Introduction
Physics 7E is the last course in the Physics 2/7 introductory physics sequence. It covers fluid mechanics, mechanical oscillators, waves, sound and light.

Course Goals
There are three goals for the course. (1) At the end of the course you should be familiar with the basic physics of the material listed above. (2) The course should also introduce you to bits of mathematics will be important in your upcoming upper division courses. (3) The course should teach you to concisely but logically and readably present solutions to physics problems.

Pre-requisites Physics 7C and Math 2AB

Textbook
University Physics 13th ed. Young and Freedman. We will cover Chapters 12, 14 to 16, and 32 to 36. A special, paperpack edition containing only these chapters is available in the UCI bookstore. Alternately, students are welcome to purchase the eBook. The book is required as most homeworks will be assigned directly from this textbook.

Material not in the book but for which you will be held responsible will be added in lecture. There will be regularly updated schedule on the course website that tells you what will be covered in upcoming lectures. Please read the material before each lecture.

Instructor: Prof. Cooray

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Office hours: Tuesdays and Thursdays, 1 to 2 pm in FRH2174; if I am not in, please look for me in nearby offices, especially ones marked as “Cooray’s Group” on the door.

TA/Grader: Joseph McClengahan

e-mail: jmcclena@uci.edu

Office hours: TA will set the office hours on a weekly basis, depending on when the homeworks are due.
Course Website https://eee.uci.edu/12f/47341 (maintained by the TA). Please check it often.

Grading

Homework:
About 7 or 8 assignments. There will be two types of homework. The first will be Mastering Physics Problems (MP problems). You will need a MasteringPhysics account to do them. The second kind will be free response problems that allow intended to allow you to practice writing clear, organized, readable solutions. They will be generally due at the end of lecture on Thursdays.

Midterm and Final: There will be one midterm (Thursday November 1st) and one final exam (Thu, Dec 13, 8 AM; scheduled by the Registrar’s office).

The final grade will involve: homework - 40%, midterm - 25%, final - 35%. The class will be curved.

The best preparation for the exams is doing the homework and when necessary extra problems.

Academic Honesty: Your conduct in the course and your dealings with everyone in it must be scrupulously honest. Any violation of UCIs Academic Policy will be handled in accordance with that policy. A link to the Academic Honesty Policy can be found at the bottom of the webpage.

Class Outline/Syllabus:
This is a broad outline of topics to be covered in class. The schedule will change/evolve depending on the progress made, discussions during the lecture time. I will update the schedule and syllabus each week on the class website.

Week 1 (Sep 27th): Fluids, 14.1 to 14.3
Week 2 (Oct 2, 4): Fluids 14.4 to 14.6; Oscillations 13.1 to 13.3 (HW 1 due)
Week 3 (Oct 9, 11): Oscillations 13.4 to 13.6, Oscillations 13.7 to 13.8
Week 4 (Oct 16, 18): Waves 15.1 to 15.4, Waves 15.5 to 15.8 (HW 2 due)
Week 5 (Oct 23, 25): Sound 16.1 to 16.3, Sound 16.4 to 16.7 (HW 3 due)
Week 5 (Oct 30, Nov 1): Sound 16.8-16.9 and review for mid term, mid term
Week 6 (Nov 6, 8): E&M waves, 32.1 to 32.4, Light 33.1 to 33.3 (HW 4 due)
Week 7 (Nov 13, 15): Light 33.4 to 33.6, Mirrors 34.1 to 34.2 (HW 5 due)
Week 8 (Nov 20, 22): Lenses 33.4 to 33.6, thanksgiving
Week 9 (Nov 27, 29): Optical instruments 34.5 to 34.8, Interference 35.1 to 35.3 (HW 6 due)
Week 10 (Dec 4, 6): Diffraction 36.1 to 36.4, review for final (HW 7 due)
final, Dec 13