UNSW Course Outline

IDES1315 Industrial Design Communications B: Digital Visualisation - 2024

Published on the 18 May 2024

General Course Information

Course Code : IDES1315
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 Communications B introduces you to computer-based 3D solid modelling. You

will develop competency with digital visualisation that supports the exploration of design in subsequent studio courses. Structured learning activities engage you in designing, modelling, and communicating components with a degree of complexity typical of consumer product design solutions. You will gain competence in an industry-standard computer-aided design and engineering (CAD/CAE) application. You will explore its use for the accurate and high-fidelity modelling of your product designs that can be directly output for rapid prototyping and digital fabrication.

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Use digital technology to generate, test and form models of components commonly expected in consumer products.
CLO2 : Communicate product details through engineering drawings derived from digital 3D models.
CLO3 : Produce digitally rendered visualisations of products created in a CAD application.

Course Learning Outcomes	Assessment Item
CLO1 : Use digital technology to generate, test and form models of components commonly expected in consumer products.	• CAD Modelled Product • CAD Assembly Drawing • Photorealistic Rendering and 3D Print
CLO2 : Communicate product details through engineering drawings derived from digital 3D models.	• CAD Assembly Drawing • Photorealistic Rendering and 3D Print
CLO3 : Produce digitally rendered visualisations of products created in a CAD application.	• Photorealistic Rendering and 3D Print

Learning and Teaching Technologies

Moodle - Learning Management System | SolidWorks and Keyshot software

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
CAD Modelled Product Assessment Format: Individual	40%	Due Date: Week 2: 03 June - 09 June, Week 7: 08 July - 14 July
CAD Assembly Drawing Assessment Format: Individual	20%	Due Date: Week 9: 22 July - 28 July
Photorealistic Rendering and 3D Print Assessment Format: Individual	40%	Due Date: Week 10: 29 July - 04 August

Assessment Details

CAD Modelled Product

Assessment Overview

You will produce a CAD model of a simple product containing various components. You will receive regular verbal feedback during tutorials. Grading will be done against assessment criteria.

Course Learning Outcomes

- CLO1 : Use digital technology to generate, test and form models of components commonly expected in consumer products.

Submission notes

• You will submit one (1) zipped .ZIP folder that contains the SolidWorks assembly (.SLDASM) and part (.SLDPRT) files in a SolidWorks version compatible with the UNSW SolidWorks versions*. • Use the Pack and Go function to save a single folder of your project into a centralised location of files as this will prevent missing file errors Package all files into a single ZIP archive. If your submission has a missing file then we cannot give you a mark. • Submit your folder in Moodle – Assignment 1

CAD Assembly Drawing

Assessment Overview

You will produce a dimensioned assembly drawing of your CAD modelled product, in accordance with the Australian standards for technical drawing. You will receive regular verbal feedback during tutorials. Grading will be done against assessment criteria.

Course Learning Outcomes

- CLO1 : Use digital technology to generate, test and form models of components commonly

expected in consumer products.
- CLO2 : Communicate product details through engineering drawings derived from digital 3D models.

Submission notes

Name your files as follows: YourFamilyName_YourStudentID _Assgn2

Assignment submission Turnitin type

Not Applicable

Photorealistic Rendering and 3D Print

Assessment Overview

You will create photorealistic rendered images of your CAD modelled product in perspective view. In addition, you will produce a dimensioned part drawing and a 3D printed component. You will receive regular verbal feedback during tutorials. Grading will be done against assessment criteria.

Course Learning Outcomes

- CLO1 : Use digital technology to generate, test and form models of components commonly expected in consumer products.
- CLO2 : Communicate product details through engineering drawings derived from digital 3D models.
- CLO3 : Produce digitally rendered visualisations of products created in a CAD application.

Submission notes

Name your files as follows: YourFamilyName_YourStudentID _Assgn3

General Assessment Information

Grading Basis

Standard

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 0 : 20 May - 26 May	Activity	Course Preparation - Software installation & online learning environments
Week 1 : 27 May - 2 June	Activity	• Pre Class Course Preparation - Software installation & online learning environments • Course introduction | Outline | Course Schedule | Tutorials • Role of CAD in the Design process • Software install Q&A SOLIDWORKS 2024 Essential Training: Solidworks quick start • Intro to Assessment 1
Week 2 : 3 June - 9 June	Activity	• Pre Class: SOLIDWORKS 2024 Essential Training: Course Contents 1. Introduction to SOLIDWORKS 2. SOLIDWORKS Quick Start 3. Basic Part Modelling • SOLIDWORKS 2024 Q&A • Questions about Assessment 1 • Software first aid • Skill builder Exercises
Week 3 : 10 June - 16 June	Activity	• Pre Class: SOLIDWORKS 2024 Essential Training: Course Contents 4. Sketch Tools 5. Modifying Sketches 6. Reference Geometry • Working at home for this week's class • Detailed sketch tools • Solid Modelling v Surfacing tools • Solid modelling features & analysing geometry. • Assignment tasks: How to accurately measure and record dimensions • Generating a Bill of Materials, assigning part names Planning techniques for 3d modelling • Skill builder Exercise
Week 4 : 17 June - 23 June	Activity	• Pre Class: SOLIDWORKS 2024 Essential Training: Course Contents 7. Part Modifications 8. Advanced Part Modelling 9. Hole Wizard 10. Blocks • Q&A • Skill builder Exercises
Week 5 : 24 June - 30 June	Activity	• Pre Class: SOLIDWORKS 2024 Essential Training: Course Contents 11. Building Assemblies 12. Advanced Mates 13. In-Context Modelling 14. Using Design Tables • Q&A • Skill builder Exercises
Week 6 : 1 July - 7 July	Activity	• Flexibility Week • Complete assignment 1
Week 7 : 8 July - 14 July	Activity	• Pre Class: SOLIDWORKS 2024 Essential Training: Course Contents 15. Part Drawings 16. Dimensioning 17. Adding General Annotations 18. Assembly Drawings • Engineering drawing standards • Q&A • Skill builder Exercises
Week 8 : 15 July - 21 July	Activity	• Pre Class: Course Contents Keyshot CAD Rendering • Keyshot Q&A • Model Mania Exercises • 3D printing refresher - DFL
Week 9 : 22 July - 28 July	Activity	• Pre Class: Course Contents 3D printing DFL Digital Badge • Keyshot -set design and lighting • Demo- case study • Model Mania Exercises • Assignments Q&A
Week 10 : 29 July - 4 August	Activity	• Pre Class: Complete assignments 2 & 3 3D printing • Keyshot Q&A • Assignments Q&A

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.

Course Resources

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.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Miles Park		Red Centre West Level 2 Room 2014		by appointment	Yes	Yes
Head demonstrator	Mitchell Brown				by appointment	No	No

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