UNSW Course Outline

BIOM9541 Mechanics of the Human Body - 2024

Published on the 02 Sep 2024

General Course Information

Course Code : BIOM9541
Year : 2024
Term : Term 3
Teaching Period : T3
Is a multi-term course? : No
Faculty : Faculty of Engineering
Academic Unit : Graduate School of Biomedical Engineering
Delivery Mode : In Person
Delivery Format : Standard
Delivery Location : Kensington
Campus : Sydney
Study Level : Undergraduate, Postgraduate
Units of Credit : 6

Useful Links

Handbook Class Timetable

Course Details & Outcomes

Course Description

Described by many students as one of the most engaging courses taken during their engineering studies, priority access to Neuroscience Research Australia's (NeuRA) state-of-the-art 3D motion capture facilities is used to teach current advances in human movement science. Mechanics of

the Human Body combines the state-of-the-art with newly emerging opensource technologies to enhance future wide spread clinical, industry and remote applications of the course content - both within the laboratory and outside of the laboratory setting.

Have you ever wondered how athletes can use advanced tools to analyse their movements to improve performance? How Lord of the Rings or Avatar were created? Or how advances in wearable technology, phone apps and smart garments can be used to detect, analyse and predict injuries and health outcomes? And even be used to help people with Parkinson's disease walk with confidence? This course introduces students to the methods used in the analysis of human movement in sports, medicine, health and entertainment. It including applications in sport biomechanics and musculoskeletal modelling. Methods and software are introduced to analyse body segment and joint kinematics, joint kinetics, work and power, muscle forces and associated energy cost.

Applications of biomechanics in clinical, occupational and recreational areas are presented. Highlights include access to Neuroscience Research Australia's state-of-the-art 3D motion capture lab for the MoCap laboratory sessions. Delivery is mixed mode. Mechanics of the human body offer the best possible learning and teaching experience with a focus on hands on and in-person learning experiences supported by online content that enables every student to progress and achieve at their preferred pace.

Course Aims

Biomechanics is the study of the effect of mechanical phenomena (forces, velocities, accelerations, energies, power, momenta, moments, friction, fatigue and failure) on human bodies. It is used in a diverse range of disciplines including biology, ergonomics, engineering, physiology, medicine, and mechanical physics. Many professionals – engineers, designers, physical therapists, oral and orthopaedic surgeons, cardiologists, and aerospace engineers – use practical applications of biomechanics. As such the aims of this course are to:

1. Develop understanding of the field of human movement science and diverse applications in medicine, health and sport.
2. Introduce students to the fundamentals of anatomy and biomechanics.
3. Develop fundamental understanding of 3D motion capture, gait analysis and musculoskeletal modeling.
4. Introduce students to advances in wearable and mobile technologies for biomechanical analysis of human movement.
5. Enable students to critically apprise technologies used for biomechanical analysis of human movement.

6. Provide an engaging environment for students to self-organise their learning and develop essential collaborative skills for a successful career in biomedical engineering research and design.

This course aims to equip graduates with the skills required to apply the learnt principals of biomechanics across different areas of health care and medical problem solving that involved physical manipulation and to work effectively as part of a larger team. It may be the major area of concern in some instances (e.g. artificial joints, prosthetics and orthoses, mechanisms of physical injury) or it may be a vital adjunct to another area (e.g. design of an implantable pacemaker or specialist surgical tools).

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Analyse human movement using mechanical principles
CLO2 : Design and perform experiments that evaluate human movement
CLO3 : Critically analyse experimental outcomes in the broader context
CLO4 : Communicate experimental findings effectively using oral and written methods
CLO5 : Critically evaluate different types of wearable technologies used for analysing human movement
CLO6 : Engage in self learning practices and team collaboration to solve problems in biomechanics

Course Learning Outcomes	Assessment Item
CLO1 : Analyse human movement using mechanical principles	• Group Report on Mobile Technology • Weekly Progress Quizzes, Model Presentations and Engagement • Individual Motion Capture Projects • Final Exam
CLO2 : Design and perform experiments that evaluate human movement	• Group Report on Mobile Technology • Weekly Progress Quizzes, Model Presentations and Engagement • Individual Motion Capture Projects • Final Exam
CLO3 : Critically analyse experimental outcomes in the broader context	• Group Report on Mobile Technology • Individual Motion Capture Projects • Final Exam
CLO4 : Communicate experimental findings effectively using oral and written methods	• Weekly Progress Quizzes, Model Presentations and Engagement • Group Report on Mobile Technology • Individual Motion Capture Projects • Final Exam
CLO5 : Critically evaluate different types of wearable technologies used for analysing human movement	• Group Report on Mobile Technology • Individual Motion Capture Projects • Final Exam
CLO6 : Engage in self learning practices and team collaboration to solve problems in biomechanics	• Weekly Progress Quizzes, Model Presentations and Engagement • Group Report on Mobile Technology • Individual Motion Capture Projects • Final Exam

Learning and Teaching Technologies

Moodle - Learning Management System | Zoom

Learning and Teaching in this course

1. Analyse human movement using mechanical principles
2. Design and perform experiments that evaluate human movement
3. Critically analyse experimental outcomes in the broader context
4. Communicate experimental findings effectively using oral and written methods
5. Critically evaluate different types of wearable technologies used for analysing human movement
6. Engage in self learning practices and team collaboration to solve problems in biomechanics

Other Professional Outcomes

OBJECTIVES

On completion of this course, you should:

- Have a broad understanding of the scope of biomechanics and its applications
- Understand the fundamental general mechanical principles used
- Be able to discuss, develop and apply mechanical principles to a range of problems and medical applications.
- Be able to describe and discuss the measurement, analysis and assessment of human movement.
- Critically review the literature in the area and apply knowledge gained from the course to analyse biomechanical applications
- Clearly summarise and communicate findings from literature research using oral and written methods.

Graduate attributes developed in this course include:

- The skills involved in scholarly inquiry
- An in-depth engagement with the relevant disciplinary knowledge in its inter-disciplinary context
- The capacity for analytical and critical thinking and for creative problem solving
- Information literacy – the skills to appropriately locate, evaluate and use relevant information
- An appreciation of and respect for diversity
- A capacity to contribute to and work within the international community
- The skills required for collaborative and multidisciplinary work
- A respect for ethical practice and social responsibility
- The skills of effective communication

https://www.unsw.edu.au/engineering/student-life/student-resources/program-design

Additional Course Information

Biomechanics is the study of the effect of mechanical phenomena (forces, velocities,

accelerations, energies, power, momenta, moments, friction, fatigue and failure) on human bodies. It relies on an understanding of mechanics and applies the fundamentals of mechanics to the structure and function of the human body.

Biomechanics is used in a diverse range of disciplines including biology, ergonomics, engineering, physiology, medicine, and mechanical physics. Many professionals – engineers, designers, physical therapists, oral and orthopaedic surgeons, cardiologists, and aerospace engineers – use practical applications of biomechanics.

Biomechanics has application in all areas of health care and medical problem solving that require physical manipulation. It may be the major area of concern in some instances (e.g. artificial joints, prosthetics and orthoses, mechanisms of physical injury) or it may be a vital adjunct to another area (e.g. design of an implantable pacemaker or specialist surgical tools).

This course covers in depth the methods used in the analysis of the biomechanics of the human musculoskeletal system. Methods to analyse body segment and joint kinematics, joint kinetics, work and power, muscle forces and associated energy costs will be covered. Applications of biomechanics in clinical, occupational and recreational areas will be presented.

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Group Report on Mobile Technology Assessment Format: Group	10%	Start Date: Not Applicable Due Date: Week 5: 07 October - 13 October
Weekly Progress Quizzes, Model Presentations and Engagement Assessment Format: Individual	20%	Start Date: Ongoing Due Date: Ongoing
Individual Motion Capture Projects Assessment Format: Individual	40%	Start Date: See Moodle Schedule Due Date: See Moodle Schedule
Final Exam Assessment Format: Individual	30%	Start Date: Not Applicable Due Date: Exam Week

Assessment Details

Group Report on Mobile Technology

Assessment Overview

Your team must choose to beta-test the accuracy of a new mobile technology (may include

some technologies supplied by industry partners). Only one report per team is required. Students will beta test the chosen technology and produce a short report for an "industry partner". This may include:

- Using a phone app to analyse the biomechanics of different sporting movements in the home environment.
- Analysis of different sports capture by the students' laboratory team can be compared and contrasted with what would be possible in NeuRA's state-of-the-art motion capture laboratory.
- A systems usability scale (SUS) assessment may be carried out by each team member and the results complied.
- Students will be required to discuss the pitfalls and benefits of the new technology and make recommendations to the "industry partner" about the apps usability, bugs, potential uses, and priory improvements.
- A two to three page group report including images showing the analyses completed is required.
- Teams without access to required technologies, such as an iPhone may be loaned one from the course coordinator.

Course Learning Outcomes

- CLO1 : Analyse human movement using mechanical principles
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- CLO3 : Critically analyse experimental outcomes in the broader context
- CLO4 : Communicate experimental findings effectively using oral and written methods
- CLO5 : Critically evaluate different types of wearable technologies used for analysing human movement
- CLO6 : Engage in self learning practices and team collaboration to solve problems in biomechanics

Detailed Assessment Description

Students will have the opportunity beta-test the new 3D markerless motion capture system OpenCap.

Assessment Length

4 pages

Submission notes

Group submission

Assignment submission Turnitin type

This is not a Turnitin assignment

Generative AI Permission Level

Assistance with Attribution

This assessment requires you to write/create a first iteration of your submission yourself. You are then permitted to use generative AI tools, software or services to improve your submission in the ways set out below.
Any output of generative AI tools, software or services that is used within your assessment must be attributed with full referencing.
If outputs of generative AI tools, software or services form part of your submission and are not appropriately attributed, your Convenor will determine whether the omission is significant. If so, you may be asked to explain your submission. If you are unable to satisfactorily demonstrate your understanding of your submission you may be referred to UNSW Conduct & Integrity Office for investigation for academic misconduct and possible penalties.
For more information on Generative AI and permitted use please see here.

If AI tools are used, they must be properly cited throughout the text and their uses specifically detailed in the appendix. The use of AI without proper acknowledgement would be considered plagiarism and a zero mark would be awarded. To fairly assess student capability, given similarly ranked submissions from different students, higher marks would be awarded to the assessment items that demonstrate greater independent thought from the student including for example minimal AI assistance.

Weekly Progress Quizzes, Model Presentations and Engagement

Assessment Overview

Weekly Progress (7%). The purpose is to ensure you are making timely progress through the online units. You will note that each online Moodle unit has a number of questions embedded throughout it. Your answers to these questions will be logged and recorded in the grade book. You will receive one credit (1%) for each unit if you complete with a score of at least 80% before the associated scheduled laboratory session (up to a maximum of 7 credits). It is expected that you complete the online Moodle unit before your laboratory session that week. You are then expected to enhance your learning experience by discussing the week's Moodle content with your demonstrator at the laboratory session.

Yay and Boo (3%) is a lighthearted assessment that will allow you to share your triumphs and failures with your colleagues by posting your results to the class Moodle forum. The purpose is to enhance student engagement int he learning process. There will be three opportunities throughout the semester to participate in the Yay and Boo assessment. Yay and Boo opportunities will appear in three of the software laboratories (SL1, SL2 and SL3). You will be given the opportunity to share your triumph or failure with your colleagues on the discussion

board. Each post published before the deadline will earn you one credit (1%). Don't miss out!

Presentations (10%). The four Software Laboratories provide you with an opportunity to analyse and simulate human movement. You will be introduced to the analysis of human movement using OpenSim, a freely available software package. You will use the 3D MoCap data you collect during the laboratory session at NeuRA in week 2 as well as sample data provided to perform various analyses of human movement. You will be assessed at the end of each lab based on presentation of your final model and your group responses.

The mark breakdown for each Software Laboratory (2.5%) follows:

- **Model quality** (1.5%)
  - 0 for no model
  - 0.5 for working model with major errors
  - 1 for working model with minor errors
  - 1.5 for working model without errors
- **Group responses** (1%)
  - 0 for minimal effort
  - 0.5 for some effort, but more required
  - 1 for good effort (Note all group members will receive the same mark)

"Online Flexible Learning" Students will be required to submit through Moodle a working demo of thier model using PowerPoint instead of attending a session and will need to self-organise to submit the group reports on time.

Course Learning Outcomes

- CLO1 : Analyse human movement using mechanical principles
- CLO2 : Design and perform experiments that evaluate human movement
- CLO4 : Communicate experimental findings effectively using oral and written methods
- CLO6 : Engage in self learning practices and team collaboration to solve problems in biomechanics

Assessment Length

Various

Submission notes

See Moodle schedule for due dates

Assignment submission Turnitin type

Not Applicable

Generative AI Permission Level

No Assistance

This assessment is designed for you to complete without the use of any generative AI. You are not permitted to use any generative AI tools, software or service to search for or generate information or answers.
For more information on Generative AI and permitted use please see here.

Individual Motion Capture Projects

Assessment Overview

Low-cost Technology (10%) Based on the interactive experiment and NeuRA. You will use low cost technologies to assess, how texting while walking may change a participant's gait pattern, cognitive processing speed and ability to recover and avoid hazards. Data of human movement will be collected using low-cost technology in Week 5, which you will use to create and test a hypothesis of your own choosing. After your subsequent analysis, you will submit a 1-page scientific abstract on your findings.

MoCap Data Plotting and Calculations (10%). Here you will plot the data you collected during your laboratory class in week 2. You will then apply the theory of what you've learned in the 3D Kinematics unit to manually calculate joint centres, coordinate systems and joint angles from the data you collected during your laboratory class in week 2. You will be required to submit a report in Week 9 that includes MoCap data, plotted figures, calculations and results.

Individual Motion Capture Project (20%). You will design, perform and analyse a motion-capture experiment of your choosing, using a published research papers to guide your hypothesis. There are three assessment items that comprise this assessment item:

- **Proposal (5%).** The proposal is a short document that outlines your plans for your individual assignment (Week 7).
- **Presentation (5%).** You will give a three-minute peer-reviewed presentation (Week 10) using PowerPoint slides that contain an OpenSim model video of your experiment and the data you collected in Week
- **Project data and outcomes (10%).** Based on your submitted powerPoint presentation slides, experimental data, OpenSim models, analysis and discussion, which aims to put your project in context of previous research (Week 10).

"Online Flexible Learning" students or those unable to attend NeuRA will have an option to use low-cost remote technologies to conduct a home-based experiment instead.

Course Learning Outcomes

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Detailed Assessment Description

Update: Individual Motion Capture Projects now 45%

Based on student feedback, we have removed the **MoCap Data Plotting and Calculations (10%)**, which required the following changes to the assessment structure.

- The **Low-cost Technology Report is increased to 15%**
- The **Individual Motion Capture Project is increased to 30%** as follows:
  - The **Proposal remains at 5%**
  - The **Presentation sub-component is increased to 10%**
  - The **Project data and outcomes is increased to 15%**

In Term 3 2024, all students must attend all weekly sessions at UNSW and Neuroscience Research Australia in-person unless they are unwell or have special circumstance regarding UNSW approved elite sporting/cultural/leadership engagement.

Assessment Length

Various

Submission notes

See Moodle schedule for due dates

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students can see Turnitin similarity reports.

Hurdle rules

Proposal (5%) must be submitted in Week 7 before the **Individual Motion Capture** experiment can be conducted in Week 8.

Generative AI Permission Level

Assistance with Attribution

This assessment requires you to write/create a first iteration of your submission yourself. You are then permitted to use generative AI tools, software or services to improve your submission in the ways set out below.
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If outputs of generative AI tools, software or services form part of your submission and are not appropriately attributed, your Convenor will determine whether the omission is significant. If so, you may be asked to explain your submission. If you are unable to satisfactorily demonstrate your understanding of your submission you may be referred to UNSW Conduct & Integrity Office for investigation for academic misconduct and possible penalties.
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Final Exam

Assessment Overview

The final examination will be held online during the formal examination period. It will assess all content of the course and will be open-book. You will be provided with an equation sheet during the exam, which will be made available to you well before to the exam so you know what to expect. Marks will be awarded for correct answers and for the quality of your working. Practice exam questions will be released after Week 8.

Course Learning Outcomes

- CLO1 : Analyse human movement using mechanical principles
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Detailed Assessment Description

Update: Final Exam decreased to 25%

In line with student feedback the final exam weighting for this hands-on experimental focused course is reduced from 30% to 25%.

Assessment Length

2.5 hours

Submission notes

Online Open Book Moodle Exam

Assignment submission Turnitin type

This is not a Turnitin assignment

Generative AI Permission Level

Assistance with Attribution

This assessment requires you to write/create a first iteration of your submission yourself. You are then permitted to use generative AI tools, software or services to improve your submission in the ways set out below.
Any output of generative AI tools, software or services that is used within your assessment must be attributed with full referencing.
If outputs of generative AI tools, software or services form part of your submission and are not appropriately attributed, your Convenor will determine whether the omission is significant. If so, you may be asked to explain your submission. If you are unable to satisfactorily demonstrate your understanding of your submission you may be referred to UNSW Conduct & Integrity Office for investigation for academic misconduct and possible penalties.
For more information on Generative AI and permitted use please see here.

If AI tools are used, they must be properly cited throughout the text and their uses specifically detailed within the response. The use of AI without proper acknowledgement would be considered plagiarism and a zero mark would be awarded. To fairly assess student capability, given similarly ranked submissions from different students, higher marks would be awarded to the assessment items that demonstrate greater independent thought from the student including for example minimal AI assistance.

General Assessment Information

Grading Basis

Standard

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 0 : 2 September - 8 September	Blended	• Complete the "Getting Started" Online Module • Select your TEAM for Group BIOM9541 Submissions • If using your own laptop then download the essential course software
Week 1 : 9 September - 15 September	Blended	• Complete the "Gait Analysis" Online Module • Software Laboratory 1 at UNSW • Make your first Yay & Boo post • Revise with Practice Question 1
Week 2 : 16 September - 22 September	Laboratory	• Complete the "Anthropometrics" Online Module • Introduction to Motion Capture at NeuRA's state-of-the-art 3D Gait Lab • Revise with Practice Question 2
Week 3 : 23 September - 29 September	Laboratory	• Complete the "Markless Motion Capture" Online Module • Introduction to Low-Cost Marker less Motion Capture at UNSW's Village Green • Plan your Group's Beta Testing Experiment using marker less motion capture
Week 4 : 30 September - 6 October	Blended	• Complete the "3D Mathematics" Online Module • Software Laboratory 2 at UNSW • Make your second Yay & Boo post • Revise with Practice Question 3
Week 5 : 7 October - 13 October	Laboratory	• Complete the "Wearable Motion Capture" Online Module • Conduct the famous Accidents While Texting experiment at NeuRA • Submit your Group's Beta Testing Report on marker less motion capture
Week 6 : 14 October - 20 October	Other	Recharge week (no new content)
Week 7 : 21 October - 27 October	Blended	• Complete the "3D Kinematics" Online Module • Software Laboratory 3 at UNSW • Make your third Yay & Boo post • Submit your Individual MoCap Project proposal • Revise with Practice Question 4
Week 8 : 28 October - 3 November	Laboratory	• Complete the "3D Kinetics" Online Module • Complete your Individual MoCap experiment at NeuRA • Submit your Accidents While Texting report • Revise with Practice Question 5
Week 9 : 4 November - 10 November	Blended	• Complete the "Muscle Mechanics" Online Module • Software Laboratory 4 at UNSW • Make your fourth Yay & Boo post • Revise with Practice Question 6
Week 10 : 11 November - 17 November	Blended	• Complete the "Musculoskeletal Modelling" Online Module • Individual MoCap Project Presentations • Submit your MoCap Report

Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

General Schedule Information

Welcome to BIOM9541 Mechanics of the Human Body. We know it is still possible that there will be disruptions from COVID19 in T3 2024. The BIOM9541 team is dedicating to providing students with a world class, flexible and engaging learning experience. For students unable to

attend face to face because of illness or other circumstances online options will be available.

Students are strongly encouraged to complete all learning activities on time and participate in all class discussions. Attendance at the tutorials and laboratories is compulsory. Non-attendance for reasons other than misadventure will preclude you from submitting the assignment related to the activity you missed. Your demonstrator will record attendance. Online students will have to submit a powerpoint demonstrations of their work to prove remote engagement.

Complete the onine modules before your lab sessions for credit and then ask questions during the lab sessions or using the discussion board to help you cement your new knowledge.

Course Resources

Prescribed Resources

OpenSim and other core software is available on the SAM518 computers and these will be used for the laboratory sessions. Students choosing their to use their own laptops are advised that not all computers are compatible with this software and non-Window's machines may experience some inconsistency that is beyond the control of the learning and teaching team.

Recommended Resources

The recommended background text for this course are:

- Robertson, D.G.E. et al. Research methods in biomechanics. First (or second) edition, Human Kinetics, 2004 (or 2016).
- Winter, D.A. Biomechanics and motor control of human movement. Third edition, John Wiley & Sons, Inc., 2005.

Other useful reference books that are held in the UNSW Library are:

- Enderle, J.D. and J.D. Bronzino, Introduction to biomedical engineering, Third edition, Academic Press, 2012.
- Meriam, J.L. and L.G. Kraige, Engineering mechanics, Sixth edition, John Wiley & Sons, 2008.

Students seeking additional resources can also obtain assistance from the UNSW Library at http://library.unsw.edu.au/.

Additional readings and recommended websites will be listed on Moodle when required.

Course Evaluation and Development

Student feedback has helped to shape and develop this course, including feedback obtained

from on-line evaluations as part of UNSW's myExperience process. Your feedback is much appreciated and taken very seriously. Continual improvements are made to the course based in part on such feedback and this helps us to improve the course for future students. Informal student feedback is also sought frequently throughout the semester and used to assist in the progression of the course.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Matthew Br odie		Samuels Building (F25) Room 515c	Use Moodle discussion forum	Wednesdays drop in 0930 to 1130	Yes	Yes

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 Contact Information

Student Services can be contacted via unsw.to/webforms.