

Syllabus:

Introductory Physical Oceanography

MAR-555

Fall 2017

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office hours: Appt.	office hours: Appt.	office hours: Appt.

Class Schedule, Office Hours and Location

This course is available to be taken: Blended or Face-to-Face.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	Recitation	Lecture		Lecture		
	4:00-5:15 p.m.	3:30-4:45 p.m.		3:30-4:45 p.m.		
	SMAST-West Rm 204	SMAST-West Rm 204		SMAST-West Rm 204		

Course Description

Course Description:

A descriptive treatment of ocean atmosphere interactions, water properties, general wind-driven and thermohaline circulation, waves and tides, and coastal processes. Simplified conceptual models demonstrate the important principles.

Prerequisite:

None.

Course Credits: 3

Required Texts:

1. Introduction to Physical Oceanography - Bob Stewart (freely available)
http://oceanworld.tamu.edu/resources/ocng_textbook/contents.html
2. Shelf and Coastal Oceanography - Matthias Tomczak (freely available)
<http://www.mt-oceanography.info/ShelfCoast/index.html>
3. Ocean Circulation, Open University Press, ISBN 978-0-7506-5278-0. Available new and used from major online vendors. We have used this book for 5+ years so there are a number of SMAST students that have a copy.

Note: *Ocean Circulation* is officially out of print, but can still be purchased both new and used online. Also, the full Ocean Circulation text is available online through the UMass Amherst library. IMS students can obtain access to the Amherst library database by filling out and signing the "NENS" form.

Course Objectives

This course provides a descriptive treatment of ocean atmosphere interactions, water properties, general wind-driven and thermohaline circulation, waves and tides, and coastal processes. Simplified conceptual models demonstrate the important principles. Taught via distance learning, from the UMass Dartmouth Campus.

Upon successful completion of the course, the student will be able to:

- Describe/explain the primary physical processes governing ocean circulation, including the effects of wind, waves, tides, stratification, surface heat fluxes, and evaporation and precipitation.
- Use the equations of motion and mass conservation to explain basic force balances in the ocean, including geostrophy, inertial motion, Ekman transport; and to characterize various types of ocean waves, mixing, benthic processes.
- Describe and interpret data collected from various physical oceanographic instrumentation, including measurements of temperature, salinity, density, pressure, and velocity.
- Describe major ocean features, including major currents, water masses, and what governs their locations/distributions.
- Discriminate between wind-, tide- and density-driven oceanographic phenomena and other non-physical oceanographic phenomena in real oceanographic data sets encountered in their research.

Communication Plan

Expectations for Electronic Communication

- Please use email **ONLY** when the subject is of a personal and confidential matter. If you have a question for which others in the course could benefit from the answer, please post the question in the appropriate discussion board forum.
- The instructors and TA generally check email Monday through Friday during normal business hours. Please copy both instructors and the TA on any correspondence. You can expect a reply from one of us within 24 hours during the work week. Replies on weekends are less dependable, but are generally also given within 24 hrs.
- Instructors will also check the discussion forums daily during the work week. We will post often during the first weeks of the course and then drop off in activity while expecting participants to fill any void. Rest assured however, we **will** be participating in what we hope will be lively discussions and will **always** reply to any discussion comment directed specifically at us.
- Instructors will not generally email students to confirm receipt of assignments. If you do not hear from us after you submit your work, consider it a good thing.

Methods of Instruction

Evaluation and Grading Breakdown:

- Homeworks: 30% (reading/online content quizzes=15% + problem sets=15%)
- Mid-Term (take home): 30%
- Final Exam (take home): 30%
- Participation: 10%

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Policy on Late Assignments and Missing Assignments:

Per Instructor

The Weekly Schedule

Given the timing of lecture vs. recitation, homework assignments will be due on Tuesdays at the beginning of lecture, and new assignments given at the end of lecture on Tuesday, due the following Tuesday. Recitation on Mondays will cover material discussed the previous week, and will address topics covered in homework due the next day (Tuesday). As such, the course “week” begins on Tuesdays, and ends on Mondays.

Time Considerations

Students should be prepared to spend between 3-6 hours per week on reading and course assignments outside of regular lecture/recitation.

Attendance Policy

Attendance:

This course is a 3 credit course. Attendance in weekly lecture is mandatory. Attendance at Monday recitations is optional, but strongly encouraged.

Incomplete Policy

According to the university catalogue, an incomplete may be given only in exceptional circumstances at the instructor's discretion. The student must be passing at the time of the request or be sufficiently close to passing. If the work is not completed within one year of the recording of the incomplete grade, the grade will become an F(I). The incomplete policy for this course is that at least 70% of the course must be already completed and an exceptional circumstance (i.e. medical issue) must exist. If you feel you require an incomplete for an exceptional reason, you need to email me and state your reasons for the incomplete in writing. We will then decide on a course of action.

Student Academic Integrity Policy

All UMass Dartmouth students are expected to maintain high standards of academic integrity and scholarly practice. The University does not tolerate academic dishonesty of any variety, whether as a result of a failure to understand required academic and scholarly procedure or as an act of intentional dishonesty.

A student found responsible of academic dishonesty is subject to severe disciplinary action which may include dismissal from the University. The procedure for responding to incidents of academic dishonesty may be found in Section III of this document. You may also refer to the Student Handbook for information about the judicial process.

A high standard of academic integrity promotes the pursuit of truth and learning and respect for the intellectual accomplishments of others. These are values that are fundamental to the mission of this University. Such values are undermined by academic dishonesty.

Academic freedom is a fundamental right in any institution of higher learning. Honesty and integrity are necessary preconditions of this freedom. Academic integrity requires that all academic work be wholly the product of an identified individual or individuals. Joint efforts are legitimate only when the assistance of others is explicitly acknowledged and deemed appropriate by the instructor of the course. Ethical conduct is the

obligation of every member of the University community, and breaches of academic integrity constitute serious offenses.

Maintenance of the standards of academic integrity and the successful administration of this policy depend on the mutual cooperation of faculty and students.

Faculty cooperation is essential for successful application of the procedures defined by this Academic Integrity Policy. Faculty members promote academic integrity by making clear on their syllabi their expectations concerning homework assignments, collaborative student efforts, research papers, examinations, computer-based infractions, and the like. Efforts should be made to detect and to prevent cheating and plagiarism in all academic assignments. If faculty members have evidence of academic dishonesty, they are expected to report such evidence promptly.

Students must assume responsibility for maintaining honesty in all work submitted for credit and in any other work designated by the instructor of the course. Students are also expected to report incidents of academic dishonesty to the instructor or dean of the instructional unit.

The intent of this policy is to make clear the standards of academic integrity at UMass Dartmouth.

****For additional information on violations, infractions, and consequences visit the UMass Dartmouth Student Academic Integrity Policy at the link below.***

<http://www.umassd.edu/studentaffairs/studenthandbookintroduction/studentconductpolicies/academicintegritypolicy/>

Center for Access and Success

In accordance with University policy, if you have a documented disability and require accommodations to obtain equal access in this course, please meet with the instructor at the beginning of the semester and provide the appropriate paperwork from the [Center for Access and Success](#). The necessary paperwork is obtained when you bring proper documentation to the Center, which is located in Liberal Arts, Room 016; phone: 508.999.8711.

<http://www.umassd.edu/dss/>

Resources

Tutoring

If you are having difficulty with the class please:

- Post a message on the Discussion Board – be sure to use your classmates for troubleshooting and problem solving.
- Make an appointment to come in and meet with the instructors during my office hours.
- Contact the Academic Resource Center (ARC) for support:

Academic Resource Center, Liberal Arts – Room7
Phone: 508.999.8708, Fax: 508.910.6404

Technical Help

If you are in need of technical assistance the IT Service Desk is available to students.

Syllabus – Introductory Physical Oceanography- MAR-555 – Miles Sundermeyer, Geoff Cowles

Claire T. Carney Library, lower level

508.999.8884 (x8884) or [Email](#)

Sunday:	12:00pm-2am
Monday thru Thursday:	7:30am-2am
Friday:	7:30am-11pm
Saturday:	9:30am-1pm

Students living in the Residence Halls may also contact the Residential Technology (ResTech) Support Center:

Visit [ResTech](#) in Elmwood Hall, lower level
Call the ResTech Help Line at 508.999.8040 (x8040)