

SIO 111/Physics 111
Introduction to Ocean Waves
Course Syllabus, Winter, 2022

Course website: [SIO/PHYS 111 on Canvas](#)
Recommended websites: cdip.ucsd.edu,
http://www.stormsurf.com/mdls/menu_wam.html

Lectures:	Tu Th 3:30-4:50pm	NH101	In Person / Podcast
Discussion:	Wed 5-5:50pm		Zoom
Final exam:	Tuesday June 3:00-6:00pm		format TBD

Instructor:

Falk Feddersen, Professor, Scripps Institution of Oceanography, ffeddersen@ucsd.edu
Zoom Office hours: Mon 6-7pm, F: 9-10am, or by appt

Teaching Assistant: Yao Yu, Graduate Student, SIO, yayu@ucsd.edu

Zoom Office hours: Tu 5:30-6:30pm

Administrator: Josh Reeves, ECKART 204, 858-822-4559, jdreeves@ucsd.edu

Course description:

An introduction to ocean surface waves, including: Dispersion relation, group velocity, and ray tracing, Sources of wave energy, Wave measurement and prediction, shoaling waves, wave current interaction, ship wakes, wave fluid dynamics.

Text: On-line textbook written by SIO Professor Salmon. The textbook may be downloaded from the Canvas or at

<http://pordlabs.ucsd.edu/rsalmon/111.textbook.pdf>

Other resources include: Chapter 7 of Kundu: (available online at UCSD library) <http://www.sciencedirect.com/science/book/9780123821003>

Prerequisites: Physics 2A-C or 4A-C, and Math 20A-E or equivalent. (To gauge the mathematical level of the class, see the on-line textbook at the website.)

Grading: HW 44%, Mid-term 28%, Final exam 28%

HW is due to Canvas at the date and time for which it is assigned. HW will be assigned on Tuesdays and will be due Late HW will not be accepted, except for illness or unusual circumstances. One HW can be dropped, but you must inform Prof. Feddersen that you wish to drop that particular HW assignment. Extra credit will be given for those who do all the assigned HW.

TENTATIVE SCHEDULE:

Tues/Thur are lecture days. HW will be assigned Tuesdays and is due via Canvas before midnight the following Tuesday, unless otherwise stated. HW will be discussed in the section following HW due date. This schedule is tentative and may be subject to change, which will be announced via canvas and revisions to this syllabus.

JAN	4	Tu	Introduction with ungraded Intro Quiz	
JAN	5	W	No Discussion Section	
JAN	6	Th	Chapter 1	
JAN	11	Tu	Chapter 1	HW1 assigned
JAN	12	W	Open or visit SIO pier	
JAN	13	Th	Chapter 2	
JAN	18	Tu	Chapter 2	HW1 due; HW2 assigned
JAN	19	W	Discuss HW1	
JAN	20	Th	Chapter 3	
JAN	25	Tu	Chapter 3	HW2 due; HW3 assigned
JAN	26	W	Discuss HW 2	
JAN	27	Th	Chapter 4	
FEB	1	Tu	Chapter 4	HW3 due; HW4 assigned
FEB	2	W	Discuss HW 3	
FEB	3	Th	Chapter 4	
FEB	8	Tu	Chapter 5	HW4 due
FEB	9	W	Discuss HW 4	
FEB	10	Th	Mid-term exam	
FEB	15	Tu	mid term discussion	
FEB	16	W	TBD	
FEB	17	Th	Chapter 6	
FEB	22	Tu	Chapter 6	HW5 assigned
FEB	23	W	open discussion	
FEB	24	Th	Chapter 7	
MAR	1	Tu	Chapter 7	HW5 due; HW6 assigned
MAR	2	W	Discuss HW 5	
MAR	3	Th	Chapter 8	
MAR	8	Tu	Chapter 8	HW6 due; extra credit HW7 assigned
MAR	9	W	Discuss HW6	
MAR	10	Th	Review or Guest Lecture	
MAR	11	Fr	extra discussion section	extra credit HW 7 due

MAR 15 Tu Final Exam 3:00-6:00pm format TBD

Lectures: Lectures will be in person in Nierenberg Hall 101 (NH101) and also available shortly thereafter on Canvas via podcast.ucsd.edu. You are notified that these lectures will be recorded, and that this program uses video and audio recording or other personal information for the purpose of facilitating the course and/or test environment. UC San Diego does not allow vendors to use this information for other purposes. Recordings will be deleted when no longer necessary. However, if cheating is suspected, the recording may become part of the student's administrative disciplinary record.

Disability Resources: Students requesting accommodations for this course due to a disability must provide a current Authorization for Accommodation (AFA) letter issued by the Office for Students with Disabilities (OSD) located in University Center 202 behind Center Hall. Students should present their AFA letters to Faculty (please make arrangements to contact me privately) at least two weeks prior to an exam to ensure that accommodations may be arranged.

Contact the OSD for further information:

T: 858.534.4382

E: osd@ucsd.edu

W: <http://disabilities.ucsd.edu>