



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Computational Materials Modeling

MATSCEN 6756

Credit Hours:

2.00 - 2.00

Course Levels:

Graduate (5000-8000 level)

Course Components:

Lecture

Course Description:

Introduction to common computer modeling methods, including hands-on work with emphasis on the atomic and nano-scales.

Prerequisites and Co-requisites:

Prereq: Permission of instructor.

Course Goals / Objectives:

- Create familiarity with state-of-the-art methods to model and simulate materials from the atomic to macroscopic scales
 - Provide hands-on experience with using these methods
-

Course Topics:

- Fundamentals
 - Cellular Automata
 - Dislocation Dynamics
 - Molecular Dynamics
 - Phase Field
 - Finite Element
 - Monte Carlo
 - Finite Difference
-

Designation:

Elective

Required