



**THE OHIO STATE UNIVERSITY**  
COLLEGE OF ENGINEERING

# Electronic Properties of Materials

## MATSCEN 6777

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**Credit Hours:**

2.00 - 2.00

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**Course Levels:**

Graduate (5000-8000 level)

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**Course Components:**

Lecture

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**Course Description:**

In-depth analysis of the structure - property relationships and application of materials in electronics, optics and magnetism.

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**Prerequisites and Co-requisites:**

Prereq: Grad standing in Engineering or Science, or permission of instructor.

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**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

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**Course Topics:**

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

Elective

Required