Stony Brook University, School of Marine and Atmospheric Sciences

MAR 303

Long Island Marine Habitats

4 credits

This course satisfies the SBC categories ESI & SPK.

Description: The study of six representative marine environments around Long Island. Students visit the sites on weekly field trips, measuring environmental parameters and identifying common plants and animals. Using qualitative and quantitative methods in the field and in laboratory sessions, the class determines major factors that control the biological community in each habitat. This course has an associated fee. Please see www.stonybrook.edu/coursefees for more information.

Prerequisites: U3 or U4 standing; BIO 201
Advisory Prerequisites: AMS 110 or other statistics course; MAR 101 or 104 or 333

Course Learning Objectives:
- Recalling factual knowledge about marine habitats.
- Understanding fundamental methods for studying these ecosystems in the field.
- Applying standard methods for the analysis of quantitative, scientific data.
- Interpreting original data.
- Demonstrating scientific writing skills using scholarly books and peer-reviewed scientific articles for the presentation of original results.
- Speaking effectively before an audience with a Power Point presentation on a research topic relevant to the course.

Meeting time: TBA
Marine Station, Southampton Campus

Instructor: Dr. Kurt Bretsch, Kurt.Bretsch@stonybrook.edu, Natural Sciences 123
Office hours: TBA

Graduate Teaching Assistants: TBD

Attendance: Participation in all activities is a requirement to pass this course. There are no make-up field trips. If you know you must miss an activity, contact me one full week in advance; we will discuss your options. Absences due to illness are excusable, but require submission of a signed note from the health center or a doctor.

Required Textbooks:
1) A Field Guide to the Atlantic Seashore: From the Bay of Fundy to Cape Hatteras (Peterson Field Guide)
2) Atlantic Shorelines: Natural History and Ecology, by Mark Bertness

Grade Breakdown:
Exams (3)  60%     Final Presentation  12%     Lab Reports  28%

**Lab Reports:** You will analyze data collected on field trips and discuss your findings in lab reports that will be assigned throughout the semester. The reports will typically be started during class and completed out of class.

**Presentation:** Select a research question that is currently being (or has recently been) addressed in one of the marine habitats we cover in the course. In a Powerpoint presentation, discuss the importance of the research, its relevance to the habitat, the approach researchers have taken to address the question, and the major findings. At a minimum, 3 scientific papers must be included, and your presentation must have at least 2 figures. Email me your topic for approval by the beginning of class on Nov 10. Detailed instructions can be found on Blackboard.

**Extra Credit - Seminar Response Form (+ 2 pts):** Attend a seminar in the East End Public Lecture series (some Fridays at Southampton campus), or the Oceans and Atmosphere Colloquium (Fridays at noon at south campus). Schedules can be viewed at: [http://www.somas.stonybrook.edu/news_events/seminar.html](http://www.somas.stonybrook.edu/news_events/seminar.html). Complete and turn in a seminar response form (download from Blackboard Documents and follow the instructions). Note that the seminar you choose for this class can not fulfill a requirement in another course. If you would like to attend a relevant seminar that is not in the SoMAS series, you must obtain permission from me via email at least one week prior to the seminar.

**Lecture Notes:** Incomplete PowerPoints will be posted on Blackboard by 9 pm the evening before each lecture. You may bring printed handouts of the lecture notes to class, or you may elect to bring a laptop. During lecture, laptops may only be used for MAR 303 activities. Use of your laptop for other activities is a distraction to your fellow students, and will result in revocation of laptop privileges.

**Field trips:** Be prepared to get wet and consider bringing a change of clothing. Close-toed shoes (e.g. old sneakers, Keens, Tevas, dive booties, etc.) are **required**. Flip flops are not permitted. Check the weather before each trip and dress appropriately (e.g. raingear, warm clothing). Sunscreen and bug repellant are recommended. Vans/boats depart at the start of class time; do not be late.

- Mobile communication devices must remain off during all class activities.
- Instructors will communicate with you regularly via email (your University account: firstname.lastname@stonybrook.edu). You are expected to check it frequently.

**Americans with Disabilities Act:**

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, room128, (631) 632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential.

**Academic Integrity:**

Academic dishonesty will not be tolerated. Any instance will be reported to the Academic Judiciary Committee and will typically result in an F for the course. Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at [http://www.stonybrook.edu/ual/academicjudiciary/](http://www.stonybrook.edu/ual/academicjudiciary/)

**Critical Incident Management:**

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn.
<table>
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<th>Week</th>
<th>Topic</th>
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| 01   | Lec 1: Intro to Course, Basic Ecology, & LI Geology  
       Field Trip – Offshore Trawl & Plankton Tow |
| 02   | Lec 2: Pelagic Realm & video; Data Presentation activity  
       Plankton Lab Activity |
| 03   | Lec 3: Seagrass Habitat |
| 04   | Field Trip – Seagrasses in Shinnecock Bay  
       Lec 4: Tides & Data Analysis |
| 05   | EXAM 1  
       Lec 5: Rocky Intertidal |
| 06   | Field Trip – Montauk Rocky Intertidal  
       Lec 6: Estuaries I & Data Analysis |
| 07   | Lec 7: Salt Marsh Habitat; specimen examination  
       Field Trip – Salt Marsh Habitat (Low = ~ 3) |
| 08   | Salt Marsh Habitat II & data analysis (SINC Site)  
       Lec 8: Estuaries II |
| 09   | Field Trip – Peconic River  
       EXAM 2 |
| 10   | Lec 9: Beaches  
       Field Trip – Beach |
| 11   | Lec 11: Current Issues  
       TBD |
| 12   | Lec 10: Organisms  
       Lec 12: Invited Speakers; Research Topic Due |
| 13   | EXAM 3 (semi-comprehensive)  
       Field Trip – Salt Marsh Habitat |
| 14   | Independent Research |
| 15   | Student Presentations  
       Student Presentations |

Due to tides and other constraints, lectures and labs will vary each week. Know the schedule and plan accordingly.