UNSW Course Outline

MATS6113 Research Project - 2024

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General Course Information

Course Code : MATS6113
Year : 2024
Term : Term 1
Teaching Period : T1
Is a multi-term course? : Yes
Additional Term(s) : 2023, Term 22024, Term 3
Faculty : Faculty of Science
Academic Unit : School of Materials Science & Engineering
Delivery Mode : In Person
Delivery Format : Standard
Delivery Location : Kensington
Campus : Sydney
Study Level : Postgraduate
Units of Credit : 12

Useful Links

Handbook Class Timetable

Course Details & Outcomes

Course Description

This course is designed for students undertaking a Masters by Coursework program in Materials Science and Engineering. It will be based on the performance of an original research project where students will demonstrate competency in the design and execution of a research investigation.

A self-directed experimental research or design-based project to apply, contextualise, and integrate fundamental scientific/engineering concepts learnt throughout the Materials Science and Engineering undergraduate program. Students will develop advanced disciplinary knowledge and will apply this to problem solving in the chosen topic area. Students will develop and practice high-level skills in critical thinking, project management, safety consideration and risk management, data collection and analysis, problem solving, and technical communication.

T1 Entry point: Students are required to enrol in MATS6114 in Term 1 and Term 2 and enrol in MATS6113 in Term 3

Note: study arrangements and attendance for this course is made on a case-by-case basis and all enrolments must be processed by the Materials Science & Engineering School Office only. Please contact enquiries.materials@unsw.edu.au.

Course Aims

The aim of this course is to provide research training and advanced disciplinary knowledge. Students will understand how to understand research questions, identify project aims, perform experimental investigations and analyse and interpret data. The course also provides students with a structured opportunity to undertake a self-directed and substantial experimental research or design-based project to:

1) Apply, contextualise, and integrate fundamental scientific/engineering concepts learnt throughout the Materials Science and Engineering Masters program;

2) Develop advanced disciplinary knowledge and to apply this to problem solving in the discipline;

3) Develop and practice high-level skills in critical thinking, project management, safety consideration and risk management, data collection and analysis, problem solving, and professional/technical communication; and,

4) Gain experience in the use of standard and specialised practical techniques relevant to their chosen area.

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Conduct research effectively, including the ability to work independently, design and carry out experiments, collect and analyse data, and solve problems.
CLO2 : Develop and manage a significant research project effectively, including project planning and the application of relevant methods and knowledge.
CLO3 : Effectively communicate scientific information in a written form.
CLO4 : Work effectively within the regulatory frameworks relevant to Materials Science, including workplace health and safety and ethics.

Course Learning Outcomes	Assessment Item
CLO1 : Conduct research effectively, including the ability to work independently, design and carry out experiments, collect and analyse data, and solve problems.	• Thesis
CLO2 : Develop and manage a significant research project effectively, including project planning and the application of relevant methods and knowledge.	• Literature Review • Thesis
CLO3 : Effectively communicate scientific information in a written form.	• Literature Review • Thesis
CLO4 : Work effectively within the regulatory frameworks relevant to Materials Science, including workplace health and safety and ethics.	• Thesis

Learning and Teaching Technologies

Moodle - Learning Management System

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Thesis Assessment Format: Individual	100%	
Literature Review Assessment Format: Individual	0%	

Assessment Details

Thesis

Assessment Overview

The thesis is your major assessment task for the research project spanning MATS6113 and MATS6114 (24 UOC in total).

A Masters thesis at this level is typically around 100 pages, with feedback provided by three nominated academic assessors who utilise a standardised rubric for all theses.

Course Learning Outcomes

- CLO1 : Conduct research effectively, including the ability to work independently, design and carry out experiments, collect and analyse data, and solve problems.
- CLO2 : Develop and manage a significant research project effectively, including project planning and the application of relevant methods and knowledge.
- CLO3 : Effectively communicate scientific information in a written form.
- CLO4 : Work effectively within the regulatory frameworks relevant to Materials Science, including workplace health and safety and ethics.

Literature Review

Assessment Overview

You will submit a draft literature review of your project topic. This would be expected to occur at the end of one term of enrollment. You will need to demonstrate competency in understanding the research project and be able to clearly identify the research questions that will be investigated in the research project. You will receive feedback on your literature review by your project supervisor within 2 weeks of submission.

Course Learning Outcomes

- CLO2 : Develop and manage a significant research project effectively, including project planning and the application of relevant methods and knowledge.
- CLO3 : Effectively communicate scientific information in a written form.

General Assessment Information

Short Extensions:

The School of Materials Science and Engineering has reviewed its range of assignments and projects to determine their suitability for automatic short extensions as set out by the UNSW Short Extension Policy. After consultation with teaching staff and examination of our course offerings, we consider our current deadline structures already accommodate the possibility of

unexpected circumstances that may lead students to require additional days for submission. Consequently, the School does not offer the Short Extension provision in its MATS courses but students, if needed, can apply for formal Special Consideration via the usual procedure.

Grading Basis

Standard

Course Schedule

Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Runyu Yang		Room 349 Hilmer Building E10		By appointment	Yes	Yes

Other Useful Information

Academic Information

Upon your enrolment at UNSW, you share responsibility with us for maintaining a safe, harmonious and tolerant University environment.

You are required to:

- Comply with the University's conditions of enrolment.
- Act responsibly, ethically, safely and with integrity.
- Observe standards of equity and respect in dealing with every member of the UNSW community.
- Engage in lawful behaviour.
- Use and care for University resources in a responsible and appropriate manner.
- Maintain the University's reputation and good standing.

For more information, visit the UNSW Student Code of Conduct Website.

Academic Honesty and Plagarism

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

Academic integrity is fundamental to success at university. Academic integrity can be defined as a commitment to six fundamental values in academic pursuits: honesty, trust, fairness, respect, responsibility and courage. At UNSW, this means that your work must be your own, and others' ideas should be appropriately acknowledged. If you don't follow these rules, plagiarism may be detected in your work.
Further information about academic integrity, plagiarism and the use of AI in assessments can be located at:

- The Current Students site,
- The ELISE training site, and
- The Use of AI for assessments site.

The Student Conduct and Integrity Unit provides further resources to assist you to understand your conduct obligations as a student: https://student.unsw.edu.au/conduct

Submission of Assessment Tasks

Penalty for Late Submissions

UNSW has a standard late submission penalty of:

- 5% per day,
- for all assessments where a penalty applies,
- capped at five days (120 hours) from the assessment deadline, after which a student cannot submit an assessment, and
- no permitted variation.

Any variations to the above will be explicitly stated in the Course Outline for a given course or assessment task.

Students are expected to manage their time to meet deadlines and to request extensions as early as possible before the deadline.

Special Consideration

If circumstances prevent you from attending/completing an assessment task, you must officially apply for special consideration, usually within 3 days of the sitting date/due date. You can apply

by logging onto myUNSW and following the link in the My Student Profile Tab. Medical documentation or other documentation explaining your absence must be submitted with your application. Once your application has been assessed, you will be contacted via your student email address to be advised of the official outcome and any actions that need to be taken from there. For more information about special consideration, please visit: https://student.unsw.edu.au/special-consideration

Important note: UNSW has a "fit to sit/submit" rule, which means that if you sit an exam or submit a piece of assessment, you are declaring yourself fit to do so and cannot later apply for Special Consideration. This is to ensure that if you feel unwell or are faced with significant circumstances beyond your control that affect your ability to study, you do not sit an examination or submit an assessment that does not reflect your best performance. Instead, you should apply for Special Consideration as soon as you realise you are not well enough or are otherwise unable to sit or submit an assessment.

Faculty-specific Information

Additional support for students

- The Current Students Gateway
- Student Support
- Academic Skills and Support
- Student Wellbeing, Health and Safety
- Equitable Learning Services
- UNSW IT Service Centre
- Science EDI Student Initiatives, Offerings and Guidelines