UNSW Course Outline

ENGG2500 Fluid Mechanics for Engineers - 2024

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General Course Information

Course Code : ENGG2500
Year : 2024
Term : Term 1
Teaching Period : T1
Is a multi-term course? : No
Faculty : Faculty of Engineering
Academic Unit : School of Civil and Environmental Engineering
Delivery Mode : In Person
Delivery Format : Standard
Delivery Location : Kensington
Campus : Sydney
Study Level : Undergraduate
Units of Credit : 6

Useful Links

Handbook Class Timetable

Course Details & Outcomes

Course Description

The objective of ENGG2500 is to introduce engineering students to the principles of fluid mechanics.

Topics discussed include fluid properties, hydrostatics, buoyancy, pressures in fluid systems,

principles
of mass conservation, steady flow energy equations, flow measurement, forces and momentum in
flowing fluids, dimensional analysis, similarity and physical modelling, pipe flow, Incompressible laminar
and turbulent flow in pipes; friction factor, elementary boundary layer flow; skin friction and drag, pumps
and turbines and pump and pipeline system characteristics.

Course Aims

The objectives of this course are to:

- Introduce students to the practice of water engineering and fluid mechanics.
- Introduce students to the theory of two quite different steady flows: closed conduit or pipe flow (i.e.
  pressurized flow) and briefly, to free surface flow (i.e. flows where the water surface is subject to
  atmospheric pressure).
- Give students an understanding of the properties of fluids, manometry, hydrostatics, the principles of
  mass and energy conservation, the forces and momentum in flowing fluids, flow in pipes, laminar and turbulent flow.
- Enable students to apply the fundamental principles of mass conservation, energy conservation and the momentum equation to the analysis of flows in different scenarios.
- Enable students to carry out a dimensional analysis and carry out the scaling for a physical model.
- Enable students to make estimates of boundary layer thickness and velocities over flat plates, and to
  estimate the forces on 2D and 3D bodies in submerged flows.
- Enable students to quantify pipe friction losses and to introduce you to some of the associated real-life
  problems of pipe flow calculations.

Relationship to Other Courses

Pre-requisite: (MATH1131 OR DPST1013 OR MATH1141) AND (PHYS1121 OR PHYS1131 OR

PHYS1141 OR DPST1021 OR DPST1023)

Please post questions regarding demonstration/example problems on Moodle forums. When communicating via forum, you are expected to follow the same etiquette as you would in a classroom situation, please (1) be respectful of your peers, demonstrators and course staff; (2) value the opinions of others; and (3) do not attack others personally. Administrative inquiries that are personal and confidential with respect of an individual student can be made to the course convenor, when circumstance requires.

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Explain and apply the basic properties of fluids and how these relate to fluid flow.
CLO2 : Explain the fundamental principles of fluid flow in pipes and free surface flows namely continuity, momentum and energy, and know to what situations these principles can be applied.
CLO3 : Explain and describe the conditions for flows in pipes under which various flow regimes will occur: (i) laminar and turbulent flows, (ii) turbulent flows which are hydraulically rough or hydraulically smooth.
CLO4 : Calculate flow through pipes, including assessing energy losses and identify relevant supporting data requirements.
CLO5 : Undertake dimensional analysis, make estimates of drag force and carry out computations related to boundary layers.
CLO6 : Solve real-world fluid mechanic problems by performing lab experiments.

Course Learning Outcomes	Assessment Item
CLO1 : Explain and apply the basic properties of fluids and how these relate to fluid flow.	• Online Quizzes • Lab Assessments • Final Examination
CLO2 : Explain the fundamental principles of fluid flow in pipes and free surface flows namely continuity, momentum and energy, and know to what situations these principles can be applied.	• Online Quizzes • Lab Assessments • Final Examination
CLO3 : Explain and describe the conditions for flows in pipes under which various flow regimes will occur: (i) laminar and turbulent flows, (ii) turbulent flows which are hydraulically rough or hydraulically smooth.	• Online Quizzes • Lab Assessments • Final Examination
CLO4 : Calculate flow through pipes, including assessing energy losses and identify relevant supporting data requirements.	• Online Quizzes • Lab Assessments • Final Examination
CLO5 : Undertake dimensional analysis, make estimates of drag force and carry out computations related to boundary layers.	• Online Quizzes • Lab Assessments • Final Examination
CLO6 : Solve real-world fluid mechanic problems by performing lab experiments.	• Lab Assessments

Learning and Teaching Technologies

Moodle - Learning Management System | Echo 360 | Microsoft Teams

Additional Course Information

At the end of this course, you will be familiar with the engineering techniques used to analyse and design the basic components of water engineering infrastructure.

You will develop capacity for analytical and critical thinking and for creative problem solving. You will be exposed to, and be required to solve, numerous hydraulics problems in the Lectures, the Workshops and the lab classes - “the learning is in the doing”. All these problems will cover a variety of scenarios, and where possible, will be drawn from engineering practice.

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Online Quizzes Assessment Format: Individual	16%	Start Date: Weeks 5 and 10, Thursday: 6:00-8:00 pm Due Date: At the close of the quiz (8:00 pm Thursday)
Lab Assessments Assessment Format: Individual	24%	Start Date: Weeks 1,3,5 Due Date: Weeks 3,4,7
Final Examination Assessment Format: Individual	60%	Start Date: TBC, during UNSW exam period

Assessment Details

Online Quizzes

Assessment Overview

2-hour Moodle quizzes in week 5 and week 10.

Two open book online quizzes will encourage continuous student learning throughout the course. The quizzes are done either at home, the library or on campus. Marks are awarded for correct answers. The topics covered in each online quiz are listed on the Moodle course page. The purpose of the online quizzes is to provide a clear study framework. It will also provide the opportunity to develop self-learning and problem-solving skills.

Course Learning Outcomes

- CLO1 : Explain and apply the basic properties of fluids and how these relate to fluid flow.
- CLO2 : Explain the fundamental principles of fluid flow in pipes and free surface flows namely continuity, momentum and energy, and know to what situations these principles can be applied.

- CLO3 : Explain and describe the conditions for flows in pipes under which various flow regimes will occur: (i) laminar and turbulent flows, (ii) turbulent flows which are hydraulically rough or hydraulically smooth.
- CLO4 : Calculate flow through pipes, including assessing energy losses and identify relevant supporting data requirements.
- CLO5 : Undertake dimensional analysis, make estimates of drag force and carry out computations related to boundary layers.

Detailed Assessment Description

2 Online Quizzes will be completed on the Moodle course page. They will account for 8% of the course mark each and will take place:

Quiz 1: Week 5; Thursday 14 March from 6:00-8:00 pm for a 2 hours duration.

Quiz 2: Week 10; Thursday 18 April from 6:00-8:00 pm for a 2 hours duration.

Assessment Length

2 hrs

Assignment submission Turnitin type

This is not a Turnitin assignment

Lab Assessments

Assessment Overview

Several online lab modules integrate the lab classes of the course with fundamental understanding of the course concepts as well as pre and post lab assessments. Prior to the lab classes, students will study the theory of the lab class and instruction videos of the experiments in the lab classes on Moodle course page. During the compulsory lab classes (which students complete in small groups), students will get insights into the fluid mechanics concepts in hands-on experiments. After the lab class, a set of random individual lab data will be provided to each student in an online assessment on the Moodle course page. Students will perform a series of guided calculation questions.

Course Learning Outcomes

- CLO1 : Explain and apply the basic properties of fluids and how these relate to fluid flow.
- CLO2 : Explain the fundamental principles of fluid flow in pipes and free surface flows namely continuity, momentum and energy, and know to what situations these principles can be applied.
- CLO3 : Explain and describe the conditions for flows in pipes under which various flow regimes will occur: (i) laminar and turbulent flows, (ii) turbulent flows which are hydraulically rough or hydraulically smooth.
- CLO4 : Calculate flow through pipes, including assessing energy losses and identify relevant

supporting data requirements.
- CLO5 : Undertake dimensional analysis, make estimates of drag force and carry out computations related to boundary layers.
- CLO6 : Solve real-world fluid mechanic problems by performing lab experiments.

Detailed Assessment Description

The lab assessments have three components comprising:

- **Lab lessons** complement the lab classes introducing the lab content and setup while providing useful information for your lab assessments. They will become available on your Moodle course page (Lab 1: Start of Week 1; Lab 2: Start of Week 3; Lab 3: Start of Week 5). Once you have completed the lab lesson, the pre-lab assessment will become available on your Moodle course page.

- **Pre-lab assessment** becomes available on your Moodle page once you have completed the "Lab lesson". The pre-lab Quiz is to be completed on your Moodle page of the course prior to the start of the lab classes (i.e. Lab 1: before 9am on Tuesday 27 February (Week 3); Lab 2: before 9am on Tuesday 5 March (Week 4); Lab 3: before 9am on Tuesday 26 March (Week 7)). You have 4 hours to complete each of the pre-lab online quizzes and each quiz accounts for 4% of the course mark (i.e .12% in total).
Deadline for absolute fail of prelabs : 9am Tuesday of lab week (i.e. week 3, 4, 7)
Date of marks returned: 9am Tuesday of lab week
Penalty for late submission: no late submissions are accepted.

- **The post-laboratory assessment** must be completed after the final laboratory class has finished.
During a 72 hour time period (between Thursday 6pm of the respective lab week and Sunday 6pm of the lab class week), your post-lab assessment must be completed on Moodle. You have 5 hours to complete each of the post-lab assessments and each assessment accounts for 4% of the course mark (i.e .12% in total).
Date of marks returned: 1 week post due date

Further details on the assessments and due dates are available on the Moodle course page under the Tab "Laboratory Classes".

Assessment information

The laboratory work is an essential component of this course. Your attendance and participation in ALL laboratory work is a requirement for the course. The lab classes will take place in the Undergraduate Teaching Laboratory Willis Annex J18 214A/B. The lab class is not designed to

simply collect data (every student will receive an individual data set for the post-lab assessment), but it is designed as a group activity to better understand the fundamental course concepts.
During the laboratory class you need to adhere to any OH&S requirements or instructions from your laboratory demonstrator or course coordinators. Closed footwear is an OH&S requirement for entry to University Laboratories.
During the lab class you will be split into groups of maximum 5 students. Your group will complete 1 experiment during each laboratory session (3 in total) of 1 hour. The Laboratory classes will be in Weeks 3 (Lab 1), 4 (Lab 2) and 7 (Lab 3) in various time slots as per your enrolment.

Assignment submission Turnitin type

This is not a Turnitin assignment

Final Examination

Assessment Overview

The final exam runs during the formal exam period.

The final exam is given because the course learning outcomes include a significant level of technical learning that can be effectively assessed in an exam environment and because exams have high reliability.

Course Learning Outcomes

- CLO1 : Explain and apply the basic properties of fluids and how these relate to fluid flow.
- CLO2 : Explain the fundamental principles of fluid flow in pipes and free surface flows namely continuity, momentum and energy, and know to what situations these principles can be applied.
- CLO3 : Explain and describe the conditions for flows in pipes under which various flow regimes will occur: (i) laminar and turbulent flows, (ii) turbulent flows which are hydraulically rough or hydraulically smooth.
- CLO4 : Calculate flow through pipes, including assessing energy losses and identify relevant supporting data requirements.
- CLO5 : Undertake dimensional analysis, make estimates of drag force and carry out computations related to boundary layers.

Detailed Assessment Description

The final exam will assess all content of ENGG2500.

Assessment Length

2 hrs

Assessment information

The exam will take place during the official exam period.
We will provide details on the Moodle course page during the course.

Assignment submission Turnitin type

Not Applicable

Hurdle rules

A mark of at least 40% in the final examination is required before the class work is included in the final mark.

General Assessment Information

The final grade for this course will normally be based on the sum of the scores from each of the assessment tasks. The Final Exam is worth 60% of your Final Mark if class work is included and 100% if your class work is not included.

The class work is worth 40% of the Final Mark if included. A mark of at least 40% in the final examination is required before the class work (Online quizzes and lab class assessments) is included in the final mark. The formal exam scripts will not be returned but you are permitted to view the marked script.

Note: The lecturer reserves the right to adjust the final scores by scaling if agreed by the Head of School.

Students who perform poorly in the quick quizzes and workshops are recommended to discuss progress with the lecturer during the term.

Grading Basis

Standard

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 12 February - 18 February	Lecture	In Week 1 we start getting into the basics of what is a fluid and why, as Engineers, it's something we must consider in our design. We'll then start to look at the first of 4 topics covered by Dr Mao in the first half of this course (weeks 1-4), Hydrostatics - which is the forces exerted by fluids at rest. Monday 12 February: Fluid Properties Wednesday 14 February: Hydrostatics
	Workshop	Workshop location and time as per your enrollment. Your demonstrator this week will guide you in your workshop which covers Fluid Properties and Hydrostatics.
	Online Activity	Your lab lesson and pre-lab for the Hydrostatics lab (Lab 1 in Week 3) will open this week on Monday for you to start to work through. Test your skills in the Fluid Mechanics Practice Questions in Moodle for week 1: Q01 Dimensions Q02 Fluid Properties - basic understanding Q03 Fluid Properties - numerical Q04 Hydrostatics - manometer
Week 2 : 19 February - 25 February	Lecture	In week 2 we'll continue with Hydrostatics and Introduce Continuity - the concept that fluid mass must be conserved. Monday 19 February: Hydrostatics Wednesday 21 February: Continuity
	Workshop	Workshop location and time as per your enrollment. Your demonstrator this week will guide you in your workshop which covers Hydrostatics and Continuity 1 & 2.
	Online Activity	Test your skills in the Fluid Mechanics Practice Questions in Moodle for week 2: Q05 Hydrostatics - Forces on submerged bodies Q06 Hydrostatics - Miscellaneous Q07 Kinematics of Fluid Motion
Week 3 : 26 February - 3 March	Lecture	In week 3 we'll continue with Continuity and Introduce Energy - the concept that fluid has energy - potential and kinetic. Monday 26 February: Continuity 2 and Energy 1 Wednesday 28 February: Energy 2 & 3
	Workshop	Workshop location and time as per your enrollment. Your demonstrator this week will guide you in your workshop which covers Energy 1 & 2.
	Laboratory	Laboratory class on Hydrostatics. Date and Time as per your enrollment. The lab offers an opportunity for students to enhance their learning via hands on experience in the labs. Please see Moodle for further details.
	Online Activity	Your pre-lab for the Flow meter lab will open this week on Monday for you to work through. Test your skills in the Fluid Mechanics Practice Questions in Moodle for week 3: Q08 Continuity Q09 Bernoulli equation - basic examples Q10 Bernoulli equation - applications
	Assessment	Prelab - Lab 1 Hydrostatics DUE: Tuesday 27 February 9am Weighting: 4% of course grade Type: Moodle Quiz See Moodle for further details
	Assessment	Post-lab - Lab 1 Hydrostatics DUE: Sunday 3 March, 6 pm. Weighting: 4% of course grade Type: Moodle Quiz See Moodle for further details
Week 4 : 4 March - 10 March	Lecture	In week 4 we will introduce the final concept of the first half of the course - Momentum. Monday 4 March: Momentum 1 Wednesday 6 March: Momentum 2 *Time permitting, we may do a review on the Wednesday.
	Workshop	Workshop location and time as per your enrollment. Your demonstrator this week will guide you in your workshop which covers Momentum 1 & 2.
	Laboratory	Laboratory class on Flow meters. Date and Time as per your enrollment. The lab offers an opportunity for students to enhance their learning via hands on experience in the labs. Please see Moodle for further details.
	Online Activity	Test your skills in the Fluid Mechanics Practice Questions in Moodle for week 4: Q11 Momentum Equation
	Assessment	Prelab - Lab 2 Flow meter DUE: Tuesday 5 March 9am Weighting: 4% of course grade Type: Moodle Quiz See Moodle for further details
	Assessment	Post-lab - Lab 2 Flow meter DUE: Sunday 10 March, 6pm.

		Weighting: 4% of course grade Type: Moodle Quiz See Moodle for further details
Week 5 : 11 March - 17 March	Lecture	In week 5, the second half of the course will commence with a change of lecturer to Dr Stefan Felder. The second half will introduce several new concepts which are based upon the content of the first half of the course. It starts with an introduction into pipe flows. The content of Week 5 will be highly relevant for your "pipe flow" lab class in Week 7. Monday 11 March: Pipe flow 1 Wednesday 13 March: Pipe flow 2
	Workshop	Workshop location and time as per your enrollment. Your demonstrator this week will guide you in your workshop which covers Momentum 2 & Pipe Flow
	Online Activity	Your pre-lab for the pipe flow lab will open this week on Monday for you to work through Test your skills in the Fluid Mechanics Practice Questions in Moodle for week 5: Q12 Pipe flow - basic understanding Q13 Pipe flow - friction losses
	Assessment	Online Quiz 1 The quiz will run for 2hrs (Thursday March 14, 6:00-8:00pm). The quiz will be administered online via Moodle. Weighting: 8% of course grade.
Week 6 : 18 March - 24 March	Reading	No lectures and workshops in Week 6! > Use this week to practice and catch-up with the course content!
Week 7 : 25 March - 31 March	Lecture	In week 7, we continue with pipe flow concepts. The lectures will include many examples which will help you to understand the fundamental concepts. We will also start with a new topic "Dimensional Analysis" which will be a useful concept for many engineering courses during your degree. Monday 25 March: Pipe flow 3 Wednesday 27 March: Dimensional Analysis 1
	Workshop	No workshop this week due to public holiday!
	Laboratory	Laboratory class on Pipe flow. Date and Time as per your enrollment. The lab offers an opportunity for students to enhance their learning via hands on experience in the labs. Please see Moodle for further details.
	Online Activity	Test your skills in the Fluid Mechanics Practice Questions in Moodle for week 7: Q14 Pipe flow - local losses Q15 Pipe flow - applications Q16 Dimensional analysis - basics
	Assessment	Prelab - Lab 3 Pipe Flow DUE: Tuesday 26 March 9am Weighting: 4% of course grade Type: Moodle Quiz See Moodle for further details
	Assessment	Post-lab - Lab 3 Pipe Flow DUE: Wednesday 3 April, 6pm. Weighting: 4% of course grade Type: Moodle Quiz See Moodle for further details
Week 8 : 1 April - 7 April	Lecture	In week 8, we will continue with Dimensional Analysis and its use in fluid mechanics applications. We will start with the topic on "Physical modelling" which makes use of dimensional analysis. Monday 1 April: Public Holiday (no lecture)! Wednesday 3 April: Dimensional Analysis 2 & Physical Modelling 1
	Workshop	Workshop location and time as per your enrollment. Your demonstrator this week will guide you in your workshop which covers Pipe flow, Dimensional analysis & Physical Modelling 1
	Online Activity	Test your skills in the Fluid Mechanics Practice Questions in Moodle for week 8: Q17 Dimensional Analysis - applications
Week 9 : 8 April - 14 April	Lecture	In week 9, we will finish the topic on Physical models and will learn about boundary layers including the calculation of friction forces. Monday 8 April: Physical models 2 & Boundary Layers Wednesday 10 April: Boundary Layers
	Workshop	Workshop location and time as per your enrollment. Your demonstrator this week will guide you in your workshop which covers Physical models & Boundary layers
	Online Activity	Test your skills in the Fluid Mechanics Practice Questions in Moodle for week 9: Q18 Physical Modelling Q19 Boundary Layers/Friction Forces
	Fieldwork	Field trip to the UNSW Water Research Laboratory On Thursday 11 April (week 9), students will have the opportunity to visit Australia's leading Water Engineering facilities - the UNSW Water Research Laboratory, located in Manly Vale, NSW.During the site visit you have the opportunity to view some physical models being used to solve real engineering problems. We will be guiding you around a multitude of interesting models ranging from coastal structures, to dam spillways and fishways. We will have plenty of time to discuss your questions and help you better understand the fundamental concpets of the course in practical applications. The Water Research Laboratory is 22km by road from the Kensington campus.Buses will be provided to take you to WRL and return to

		Kensington. You can make your own way to and from WRL (110 King Street, Manly Vale) if you choose. We will provide separate notice on Moodle including polls to identify your interest and to schedule the bus allocation and site vist accordingly.
Week 10 : 15 April - 21 April	Lecture	In the final week of the course, we will finish the course with the topic on drag forces , i.e. forces on bluff bodies exposed to fluids in motion. The final lecture of the course will be a revision lecture with both course lecturers. Monday 15 April: Drag Force Wednesday 17 April: Revision lecture
	Workshop	Workshop location and time as per your enrollment. Your demonstrator this week will guide you in your workshop which covers Drag force
	Online Activity	Test your skills in the Fluid Mechanics Practice Questions in Moodle for week 10 Q20 Drag Force
	Assessment	Online Quiz 2 The quiz will run for 2hrs (Thursday April 18, 6:00-8:00pm). The quiz will be administered online via Moodle. Weighting: 8% of course grade.

Attendance Requirements

For courses with Workshops and/or Labs, attendance for those classes is a necessary part of the course. You must attend at least 80% of the workshop/lab in which you are enrolled for the duration of the session.

Course Resources

Prescribed Resources

The Lecture Notes for the term are available from the University Bookshop. Full versions of the notes will be made available on the Moodle page of the course together with the lecture recording, lecture slides, etc.

Additional materials will be provided on Moodle including additional short videos and practice questions with embedded feedback.

Recommended Resources

Cengel and Cimbala, Fluid Mechanics Fundamentals and Applications, 2nd Ed in SI unit.

R. C. Hibbeler, Fluid Mechanics, Global Ed in SI unit

The reference book is available from the UNSW Bookshop and the UNSW Library.

- UNSW Library website: https://www.library.unsw.edu.au/
- UNSW Bookshop
- Moodle: https://moodle.telt.unsw.edu.au/login/index.php

Course Evaluation and Development

Throughout the course we will welcome feedback during the lectures as well as in the Moodle Online Discussion Forum. As in previous years, we will try to address your comments and concerns as soon as feasible. Any personal feedback or questions (not meant to be seen by all students) can be emailed to us.
We will also run periodic feedback questionnaires via Moodle to get a sense how students are tracking in the course.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Stefan Felder		UNSW Water Research Laboratory, Manly Vale	+61 2 8071 9861	by appointment	Yes	Yes
Lecturer	Yongjing Mao		UNSW Water Research Laboratory, Manly Vale	+61 2 9348 2218	by appointment	No	No

Other Useful Information

Academic Information

I. Special consideration and supplementary assessment

If you have experienced an illness or misadventure beyond your control that will interfere with your assessment performance, you are eligible to apply for Special Consideration prior to, or within 3 working days of, submitting an assessment or sitting an exam.

Please note that UNSW has a Fit to Sit rule, which means that if you sit an exam, you are declaring yourself fit enough to do so and cannot later apply for Special Consideration.

For details of applying for Special Consideration and conditions for the award of supplementary assessment, please see the information on UNSW's Special Consideration page.

II. Administrative matters and links

All students are expected to read and be familiar with UNSW guidelines and polices. In particular, students should be familiar with the following:

- Attendance

- UNSW Email Address
- Special Consideration
- Exams
- Approved Calculators
- Academic Honesty and Plagiarism
- Equitable Learning Services

III. Equity and diversity

Those 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 convener prior to, or at the commencement of, their course, or with the Equity Officer (Disability) in the Equitable Learning Services. Issues to be discussed may include access to materials, signers or note-takers, the provision of services and additional exam and assessment arrangements. Early notification is essential to enable any necessary adjustments to be made.

IV. Professional Outcomes and Program Design

Students are able to review the relevant professional outcomes and program designs for their streams by going to the following link: https://www.unsw.edu.au/engineering/student-life/student-resources/program-design.

Note: This course outline sets out the description of classes at the date the Course Outline is published. The nature of classes may change during the Term after the Course Outline is published. Moodle or your primary learning management system (LMS) should be consulted for the up-to-date class descriptions. If there is any inconsistency in the description of activities between the University timetable and the Course Outline/Moodle/LMS, the description in the Course Outline/Moodle/LMS applies.

Academic Honesty and Plagarism

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 at UNSW is defined as using the words or ideas of others and passing them off as your own.*

Plagiarism is a type of intellectual theft. It can take many forms, from deliberate cheating to accidentally copying from a source without acknowledgement. UNSW has produced a website with a wealth of resources to support students to understand and avoid plagiarism, visit:

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.

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 or contract cheating) even suspension from the university. The Student Misconduct Procedures are available here:

www.gs.unsw.edu.au/policy/documents/studentmisconductprocedures.pdf

Submission of Assessment Tasks

Work submitted late without an approved extension by the course coordinator or delegated authority is subject to a late penalty of five percent (5%) 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. This is for all assessments where a penalty applies.

Work submitted after five days (120 hours) will not be accepted and a mark of zero will be awarded for that assessment item.

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

- Weekly online tests or laboratory work worth a small proportion of the subject mark;
- Exams, peer feedback and team evaluation surveys;
- Online quizzes where answers are released to students on completion;
- Professional assessment tasks, where the intention is to create an authentic assessment that has an absolute submission date; and,

- Pass/Fail assessment tasks.

Faculty-specific Information

Engineering Student Support Services – The Nucleus - enrolment, progression checks, clash requests, course issues or program-related queries

Engineering Industrial Training – Industrial training questions

UNSW Study Abroad – study abroad student enquiries (for inbound students)

UNSW Exchange – student exchange enquiries (for inbound students)

UNSW Future Students – potential student enquiries e.g. admissions, fees, programs, credit transfer

Phone

(+61 2) 9385 8500 – Nucleus Student Hub

(+61 2) 9385 7661 – Engineering Industrial Training

(+61 2) 9385 3179 – UNSW Study Abroad and UNSW Exchange (for inbound students)

School-specific Information

Final Examinations

Final Exams in T1 2024 will be held on campus between the 26th April and 9th May, and Supplementary Exams between the 20th - 24th May 2024. You are required to be available on these dates. Please do not to make any personal or travel arrangements during this period.

School Contact Information

For assistance with enrolment, class registration, progression checks and other administrative matters, please see the Nucleus: Student Hub. They are located inside the Library – first right as you enter the main library entrance. You can also contact them via http://unsw.to/webforms or reserve a place in the face-to-face queue using the UniVerse app.

For course administration matters, please contact the Course Coordinator.

Questions about the this course should normally be asked during the scheduled class so that everyone can benefit from the answer and discussion.