1. Staff

Position	Name	Email	Consultation times and locations	

2.2 Course aims

The objective of this course is to develop a strong understanding for the relationships between structure, processing and properties and failure of functional materials and composite materials for advanced applications

2.3 Course learning outcomes (CLO)

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

1. Demonstrate an understanding the properties and behaviour of materials

4. Course schedule and structure

This course consists of 52 hours of class contact hours. You are expected to take an additional 98 hours of non-class contact hours to complete assessments, readings and exam preparation spread over the term.

Week	Topics	Activity	
1	Introduction of composites Fibres, resin and core materials		**SM**
2	Micromechanics Fatigue and fracture		**SM**
3	Structure design Composite manufacturing Characterization and Non-destructive testing		**SMSM**

5. Assessment

5.1 Assessment tasks

Assessment task	Description	Weight	Due date
Individual assignment:	You will undertake a task involving the application of the topics covered in Weeks 1-3	15%	Week 5
Mid-term exam:	This examination will be the final examination for the topics learnt in Weeks 1-4 (2 h)	35%	Week 7
Individual assignment:	You will undertake a task involving the application of the knowledge and techniques covered in Weeks 5~10	15%	Week 10
Final exam:	The final exam will assess your learning of the topics covered in Weeks 5-10. It will be 2 h in duration and will be held during the final exam period	35%	Final exam period

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 and standards for each assessment tasks are available on the course Moodle page.

5.3 Submission of assessment tasks

- Students unable to submit assignments on time or attend the mid-session quizzes or final exams on health grounds should make a request for special consideration. 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.
- Assignments/lab reports 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

Assignments: Feedback will be given two weeks after submission of the assignment and take the form of the mark for the assignment, overall comments on how the class performed, any common areas that were not answered correctly. Additionally, personal feedback and how each student performed may be given.

Midsession exams: Students will receive their marked exams indicating what questions were answered correctly and incorrectly. Overall comments and worked solutions may be provided to the class.

Final exam: Students will receive their final mark.

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.

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

Functional Materials

- Processing of Semiconductors, ed. K.A. Jackson et al. VCH, 1996.
- Functional Materials: Preparation, Processing and Applications, S Banerjee & A.K. Tyagi Elsevier 2012
- The Science and Engineering of Microelectronic Fabrication, S. A. Campbell, OUP, 1996.
- Materials for Semiconductor Devices, C. R. M. Grosvenor, Institute of Metals, 1987.
- Semiconductor Devices, N.M. Morris, McMillan, 1976.
- Nanoelectronics and Information Technology-Advanced Electronic Materials and Novel Devices, Edited By Rainer Waser, Wiley-VCH, 2003.
- Physics of Functional MaTj-0.004 Tc 01.9198 0 e