



Course Outline

MATS4504

Research Training

Materials Science and Engineering

Science

T1, 2020

The course is only available to students enrolled in the School of Materials Science and Engineering Science Honours research project in the School of Materials Science and Engineering. The School Honours Coordinator must approve enrolment.

2.2 Course aims

The objective of this course is to develop skills in professional communication, writing, project planning, data analysis, intellectual property, risk management, and workplace health and safety. These skills are taught in the context of the Honours research project in the 4500 BSc Honours program in Materials Science and Engineering. To provide research training and advanced disciplinary knowledge.

2.3 Course learning outcomes (CLO)

At the successful completion of this course you (the student) should be able to:

1. Carry out research effectively, including the ability to work independently, design and carry out experiments, collect and analyse data, and solve problems.
2. Understand and apply advanced materials science concepts and knowledge to solve problems
3. Develop and manage a project effectively, including the ability to plan and execute a significant project applying relevant methods and knowledge
4. Communicate scientific information in a written and spoken form
5. Work effectively within the regulatory frameworks relevant to Materials Science, including workplace health and safety and ethics

2.4 Relationship between course and program learning outcomes and assessments

| Course Learning Outcome (CLO) | LO Statement | Program Learning Outcome (PLO) | Related Tasks & Assessment |
|-------------------------------|--------------|--------------------------------|----------------------------|
| CLO 1 | | 3, 5, 6 & 7 | 2 |
| CLO 2 | | 3, 5, 6 & 7 | 1 & 2 |
| CLO 3 | | 3, 5, 6 & 7 | 2 |
| CLO 4 | | 1 | 1 & 2 |
| CLO 5 | | 4 & 8 | 1 |

3. Strategies and approaches to learning

3.1 Learning and teaching activities

(Based on UNSW Learning Guidelines):

The course is designed for you to actively engage in the learning process and analyse and synthesise the content in a real-world environment. Students are actively engaged in the learning process.

It is expected that, in addition to attending classes, students read, write, discuss, and are engaged in solving problems in the context of their Honours research project.

Learning is more effective when prior knowledge are recognised and built on. The course is built on prior courses in materials science, and science courses more generally, undertaken in the 3970 BSc program.

Students become more engaged in the learning process if they can see the relevance of their studies to professional and disciplinary contexts. Students will be asked to interpret literature and present scientific information relevant to their Honours research project.

3.2 Expectations of students

Students should complete all assessment and milestone tasks and submit them on time.

Students are expected to participate in online discussions through the Moodle page

Each student is expected to maintain a regular dialogue with their supervisor (for example by weekly meetings) about their project

4. Course

This course consists of 12 hours of non-credit instruction over the term

| Week |
|------|
| 1 |
| 2 |
| 3 |
| 4 |
| 5 |
| 6 |

Speaking Techniques and Problems

5. Assessment

5.1 Assessment tasks

| Assessment task | Description | Weight | |
|-----------------|-------------|--------|--|
|-----------------|-------------|--------|--|

5.4. Feedback on assessment

Seminar: Immediate verbal feedback from supervisor following presentation; formal written marking criteria to assess presentation.

Project proposal: Marked report is returned to students and discussed with supervisor.

6. Academic integrity, referencing and plagiarism

Referencing is a way of acknowledging the sources of information that you use to research your assignments. You need to provide a reference whenever you draw on someone else's words, ideas or research. Not referencing other people's work can constitute plagiarism.

Preferred referencing system: Students should discuss with their supervisor which referencing system to use.

Further information about referencing styles can be located at <https://student.unsw.edu.au/referencing>

- Student Wellbeing, Health and Safety: <https://student.unsw.edu.au/wellbeing>
- Disability Support Services: <https://student.unsw.edu.au/disability-services>
- UNSW IT Service Centre: <https://www.it.unsw.edu.au/students/index.html>
- Assessment Implementation Procedure:
<https://www.gs.unsw.edu.au/policy/documents/assessmentimplementationprocedure.pdf>