Course Outline

MATS4504

Research Training

Materials Science and Engineering

Science

T1, 2020

1. Staff

Position	Name	Email	Consultation times and locations	Contact Details
Course Convenor	Dr Owen Standard	o.standard@unsw.edu.au	Room 243, School of Materials Science and Engineering (Building E10), by appointment	Phone: 9385 4437
Hons project Coordinator	Dr Kevin Laws	k.laws@unsw.edu.au	Room 301, School of Materials Science and Engineering (Building E10), by appointment	Phone: 9385 5234
Professional skills Coordinator	Prof. Chris Sorrell	c.sorrell@unsw.edu.au	Room 248, School of Materials Science and Engineering (Building E10), by appointment	Phone: 9385 4421

2. Course information

Units of credit: 6

Related courses: This course is not stand-alone. Students undertaking Honours in the BSc (Materials Science) program are required to complete 48UOC comprising of MATS4505 Honours Project (12 UOC) once per term for three terms, MATS4503 Professional Skills (6 UOC) in T2, and MATS4504 Research Training (6 UOC) in T1. The honours program is built on the Materials and Science courses completed in the students' previous 3 years of BSc study in the Materials Science discipline (or similar).

Teaching times and locations:

	Lecture
Day	Tuesday
Location	Chemical Sciences M10
Time	15:00-18:00
Weeks	1-10

2.1 Course summary

This course provides an essential introduction to Honours for Science students undertaking a full-time Honours program in the School of Materials Science and Engineering.

The course results in a written research proposal providing an account of relevant scientific literature and a description of the research work expected to be undertaken during the Honours program. The focus of the research proposal is decided in consultation with the student's Honours Supervisor and is related to the topic area of the research project. Students will also present a short seminar based on their proposal. Other required research training, including relevant workplace health and safety inductions and additional instruction on topics including preparation of research proposals, and ethical practice, complements this course.

The course is only available to students enrolled in the School of Materials Science and Engineering Honours Program and must be taken in a student's first semester of Honours in conjunction with a Science Honours research project in the School of Materials Science and Engineering. The School's 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	Carry…	3, 5, 6 & 7	2
CLO 2	Understand…	3, 5, 6 & 7	1 & 2
CLO 3	Develop…	3, 5, 6 & 7	2
CLO 4	Communicate…	1	1 & 2
CLO 5	Work…	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 students' prior experience and 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 schedule and structure

This course consists of 30 hours of class contact hours. You are expected to take an additional 120 hours of non-class contact hours to complete assessments, readings and exam preparation spread over the term.

Week	Topics
1	Preliminary Session
2	Cover Letters, C.V.s, and Résumés
3	Interview Skills
4	Nonverbal Communication
5	Tests and Questionnaires
6	Thesis Preparation
7	Speaking Techniques and Problems
8	Visual Aids
9	Demonstration Presentations
10	Practice Session
	Post Term 1 Presentation

5. Assessment

5.1 Assessment tasks

Assessment task	Description	Weight	Due date
Seminar:	Students are required to give a short seminar based on their written literature survey and proposal, and answer questions on their presentation. The seminar is graded by academics from the School in the audience. 12 mins.	30%	Exam Period
Project Proposal:	The project proposal is the major piece of work submitted for this 6 UOC introductory Honours course. It will consist of a review of relevant literature and a proposal of work to be carried out during the Honours year.	70%	Week 10

Further information

UNSW grading system: https://student.unsw.edu.au/grades

UNSW assessment policy: https://student.unsw.edu.au/assessment

5.2 Assessment criteria and standards

Assessment criteria will be available on the course Moodle page

Students who fail to satisfactorily complete all of the assessment tasks but achieve a final mark >50% for the course, may still be awarded a UF (Unsatisfactory Fail) for the course. Please refer to the UNSW guide to grades: https://student.unsw.edu.au/grades

5.3 Submission of assessment tasks

- Assessment tasks must be completed and submitted by the dates set. All submitted work must contain a completed student declaration sheet. Unless stated otherwise, submission of assessment tasks is done by emailing to the Course Coordinator (o.standard@unsw.edu.au). Marked work will be returned within two weeks of submission.
- UNSW operates under a Fit to Sit/ Submit rule for all assessments. If a student wishes to submit an application for special consideration for an exam or assessment, the application must be submitted prior to the start of the exam or before an assessment is submitted. If a student sits the exam/ submits an assignment, they are declaring themselves well enough to do so. Information on this process can be found here: https://student.unsw.edu.au/special-consideration. Medical certificates or other appropriate documents must be included. Students should also advise the lecturer of the situation.
- Unless otherwise specified in the task criteria, all assignments must be uploaded via Moodle prior to the due date for submission.
- Assessments submitted after the due date for submission will receive a 10% of maximum grade penalty for every day late, or part thereof.
- Students who have a disability that requires some adjustment in their teaching or learning environment are encouraged to discuss their study needs with the course coordinator prior to, or at the commencement of, their course, or with the Equity Officer (Disability) in the Equity and Diversity Unit: https://student.unsw.edu.au/disability. Early notification is essential to enable any necessary adjustments to be made.

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 refencing 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

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.[1] 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 and **plagiarism** can be located at:

- The *Current Students* site https://student.unsw.edu.au/plagiarism**,** and
- The *ELISE* training site http://subjectguides.library.unsw.edu.au/elise/presenting

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

7. Readings and resources

There are no recommended reading or resources for this course, students should discuss what texts will be important for their project with their supervisor.

8. Administrative matters

School Office: Room 137, Building E10 School of Materials Science and Engineering
School Website: http://www.materials.unsw.edu.au/
Faculty Office: Robert Webster Building, Room 128
Faculty Website: http://www.science.unsw.edu.au/

9. Additional support for students

- The Current Students Gateway: https://student.unsw.edu.au/
- Academic Skills and Support: https://student.unsw.edu.au/academic-skills

[1] International Center for Academic Integrity, 'The Fundamental Values of Academic Integrity', T. Fishman (ed), Clemson University, 2013.

- 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