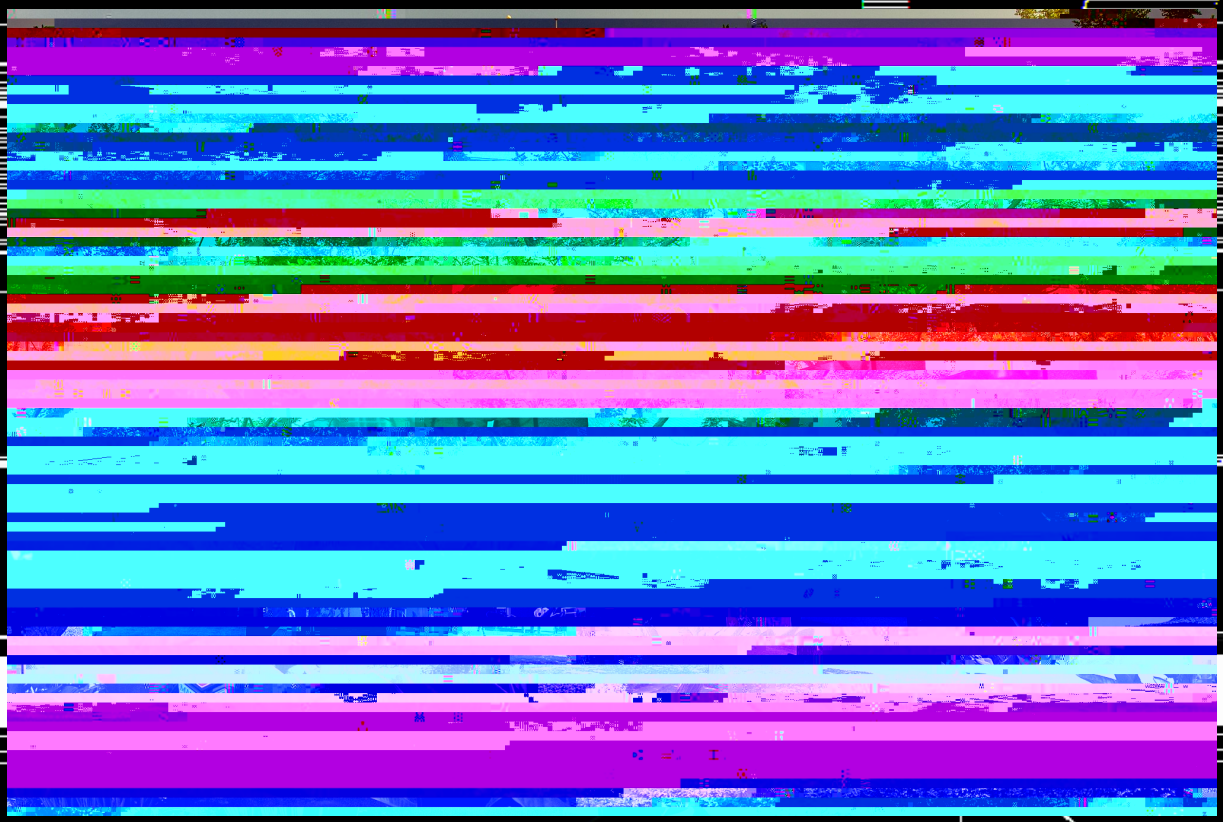
School of Civil and Environmental Engineering

UNSW Engineering

ENGG1400



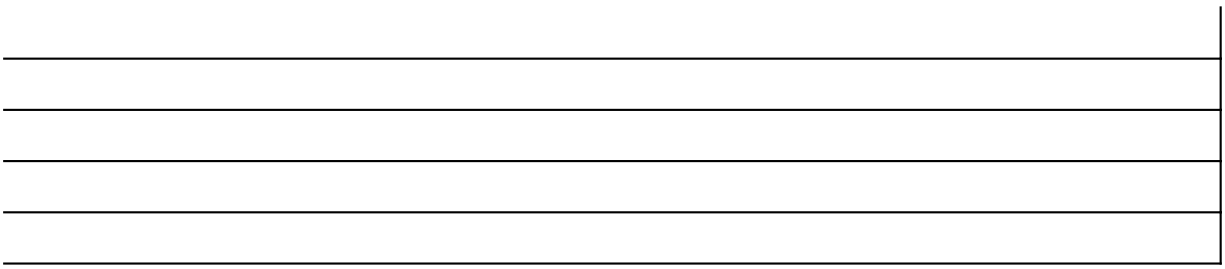
Course Overview

Course Details

Units of Credit 6

Summary of the Course

A course in optimization and modelling for first year engineering students who desire a higher capability in the application of the modelling of engineering systems, and seek to acquire a set of optimization tools



Assessment

All assessments must be submitted on Moodle

Failure to attend the quizzes will result in a mark of zero. Students who miss the assessment as a result of illness or unforeseen circumstances must apply for special considerations through https://student.unsw.edu.au/special-consideration and contact the course coordinator.

Students who perform poorly in the assignment and workshops are recommended to discuss progress with the lecturer during the term. The lecturer reserves the right to adjust the final scores by scaling if agreed to by the Head of School.

The pass mark in this course is 50% overall, however, students must score at least 40% in the final examination in order to qualify for a Pass in this course. If below a 40% is scored on the Final Exam, the final exam mark will replace your course mark.

Supplementary Examinations for Term 2 2022 will be held on Monday 5th September – Friday 9th September 2022 (inclusive) should you be required to sit one. You are required to be available during these dates. Please do not to make any personal or travel arrangements during this period.

Assessment task	Weight	Due Date	Course Learning Outcomes Assessed
1. Final Examination	50%	Not Applicable	1, 2, 3, 4, 5
2. Assignment (Group Project)	20%	02/08/2022 04:00 PM	1, 2, 3, 4, 5
3. Mid-term Exam	20%	30/06/2022 07:30 PM	1, 2, 3, 4, 5
4. Quiz 1	2%	09/06/2022 06:00 PM	1, 2, 3, 4, 5
5. Quiz 2	2%	23/06/2022 06:00 PM	1, 2, 3, 4, 5
6. Quiz 3	2%	14/07/2022 06:00 PM	1, 2, 3, 4, 5
7. Quiz 4	2%	21/07/2022 06:00 PM	1, 2, 3, 4, 5
8. Quiz 5	2%	04/08/2022 06:00 PM	1, 2, 3, 4, 5

Assessment 1: Final Examination

Assessment length: 2 hours

The final written examination will be in the conventional closed book format covering all topics introduced throughout the course. The final examination will consists of a series of problems and focus on theoretical and methodological concepts presented within the lectures as well as within previous assessments. The final examination will assess the expected learning outcomes and will be assessed based on technical accuracy, clarity in reporting and presentation.

Assessment 2: Assignment (Group Project)

Start date: 23/06/2022 04:00 PM
Assessment length: 6 weeks
Submission notes: Digital copies are expected to be submitted online via Turnitin by the due date. The last date of submitting the assignment is 2nd August 2022 at 4PM (Week 10). A late penalty of 10% per day will apply for failure to submit the assignment by the stated due date. Any reports submitted 5 or more days after the deadline will receive a mark of zero. Any duplicate submissions (or parts within) will receive a mark of zero. Students who plagiarize are also liable to disciplinary action, including exclusion from enrolment.
Due date: 02/08/2022 04:00 PM
Deadline for absolute fail: 04/08/2022 09:00 AM
Marks returned: 12/08/2022

The Assignment will be released in Week 4 and will be due in Week 10. The assignment will consists of a series of problems and focus on students solving infrastructure systems decision problems in AMPL presented during the course. The questions will be based on the material covered in lectures and workshop. It is intended to build on the skills developed in workshop and help prepare the students for the final examination.

Students are expected to work in groups of 3 or 4, and apply the theoretical knowledge gained during lectures and workshops to real world engineering problems. The group assignment will assess the expected learning outcomes in a practical setting and their team membership and leadership

action, including exclusion from enrolment.

Assessment 4: Quiz 1

Start date: 09/06/2022 04:00 PM
Submission notes: Online Moodle Quiz
Due date: 09/06/2022 06:00 PM
Deadline for absolute fail: 09/06/2022 06:00 PM
Marks returned:

Due date: 14/07/2022 06:00 PM
Deadline for absolute fail: 14/07/2022 06:00 PM
Marks returned: 14/07/2022 06:00 PM

This quiz provides 2% of the course mark and will consist of small, customized problems covering the material introduced during the current week.

The weekly quizzes will assess the expected learning outcomes and will be assessed based on technical accuracy and participation. The Moodle quizzes will be open book, acy 5 enintr y d oom zz oblems c

Assessment criteria

The questions will be marked based on technical accuracy. Failure to complete a quiz within the accessible time period will result in a mark of zero. Each quiz will contribute to 2% of the course grade.

Attendance Requirements

	Workshop	Solving constraint optimisation problems: practice
	Assessment	Quiz 4: Online Moodle Quiz
Week 9: 25 July - 29 July	Lecture	Project scheduling: time is money
	Workshop	Scheduling problems: practice
Week 10: 1 August - 5 August	Lecture	Introduction to multi-objective optimisation & Course review
	Workshop	Multi-objective optimisation problems: practice
	Assessment	Assignment (Group Project): Digital copies are expected to be submitted online via Turnitin by the due date. The last date of submitting the assignment is 2nd August 2022 at 4PM (Week 10). A late penalty of 10% per day will apply for failure to submit the assignment by the stated due date. Any reports submitted 5 or more days after the deadline will receive a mark of zero. Any duplicate submissions (or parts within) will receive a mark of zero. Students who plagiarize are also liable to disciplinary action, including exclusion from enrolment.
	Assessment	Quiz 5: Online Moodle Quiz

Academic Information

Final Examinations:

Final exams in T2 2022 will be held online between 12th - 25th August 2022 inclusive, and supplementary exams between 5th - 9th September 2022 inclusive. You are required to be available on these dates. Please do not to make any personal or travel arrangements during this period.

ACADEMIC ADVICE

- Key Staff to Contact for Academic Advice (log in with your zID and password): https://intranet.civeng.unsw.edu.au/key-staff-to-contact-during-your-studies-at-unsw
- Key UNSW Dates - eg. Census Date, exam dates, last day to drop a course without academic/financial liability etc.
- CVEN Student Intranet (log in with your zID and password): https://intranet.civeng.unsw.edu.au/student-intranet
- Student Life at CVEN, including Student Societies: https://www.unsw.edu.au/engineering/civil-and-environmental-engineering/student-life
- Special Consideration: https://student.unsw.edu.au/special-consideration