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1. Staff contact details

Contact details for course convenor

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Contact details for additional lecturers

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Contact details for demonstrators

Please see the course Moodle. Consultation concerning this course is available during the tutorial sessions. You may make an appointmentri

UOC, including class contact hours, other learning activities, preparation and time spent on all assessable work.

You should aim to spend about 12 h/w on this course. The additional time should be spent in making sure that you understand the lecture material, completing the set assignments, further reading, and revising for any examinations.

Contact hours

	Day	Time	Location	Weeks
Lectures	Mondays	10:00 12:00	CLB 8	1 3 5 11
Demonstrations	Tuesdays	10:00-11:00 11:00-12:00 12:00-13:00	Elec Eng G17-G10 Elec Eng G17-G10 Ainswth J17-G01	
	Thursdays	12:00-13:00 13:00-14:00 14:00-15:00	Ainswth J17-202	

Aims

The first aim of this course is to develop an understanding of the influence of cracks and flaws on the performance of structural materials subject to mechanical loads. The second aim of this course is to learn how to quantitatively predict and prevent the failure of materials that contain cracks or flaws.

Student learning outcomes

This course is designed to address the learning outcomes below and the corresponding Engineers Australia Stage 1 Competency Standards for Professional Engineers as shown. The full list of Stage 1 Competency Standards may be found in Appendix A.

After successfully completing this course, you should be able to:

Learning Outcome		**EA Stage 1 Competencies**
1.	Correctly apply linear elastic fracture mechanics (LEFM) to predict material failure	PE 1.1, 1.2, 1.3, 2.1, 2.2
2.	Identify and describe the basic fracture and fatigue mechanisms and apply that knowledge to failure analysis	PE 1.1, 1.3, 2.1, 2.2
3.	Correctly determine the linear elastic fracture toughness, K_{IC}, of a material from experimental data	PE 1.1, 1.2, 1.3, 2.1, 2.2
4.	Correctly predict lifetimes for fatigue and environmentally assisted cracking	PE 1.1, 1.2, 1.3, 2.1, 2.2

6. Assessment

Assessment overview

Assessment	Length	Weight	Learning outcomes assessed	Assessment criteria	Due date and submission requirements	Deadline for absolute fail	Marks returned

Assignments

Please refer to Moodle for the assignments and the relevant templates to complete them.

Laboratory Assignment

You will not be allowed to complete the laboratory assignment if you do not attend your assigned laboratory preparation tutorial and assigned experiment session without advance arrangements.

Presentation

All non-electronic submissions should have a standard School cover sheet, which is available from this Moodle page.

All submissions are expected to be neat and clearly set out. Your results are the pinnacle of all your hard work and should be treated with due respect. Presenting results clearly gives the marker the best chance of understanding your method; even if the numerical results are incorrect.

Submission

Work submitted late without an approved extension by the course coordinator or delegated authority is subject to a late penalty of 20 percent (20%) of the maximum mark possible for that assessment item, per calendar day.

The late penalty is applied per calendar day (including weekends and public holidays) that the assessment is overdue. There is no pro-rata of the late penalty for submissions made part way through a day.

be awarded for that assessment item.

For some assessment items, a late penalty may not be appropriate. These are clearly indicated in the course outline, and such assessments receive a mark of zero if not completed by the specified date.

Examinations

You must be available for all tests and examinations. Final examinations for each course are held during the University examination periods: November/December for T3.

Please visit myUNSW for Provisional Examination timetable publish dates.

For further information on exams, please see the Exams webpage.

Calculators

You will need to provide your own calculator of a make and model approved by UNSW for the examinations. The list of approved calculators is available at student.unsw.edu.au/exam