

Syllabus of the 20-10-410: Modern Optics Course

Spring 2012

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1. Nature of Light
2. Wave Equations
3. Superposition of Waves
4. Interference of Light
5. Optical Interferometry
6. Coherence
7. Holography
8. Matrix Treatment of Polarization
9. Fraunhofer Diffraction
10. The Diffraction Grating
11. Fresnel Diffraction
12. Theory of Multilayers
13. Fresnel Equations
14. Laser Basics
15. Characteristics of Laser Beams
16. Fourier Optics
17. Nonlinear Optics and the Modulation of Light

Reference Book:

Introduction to Optics, Second Edition, [Frank L. Pedrotti](#), [Leno S. Pedrotti](#), Prentice Hall Inc., 1993 - 602 pages.

Links to the book:

http://books.google.com.cy/books/about/Introduction_to_optics.html?id=YrLvAAAAMAAJ&redir_esc=y

<http://www.amazon.com/gp/search?index=books&linkCode=qs&keywords=0135015456>

Links to IUT Web Course:

<http://ivut.iut.ac.ir/content.php?cid=3464>