

Physics 4D: Electromagnetic Waves, Optics and Special relativity.

Winter 2012, Physics Department, UCSD

INSTRUCTOR: Congjun Wu (5430 MH)

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TA: Ben Holladay, bholladay@ucsd.edu

Time/Place: TUTH: 09:30a - 10:50a; Fri: 09:00a - 09:50a YORK 4080A

Instructor Office hours: Thursday: 1:00am - 2:00 pm

TA office hour: TBA; Problem session: TBA.

Text Books:

1. Giancoli, Physics for Scientists Engineers,
2. Ohanian, Special Relativity: A Modern Introduction.

Reference Books

1. R. P. Feynman, *Feynman's lecture notes on Physics, Vol I and II*, Addison Wesley Longman (June 1970).

Grade:

20% problem sets, 50% quizzes, 30% final exam. There will be 5 quizzes, once every two weeks. They will be usually on Firday but subject to change.

Homework Assignments:

Homework will be assigned every week. It will be collected but not graded.

Class Schedule

1. (Week 1-2) Maxwell equation and EM waves (4 classes)
2. (Week 3-4) Light: reflection and refraction (5 classes)
3. (Week 5-6) Light as waves (I) interference
4. (Week 7-8) Light as waves (II) Diffraction and polarization
5. (Week 9-10) Special relativity