



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Electron Diffraction, Imaging and Spectroscopies

MATSCEN 7855

Credit Hours:

2.00 - 2.00

Course Levels:

Graduate (5000-8000 level)

Course Components:

Lecture

Course Description:

Advanced topics in characterizing materials using transmission electron microscopy. Topics covered include electron diffraction techniques, important imaging modes, and widely used spectroscopy methods.

Prerequisites and Co-requisites:

Prereq: 6715, or permission of instructor.

Course Goals / Objectives:

- Provide fundamental knowledge of electron diffraction

Course Topics:

- Dynamical Theory
- Diffraction contrast imaging
- Diffraction analysis
- High Resolution and High Angle Annular Dark Field Imaging
- Energy Dispersive Spectroscopy
- Electron Energy Loss Spectroscopy

Designation:

Elective