The minor in Optics, which is housed in the Department of Physics and Astronomy, is intended for students outside the physics major who wish to obtain a thorough understanding of the nature of light and its interactions with matter. After learning the basic principles of optics in PHY 300, students may pursue their scientific or professional interests by taking further courses in the Department of Physics and Astronomy or the College of Engineering and Applied Sciences.

Requirements for the Minor in Optics (OPT)

All courses offered for the minor must be passed with a letter grade of C or higher.

Completion of the minor requires 21 credits.

A. Basic courses:

PHY 132/134 or 142 Classical Physics II
PHY 251/252 Modern Physics and Laboratory
or ESG 281 An Engineering Introduction to Solid State
PHY 300 Waves and Optics
PHY 301 Electromagnetic Theory
or ESE 319 Introduction to Electromagnetic Fields and Waves

B. At least two of the following:

ESE 321 Electromagnetic Waves and Fiber Optics
ESE 362 Optoelectronic Devices and Optical Imaging Techniques
ESE 441 Engineering Design I*
ESE 499 Research in Electrical Sciences*
ESG 441 Engineering Science Design IV*
ESM 499 Research in Materials Science*
MEC 342* Introduction to Experimental Stress
MEC 441 Mechanical Engineering Design II*

MEC 499 Research in Mechanical Engineering*

PHY 302 Electromagnetic Theory
PHY 452 Lasers
PHY 487 Research*

* These courses may be used if the research project is in optics. Each such course must be taken for three credits and the student must obtain written approval of the Department of Physics and Astronomy for his or her research proposal before starting research.