UNSW Course Outline

COMP3511 Human Computer Interaction - 2024

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General Course Information

Course Code : COMP3511
Year : 2024
Term : Term 2
Teaching Period : T2
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

The course covers topics related to User Interface Design and Visual Design Principles. These topics aim to equip you with the skills necessary to design websites, mobile apps, and various software packages. You will learn how to apply a User-Centered Design process, which involves

data collection from users, Requirement Analysis, Design, Prototyping, and Usability Evaluation. This process ensures that the final product is tailored to meet users' needs.

Additionally, the course covers other relevant topics that help you understand your users and their needs. These topics include an overview of basic Cognitive Capacities, Designing for Accessibility, Internationalization, Levels of Expertise, and Collaboration.

Lastly, the course introduces you to new emerging technologies, such as the metaverse, immersive technologies, and smart devices. These technologies require special design considerations and will be explored in the course.

By the end of the course, you will have gained a comprehensive understanding of User Interface Design and Visual Design Principles, along with the ability to apply User-Centered Design methodologies and adapt products to meet users' needs.

Course Aims

- to familiarize you with user interface design and visual design principles that can enhance usability
- to teach you how to design websites, mobile applications, and software packages with a focus on maximizing their usability
- to give you an awareness of user centred design tools, methods, and techniques
- to provide background knowledge about how people think and process information
- to ensure that your design work includes user needs analysis
- to give you experience in prototyping using both paper-based design and software-based techniques
- to demonstrate techniques/heuristics necessary to evaluate systems for their usability
- to give you experience in the formal evaluation of user interfaces
- above all, maintain a real-world perspective to applying this knowledge in industry

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Analyze websites in terms of usability and accessibility by considering different user interface design and visual design principles.
CLO2 : Explain the strengths and limitations of human cognition and memory and apply these to the design of more usable interfaces that do not cognitively overload users
CLO3 : Prepare a design plan that is based on user-centered design principles and then carry out activities to design, evaluate and refine the user interface
CLO4 : Construct questionnaires/surveys to gather pre- and post-test information from users, and understand the importance of ethics and privacy to conduct appropriate user-centered design activities.
CLO5 : Ceate prototypes by utilizing both paper and prototyping software packages.
CLO6 : Apply usability evaluation methods for assessing the usability of both low and high-fidelity prototypes.
CLO7 : Explain how user-centred design processes should be inclusive of all users, including international audiences, those with special needs, such as disabilities, as well different levels of user experience, and use this knowledge to design interfaces appropriate to a particular group of users.
CLO8 : Apply gamification in order to increase users' engagement
CLO9 : Design for new emerging technologies such as metaverse, virtual and augmented reality, and smart devices and their design considerations

Course Learning Outcomes	Assessment Item
CLO1 : Analyze websites in terms of usability and accessibility by considering different user interface design and visual design principles.	• Assignment 1 - User Interface Analysis • Design Diary (which includes tutorials and lectures exercises) • Final Exam
CLO2 : Explain the strengths and limitations of human cognition and memory and apply these to the design of more usable interfaces that do not cognitively overload users	• Design Diary (which includes tutorials and lectures exercises) • Final Exam
CLO3 : Prepare a design plan that is based on user-centered design principles and then carry out activities to design, evaluate and refine the user interface	• Assignment 2 - Consolidated Group Design and Evaluation • Design Diary (which includes tutorials and lectures exercises) • Final Exam
CLO4 : Construct questionnaires/surveys to gather pre- and post-test information from users, and understand the importance of ethics and privacy to conduct appropriate user-centered design activities.	• Assignment 2 - Consolidated Group Design and Evaluation • Design Diary (which includes tutorials and lectures exercises) • Final Exam
CLO5 : Ceate prototypes by utilizing both paper and prototyping software packages.	• Assignment 2 - Consolidated Group Design and Evaluation • Design Diary (which includes tutorials and lectures exercises) • Final Exam
CLO6 : Apply usability evaluation methods for assessing the usability of both low and high-fidelity prototypes.	• Assignment 2 - Consolidated Group Design and Evaluation • Design Diary (which includes tutorials and lectures exercises) • Final Exam
CLO7 : Explain how user-centred design processes should be inclusive of all users, including international audiences, those with special needs, such as disabilities, as well different levels of user experience, and use this knowledge to design interfaces appropriate to a particular group of users.	• Assignment 2 - Consolidated Group Design and Evaluation • Design Diary (which includes tutorials and lectures exercises) • Final Exam
CLO8 : Apply gamification in order to increase users' engagement	• Assignment 2 - Consolidated Group Design and Evaluation • Design Diary (which includes tutorials and lectures exercises) • Final Exam
CLO9 : Design for new emerging technologies such as metaverse, virtual and augmented reality, and smart devices and their design considerations	• Design Diary (which includes tutorials and lectures exercises) • Final Exam

Learning and Teaching Technologies

Moodle - Learning Management System | Blackboard Collaborate | Echo 360 | Microsoft Teams

Learning and Teaching in this course

There are two lectures a week, each of them two hours in duration. All of the lectures are common lectures that will have lecture material, design diary exercises and some small group activities. **You will need to bring your design diary, as it is an assessable component of the course.**

Each week you will be required to participate in your timetabled tutorial/laboratory class. There is one tutorials/laboratories a week, two hours in duration. This will be held online using Blackboard Collaborate. You will be using Microsoft OneNote which is a part of Ms Teams for Design diary activities. There are 10 sections including tutorial exercises, lecture exercises, assignment 2 checkpoints, class notes, and design ideas in your OneNote. Your OneNote will act as evidence of your original design and assignment work which is a compulsory component of this course.

Regular progress on assignment 2 group work is required and will be checked with weekly or biweekly deliverables. This is designed to keep you working regularly on your assignments so that you don't leave things until the last minute. During some scheduled tutorial classes (see Moodle and assignment pages for dates) there will be assessable in-class activities and checkpoints (due at the beginning of the class) relating to assignment milestones. Late penalties will be applied if you have not adequately prepared for these activities. You are all expected to be present at your tutorials for all graded milestones or you will be penalised.

This will also be a time for you to ask questions of your tutor, and for your tutor to give you some feedback on your work.

The practical periods in the tutorial/laboratory are intended to facilitate group discussion and to give you the ability to work through practical examples.

Your design diary will be marked at the end of the course. This trimester, you will be encouraged to maintain a digital design diary using OneNote on Teams. You are encouraged to find your own design examples of bad user interaction experiences. This may involve you taking a photograph, as an example, and putting that photo into your diary and writing up your ideas as to why the interaction is poor and solutions to improve.

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Assignment 1 - User Interface Analysis Assessment Format: Individual	25%	Due Date: Week 5: 24 June - 30 June
Assignment 2 - Consolidated Group Design and Evaluation Assessment Format: Group	25%	Start Date: Not Applicable Due Date: At the end of each week, from week 5 to 10
Design Diary (which includes tutorials and lectures exercises) Assessment Format: Individual	10%	Due Date: At the end of each week, from week 1 to 9
Final Exam Assessment Format: Individual	40%	Due Date: TBA - Exam Week

Assessment Details

Assignment 1 - User Interface Analysis

Assessment Overview

In this assignment, students are expected to choose a website and conduct a comprehensive critical analysis to identify usability issues. They will utilize heuristic evaluation, design principles, usability principles, visual design, and accessibility in their analysis. Following their analysis, students must compose a report within a 21-page limit, presenting their findings.

To evaluate the assignment, a marking rubric will be employed, providing details on how marks will be awarded based on various criteria.

The marks, along with comprehensive feedback, are released two weeks after the submission deadline. Specifically, if the submission deadline is at the end of week 4, the marks and feedback will be released by the end of week 6.

Course Learning Outcomes

- CLO1 : Analyze websites in terms of usability and accessibility by considering different user interface design and visual design principles.

Assignment submission Turnitin type

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

Assignment 2 - Consolidated Group Design and Evaluation

Assessment Overview

Assignment 2 entails a group design activity that involves the complete user-centered design process. The group will collaborate to create prototypes for either an application or a website. The process commences with design conceptualization and analyzing user needs and goals. It then progresses through multiple design iterations, starting from low fidelity prototypes and gradually advancing to high fidelity prototypes, all while maintaining ongoing evaluation throughout the process.

This assignment consists of five different checkpoints that are completed from week 5 to 10 of the term. For each checkpoint, students will receive a separate mark based on a marking rubric. There is no page limit for each checkpoint of the assignment.

During each tutorial for each checkpoint, students will receive comprehensive feedback. However, the total mark for the assignment will be released by the end of the term.

Course Learning Outcomes

- CLO3 : Prepare a design plan that is based on user-centered design principles and then carry out activities to design, evaluate and refine the user interface
- CLO4 : Construct questionnaires/surveys to gather pre- and post-test information from users, and understand the importance of ethics and privacy to conduct appropriate user-centered design activities.
- CLO5 : Ceate prototypes by utilizing both paper and prototyping software packages.
- CLO6 : Apply usability evaluation methods for assessing the usability of both low and high-fidelity prototypes.
- CLO7 : Explain how user-centred design processes should be inclusive of all users, including international audiences, those with special needs, such as disabilities, as well different levels of user experience, and use this knowledge to design interfaces appropriate to a particular group of users.
- CLO8 : Apply gamification in order to increase users' engagement

Assignment submission Turnitin type

Not Applicable

Design Diary (which includes tutorials and lectures exercises)

Assessment Overview

During each tutorial, students will be expected to complete a set of exercises that align with the lecture topics. These exercises will be assessed and marked during the tutorial session itself.

Course Learning Outcomes

- CLO1 : Analyze websites in terms of usability and accessibility by considering different user interface design and visual design principles.
- CLO2 : Explain the strengths and limitations of human cognition and memory and apply these to the design of more usable interfaces that do not cognitively overload users
- CLO3 : Prepare a design plan that is based on user-centered design principles and then carry out activities to design, evaluate and refine the user interface
- CLO4 : Construct questionnaires/surveys to gather pre- and post-test information from users, and understand the importance of ethics and privacy to conduct appropriate user-centered design activities.
- CLO5 : Ceate prototypes by utilizing both paper and prototyping software packages.
- CLO6 : Apply usability evaluation methods for assessing the usability of both low and high-fidelity prototypes.
- CLO7 : Explain how user-centred design processes should be inclusive of all users, including international audiences, those with special needs, such as disabilities, as well different levels of user experience, and use this knowledge to design interfaces appropriate to a particular group of users.
- CLO8 : Apply gamification in order to increase users' engagement
- CLO9 : Design for new emerging technologies such as metaverse, virtual and augmented reality, and smart devices and their design considerations

Final Exam

Assessment Overview

The final exam is a comprehensive assessment that combines both multiple-choice and open-ended questions. It aims to evaluate students' theoretical and practical knowledge pertaining to the course content. The exam will cover various aspects of the course and assess students' understanding and application of the HCI concepts learned.

Course Learning Outcomes

- CLO1 : Analyze websites in terms of usability and accessibility by considering different user interface design and visual design principles.
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international audiences, those with special needs, such as disabilities, as well different levels of user experience, and use this knowledge to design interfaces appropriate to a particular group of users.
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- CLO9 : Design for new emerging technologies such as metaverse, virtual and augmented reality, and smart devices and their design considerations

General Assessment Information

Grading Basis

Standard

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 27 May - 2 June	Lecture	• Course Overview • Design Diary • Usability principles
Week 2 : 3 June - 9 June	Lecture	• Visual Design • Mobile Design • Assignment 1 overview
Week 3 : 10 June - 16 June	Lecture	• Design for Accessibility • Assignment 2 overview
Week 4 : 17 June - 23 June	Lecture	• User centered design process (From Ideas to Scenarios) • User centered design process (Interviews) • User centered design process (Requirements through to Prototyping)
Week 5 : 24 June - 30 June	Lecture	• Usability evaluation • Usability evaluation (Quantification) • Ethics in design and user research
Week 6 : 1 July - 7 July	Lecture	Term break
Week 7 : 8 July - 14 July	Lecture	• Human memory structure • Cognitive load theory and heuristics
Week 8 : 15 July - 21 July	Lecture	• Expert versus novice users • Internationalisation • Representation and design • Physicality and design
Week 9 : 22 July - 28 July	Lecture	• Industry guest lecturer 1 • Industry guest lecturer 2
Week 10 : 29 July - 4 August	Lecture	• Metaverse • Gamification • Summary lecture • Question and answer

Attendance Requirements

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

General Schedule Information

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Course Resources

Course Evaluation and Development

We will use both lab-based feedback and/or electronic survey tools to gather feedback about the course.

Based on the students' survey results in 2022 and 2023 regarding the workload, feedback, practical components of the course, and lecture contents, we made the modifications below:

- Although we update the lecture content every term, this term, the content for lectures related to new technologies has been further updated to reflect emerging devices and technologies. This includes introducing a new lecturer for mobile and touchscreen devices and another one for designing immersive technologies. We have also invited two new industry guest lecturers. Additionally, most of the examples used in the lectures have been updated to reflect current trends in technology.
- We updated the assignment instructions to make them clearer and added an FAQ section to help students understand the requirements and expectations of the assignment more easily, minimizing the need to seek clarification on the forum.
- The workload of the course is decreased by cutting one of the major components of Assignment two. This assignment is now designed to be a group work without any individual components.
- As a result of student request for more individual feedback, you will be receiving feedback for the design diaries in addition to the assignments. The purpose of this, is to improve your learning experience and help you apply what you have learned from your earlier misunderstandings, to later aspect of the course.
- Assignments are updated so that you can obtain practical experience from the lecture content and you can then implement some of the concepts in practice in the assignments.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Lecturer	Ali Darejeh					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.