Electronic Properties of Materials

MATSCEN 6777

Credit Hours:
2.00 - 2.00

Course Levels:
Graduate (5000-8000 level)

Course Components:
Lecture

Course Description:
In-depth analysis of the structure - property relationships and application of materials in electronics, optics and
magnetics.

Prerequisites and Co-requisites:
Prereq: Grad standing in Engineering or Science, or permission of instructor.

Course Goals / Objectives:
- Understand the fundamental chemical and physical bases for the properties that are observed
- Have an appreciation for how these properties are used in electronic, optical and magnetic devices
- Recognize how materials research and development in these areas can result in improved properties

Course Topics:
- The Physics of Solids
- Engineering Electronic Structure
- Overview of Electronic Devices
- Deposition Techniques & Defects
- Semiconductor Alloys
- Organic Semiconductors
- Magnetic Materials
Designation:
Elective
Required