UNSW Course Outline

IDES4113 Industrial Design Capstone Project A - 2024

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General Course Information

Course Code : IDES4113
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 : 12

Useful Links

Handbook Class Timetable

Course Details & Outcomes

Course Description

Industrial Design Capstone Project A provides an opportunity for you to demonstrate your capabilities as an emerging design professional through a self-managed project. You will create an innovative product or system and demonstrate its viability through documentation and

tangible models. This course is the foundation for Industrial Design Capstone Project B.

Relationship to Other Courses

This course is part of the yearlong Honours capstone project course. IDES4113 is the product realisation component following on from the capstone research project in T1, culminating in T3 in IDES4114 with the presentation of a product prototype at a public exhibition.

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Demonstrate design capabilities through an iterative process from brief to a viable proof-of-concept.
CLO2 : Develop a self-directed design concept based on individual research.
CLO3 : Apply professional and ethical judgement to product design.
CLO4 : Effectively communicate design solutions through visual and verbal modes of presentation.

Course Learning Outcomes	Assessment Item
CLO1 : Demonstrate design capabilities through an iterative process from brief to a viable proof-of-concept.	• Preferred Concepts • Project Definition • Design Freeze
CLO2 : Develop a self-directed design concept based on individual research.	• Preferred Concepts • Project Definition • Design Freeze
CLO3 : Apply professional and ethical judgement to product design.	• Preferred Concepts • Design Freeze
CLO4 : Effectively communicate design solutions through visual and verbal modes of presentation.	• Preferred Concepts • Design Freeze

Learning and Teaching Technologies

Moodle - Learning Management System

Learning and Teaching in this course

This class is taught in an individual and group consultation style design studio format in the twice weekly meetings. Students will work also independently and pursue their ideas guided by the convener. Students have to take the initiative and be proactive, as this is THEIR final year project, the convener liasises and critcally advises to achieve the best posisble outocme.

Additional Course Information

n/a

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Preferred Concepts Assessment Format: Individual	30%	Start Date: Not Applicable Due Date: 09/06/2024 02:00 PM Post Date: 09/06/2024 02:00 PM
Project Definition Assessment Format: Individual	30%	Start Date: Not Applicable Due Date: Week 7: 08 July - 14 July
Design Freeze Assessment Format: Individual	40%	Start Date: Not Applicable Due Date: Week 10: 29 July - 04 August

Assessment Details

Preferred Concepts

Assessment Overview

You will create your preferred concepts based on your design definition. You will receive regular verbal feedback on your progress in weekly studios. Grading will be done against assessment criteria.

Course Learning Outcomes

- CLO1 : Demonstrate design capabilities through an iterative process from brief to a viable proof-of-concept.
- CLO2 : Develop a self-directed design concept based on individual research.
- CLO3 : Apply professional and ethical judgement to product design.
- CLO4 : Effectively communicate design solutions through visual and verbal modes of presentation.

Detailed Assessment Description

This checkpoint determines the feasibility of your project proposal and assists you with defining your project direction.

You will present to your student peer group.
Good design requires good processes, including a clear brief. Present your project description (design brief and elevator pitch) and initial design concepts – sketches and sketch models.

Your concepts may represent some work undertaken last semester, but you must show

evidence of how you have advanced your design thinking and project direction since then.

Deliverables

Present your project proposal and your latest concept designs.

1 Project description

The Design Brief – outlines the scope of the project including- identified need or opportunity, desirable functions and aesthetic attributes.
“An articulate design brief is a critical part of the design process - and serves as an essential point of reference for all project parties”.
Elevator pitch - A concise and captivating statement to introduce your presentation. It articulates who you are designing for, their specific need, the product category/ description and one key benefit that differentiates your proposal from existing competitors and substitute products.

2 Concept design concept directions

- Preferably designerly line drawing presentation sketches with annotated call-outs, notes, etc.
- Drawings must indicate context and function, use/interaction and possible technologies.
- Present a range of concept variations demonstrating that you are exploring various possibilities and testing your ideas.
- Do not rely upon one single, unexplored idea from last semester.

Format

- You will present your work to the tutorial groups.
- Commence your presentation with your elevator pitch. Each presentation should be no more than 5 minutes to allow enough time for discussion.
- You should take notes and record agreed actions. These are to be recorded by one of your colleagues on your behalf during the critique.
- You may use screen based presentations, but you can also provide print-outs of your concept design and related materials.

This assessment represents 30% of your total course mark.
We are looking for clarity, depth of thinking and creative design directions.

If you fail you will be required to resubmit a revised project proposal and demonstrate how they intend to address shortcomings with the project.

Assessment Length

n/a

Submission notes

submission files in .pdf, .pptx or keynote, physical models

Assessment information

	(85%+) Exceptional	(75%+) Excellent	(65%+) Good	(50%+) Fair	(<50%) Inadequate
Clarity of project definition and design direction	Highly detailed, clear and realistic scope, very well communicated aims, includes well developed key design intentions	Consistently clear and realistic scope well communicated aims and key design intent.	Scope mostly clear and possibly achievable. Aims are mostly clear and and go hand in hand with key design intent.	Adequatly detailed scope, partly achievable and describes some key design intentions.	Ill-defined design scope, does not contribute much to understanding the project possibilities. Confusing - key elements of project not communicated.
Concept feasibility and appropriateness Fit for purpose - appropriate project scope.	Informed and valid creative exploration of design opportunities proposed and informed by key insights	Consistent exploration with thoughtful and effective design scope proposed	A sound process and some consideration of design scope in the proposal	Concepts reveal limited evidence of proposing a relevant design exploration.	Little or no realistic design scope is presented. Unable to explain rationale for design proposal.
Identify a range of tasks and methods that need to be undertaken to meet the aims and objectives of the project proposal,	comprehensive & realistic task planning; responsive, includes backup strategies in case of complications. practical and realistic timeframes.	task planning is realistic and flexibly tailored with realistic timeframes.	good task planning and probable timeframes	task planning and timing needs further resolution,	tasks are poorly planned and unrealisticly scheduled,

Assignment submission Turnitin type

Not Applicable

Project Definition

Assessment Overview

You will define your project and its direction, presented with your design brief, design statement, concept sketches, and sketch models. You will receive verbal feedback in studio. Grading will be done against assessment criteria.

Course Learning Outcomes

- CLO1 : Demonstrate design capabilities through an iterative process from brief to a viable proof-of-concept.
- CLO2 : Develop a self-directed design concept based on individual research.

Detailed Assessment Description

This assessment is to review your preferred concepts.

You will present a distillation of concept designs prefaced by your design project statement. The quality of work should reflect approximately 30 hours per week effort for a 12 unit course.

By week 7 that means **210 hours of work.**

Deliverables

1. Design statement

Present a refined design statement to clearly and concisely describe your project. - Use this short statement to introduce your presentation.

2. Concept sketches

- 3 variations of your project idea. In your sketch presentation drawings – use annotations and colour to indicate key features/form, human interaction and scale.
- Drawings should highlight – function, context, use and technology.
- Present concept variations to demonstrate that you have explored a range of possibilities to test out ideas. Do not rely upon one single, unexplored sketch idea! This is the design developmental stage to communicate and discuss progression of design concepts.

3. Sketch Models

- Present sketch models to assist describing product features or interaction. Demonstrate how it advances design discovery through testing form, construction, ergonomics, function and form.

Format

Commence your presentation with your design statement. Each presentation should be no more than 3-5 minutes long to enable time for discussion. Each student is allotted 15 minutes. You're

expected to attend to other students presentations.

This assessment represents 30% of your total course mark.

Assessment Length

n/s

Submission notes

n/a

Assessment information

	(85%+) Exceptional	(75%+) Excellent	(65%+) Good	(50%+) Fair	(<50%) Inadequate
Sketch concept and models Clarity of proposition and presentation of drawings and models	High impact, informative and creative use of visuals and models.	Consistently clear and engaging visuals reveal the product concepts, contexts and features.	Visuals effectively communicate key aspects of design possibilities.	Visuals of adequate quality describe concept designs.	Visuals are basic and do not contribute much to understanding the project possibilities. Confusing - key elements of project not communicated.
Concept feasibility and appropriateness Fit for purpose - appropriate form, functional and level of resolution	Informed, valid & creative exploration of design opportunities informed by key insights. Clear path to realisation, highly resolved design concepts	Consistent exploration with thoughtful and effective concept designs. Realisation is realistic. Well resolved design concepts	A sound process with evidence of creative exploration and some consideration of alternatives. Some aspects of the design are resolved and realisation is partly evident.	Concepts reveal limited evidence of creative exploration or project opportunities. Design is not well resolved and realisation is questionable.	Little or no process in presentation. Unable to explain rationale for concept designs, or no alternatives considered. Unresolved design and realisation improbable.

Assignment submission Turnitin type

Not Applicable

Hurdle rules

Passing Checkpoint 1

Design Freeze

Assessment Overview

You will create your final design proposal. You will receive regular verbal feedback on your progress in weekly studios. Grading will be done against assessment criteria.

Course Learning Outcomes

- CLO1 : Demonstrate design capabilities through an iterative process from brief to a viable proof-of-concept.
- CLO2 : Develop a self-directed design concept based on individual research.
- CLO3 : Apply professional and ethical judgement to product design.
- CLO4 : Effectively communicate design solutions through visual and verbal modes of presentation.

Detailed Assessment Description

This assessment is for you to present a **finalised design proposal.**

The main components of this presentation will be a comprehensive GA (General Assembly) drawing complemented with renders of the external form and UX visuals and an accurate sketch model.

This checkpoint should represent a distillation and realisation of design development undertaken during the past two months of work and that you are ready to commence the next final phase to complete your project.

The aim is to convey the external form and visual language, internal and external arrangement of components of your preferred final design. You should demonstrate a sufficient understanding and detail of appropriate technology packs and/or mechanisms, product function and user experience. This work should represent a distillation and realisation of design development undertaken the past two months.

DELIVERABLES

1 General Assembly G/A drawing

- Drawing to demonstrate: exterior rendered orthographic elevations, appropriate cross sections.

- Layout – 3rd angle orthographic views if appropriate.

- Scale 1:1 or as appropriate 1:2, 1:5, 1:10 or 2:1, etc.
- Sections(s) to show the arrangement of internal and external components, mechanisms and closures.
- Include a parts list and hatch or colour and identify major parts in sections.

2 Rendered external views / context

- Render the required external views to highlight the visual language for your design.
- Exterior and Ergonomic Elevations - to express form, human scale and surface features e.g., Break-lines, Display interface, Keys/Dials/Switches, Plugs/Sockets/Charging Points, Vents/ Grills, Feet, Fasteners, Fixings and indicative product graphics.
- Consider line weights, remove unnecessary hidden and tangent lines, show correct wall thickness.

3 Final Model / Prototype

- An accurate advanced, to scale, product model. Model must demonstrate resolved form, volumetric, component fit, ergonomics and tactility.
- Model should be full size unless otherwise discussed with staff.
- You may choose to also model specific details of your design to demonstrate features such as junction points, mechanisms or mechanical function.

FORMAT

Digital presentations and drawings. Lay your GA and models on a table in front. Each presentation to be no more than 5 minutes to enable time for discussion. Each student is allotted 10 minutes.

You will be presenting your work to the IDES staff team. Be on time! You are expected to attend all presentations.

Assessment Length

n/a

Submission notes

n/a

Assessment information

Criteria	(85%+) Exceptional	(75%+) Excellent	(65%+) Good	(50%+) Fair	(<50%) Inadequate
Engineering drawing – comprehensive GA drawings showing significant parts, sections and assemblies.	Highly effective in communicating highly resolved design with clear information about significant parts and assembly	Complete drawing and effectively reveals the resolved design	Drawing mostly meets drawing standards and clearly communicate form and some details	Shows understanding of drawing conventions and adequately reveals most details of the design	Drawing does not communicate the design. Missing or conflicting information and poor general arrangement of views
Model and Renderings and UX– Fidelity and accurate representation of design	Communicates the resolved design and use context with clarity and impact	Effectively represents resolved key aspects of the design	Informative and clearly communicates key aspects of the design	Adequately communicate the design but lacks resolution or completeness	Substantially incomplete or an unresolved representation of the design

Assignment submission Turnitin type

Not Applicable

Hurdle rules

Passing of checkpoint 1 and 2

General Assessment Information

Any use of **AI** in **any form** has to be **acknowledged** and **clearly** indicated i.e image is Ai generated, name of AI platform. **AI** generated **images** and **design scenarios** need to be acknowledged as such. You will need to **demonstrate** how you **critically engaged** with the **AI** produced results.

This is **YOUR** final year **Industrial Design** honours **project**, it **culminates** in a **public exhibition** to **industry, business leaders, alumni, academics, peers, family** and **friends.**
This is real, you'll need to **produce** a **realistic prototype** that **demonstrates** your **4 years of learning** and how **well** you can **apply all the skills** you have **learned**.
You will **showcase** your **Industrial Design competency** at **high** and **professional level.**

You will also need to **explain your** proposed **Industrial Design product** solution to the audience in a **exhibition setting** which is **crowed, loud and busy**, there is **no time** for **lengthy** and **overly detailed conversations**.

You'll need to be able to **convey your years work** in a **few sharp, engaging and precise sentences** that leaves the interested **visitor wanting to know more**, and **ideally leading** to an **employment** opportunity for you **on the night.**

Grading Basis

Standard

Requirements to pass course

You will need to pass all checkpoints to progress to T3 IDES4114.

That means a final mark across all assessments of 50 or above.

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 0 : 20 May - 26 May	Homework	Revise your design brief from T1 and prepare with a variety of product concept ideas. Come prepared to the first class. Discuss your project with friends, colleagues and other designers and non designers to have a refined understanding of your project.
Week 1 : 27 May - 2 June	Studio	in class consultation, design development, critical and constrictive feedback. work, work, work!!!
Week 2 : 3 June - 9 June	Studio	Project Definition presentation in class consultation, design development, critical and constrictive feedback. work, work, work!!!
Week 3 : 10 June - 16 June	Studio	in class consultation, design development, critical and constrictive feedback. work, work, work!!!
Week 4 : 17 June - 23 June	Studio	in class consultation, design development, critical and constrictive feedback. work, work, work!!!
Week 5 : 24 June - 30 June	Studio	in class consultation, design development, critical and constrictive feedback. work, work, work!!!
Week 6 : 1 July - 7 July	Homework	UNSW Flexibility Week Prepare for Checkpoint 2 submission
Week 7 : 8 July - 14 July	Presentation	Preferred Concept Presentations in class presentation to IDES staff, receive critical and constrictive feedback.
Week 8 : 15 July - 21 July	Studio	Studio in class consultation, design development, critical and constrictive feedback. work, work, work!!!
Week 9 : 22 July - 28 July	Studio	Studio in class consultation, design development, critical and constrictive feedback. work, work, work!!!
Week 10 : 29 July - 4 August	Presentation	Design Freeze Presentations in class presentation to IDES staff, receive critical and constrictive feedback.

Attendance Requirements

You are expected to be regular and punctual in attendance at all classes for the School of Built Environment courses in which you are enrolled. If and where individual courses have specific attendance requirements, these will be stated in the course outline.

If you do not attend, engage, or participate in scheduled class activities, including lectures, tutorials, studios, labs, etc, you run the risk of failing a course.

If illness or unexpected and beyond your control circumstances prevent you from completing a task on time, or substantially disturb your assessment performance, you should apply for Special Consideration, as soon as practicable, accompanied by appropriate documentation.

No special consideration will be provided if you miss out on essential course information and materials, or if you miss assessment tasks and deadlines due to unexplained absences or an unapproved lack of attendance.

You may be advised by the Course Convenor to withdraw from the course if significant learning activities are missed.

General Schedule Information

This final year Capstone Project is taught in a design studio consultation style and relies on direct consultation and heavy in and out of class class participation.
The course convener will provide constructive feedback and advice in the twice weekly studio sessions about individual work and general group progress.

Course Resources

Prescribed Resources

see Moodle and Leganto for additional learning resources.

Utilise and rely on the Design Futures Lab production facilities and obtain required materials.

Recommended Resources

see Moodle and Leganto for additional learning resources.

Utilise and rely on the Design Futures Lab production facilities and obtain required materials.

Additional Costs

Material cost and outside manufacting cost have to be borne by the student.

Course Evaluation and Development

We encourage and support students to maintain regular contact with the course convenor to provide informal feedback throughout the course. For specific issues or detailed feedback, please arrange a meeting with the course convenor via email.

In this course there is an option for students to provide anonymous feedback via the course's Moodle page, which is directly sent to the convenor. As a final step, students are invited to share their insights and experiences by completing the MyExperience survey. The feedback gathered each year is integral to the continuous enhancement and development of the course.

Students last year commented that they would like a mid term design freeze to help them with their project refinement.

In response to these comments this year the final design phase happens in week 10, this will allow for prototype testing and design refinement in T3.

Student also commented that more resources about Design movements to help with refining their products. Design History resource are now available on line via Leganto in the Course Moodle reference link.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Christian Tietz		Kensington Campus, Anita B Lawrence Building, room 2004	0414533316	by appointment	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