



UNSW Course Outline

COMP3601 Design Project A - 2024

Published on the 25 Aug 2024

General Course Information

Course Code : COMP3601

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 : 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

In this project-based course, students will be put into groups and tasked with carrying out a real-world hardware/software co-design project. Throughout the course of the term, students will work over a series of established milestones which guide them towards completing a complex engineering challenge. Several required parameters for the engineering process, including a

budget, will be provided to students. As a systems course, COMP3601 brings in and combines and contextualizes knowledge from your prior academic career, including skills from the software, digital, and electronic domains.

Course Aims

This course aims to teach students how to carry out real-world hardware/software co-design projects, working as part of a team.

This course builds upon the skills learned in other courses, such as COMP2121/DESN2000, COMP3222, electrical engineering, and software design courses to complete a large project through group participation. It is a core course in the Computer Engineering program.

Relationship to Other Courses

Using the knowledge from COMP3222, in this course students will build a complex digital system.

Course Learning Outcomes

Course Learning Outcomes
CL01 : Co-operate and delegate within a group.
CL02 : Aid the design of a real-world hardware/software system.
CL03 : Conduct design, analysis and optimization research on a project.
CL04 : Gain experience with producing comprehensive design documentation.
CL05 : Learn task prioritization in a limited time budget.

Course Learning Outcomes	Assessment Item
CL01 : Co-operate and delegate within a group.	• Group project demonstration
CL02 : Aid the design of a real-world hardware/software system.	• Group Project Files and Documentation • Individual FPGA demonstration • Group project demonstration
CL03 : Conduct design, analysis and optimization research on a project.	• Individual Reports and Peer Review • Group Project Files and Documentation
CL04 : Gain experience with producing comprehensive design documentation.	• Group project demonstration
CL05 : Learn task prioritization in a limited time budget.	• Individual Reports and Peer Review

Learning and Teaching Technologies

Moodle - Learning Management System | Microsoft Teams

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Individual Reports and Peer Review Assessment Format: Individual	40%	Start Date: From Week 1 Due Date: In applicable milestones
Group project demonstration Assessment Format: Group	20%	Start Date: From Week 1 Due Date: In applicable milestones
Group Project Files and Documentation Assessment Format: Group	10%	Start Date: From Week 1 Due Date: In applicable milestones
Individual FPGA demonstration Assessment Format: Individual	30%	Start Date: From Week 1 Due Date: In applicable milestones

Assessment Details

Individual Reports and Peer Review

Assessment Overview

Throughout the course, each student will provide individualised reports for each milestone and at the final conclusion. These will cover initial project development plans, proposed task lists with justifications and timelines, planned specifications and progress reports, and a detailed overview of the submitted project and their role within it. They shall cover their perspective on the group's progress, on challenges found and solutions encountered, what went well and what could have gone better. They will describe their own contribution and discuss how that fit into the group's broader efforts. They will also include and explain a peer review of their group members. These reports will be marked by tutors and/or teaching staff. Peer assessment can impact these marks.

Course Learning Outcomes

- CL03 : Conduct design, analysis and optimization research on a project.
- CL05 : Learn task prioritization in a limited time budget.

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](#).

You may use generative AI for simple editing only, for instance with grammar and spelling.

Group project demonstration

Assessment Overview

Throughout the course the group will demonstrate increasing functionality for their FPGA project. These will be performed for and marked by a lab tutor, who will also gauge group understanding via Q&A. Assessment of this component will be performed over a series of in-person labs as the course progresses.

Course Learning Outcomes

- CL01 : Co-operate and delegate within a group.
- CL02 : Aid the design of a real-world hardware/software system.
- CL04 : Gain experience with producing comprehensive design documentation.

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](#).

You may use Generative AI for simple editing tasks such as spelling and grammar.

Group Project Files and Documentation

Assessment Overview

The groups will develop Hardware Description Language (HDL) and accompanying project files for the FPGA and associated software code files as they achieve the project goals. It is important to maintain clean and readable code alongside simple README-style documentation. Code submission accompanies the group demonstrations. These code and documentation files will be marked by tutors and/or teaching staff at each relevant milestone of the project course.

Course Learning Outcomes

- CL02 : Aid the design of a real-world hardware/software system.
- CL03 : Conduct design, analysis and optimization research on a project.

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](#).

You should attempt a first pass of the assessment in your groups. Then you may use Generative AI to assist with your development, but you must note where it succeeded and where it failed, and you must include reflections on the use of the Generative AI in the documentation.

Individual FPGA demonstration

Assessment Overview

Demonstration of student capabilities with FPGA toolchain, showing knowledge of hardware design, code authorship, synthesis, and download. The lab tutor will mark these FPGA demos during in-person lab classes - this process will include Q&A to further gauge student

understanding.

Course Learning Outcomes

- CLO2 : Aid the design of a real-world hardware/software system.

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](#).

No generative AI is permitted for the components of the individual FPGA demonstration.

General Assessment Information

Assessment in this course is split over a series of **milestones**, each of which has a subset of each of the above components (Individual reports and peer review, Group project demonstration, Group project files and documentation, Individual FPGA demonstration). The exact weightings, details, and deadlines of the milestones will be provided in Week 1's lecture.

Information on this year's project and expected deliverables will also be provided in Week 1.

Grading Basis

Standard

Course Schedule

Attendance Requirements

CSE Attendance Guidelines :

Students are expected to be regular and punctual in attendance at all classes for the Computer Science and Engineering courses in which they are enrolled. For lab classes and tutorials, in particular, this provides the opportunity to get assistance from the demonstrator/tutor. Students who do not attend classes regularly run the risk of failing a course.

Required Attendance :

At least one student from each group must be present in each of Weeks 7, 8, and 9, and all

members of each group must be present in Week 10.

General Schedule Information

Week 1: Project introduction

Weeks 1-5: Project guidance

Week 6: Flex week

Weeks 7-9: Group project updates

Week 10: Group final project presentations

Course Resources

Recommended Resources

All resources will be posted in the course Moodle and/or the course Teams.

Course Evaluation and Development

Feedback in this course is taken extremely seriously. Due to prior year myexperience comments, we changed COMP3601 to have a hard pre-req with COMP3222, and were able to provide additional course resources in the form of additional FPGA boards, as well as provide additional informational lectures.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
	Hammond Pearce					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 policies. 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 Plagiarism

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.