

SIO 171: Introduction to Physical Oceanography

Fall 2021

Lectures: T/Th 2:00-3:20

Section: T 3:30-4:20

Prof: Dan Rudnick, drudnick@ucsd.edu

Office hours 3:00-5:00 Friday by zoom

TA: Theresa Morrison, t4morris@ucsd.edu

All course material on Canvas.

Zoom password: SIO_171

Sep 23	Lecture 1. Introduction: Time and length scales for fluids on a rotating Earth.
Sep 28	Lecture 2. Physical properties of seawater, part 1.
Sep 30	Lecture 3. Physical properties of seawater, part 2.
Oct 5	Lecture 4. Typical distributions of water properties, part 1.
Oct 7	Lecture 5. Typical distributions of water properties, part 2.
Oct 8	Homework #1 due
Oct 12	Lecture 6. Ocean instruments and data.
Oct 14	Lecture 7. Transports and budgets.
Oct 19	Lecture 8. Conservation laws for physical oceanography.
Oct 21	Lecture 9. Diffusion and mixing.
Oct 22	Homework #2 due
Oct 26	Review for midterm.
Oct 28	Midterm.
Nov 1	Lecture 10. Conservation of momentum.
Nov 4	Lecture 11. Geostrophy.
Nov 9	Lecture 12. External forcing by the atmosphere.
Nov 11	Veterans Day
Nov 12	Homework #3 due
Nov 16	Lecture 13. Potential vorticity.
Nov 18	Lecture 14. Waves.
Nov 23	Lecture 15. Tides.
Nov 25	Thanksgiving
Nov 30	Lecture 16. Ocean models.
Dec 2	Review for final.
Dec 3	Homework #4 due
Dec 9	Final, 3-6 pm.

Course requirements (grading)

4 Homeworks (10% each)

Midterm (20%)

Final (40%)