EET 161 - FUNDAMENTALS OF LIGHT & LASERS

Course Description

This course introduces the elements of a laser, operation of a helium-neon gas laser, laser physics, optical-cavities, properties of laser light and a survey of laser systems. Safety procedures concerning lasers and related equipment are presented in this course. Group 2 course.

Credit Hours

4

Contact Hours

6

Lecture Hours

2

Lab Hours

4

Required Prerequisites

MTH 100 or higher

General Education Outcomes supported by this course

Quantitative Reasoning

Course Learning Outcomes

Knowledge:

- Identify the correct terminology used when describing the interaction of light and matter.

Application:

- Apply fundamental rules governing the propagation of light through materials.
- Calculate geometric angles and intensities of light as it interacts with the surface of materials.
- Complete laboratory exercises using photonics equipment.

Integration:

- Present applications of light and used in manufacturing and typical daily activities based on their research.
- Describe the requirements and constraints inherent to the application of light to other disciplines.

Human Dimension:

- Develop proper terminology required to interact with other professionals established in photonics (light and Laser) related fields.

Caring - Civic Learning:

- Appreciate the safety aspects of using lasers.

Learning How to Learn:

- Recognize the needs of emerging job markets and highly technical fields relating to lasers.