UNSW Course Outline

CODE2230 Human Machine Interaction - 2024

Published on the 23 Sep 2024

General Course Information

Course Code : CODE2230
Year : 2024
Term : Term 3
Teaching Period : T3
Is a multi-term course? : No
Faculty : Faculty of Arts, Design and Architecture
Academic Unit : School of Built Environment
Delivery Mode : In Person
Delivery Format : Standard
Delivery Location : Kensington
Campus : Sydney
Study Level : Undergraduate
Units of Credit : 6

<u>Useful Links</u>

<u>Handbook</u> <u>Class Timetable</u>

Course Details & Outcomes

Course Description

Human Machine Interaction introduces you to the field by engaging you in movement experiments towards the creation of responsive architectural prototypes. Viewing the built environment as a machine in interaction with its inhabitants, you will design building elements

that can communicate, adapt, and interact with humans to positively impact a diverse range of people. Using low-cost open-source electronic hardware, found objects and recycled materials, you will learn design methods and robotic technologies to test and develop working prototypes that exhibit natural and affective modes of interaction.

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Analyse examples of responsive design elements in human-machine interaction.
CLO2 : Apply principles of human-machine interaction to a design problem.
CLO3 : Build a prototype of responsive architecture.

Course Learning Outcomes	Assessment Item
CLO1 : Analyse examples of responsive design elements in human-machine interaction.	
CLO2 : Apply principles of human-machine interaction to a design problem.	
CLO3 : Build a prototype of responsive architecture.	

Learning and Teaching Technologies

Moodle - Learning Management System | Padlet

Learning and Teaching in this course

The teaching approach in this course reflects a view that professional practice within the design-computing field will require advanced levels of communication to support its ongoing development and innovation. Lectures will provide broad conceptual knowledge, to help you understand the principles that underly the course content. Self-directed research aims to develop independent scholarship. Studio classes provide active participatory learning where you will meet with your tutor each week, and these classes encourage students to develop interpersonal, cognitive and professional skills.

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Movement Planning and Experimentation Assessment Format: Individual	30%	Due Date: Week 4
Analogue Prototype Assessment Format: Individual	30%	Due Date: Week 7
Resolved Prototype Assessment Format: Individual	40%	Due Date: Week 10

Assessment Details
Movement Planning and Experimentation

Assessment Overview

You will regularly post experiments, reflections and documentation to a blog, reflecting the development of your prototype. Marking will be done against assessment criteria. Written feedback will be provided in the blog and with the grade.

Detailed Assessment Description

Please refer to Moodle for further assessment details.

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.

Analogue Prototype

Assessment Overview

You will fabricate a prototype of a facade that demonstrates the planned movement and

mechanism for interaction. Feedback will be provided using a rubric and written comments.

Detailed Assessment Description

Please refer to Moodle for further assessment details.

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.

Resolved Prototype

Assessment Overview

You will create and construct an autonomous, functional interactive facade prototype and demonstrate its movement in a presentation to the class. Feedback will be provided using a rubric and written comments.

Detailed Assessment Description

Please refer to Moodle for further assessment details.

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.

General Assessment Information

Refer to Moodle for more information on assessments.

Grading Basis

Standard

Requirements to pass course

Students must make a genuine attempt at all assessment tasks and complete the course with a Pass grade of 50 or above.

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 0 : 2 September - 8 September	Other	Preparation
Week 1 : 9 September - 15 September	Lecture	Introduction to Human-Machine Interaction
	Tutorial	Course Orientation, Movement Exercises
Week 2 : 16 September - 22 September	Lecture	Movement Planning
	Tutorial	Linear and Rotational Movement
Week 3 : 23 September - 29 September	Lecture	Affective Movement
	Tutorial	Listening to Materials, Task 1 Check-in
Week 4 : 30 September - 6 October	Lecture	Kinetic Architecture
	Tutorial	Task 2 prototyping
	Assessment	Submit Task 1
Week 5 : 7 October - 13 October	Lecture	Materials Matter: Political Ecologies
	Tutorial	Task 2 prototyping
Week 6 : 14 October - 20 October	Other	Recharge Week
Week 7 : 21 October - 27 October	Lecture	Actuation: Arduino Workshop
	Tutorial	Arduino Refresher
	Assessment	Submit Task 2
Week 8 : 28 October - 3 November	Lecture	Cultural Robotics
	Tutorial	Task 3 prototyping
Week 9 : 4 November - 10 November	Lecture	Designing for Diversity
	Tutorial	Arduino Troubleshooting, Task 3 prototyping
Week 10 : 11 November - 17 November	Presentation	In-class crit with guests
	Assessment	Submit Task 3

Attendance Requirements

Please note that lecture recordings are not available for this course. Students are strongly encouraged to attend all classes and contact the Course Authority to make alternative arrangements for classes missed.

General Schedule Information

Refer to Moodle for a detailed course outline.

Course Resources

Prescribed Resources

All prescribed readings, videos and online resources are provided as links in the relevant weekly tab on Moodle.

Recommended Resources

A small list of recommended equipment is listed on Moodle and available for purchase in the UNSW Design Futures Lab.

Additional Costs

Students will be required to loan an Arduino kit from the UNSW Design Futures Lab

Course Evaluation and Development

Students' feedback on the course will be gathered both formally and informally throughout the course duration and upon completion via face-to-face conversation, email and the myExperience system. Where possible, they will be addressed immediately to improve the student learning experience. Alternatively, changes to the content or delivery of the course will be addressed before the beginning of the following year.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Belinda Dunstan		Room 2009 Anita B. Lawrence Centre West		Email for a meeting time	No	Yes

Other Useful Information

Academic Information

For essential student information relating to:

- UNSW and Faculty policies and procedures;
- Student Support Services;

- Student equity and disability;
- Special Consideration in the event of illness or misadventure;
- Examination information;
- Review of results;

Please see: https://www.unsw.edu.au/arts-design-architecture/student-life/resources-support/protocols-guidelines

Academic Honesty and Plagarism

Plagiarism is using the words or ideas of others and presenting them as your own. It can take many forms, from deliberate cheating to accidentally copying from a source without acknowledgement.

UNSW groups plagiarism into the following categories:

- Copying: Using the same or very similar words to the original text or idea without acknowledging the source or using quotation marks. This includes copying materials, ideas or concepts from a book, article, report or other written document, presentation, composition, artwork, design, drawing, circuitry, computer program or software, website, internet, other electronic resource, or another person's assignment without appropriate acknowledgement.
- Inappropriate paraphrasing: Changing a few words and phrases while mostly retaining the original information, structure and/or progression of ideas of the original without acknowledgement. This also applies in presentations where someone paraphrases another's ideas or words without credit and to piecing together quotes and paraphrases into a new whole, without appropriate referencing.
- Collusion: Working with others but passing off the work as a person's individual work. Collusion also includes providing your work to another student for the purpose of them plagiarising, paying another person to perform an academic task, stealing or acquiring another person's academic work and copying it, offering to complete another person's work or seeking payment for completing academic work.
- Inappropriate citation: Citing sources which have not been read, without acknowledging the "secondary" source from which knowledge of them has been obtained.
- Duplication ("self-plagiarism"): Submitting your own work, in whole or in part, where it has previously been prepared or submitted for another assessment or course at UNSW or another university.

The UNSW Academic Skills support offers resources and individual consultations. Students are also reminded that careful time management is an important part of study. One of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting and proper referencing of sources in preparing all assessment items. UNSW Library has the ELISE tool available to assist you with your study at UNSW. ELISE is designed to

introduce new students to studying at UNSW, but it can also be a great refresher during your study.

Completing the ELISE tutorial and quiz will enable you to:

- analyse topics, plan responses and organise research for academic writing and other assessment tasks
- effectively and efficiently find appropriate information sources and evaluate relevance to your needs
- use and manage information effectively to accomplish a specific purpose
- better manage your time
- understand your rights and responsibilities as a student at UNSW
- be aware of plagiarism, copyright, UNSW Student Code of Conduct and Acceptable Use of UNSW ICT Resources Policy
- be aware of the standards of behaviour expected of everyone in the UNSW community
- locate services and information about UNSW and UNSW Library

Use of AI for assessments

As AI applications continue to develop, and technology rapidly progresses around us, we remain committed to our values around academic integrity at UNSW. Where the use of AI tools, such as ChatGPT, has been permitted by your course convener, they must be properly credited and your submissions must be substantially your own work.

In cases where the use of AI has been prohibited, please respect this and be aware that where unauthorised use is detected, penalties will apply.

[Use of AI for assessments | UNSW Current Students](#)

Submission of Assessment Tasks

Assessment tasks must be submitted electronically via either Turnitin or a Moodle assignment. In instances where this is not possible, alternative submission details will be stated on your course's Moodle site. For information on how to submit assignments online via Moodle: https://student.unsw.edu.au/how-submit-assignment-moodle

Late Submission Penalty

UNSW has a standard late submission penalty of:

- 5% per calendar day,
- for all assessments where a penalty applies,

- capped at five calendar days (120 hours) from the assessment deadline, after which a student cannot submit an assessment, and
- no permitted variation.

Students are expected to manage their time to meet deadlines and to request Special Consideration as early as possible before the deadline. Support with Time Management is available here.

Important note: UNSW has a "fit to sit/submit" rule, which means that if you sit an exam or submit a piece of assessment, you are declaring yourself fit to do so and cannot later apply for Special Consideration. This is to ensure that if you feel unwell or are faced with significant circumstances beyond your control that affect your ability to study, you do not sit an examination or submit an assessment that does not reflect your best performance. Instead, you should apply for Special Consideration as soon as you realise you are not well enough or are otherwise unable to sit or submit an assessment.

School Contact Information

beadmin@unsw.edu.au