

COURSE OUTLINE IDES 3310B • PROJECTS IIIA • Fall (2023)

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Location: **446 AP**

Office Hours: In class or by appointment

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Office Hours: In class or by appointment

Course Time and Location:

Course locations are no longer displayed on the public class schedule and are subject to change. For the latest information please refer to Carleton Central under Student Services – Registration – Student Timetable.

Course Description

Introduction to the design principles associated with the evaluation and re-design of an existing product. Topics include: user/machine relationship, component packaging, and manufacturability. The design project(s) explore some or all of the design principles covered in the lectures.

Includes: Experiential Learning Activity.

Precludes additional credit for IDES 3300 (no longer offered).

Prerequisite(s): IDES 2302 or permission of the School of Industrial Design.

Studio and lectures twelve hours a week.

Learning Outcomes

By the end of this course, students will be able to:

1. Use a systematic design process in a comprehensive design project, utilizing multiple design phases with specific deliverables.
2. Apply product analysis methods to identify product shortcomings and design opportunities.
3. Incorporate design principles and relevant theory from previous design courses.
4. Apply industrial design sketching techniques and methods to demonstrate the breadth of ideation, and refining concepts through iterations that are appropriately presented.
5. Create physical prototypes at different levels of fidelity to explore, test, and verify design solutions.
6. Apply digital design software in the design process, with emphasis on testing alternative ideas through professional rendering, and technical drawings to communicate the final design intent.
7. Create documentation that illustrates the design process and execution.
8. Communicate progress to peers and advisors through in-class presentations.
9. Demonstrate professional behavior as an industrial designer.
10. Exhibit the ability to receive and respond to peer and instructor evaluation.

Course Deliverables

These are the deliverables for this course. Please see 'Appendix A Course Schedule' for more detailed information.

1. Warm Up Project 1

In class project presented in the first day studio and will be reviewed in-class the following week. Project is a desk-top design project to develop a solution for a human centered design problem.

2. Major Project 2

A compressive design project is to redesign and existing product within a particular product category, focusing on incremental innovation in a specific market segment. Five (approx.) distinctive products will be presented to which students will be broken into groups of four to five individuals to review and analyze the basic function and purpose of the product. Each student will then develop a user centered innovative design, significantly altering the product form for a particular target market. The project will be divided into three distinctive phases in a defined

timeline with associated deliverables. This is a major portfolio project; all work should be documented electronically.

3. Attendance, Participation and Individual Development

Discretionary grade based on the instructors informed opinion of the students' performance in class. It is a reflection of the instructor's experience and ability to judge the student's soft skills that may not be captured in deliverables, but rather through their behaviour in class.

Basis for final grading of the course:

1. Warm up Project (P1)	05%
2. Major Project (P2)	
Phase 1: Research / Concepts	20%
Deliverables: Design Brief, Group Research & Concept Presentation	
Phase 2: Definitive Design + Test Video	20%
Deliverables: Design Development Presentation & Testing Video	
Phase 3: Final Design	35%
Deliverables: Final Design Presentation & Design Model	
Phase 4: Final Documentation	15%
Deliverables: GA Drawings & Process Book	
3. Studio Performance and Professionalism	<u>05%</u>
	<u>Total 100%</u>

Student Access to Quiz, Test and Exam Papers

Examinations are for evaluation purposes only and will not be returned to the student.

Required Materials

Materials required for the course are listed below. You may be asked by your instructor to refer to Brightspace for a more comprehensive list of required materials.

Readings (recommended readings include, but not limited to)

Baskinger, M. and Bradel, B. Drawing Ideas. Watson-Guptill Publications, 2013.

Crouch, C and Pearce, J. Doing Research in Design. London: Berg,2012

Eissen, K. and Steur, R. Drawing Techniques for Product Designers. BIS Publishers, 2007.

Hallgrimson, B. Prototyping and Model Making for Product Designers. Laurence King Publishing Ltd., 2012

Henry, K. Drawing For Product Designers. Laurence King Publishing Ltd., 2012

Martin, B. & Hanington, B. Universal methods of design (expanded and revised): 125 ways to research complex problems, develop innovative ideas, and design effective solutions. Rockport Publishers, 2019

Milton, A. and Rodgers, P. Research Methods for Product Design. Laurence King Publishing Ltd., 2013

Rodgers, P. and Milton, A. Product Design. Laurence King Publishing Ltd., 2011

Terstiege, G. The Making of Design, Basel; Boston: Birkhauser, 2009

Weinschenk, S. 100 Things Every Designer Needs to Know About People (Second edition). New Riders, 2020

Tools and Materials

Utilize the tools that you have purchased for previous years studios. Over time you have discovered mediums that you feel work for you. You must have the most relevant subset of these for every studio session.

Visit <http://www.idsketching.com/thesketchlab/materials-guide/> as a reminder of some the sketch materials designers' use.

Materials suggested and not limited to:

- One pack of HP Bright White Ink Jet paper or Similar 8 ½ x 11", 18lb
- Roll of masking/drafting tape (25mm)
- Various Nylon Tipped or Roller Ball Pens - investigate different pens, you will get a feel for what you like, When it comes to pens purchase Black , SF's personal favorite ball point for drawing is the BIC Crystal , medium point.
- Verithin and Drawing Pencils – Color selection – Non-Repro Blue, Indigo Blue, and /or Black,
- Designer Markers – gray scale and preferred accent colours
- Segmented Knife – Olfa like, and replacement blades required (a pack of 50 is recommended)
- Cork back steel ruler - 14" +
- Cutting Board – Small 30cm x 45cm for use in studio
- Hot Glue Gun and Glue Sticks.... (Small craft glue guns are not sufficient)

- Engineer Square or equivalent
- 100 and 220 Grit Wet Dry Sand Paper with a Sanding Block
- One set of Safety Goggles/Glasses,
- Dust masks, they can be purchased at SID shops.

Software

Software that should be installed on your laptop:

- Adobe Suite - Photoshop, Illustrator, InDesign, Premiere Pro (School of Industrial Design versions).
- SolidWorks and KeyShot (School of Industrial Design versions).
- It is also recommended to have an image scanning application on your mobile device(s) to allow for quick and easy digital capture of in-progress analog work.

Computer Requirements

Please refer to the computer requirements on the School of Industrial Design Website. You may be asked by your instructor to refer to Brightspace for other information or requirements related to computer work.

<http://www.id.carleton.ca/undergraduate/about-the-bid-program/computer-requirements>

Individual/Group Work

Courses may include individual and group work. It is important in collaborative work that students clearly demonstrate their individual contribution.

Review/Presentation Attendance

Attendance at scheduled SID Reviews/Presentations is mandatory. These are equivalent to exams when indicated in the course outline. Failure to attend the Review/Presentation without reasonable cause will result in a grade of F. Students arriving late for the Review/Presentation or not remaining for the complete session without approval from the instructor, will be addressed on a case-by-case basis at the discretion of the instructor.

If you are not able to attend a Review/Presentation, foresee arriving late, or need to leave before it is complete, please email your instructor in advance explaining the reason for the situation. It is important that you provide a reasonable rationale for your absence, late arrival, or early departure. In the event of

an illness or death in the family, you will be required to sign a form verifying your claim and this form is available through the SID administration office.

Late Submission of Lecture & Studio Deliverables

Students who do not hand in deliverables on time will have their earned grade reduced by 10% per day up to a maximum of 3 days.

Participation and Professionalism

Active participation and professional conduct (e.g. class discussion, consultations with instructors, work ethic, etc.) are important in lecture and studio courses and may be formally evaluated by a grade.

Professionalism also includes Carleton's Policy on Academic Integrity described in more detail below with links to content that you are required to review.

Academic Integrity

Carleton's Policy on Academic Integrity is available at: <https://carleton.ca/registrar/academic-integrity/> and covers the following topics:

Plagiarism (e.g. submitting work in whole or in part by someone else, failing to acknowledge sources through the use of proper citations when using another's work).

Test and Exam Rules (e.g. attempting to read another student's exam paper, speaking to another student even if the subject matter is irrelevant to the text, using material not authorized by the examiner).

Other Violations (e.g. improper access to confidential information, disruption in classroom activities, misrepresentation of facts for any academic purpose).

This policy governs the academic behavior of students. In industrial design, ideas and concepts come from a multitude of sources and may be modified and utilized in the design and development process. The student should reference such sources appropriately and it is strongly advised that you read Carleton's Policy on Academic Integrity prior to conducting any work at the University.

Requests for Academic Accommodation

You may require special arrangements to meet your academic obligations during the term. For an accommodation request for any of the following topics below, refer to the link provided for more information: <https://students.carleton.ca/course-outline/>

- **Pregnancy obligation:** Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, please review the [Student Guide to Academic Accommodation \(PDF, 2.1 MB\)](#) For accommodation regarding a formally-scheduled final exam, you must complete the Pregnancy Accommodation Form ([click here](#)).
- **Religious/Spiritual Obligation:** Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, please review the [Student Guide to Academic Accommodation \(PDF, 2.1 MB\)](#)
- **Academic Accommodations for Students with Disabilities:** The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. For more details, visit the [Paul Menton Centre website](#).
- **Survivors of Sexual Violence:** As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and where survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit the [Equity and Inclusive Communities website](#).
- **Accommodations for Student Activities:** Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, see the [Senate Policy on Accommodation for Student Activities \(PDF, 25KB\)](#).

- **The Use of Self-Declaration Forms:** In place of a doctor's note or medical certificate, students may complete the [self-declaration form](#) available on the Registrar's Office website to request academic accommodation for missed course work including tests and assignments. Students are also encouraged to connect directly with their instructors to discuss required accommodations arising from the COVID-19 situation.

Statement on Student Mental Health

As a university student, you may experience a range of mental health challenges that significantly impact your academic success and overall well-being. If you need help, please speak to someone. There are numerous resources available both on- and off-campus to support you. Here is a list that may be helpful:

Emergency Resources (on and off campus): <https://carleton.ca/health/emergencies-and-crisis/emergency-numbers/>

Carleton Resources:

- Mental Health and well-being: <https://carleton.ca/wellness/>
- Health & Counselling Services: <https://carleton.ca/health/>
- Paul Menton Centre: <https://carleton.ca/pmc/>
- Academic Advising Centre (AAC): <https://carleton.ca/academicadvising/>
- Centre for Student Academic Support (CSAS): <https://carleton.ca/csas/>
- Equity & Inclusivity Communities: <https://carleton.ca/equity/>

Off-Campus Resources:

- Distress Centre of Ottawa and Region: (613) 238-3311 or TEXT: 343-306-5550, <https://www.dcottawa.on.ca/>
- Mental Health Crisis Service: (613) 722-6914, 1-866-996-0991, <http://www.crisisline.ca/>
- Empower Me: 1-844-741-6389, <https://students.carleton.ca/services/empower-me-counselling-services/>
- Good2Talk: 1-866-925-5454, <https://good2talk.ca/>
- The Walk-In Counselling Clinic: <https://walkincounselling.com>

Student Responsibility

The student is responsible for knowing the content of this course outline; the schedule of classes, assignments, and/or Reviews; and the material that was covered when absent. The studio is a professional environment and students should be working during the scheduled hours.

Unless otherwise arranged, the class will meet during scheduled class hours. Please note that attendance is important since issues and questions may be raised in class, and announcements made, along with information disseminated through Brightspace. As external professionals are often involved in our work, scheduling changes for guest lectures, presentations, and Reviews may occur at short notice, requiring students to stay informed.

Changes to the Course Outline

The course outline may be subject to change in the event of extenuating circumstances.

Appendix A - Course Schedule - Section 3310B F23

Date	Focus of in-class activities	Deliverables
Class 1 Sept. 08	<ul style="list-style-type: none"> Lecture: <i>Intro Presentation</i> deck Introduce and start Project 1 	
Class 2 Sept. 15	<ul style="list-style-type: none"> Review of Minor deliverable Introduce Project 2 (P2): <i>Themes</i> deck Lecture: <i>Design Brief</i> deck Lecture: <i>Research Presentation</i> deck Select Themes and Form groups Start group research 	<ul style="list-style-type: none"> DELIVERABLE: PRESENTATION (P1) with Boards with attached Model(s)
Class 3 Sept. 22	<ul style="list-style-type: none"> Lecture: <i>Research Documentation</i> deck In studio development 	
Class 4 Sept. 29	<ul style="list-style-type: none"> Lecture: <i>Concepts</i> deck Lecture: <i>Persona Presentation</i> deck In studio development 	<ul style="list-style-type: none"> DELIVERABLE: Group Research Report - Upload Due in Brightspace
Class 5 Oct. 6	<ul style="list-style-type: none"> Major Review Starts 9:45 - be here earlier and ready at that time or risk being locked out and lose marks 	<ul style="list-style-type: none"> DELIVERABLE:: GROUP RESEARCH AND INDIVIDUAL CONCEPTS (P2) PRESENTATION
Class 6 Oct. 13	<ul style="list-style-type: none"> Lecture: <i>Definitive Design</i> deck Project development (prepare for testing) Shop work 	

Class 7 Oct. 20	<ul style="list-style-type: none"> Lecture: <i>Definitive Design</i> 2 deck Testing Session in-class Take Video, notes, photos of set up and testing 	<ul style="list-style-type: none"> TESTING: Bring competitive, mock-ups, prototypes and a plan for user testing at studio
Fall Break	<no class>	
Class 8 Nov. 03	<ul style="list-style-type: none"> Lecture: <i>Definitive Design Narrative Class</i> 8 deck In Class development / shops 	
Class 9 Nov. 10	<ul style="list-style-type: none"> Review of major deliverable Starts 9:45 - be here earlier and ready at that time or risk being locked out and lose marks 	<ul style="list-style-type: none"> DELIVERABLE: PRESENTATION (P1) DEFINITIVE DESIGN + Testing Video of ethnographic prototype use + learnings.
Class 10 Nov. 17	<ul style="list-style-type: none"> Lecture: <i>Final Review Deliverables</i> deck Lecture: <i>Working Drawings</i> deck In Class development / shops 	
Class 11 Nov. 24	<ul style="list-style-type: none"> Review of major deliverable Starts 9:45 - be here earlier and ready at that time or risk being locked out and lose marks 	<ul style="list-style-type: none"> DELIVERABLE: PRESENTATION: FINAL REVIEW (P1)
Class 12 Dec. 01	<ul style="list-style-type: none"> Documentation Last class 	
Dec 03 (tbd)		<ul style="list-style-type: none"> DELIVERABLE: GA Drawings + Process Book
[Dec. 15, 2022]	<ul style="list-style-type: none"> [optional: <i>Global Innovation Awards (gia) Excellence in Student Design</i>] https://www.TheInspiredHomeShow.com/SDC 	<ul style="list-style-type: none"> [GIA ENTRY DEADLINE – Dec. 15, 2022]

Appendix B - a note about AI

The use of AI for text and / or visual images must be noted in the work and presentations that contain AI output. Save your prompt sequences as notes so that they can be made available. There will be more discussion about this in studio class.