



Contents

1. Staff Contact Details	2
2. Course details	2
3. Teaching strategies.....	4
4. Course schedule	5
5. Assessment	6
6. Expected Resources for students.....	9
7. Course evaluation and development	9
8. Academic honesty and plagiarism.....	9
9. Administrative Matters.....	10
Appendix A: Engineers Australia (EA) Professional Engineer Competency Standards.....	11

I. Staff Contact Details

Contact details and consultation times for course convenor

Dr Garth Pearce
Ainsworth Building 208E
Tel: 9385 4127
Email: g.pearce@unsw.edu.au

Contact details for Demonstrators

Jay Sul - Head Demonstrator
Email: j.sul@unsw.edu.au

Others TBA through Moodle

Consultation

Consultation concerning this course is available during the software laboratories. Outside of these hours the convenor and demonstrators can be contacted through the Moodle platform; either via a forum or through direct messaging. *Any questions about course content and assessment that are not of a private nature should be directed to the appropriate Moodle forum.* Any *personal* queries about course administration can be directed to Garth via direct email or Moodle direct message.

4. Course schedule

Week	Name	Date	Topics
2	Introduction to FEM	06-Aug	Introduction to FEA; Discretisation; FE Terminology; Stiffness Matrices for Bars, Trusses and Beams; Element Library Introduction.
3	Numerical Solution Procedure	13-Aug	Applying Loads and Boundary Conditions; Assembly; Solving for Nodal Displacements; Constitutive Laws; Interpolation of Stress and Strain

4

which force the use of physical assignment copies, they must include a School cover sheet which is available from the school website and are to be submitted before 11am on the due date so that they can be processed before close of business.

Online submissions are required to be submitted via Moodle. No cover sheet is required as all assignments will be identified through your Moodle account. *All digital assignments are due by 5pm on the due date.* An additional allowance will be granted automatically to submit assignments until 11:55pm without penalty, but you accept any risk of technical difficulties with submission. *If you try to submit between 5pm and 11:55pm and Moodle does not accept the submission for any reason the assignment will be considered late.*

Late submissions will be penalised 5 marks per calendar day (including weekends). An extension may only be granted in exceptional circumstances. Where an assessment task is worth less than 20% of the total course mark and you have a compelling reason for being unable to submit your work on time, you must seek approval for an extension from the course convenor *before the due date*. Special consideration for assessment tasks of 20% or greater must be processed through <https://student.unsw.edu.au/special-consideration>.

It is always worth submitting late assessment tasks when possible. Completion of the work, even late, may be taken into account in cases of special consideration.

Assessment Criteria

This is a final year elective course. We are expecting submissions appropriate to your level as junior engineers. The assessments are intentionally open-ended in their scope to allow you to demonstrate your skills with the Finite Element Method.

If you complete the project and assignments to the basic standard outline in the assignment handouts, you will get a good mark, but not a great one. To excel in this course you need to demonstrate higher order abilities (see the Teaching Strategies section for more info).

It is your responsibility to ensure that your calculator is of an approved make and model, and to obtain

6. Experted Resources for students

Learning Management System

Moodle LMS, <https://moodle.telt.unsw.edu.au/> will be used for this course. Lecture notes, software laboratories, assignments, links and forums will be available on Moodle. Moodle is a powerful tool that you are encouraged to use for all course needs.

Textbooks

Recommended Resources (available from the library)

- Cook, R. D., Malkus, D. S., Plesha, M. E., Witt, R. J. (2002). Concepts and Applications of Finite Element Analysis, 4th Ed, John Wiley & Sons.
Chandrupatla, T. R., Belegundu, A. D. (2011) Introduction to Finite Elements in Engineering, 4th Ed, Prentice Hall (Pearson)

Other Resources

If you wish to explore any of the lecture topics in more depth, then other resources are available and assistance may be obtained from the UNSW Library. One starting point for assistance is the library website: www.library.unsw.edu.au/.

7. Course evaluation and development

Feedback on the course is gathered periodically using various means, including the Course and Teaching Evaluation and Improvement (CATEI) process, informal discussion in the final class for the course, and the School's Student/Staff meetings. Your feedback is taken seriously, and continual improvements are made to the course based, in part, on such feedback.

Finite Element Methods is a new course for 2015 and has only run once in Semester 1 this year. We learnt a lot during that course and have made a number of changes to improve your experience. The primary change from last semester was to adjust the assessment schedule to smooth out the timing of assignments to give you more time to complete major pieces of work at the end of semester.



UNSW has an ongoing commitment to fostering a culture of learning informed by academic integrity. All UNSW students have a responsibility to adhere to this principle of academic integrity. Plagiarism undermines academic integrity and is not tolerated at UNSW. *Plagiarism*

website with a wealth of resources to support students to understand and avoid plagiarism: <https://student.unsw.edu.au/plagiarism> The Learning Centre assists students with understanding academic integrity and how not to plagiarise. They also hold workshops and can help students one-on-one.

You are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting and the proper referencing of sources in preparing all assessment tasks.

If plagiarism is found in your work when you are in first year, your lecturer will offer you assistance to improve your academic skills. They may ask you to look at some online resources, attend the Learning Centre, or sometimes resubmit your work with the problem fixed. However more serious instances in first year, such as stealing another student's work or paying someone to do your work, may be investigated under the Student Misconduct Procedures.

Repeated plagiarism (even in first year), plagiarism after first year, or serious instances, may also be investigated under the Student Misconduct Procedures. The penalties under the procedures can include a reduction in marks, failing a course or for the most serious matters (like plagiarism in an honours thesis) even suspension from the university. The Student Misconduct Procedures are available here:

<http://www.gs.unsw.edu.au/policy/documents/studentmisconductprocedures.pdf>

Further information on School policy and procedures in the event of plagiarism is presented in a School handout, [Administrative Matters](#), available on the School website.

9

You are expected to have read and be familiar with *Administrative Matters*, available on the School website: www.engineering.unsw.edu.au/mechanical-engineering/sites/mech/files/u41/S2-2015-Administrative-Matters_20150721.pdf

This document contains important information on student responsibilities and support, including special consideration, assessment, health and safety, and student equity and diversity.

Garth Pearce
July 2015

Appendix A
Standards

Professional Engineer Competency

	Program Intended Learning Outcomes
PE1: Knowledge and Skill Base	PE1.1 Comprehensive, theory-based understanding of underpinning fundamentals