

# Oceanography

## MAR 104, Stony Brook Southampton

Summer II, 2023; July 11-24

**Course Description:** An examination of the World Ocean and the chemical, geological, biological, and physical processes that control its major features and the life that inhabits it. While primarily a lecture based course, extended boat trips into Shinnecock Bay and offshore will occur on Mondays. This short-term intensive course is specifically designed for both undergrads & motivated high school students wishing to earn college credit.

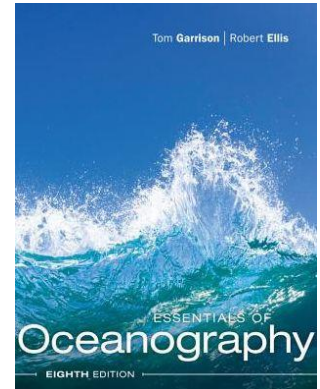
**Course meeting time:** Marine Station 215, Southampton Campus;  
Tues - Fri, 10 am – 2:30 pm; Mondays 10 - 3:30 (exam and boat trip)

**Required text:** Essentials of Oceanography, 8<sup>th</sup> edition, Tom Garrison  
Purchase and read the entire textbook **before** the course begins.

**Instructor:** Dr. Kurt Bretsch, kurt.bretsch@stonybrook.edu

**Graduate TA:** TBD

**Attendance:** Required at all activities.  
Plan to arrive at least 5 minutes early.



**Lectures:** Incomplete PowerPoint lecture notes will be posted on Brightspace one week prior to the start of the course. Students will fill in the notes during lecture and may bring a printed hard copy or a digital copy on their laptop. During lecture, laptops can only be used for class activities. Use of a laptop for other activities is a distraction to fellow students and will result in revocation of laptop privileges.

**Exams:** Each exam will assess students on their understanding of the material presented in lecture and the textbook from the previous week (i.e. the second exam is not comprehensive). Exams are a mixture of multiple choice and short answer questions.

**Quizzes:** Quizzes will be distributed at the end of each lecture-day and due the next day at the beginning of class. Late submissions will not be accepted.

**Worksheets:** During lunch, students will complete worksheet activities that reinforce their understanding of concepts discussed during lecture. Due at the end of the lunch break. Worksheets will also be completed during field activities.

**Field Trips:** Come prepared to get wet and dirty. Close toed shoes (e.g. lace up sneakers) are REQUIRED. Sandals and flip flops are not permitted. Be sure to bring a pencil, sunblock, sunglasses, water, and a light jacket (it's always colder on the water than on land). If raining, bring warm layers and raingear. Wear photo-appropriate swimwear during the Bay trip. There will be space on the vessels to store a backpack.

**Classroom Engagement:** Students are expected to ask and answer questions during lecture, attend and fully participate in field trips, and contribute to group & partner activities.

**Other:**

Mobile communication devices must remain off and stowed during class.

Instructors will communicate with you regularly via your University email: (firstname.lastname@stonybrook.edu). You are expected to check it frequently.

**Student Accessibility Support Center Statement**

If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact the Student Accessibility Support Center, Stony Brook Union Suite 107, (631) 632-6748, or at [sasc@stonybrook.edu](mailto:sasc@stonybrook.edu). They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential. Students requesting accommodations for **documented** disabilities must do so with the instructor **before** the start of the course.

**Academic Integrity Statement**

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 is 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/commcms/academic\\_integrity/index.html](http://www.stonybrook.edu/commcms/academic_integrity/index.html) 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.

**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 University Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook.

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<b>Grade Breakdown</b>	<b>% of final course grade</b>
Exam 1	30
Exam 2	30
Quizzes (8)	16
Worksheets (10)	20
Classroom Engagement	4

Completion of **ALL** activities is a **REQUIREMENT** to pass the course.

Final Course grade will be determined using this scale:

- A = 95-100
- A- = 90-94
- B+ = 86-89
- B = 82-85
- B- = 78-81
- C+ = 74-77
- C = 70-73
- C- = 66-69
- D+ = 62-65
- D = 60-61
- F = < 60

## MAR 104, Summer II, 2023

### Schedule

Day	Date	Topic	Reading
Tues	July 11	Introduction to Course & Oceanography; Ocean History & Exploration	Ch 1
Weds	July 12	Earth Structure; Plate Tectonics; Bathymetry	Ch 2 – Sec 3.4
Thurs	July 13	Marine Sediments; Properties of Water <b>*Shinnecock Bay field trip (group 1) 2:30 - 6:30</b>	Sec 3.5 – Ch 4
Fri	July 14	Atmospheric Circulation; Oceanic Circulation	Chs 5 & 6
Mon	July 17	<b>EXAM 1</b> <b>Offshore Field Trip (group 2)</b>	
Tues	July 18	Waves; Tides; Coastal Zone	Chs 7 & 8
Weds	July 19	Marine Life; Plankton ( <b>Plankton Lab</b> )	Ch 9
Thurs	July 20	Pelagic Communities <b>*Offshore Field Trip (group 1) 2:30 - 6:30</b>	Pg 193 – Sec 10.3
Fri	July 21	Benthic Communities; Humans and the Ocean Today	Sec 10.4 – Ch 11
Mon	July 24	<b>EXAM 2</b> <b>Shinnecock Bay field trip (group 2)</b>	

#### Take note:

- Complete each assigned reading BEFORE the lecture.
- Readings are inclusive (e.g. Sec 3.5 – Ch 4 means start with Sec 3.5 and read through the entirety of Ch 4).
- The field trips are weather dependent and might be changed.
- \* If enrollment is high, the class will be divided into 2 groups for field trips.

#### Daily schedule (Tues - Fri)

10:00-11:30, Lecture 1

11:30-12:30 (approximately), Lunch and worksheet

12:30-2:00 (approximately), Lecture 2

2:00-2:30, Office Hours with instructor & TA (optional, but highly recommended; can work on quiz)

Evening: complete take home quiz and textbook reading for the next day

#### Daily schedule (Mondays)

10:00-11:30, Exam

11:45-3:30, Field Trip and worksheet