IDES2325 Industrial Design Theory A: Human Factors in Product Design - 2024

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General Course Information

Course Code : IDES2325
Year : 2024
Term : Term 2
Teaching Period : T2
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

Useful Links

[Handbook](#) [Class Timetable](#)

Course Details & Outcomes

Course Description

Industrial Design Theory A introduces you to the principles of designing for people. The course

focuses on access, usability, comfort, and performance of the human-product interaction system. You will learn strategies for representing and engaging users in the design process, drawing on a variety of perspectives including human factors, anthropometry, biomechanics, cognitive ergonomics, user experience (UX), user interface (UI), universal design, and inclusive design. In addition, you will investigate the human-use implications of your current and future design practice. The course aims to help you become better designers through understanding the needs and diversity of the users of products, places, and systems shaped through design practice.

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Describe the diversity, capabilities, and variability of needs of people concerning their use of a product or system.
CLO2 : Apply design skills together with ergonomic and anthropometric knowledge and methods to design physical or cognitive accommodation for a range of users.
CLO3 : Develop and apply methods for user testing of a proposed user interface in a given context for a product or system.
CLO4 : Propose and integrate a range of ergonomic evaluation strategies within a design process.
CLO5 : Critically reflect and report on the impact of human factors, user experience and interaction, universal design, and inclusive design in product design projects.

Course Learning Outcomes	Assessment Item
CLO1 : Describe the diversity, capabilities, and variability of needs of people concerning their use of a product or system.	• Size & Movement report • Design for Usability
CLO2 : Apply design skills together with ergonomic and anthropometric knowledge and methods to design physical or cognitive accommodation for a range of users.	• Inclusive Design • Size & Movement report • Design for Usability
CLO3 : Develop and apply methods for user testing of a proposed user interface in a given context for a product or system.	• Design for Usability
CLO4 : Propose and integrate a range of ergonomic evaluation strategies within a design process.	• Inclusive Design • Size & Movement report
CLO5 : Critically reflect and report on the impact of human factors, user experience and interaction, universal design, and inclusive design in product design projects.	• Size & Movement report • Design for Usability

Learning and Teaching Technologies

Moodle - Learning Management System | Echo 360 | MIRO

Learning and Teaching in this course

This theory course will be taught face to face. The tutorial classes will apply the knowledge covered in the lectures. Some pre-learning of course materials might be necessary as prerequisites to some classes.

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Size & Movement report Assessment Format: Individual	30%	Start Date: 29/05/2024 01:00 PM Due Date: 21/06/2024 11:00 PM
Design for Usability Assessment Format: Individual	35%	Start Date: 19/06/2024 01:00 PM Due Date: 19/07/2024 11:00 PM
Inclusive Design Assessment Format: Group	35%	Start Date: 10/07/2024 04:00 PM Due Date: 31/07/2024 11:00 PM

Assessment Details
Size & Movement report

Assessment Overview

You will measure your own body size as a practical introduction to anthropometry and its application in design. You will then analyse and describe a simple physical activity and communicate with scale drawings to show interaction with equipment and spaces. Grading will be done against assessment criteria accompanied by written feedback.

Course Learning Outcomes

- CLO1 : Describe the diversity, capabilities, and variability of needs of people concerning their use of a product or system.
- CLO2 : Apply design skills together with ergonomic and anthropometric knowledge and methods to design physical or cognitive accommodation for a range of users.
- CLO4 : Propose and integrate a range of ergonomic evaluation strategies within a design process.
- CLO5 : Critically reflect and report on the impact of human factors, user experience and interaction, universal design, and inclusive design in product design projects.

Detailed Assessment Description

You will submit an illustrated report (4 to 6 pages) addressing the steps and tasks, together with your discussion and reflections on what you have learned.

Assessment Length

An illustrated report (4 to 6 pages).

Submission notes

An illustrated report

Assessment information

N/A

Assignment submission Turnitin type

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

Design for Usability

Assessment Overview

You will model an interaction design by creating a sketched paper mock-up that will be tested with multiple users. Grading will be done against assessment criteria accompanied by written feedback.

Course Learning Outcomes

- CLO1 : Describe the diversity, capabilities, and variability of needs of people concerning their use of a product or system.
- CLO2 : Apply design skills together with ergonomic and anthropometric knowledge and methods to design physical or cognitive accommodation for a range of users.
- CLO3 : Develop and apply methods for user testing of a proposed user interface in a given context for a product or system.
- CLO5 : Critically reflect and report on the impact of human factors, user experience and interaction, universal design, and inclusive design in product design projects.

Detailed Assessment Description

You will model an interaction design by creating a sketched paper mock-up and you will test it with 5 different users. You will also develop scenarios and task descriptions before running tests. You will record (audio or video) a test interaction for later analysis and reporting of test results. You will present the process and results in an illustrated report (6 to 8 A4 pages = 3000 to 4000 words).

Assessment Length

6 to 8 A4 pages (3000 to 4000 words, 12 pt font)

Submission notes

Assignent 2 has 2 parts, part 1 is submitted on June 28, 2024

Assessment information

N/A

Assignment submission Turnitin type

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

Inclusive Design

Assessment Overview

In small groups, you will develop a shared design exploration and response for an inclusive design solution in a specific design context. Grading will be done against assessment criteria accompanied by written feedback. Individual contributions will be assessed..

Course Learning Outcomes

- CLO2 : Apply design skills together with ergonomic and anthropometric knowledge and methods to design physical or cognitive accommodation for a range of users.
- CLO4 : Propose and integrate a range of ergonomic evaluation strategies within a design process.

Detailed Assessment Description

This assignment has two parts. In part 1, you will research and contribute to resources on a Padlet page (at least three unique and thoughtful items, in your own words, no copy-pasted text). In part 2, you will work in a team of 4 to 5 peers to develop a shared design exploration & response for an inclusive design solution in a specific design context and present it as a group. Marking will be done using a rubric, with students receiving an individual mark for part 1 (5%) and a group mark for part 2 (30%), with individual written feedback.

Assessment Length

6 minutes video presentation (750 to 900 words)

Submission notes

Presented as a group in a 6-minute video presentation (= 750 to 900 words).

Assessment information

N/A

Assignment submission Turnitin type

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

General Assessment Information

Examples of previous student work are available in Moodle.

Grading Basis

Standard

Requirements to pass course

You must achieve a composite mark of at least 50 out of 100 and engage in online and in-class activities during the term.

Course Schedule

Attendance Requirements

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

General Schedule Information

Week 1: Introduction to Anthropometry and to Assignment 1: Size & Movement

Week 2: Introduction to Biomechanics - Design Applications

Week 3: Physical Ergonomics - Biomechanics & Design

Week 4: Designing for Usability and User Testing + Introduction to Assignment 2: Design for Usability.

Week 5: Task Analysis, Scenarios and Personas - Heuristics

Week 6: Flexibility week

Week 7: Cognitive Ergonomics, Human Factors and Interface Design - Usability and beyond.

Week 8: Inclusive Design - Tools & Techniques

Week 9: Standards & Guidelines for Inclusive Design - Design Responses- examples

Week 10: User-Centred Design - in practice / Wrapping-up the session

Course Resources

Prescribed Resources

There is no required specific textbook for the course. The course Moodle website provides relevant documents, videos, and links to helpful references and sources. Other resources for the course include the UNSW and Art & Design (Paddington) Libraries.

Recommended Resources

Recommended resources are available in Moodle, every week.

Additional Costs

No additional cost.

Course Evaluation and Development

Your feedback is genuinely important to us, as every year, to improve the student learning experience, we revise and update the course, informed by myExperience reports and past student evaluations and feedback (both formal and informal).

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Head lecturer	Reside Oya Demirbilek		RC2024	90655562	by appointment only	Yes	Yes

Other Useful Information

Academic Information

Due to evolving advice by NSW Health, students must check for updated information regarding online learning for all Arts, Design and Architecture courses this term (via Moodle or course information provided).

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

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

- Dean's List;
- review of results;
- credit transfer;
- cross-institutional study and exchange;
- examination information;
- enrolment information;
- Special Consideration in the event of illness or misadventure;
- student equity and disability;

And other essential academic information.

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

Turnitin Submission

If you encounter a problem when attempting to submit your assignment through Turnitin, please telephone External Support on 9385 3331 or email them on externalteltsupport@unsw.edu.au

Support hours are 8:00am – 10:00pm on weekdays and 9:00am – 5:00pm on weekends (365 days a year). If you are unable to submit your assignment due to a fault with Turnitin, you may apply for an extension, but you must retain your ticket number from External Support (along with

any other relevant documents) to include as evidence to support your extension application. If you email External Support, you will automatically receive a ticket number, but if you telephone, you will need to specifically ask for one. Turnitin also provides updates on their system status on Twitter.

Generally, 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.

School Contact Information

beadmin@unsw.edu.au