

MIME 473. INTRODUCTION TO COMPUTATIONAL MATERIALS DESIGN.

Credits: 3

Offered by: Mining & Materials Engineering (Faculty of Engineering)

Terms offered: Winter 2026

[View offerings for Winter 2026 in Visual Schedule Builder.](#)

Description

Introduction to modelling and simulation techniques in materials engineering: quantum mechanics and atomistic simulation (i.e. Monte-Carlo and Molecular Dynamics). These modelling and simulations methods provide new and efficient tools to examine and predict various physical and mechanical properties of materials, enabling bottom-up design of materials and structures starting from quantum and atomistic level. These computational tools play an increasingly important role in modern materials engineering. Fundamental theories behind materials modelling and hands-on training on various modelling software.

- Prerequisite(s): MIME 209 and MIME 261, or permission of instructor.
- Restriction(s): Not open to students who have taken MIME 573.
- (3-1.5-4.5)

Most students use Visual Schedule Builder (VSB) to organize their schedules. VSB helps you plan class schedules, travel time, and more.

[Launch Visual Schedule Builder](#)