Overview

The course will give an overview of modern research topics in material physics with the purpose of encouraging students to engage in the latest research. The focus will be on introducing a simple physical model with just enough mathematical formalism to explain the physics in complex materials. In the first two parts of the course, the fundamentals of modern electronic structure theory and electrical conductions in solids will be introduced. In the third part of the course, some fundamental excitation processes will be discussed, including phonons and optical properties of materials. Non-covalent interactions, which play an important role in determining the stabilities of low-dimensional and molecular materials, will be discussed, particularly their deep root to the electronic structures of materials. Finally, students will have a chance to gain knowledge on the latest researches in understanding structure-property relationships in complex materials with computation modellings using techniques such as machine-learnings. Stronger focus geared towards research at postgraduate level are incorporated into the second half of the course, and students will be giving group presentations to discuss specific topics on the latest research in physical properties of materials.
Faculty
Faculty of Science

School
School of Materials Science & Engineering

Study Level
Postgraduate

Offering Terms
Term 1

Campus
Kensington

Delivery Mode
Fully on-site

Indicative contact hours
4.6

Timetable
Visit timetable website for details
Course Outline

To access course outline, please visit:

MATS6104 Course Outline
Fees

Commonwealth Supported Students $1170
Domestic Students $3900
International Students $5400

DISCLAIMER
Please note that the University reserves the right to vary student fees in line with relevant legislation. This fee information is provided as a guide and more specific information about fees, including fee policy, can be found on the fee website.

For advice about fees for courses with a fee displayed as "Not Applicable", including some Work Experience and UNSW Canberra at ADFA courses, please contact the relevant Faculty.

Where a Commonwealth Supported Students fee is displayed, it does not guarantee such places are available.
Pre-2019 Handbook Editions

Access past handbook editions (2018 and prior)

Pre-2019 Handbook Editions
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Authorised by Deputy Vice-Chancellor (Academic)
CRICOS Provider Code 00098G
ABN: 57 195 873 179