

## Electromagnetism and Optics

College of Creative Studies  
University of California, Santa Barbara

This is the fifth of 6 courses in the CCS Physics sequence and is required for all CCS Physics majors. Topics to be covered include:

- Electromagnetic induction, inductance
- Magnetic properties of matter, fields in matter
- AC circuits, passive circuits, basic amplifiers
- Maxwell's equations and electromagnetic waves
- Light waves
- Mirrors and lenses
- Interference
- Diffraction
- Gratings and spectra
- Polarization

Prerequisites: PHYS CS 34 or consent of instructor

### Lecture:

**Time:** Tues/Thurs 5:00 - 6:20 p.m.

**Place:** BLDG 698, room 102

**Instructor:** Dr. Ilan Ben-Yaacov, ESB Room 2213, ext 5295, [ilan@engineering.ucsb.edu](mailto:ilan@engineering.ucsb.edu)

**Office Hours:** Tuesday 2:45-4:45pm in ESB 2213

### Problem Sessions:

**Time / Place:** Thurs 11:00am - 12:50 p.m., PHELPS 1444

Thurs 1:00 - 2:50 p.m., PHELPS 1444

**Instructor:** Sathya Guruswami, [sathya.guruswami@ccs.ucsb.edu](mailto:sathya.guruswami@ccs.ucsb.edu)

**Office Hours:** Wed 10:30am-12:30pm in CCS Faculty Office (behind CCS building)

**Teaching Assistant:** Justin Lowrey, [justin@lowreys.net](mailto:justin@lowreys.net)

**TA office hours:** Wednesday 1:00-3:00pm, CCS Building

**Grader:** Ryan Hazelton, [rhazelton@umail.ucsb.edu](mailto:rhazelton@umail.ucsb.edu)

**Grader office hours:** Wednesday 6:00-8:00pm, CCS Building

**Required Texts:** *Physics*, 5<sup>th</sup> edition, vol 2, by Halliday, Resnick, Krane, 2002, ISBN 0-471-40194-3  
*Electricity and Magnetism*, 2<sup>nd</sup> edition, by Purcell, 1985, ISBN 0-07-004908-4

**Class Web Page:** [http://my.ece.ucsb.edu/PHYSCS35\\_W2008](http://my.ece.ucsb.edu/PHYSCS35_W2008)