Physics 17 Fall 1999

Subject: Waves, Electromagnetic Radiation, Special Relativity, Quantum Properties of Light.

Regular Classroom: Knudsen 2115.

Time: Monday, Wednesday and Friday, 1:00 to 1:50 PM.

Discussion: Time and place to be announced at the first class meeting.

Instructor: Dror Orgad

Office: Knudsen 6-130F (Solid State Physics Group).

Phone: 6-3684

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Office Hours: Monday and Friday 2:00 to 3:00 PM.

TA: Rajesh Ojha

Goals of the Course

1. Introduce students to the general properties of wave phenomena.
2. Get insight into the electromagnetic radiation and its interaction with matter.
3. Expose students to the foundations of Special relativity.
4. Outline the quantum properties of light.

Exams and Grading

There will be one midterm exam and a final. The following weight will be used in determining the course grade: Homework: 50% , Each Exam: 25%.

Homework

Solving a large number of problems is essential for achieving a proper understanding of the material covered in the course. Homework problems will be assigned every week during the discussion period and will be collected during the following discussion session. Homework should be given to the TA.

Texts

We will use several textbooks during this course:

1. F.S. Crawford, Jr., "Waves-Berkeley Physics Course, Vol 3 - Waves"
   This book contains all the material concerning waves that we will cover in the course, and more.

2. R.P. Feynman, R.B Leighton and M. Sands, "The Feynman Lectures on Physics", Vol I and II.
   The Feynman Lectures are a masterpiece. We will use them throughout the course. If you are serious about physics you have to read them. One of the problems with them, however, is that individual topics are out of sequence. I will try to help by pointing out the relevant sections for the material taught in class.

3. A.P French, "Special Relativity".

Advise

1. **DO YOUR HOMEWORK**.

2. **ASK (PHYSICS) QUESTIONS**.