 17 – June 5, 2020
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A. Overview and Objectives

Welcome to Biological Oceanography. In this course we will explore the fundamental principles of the pelagic ocean ecosystem from the initial input and utilization of solar energy by the primary producers (phytoplankton) to the flow of this energy through the lower trophic levels in the marine food chain. A general understanding of the taxonomic diversity of some of the major planktonic organisms we encounter will also be required. We will focus on the planktonic realm of the ocean, as this is the largest energy sink and the ultimate source of >99% of all life in the ocean. By exploring these concepts in laboratory and field settings at the Chincoteague Bay Field Station, the student will gain practical experience in traditional oceanographic methods as well as better appreciate the dynamics of the ocean’s pelagic ecosystem.

B. Course Format

Weekly lectures on topics covered in Lalli & Parsons text, augmented by outside reading of assigned scientific papers and significant laboratory and field experiments and observations. We will spend approximately half the course time on laboratory and field and the other half in lectures, but this ratio may vary according to the weather.

C. Required Text:


D. Other Equipment and Supplies to Bring:

- Laboratory Notebook and scientific calculator.
- Dependable and updated laptop computer with wireless capability, and MSWord, Excel, and PowerPoint, or similar programs installed. Since there is no IT service at the field station, it is
important that your laptop be reliable. Also, Chromebooks and other ‘thin server’ type laptops that need to always internet connected are not suitable.

- Field clothing including light-weight rain jacket, rain pants and weather-proof shoes. **You cannot wear any type of open-toed shoes on the boats!**
- Seasickness medicine (e.g., Bonine, Dramamine, scopolamine patches, etc., mostly available over the counter in drug stores).
- Hat, sunglasses and sunscreen.
- Bug repellent, although this is usually not a big problem during session 1.
- Ear plugs if you are sensitive to noise. The RV Parker’s boat engines are loud diesel engines.
- Pillow and bedding. See the CBFS website for advice on what the field station supplies and what they expect you to supply yourself.

## E. Grading

Grades will be assessed according to the following metric:

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory &amp; field exercises</td>
<td>50</td>
</tr>
<tr>
<td>2 Exams</td>
<td>40</td>
</tr>
<tr>
<td>Attendance</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
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**TITLE IX**

*Millersville University and its faculty are committed to assuring a safe and productive educational environment for all students. In order to meet this commitment, comply with Title IX of the Education Amendments of 1972, 20 U.S.C. §1681, et seq., and act in accordance with guidance from the Office for Civil Rights, the University requires faculty members to report to the University’s Title IX Coordinator incidents of sexual violence shared by students. 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 to the person designated in the University Protection of Minors policy incidents of 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. Information regarding the reporting of sexual violence, and the resources that are available to victims of sexual violence, is available at [http://www.millersville.edu/socialeq/title-ix-sexual-misconduct/index.php](http://www.millersville.edu/socialeq/title-ix-sexual-misconduct/index.php).**

**PHYSICAL OR LEARNING DISABILITIES**

If one has a documented physical or learning disability and is entitled to special accommodations, please inform the professor. See: [http://www.millersville.edu/learningservices/disabilityaccom.php](http://www.millersville.edu/learningservices/disabilityaccom.php), or similar website for your home university for information on such accommodations. Please, if you have any physical disabilities that may prevent you from performing rigorous field duties, email me so I can make any accommodations to the work schedule.