COMP3900 Computer Science Project - 2024

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General Course Information

Course Code : COMP3900
Year : 2024
Term : Term 3
Teaching Period : T3
Is a multi-term course? : No
Faculty : Faculty of Engineering
Academic Unit : School of Computer Science and Engineering
Delivery Mode : Multimodal
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

Welcome to the Information Technology/Computer Science Project Course, where theory meets practice in a hands-on exploration of real-world projects. This course is designed to elevate your programming skills by immersing you in the intricacies of coding, debugging, and optimizing

software solutions. As you apply your theoretical knowledge of information technology/ computer science concepts, algorithms, and data structures, you will actively bridge the gap between theoretical understanding and practical implementation. This course places a strong emphasis on teamwork and effective collaboration. You will navigate the challenges of group projects, learning to work seamlessly with peers, share responsibilities, and communicate ideas effectively. Beyond coding and collaboration, the course offers a comprehensive exploration of project management skills. From planning and scheduling to task prioritization, you will gain insights into the entire project lifecycle, experiencing firsthand the evolution of a concept into a completed solution. Furthermore, you will learn the art of crafting clear and concise project reports, and the skills to deliver impactful presentations.

You will work in teams of ideally five (5) members to define, implement and evaluate a real-world project. Project teams meet weekly starting from Week 1 with project mentors to report on the progress of the project. Assessment is based on a project proposal, progressive demonstrations and retrospectives, a final project demonstration and report, and on the quality of the software system itself. You will also get the chance to reflect on your own contributions and provide peer assessments of your team members.

Course Aims

This course aims to help students enhance their programming skills by working on real-world information technology/computer science projects. Students will gain hands-on experience in coding, debugging, and optimizing software solutions. Students will apply their theoretical knowledge of information technology/computer science concepts, algorithms, and data structures to design and implement practical projects. They will bridge the gap between theory and practice. Students will also learn to work effectively in teams, share responsibilities, and communicate with other team members. This course also aims to teach students project management skills, including planning, scheduling, and task prioritization. Students will experience the entire project lifecycle, from concept to completion. Students will improve their written and verbal communication skills, especially in the context of technical documentation. They will learn to write clear and concise project reports and deliver presentations.

Course Learning Outcomes

Course Learning Outcomes
CLO1 : analyse a set of requirements, elaborate them, and produce a detailed specification
CLO2 : design and develop a correct, efficient and robust software system from specification
CLO3 : apply software development and software project management tools proficiently
CLO4 : verify the correctness and robustness of software
CLO5 : collaborate efficiently within a project team, assuming leadership responsibilities when necessary
CLO6 : optimise time management skills and make reasoned trade-offs over competing demands
CLO7 : articulate technical information clearly through both spoken and written communication

Course Learning Outcomes	Assessment Item
CLO1 : analyse a set of requirements, elaborate them, and produce a detailed specification	• Proposal • Final Project Deliverables
CLO2 : design and develop a correct, efficient and robust software system from specification	• Progress Checkpoints • Final Project Deliverables
CLO3 : apply software development and software project management tools proficiently	• Proposal • Progress Checkpoints • Final Project Deliverables
CLO4 : verify the correctness and robustness of software	• Progress Checkpoints • Final Project Deliverables
CLO5 : collaborate efficiently within a project team, assuming leadership responsibilities when necessary	• Individual Contributions & Peer Assessment • Proposal • Progress Checkpoints • Final Project Deliverables
CLO6 : optimise time management skills and make reasoned trade-offs over competing demands	• Individual Contributions & Peer Assessment • Proposal • Progress Checkpoints • Final Project Deliverables
CLO7 : articulate technical information clearly through both spoken and written communication	• Individual Contributions & Peer Assessment • Proposal • Progress Checkpoints • Final Project Deliverables

Learning and Teaching Technologies

Moodle - Learning Management System | EdStem | Zoom | Microsoft Teams | Blackboard

Collaborate

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Proposal Assessment Format: Group	10%	Due Date: Week 3: 23 September - 29 September
Progress Checkpoints Assessment Format: Group	15%	Due Date: Week 5, Week 8
Individual Contributions & Peer Assessment Assessment Format: Individual	20%	Due Date: W3, W8, W10
Final Project Deliverables Assessment Format: Group	55%	Due Date: Week 10: 11 November - 17 November

Assessment Details
Proposal

Assessment Overview

Students identify, research, and analyse the problems given in an initial project description.

They plan and specify a proposed solution to the identified problems, describe a product backlog of functionality to be delivered for the end product, as well as an initial sprint backlog to describe the functionality to be delivered in their first project iteration.

Course Learning Outcomes

- CLO1 : analyse a set of requirements, elaborate them, and produce a detailed specification
- CLO3 : apply software development and software project management tools proficiently
- CLO5 : collaborate efficiently within a project team, assuming leadership responsibilities when necessary
- CLO6 : optimise time management skills and make reasoned trade-offs over competing demands
- CLO7 : articulate technical information clearly through both spoken and written communication

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students do not see Turnitin similarity reports.

Generative AI Permission Level

Simple Editing Assistance

In completing this assessment, you are permitted to use standard editing and referencing

functions in the software you use to complete your assessment. These functions are described below. You must not use any functions that generate or paraphrase passages of text or other media, whether based on your own work or not.

If your Convenor has concerns that your submission contains passages of AI-generated text or media, you may be asked to account for your work. 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](#).

Progress Checkpoints

<u>Assessment Overview</u>

A number of check-points allow students to iteratively assess their project progress, and work processes over the course of the term: through demonstrations/presentation of completed work; and through the use of agile retrospectives to iteratively work on improving their skills and strategies for working effectively in a team. The group mentor and project stakeholder provide feedback on the project demonstration. The group mentor provides feedback on the retrospective check-points.

Progressive Demo A 5%

Retrospective A 2.5%

Progressive Demo B 5%

Retrospective B 2.5%

<u>Course Learning Outcomes</u>

- CLO2 : design and develop a correct, efficient and robust software system from specification
- CLO3 : apply software development and software project management tools proficiently
- CLO4 : verify the correctness and robustness of software
- CLO5 : collaborate efficiently within a project team, assuming leadership responsibilities when necessary
- CLO6 : optimise time management skills and make reasoned trade-offs over competing demands
- CLO7 : articulate technical information clearly through both spoken and written communication

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Individual Contributions & Peer Assessment

Assessment Overview

Each student is required to complete short technical tasks to demonstrate understanding of software engineering development and collaboration skills (10%). Additionally, students are evaluated based on their team's overall development workflow, consistent use of required technology, and their overall level of participation towards their team (10%). Each member's contributions to the project are evaluated both by the group mentor and the other members of the group. A rubric determines how the member's participation is mapped into a mark.

Course Learning Outcomes

- CLO5 : collaborate efficiently within a project team, assuming leadership responsibilities when necessary
- CLO6 : optimise time management skills and make reasoned trade-offs over competing demands
- CLO7 : articulate technical information clearly through both spoken and written communication

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Final Project Deliverables

<u>Assessment Overview</u>

This assessment includes:

(1) a final presentation/demonstration of the completed software worth 20%, **each team member is required to speak, marks and feedback are provided via a rubric attached to the final presentation feedback in the Learning Management System**,

(2) a report which documents the requirements, the progress, and strategies used during development, and the final product description worth 15%, **marks and feedback are provided via a rubric attached to the report submission link in the Learning Management System**, and

(3) the project's source code to assess the scale and technical depth, as well as the quality, completeness and correctness of the end product worth 20%, **marks and feedback are awarded via a rubric attached to the source code submission link in the Learning Management System**.

<u>Course Learning Outcomes</u>

- CLO1 : analyse a set of requirements, elaborate them, and produce a detailed specification
- CLO2 : design and develop a correct, efficient and robust software system from specification
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General Assessment Information

<u>Grading Basis</u>

Standard

Course Schedule

Attendance Requirements

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

General Schedule Information

The following table outlines a **provisional** schedule for this course. The contents of the lectures are described **roughly** and are subject to **adjustments**.

The most up-to-date course schedule will be available on the course's learning management platform.

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Week	Lectures	Labs

_____

1   Course Introduction, Projects, Working in Groups   Group formation, project selection, mentorship

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_____

2   Agile Software Development, Scrum Method   Project work, progress check with mentors

project work   progress report

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_____

3   Software Design, UI Design Principles, GitHub,   Project work, progress check with mentors

Projects work - Proposal   project proposal

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_____

4   Agile Software Project Management   Project work, progress check with mentors

Projects work - Demo A, Retrospective A   Demo A, Retrospective A

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5   Project work consultation   Project work, progress check with mentors

Progressive Demo A, Retrospective A   Progressive Demo A, Retrospective A

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6   Flexibility Week   ---

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7   Project work consultation   Project work, progress check with
mentors
Progressive Demo B, Retrospective B   Progressive Demo B, Retrospective B

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8   Project work consultation   Project work, progress check with
mentors
Progressive Demo B, Retrospective B   Progressive Demo B, Retrospective B

_____

_____

9   Project work consultation   Project work, progress check with
mentors
Final Project Demo, Project handover   Final Project Demo

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_____

10   Project work consultation   Project Final Demos

        Final Demos, project handover   Final Demos, project handover

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Course Resources

Prescribed Resources

All resources are available and updated on Moodle

Recommended Resources

All recommended resources will be available and updated on Moodle

Course Evaluation and Development

This course is evaluated each session using the myExperience system.

Based on feedback from previous terms, and internal and industry reviews, the course has been going through a number of improvements.

- Real-world projects will be offered by clients (e.g., academics and industry professionals) so students can be exposed to project experices similar to real-world projects. Students will work and interact with their project client as well as their mentors.
- Student's weekly work and tasks will be focused on the relvant project work and alignment with the assessments through mentorship and informal feedback which will be provided by mentors. The mentoring will be specific to each group and considering the work involved in the project.
- Students will receive feedback from their projet clients besides the ongoing feedback from their mentors in the weekly labs as well as assessments.
- All assessment specifications and mrking criteria have been reviewed to better reflect the nature of the projects, individual and group work. More checkpoints and guidelines are provided to support the students.
- All materails are being reviewed and updated to cover related topics. Guidelines and additiona resources are provided to support student's learning.

Students are always welcome to provide feedback at any point in the term on their experience by emailing the course account or their mentor, or completing a feedback form the course learning management platform.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Lecturer	Imran Razzak					No	No
Convenor	Basem Suleiman					No	No
Administrator	CS9900 Course Email					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

CSE Help! - on the Ground Floor of K17

- For assistance with coursework assessments.

The Nucleus Student Hub - https://nucleus.unsw.edu.au/en/contact-us

- Course enrolment queries.

Grievance Officer - grievance-officer@cse.unsw.edu.au

- If the course convenor gives an inadequate response to a query or when the courses convenor does not respond to a query about assessment.

Student Reps - stureps@cse.unsw.edu.au

- If some aspect of a course needs urgent improvement. (e.g. Nobody responding to forum queries, cannot understand the lecturer)

You should **never** contact any of the following people directly:

- Vice Chancellor

- Pro-vice Chancellor Education (PVCE)

- Head of School

- CSE administrative staff

- CSE teaching support staff

They will simply bounce the email to one of the above, thereby creating an unnecessary level of indirection and a delay in the response.