

GEORGIA INSTITUTE OF TECHNOLOGY
School of Electrical and Computer Engineering

ECE4751

Fall Semester, 2016

TITLE: "Laser Theory and Applications "

INSTRUCTOR: Professor Ali Adibi

OFFICE HOURS: MW 3:30-5:00 PM.. There will be an open door policy. Feel free to come for asking questions at any time the door is open.

CONTACT INFORMATION:

Office: 206B, Email: adibi@ece.gatech.edu.

TEXT:

O'Shea, Callen and Rhodes, Introduction to Lasers and Their Applications, Addison-Wesley Pub. Co., 1977, PLUS class notes.

REFERENCES:

Verdeyen, "Laser Electronics," 3rd ed., Prentice Hall, 1995.

Yariv, "Optical Electronics in Modern Communications, 5th ed., Oxford University Press, 1997

PREREQUISITES: Phys 2212

COURSE OBJECTIVES:

Provides an introduction to the theory and applications of laser principles and related instrumentation. Emphasis is on the fundamental principles underlying laser action.

COURSE POLICIES:

Lectures

Class lectures will be held on TR at 9:15-11:05 AM.

Homework

Homework assignments will be usually issued each week and will be due the following week (unless there is an exam that week). Each homework assignment is due at the beginning of the class corresponding to the due date. Late homework is accepted, but there will be a 20% penalty for each day. Collaboration on the homework problems is allowed and encouraged. However, each student must write the solution alone.

Exams

There will be two midterm exams and one comprehensive final exam. All exams will be closed book and notes. However, a one-page formula sheet will be allowed for the midterm exams, and three pages will be allowed for the final exam. Calculators are not to be used in the programmable mode on the exams.

Grades

Grades will be calculated based on the following two formulas, and the better grade will be considered. Note that there is a 5% extra credit for the option with homeworks.

| | Formula 1 | Formula 2 |
|-------------------|------------------|------------------|
| Homework | 15% | 0% |
| Exam 1 | 25% | 30% |
| Exam 2 | 25% | 30% |
| Final Exam | 40% | 40% |