

Fall 2018

Optics I. Theory

CPHY-62250/72250

Lecture times: M, W 9:55 – 10:45

Room: LCM 107

Text: class notes
Guenther, *Modern Optics* (recommended)

Electronic Resources: <http://mpalffy.lci.kent.edu/optics>

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Topics to be covered: topics in optics and photonics which are relevant to the field of liquid crystals, including:

Maxwell's equations
Fresnel reflection & refraction
light propagation in uniaxial crystals
light propagation in cholesteric liquid crystals
4 x 4 matrix method of light propagation
Gaussian beams

Evaluation: There will be two mid-term exams, and one final exam. The final grade will be computed from grades on the mid-terms (20% each), take home assignments (30%), the final examination (25%) and instructor evaluation of performance during the course (5%).