**COURSE OUTLINE IDES 4310A • CAPSTONE PROJECT • Fall-Winter (2023)**

**Instructor:**      **Tim Haats**

tim.haats@carleton.ca

Location: **2498 ME**

Office Hours: by appointment

**Teaching Assistant: Amelia Ariana Zaiane**

ameliazaiane@cmail.carleton.ca

Office Hours: 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

Application of design principles in a comprehensive design project. Problem area should be product-oriented and of sufficient complexity. Normally undertaken in consultation with off-campus organizations and/or industry. Supervised by faculty and/or sessional members.

Includes: Experiential Learning Activity.
Precludes additional credit for IDES 4300 (no longer offered).
Prerequisite(s): IDES 3302 or permission of the School of Industrial Design.
Studio and lectures six hours a week in Fall and twelve hours a week in Winter.

## Learning Outcomes

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

1.   Apply research methods to define a unique design problem.

2.   Bridge their research to the development of an appropriate design proposal.

3. Evaluate their proposed design solution with relevant stakeholders reflective of practitioner behaviour.

4. Demonstrate a basic understanding and need for ethics to develop and evaluate appropriate designs.

5. Use appropriate methods and materials to develop and assess design solutions.

6. Produce a range of appropriate professional deliverables at each phase as reflected in the fields of design.

7. Establish a good working relationship with external partners, which includes receiving and incorporating feedback from partner groups.

## Course Deliverables

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

### *Fall Term – 40% of Final Grade*

Phase 1: Discovery & Ideation          10%
  TCPS 2: CORE-2022 Certificate
  User Research Plan
  Design Brief v.1.0
  Review Presentation

Phase 2: Concept Design          15%
  Design Brief v.2.0
  Review Presentation

Phase 3: Preliminary Design          15%
  Design Brief v.3.0
  Review Presentation
  Test Plan
  Process Book (Draft)

### *Winter Term – 60% of Final Grade*

Please 4: Definitive Design          15%
  Review Presentation

| Phase 5: Final Design | 15% |
| --- | --- |

    Review Presentation

    Technical Package (Draft)

| Phase 6: Final Documentation | 25% |
| --- | --- |

    Design Poster

    Design Model

    Design Video

    Technical Package

    Process Book

| Participation & Professionalism | 5% |
| --- | --- |

## 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.

### *Books:*

The following books are not required, but will be useful references to support your work throughout the academic year (some are available online through Ares library reserves, accessible from Brightspace):

Hallgrimsson, B. (2019). *Prototyping and modelmaking for product design* (Second edition). Laurence King Publishing.

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

Milton, A., & Rodgers, P. (2013). *Research methods for product design.* Laurence King Publishing.

Rogers, Y., Sharp, H. & Preece, J. (2023). *Interaction design: beyond human-computer interaction* (Sixth edition). Wiley.

Tilley, A. (2002). *The measure of man and woman: human factors in design* (Revised edition). Wiley.

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

***Project Specific Materials:***

Other specific materials will be dependent upon each individual project.  You must be prepared to purchase or acquire the appropriate materials necessary for you to complete your own unique research and design development activities throughout the fall and winter terms.

## 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](mailto: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**

Please refer to IDES 4310A CAPSTONE PROJECT F23-W24 - Tim Haats - Appendix A Course Schedule

# IDES4310A COURSE SCHEDULE
## 2023-2024

Complex and comprehensive design projects are highly process-oriented, often developed through a series of phases culminating in a set of deliverables. During the fall semester, students will conduct exploratory research to build an understanding of people and context, and to identify problems and opportunities for new design solutions. Concepts will be explored and a design proposal will be developed through an iterative process in consultation with the instructor, industry partners, and experts. In the winter semester, students will test and evaluate their proposed design solutions. Final refinement and detailing will be executed, and a compelling communication package will be created to share the final results with an external audience.

Below is a basic schedule to help guide the projects through these phases. It is important to note that design never really follows a straight path and it is often difficult to constrain the process to a strict set of activities and timeline; but it is also important to have structure, and this schedule along with the identified deliverables provide the necessary support to complete the projects successfully.

*Note: this course schedule is subject to change based on various factors including project needs, availability of project stakeholders, etc.*

## Phase 1: Discovery & Ideation

**Week 1: Introductions & Project Kick-Offs** - September 7

- Course overview
- Discovery & ideation overview
- Team organization
- Project scoping
- Background research
- Research ethics

**Week 2: Problem Finding** - September 14

- User & product research overview
- Progress meetings
- Background research
- User research planning

**Week 3: Problem Finding** - September 21
*Deliverables: TCPS-2 CORE-2022 certificate & User Research Plan*

- Design briefs overview
- Progress meetings
- Background research
- User research & idea-generation

**Week 4: Problem Framing** - September 28

- Design analysis & synthesis overview
- Progress meetings
- User research & idea-generation
- Preparation of deliverables

## Phase 2: Concept Design

**Week 5: Phase 1 Review** - October 5
*Deliverables: Design Brief v.1.0 & Review Presentation*

- Discovery & ideation presentations
- Feedback & discussions
- User research & concept development

**Week 6: Problem Solving** - October 12

- Concept design overview
- Progress meetings
- User research & concept development

**Week 7: Problem Solving** - October 19

- Progress meetings
- User research & concept development

**Fall Break** - October 23-27

**Week 8: Problem Solving** - November 2

- Progress meetings
- Concept development
- Preparation of deliverables

## Phase 3: Preliminary Design

**Week 9: Phase 2 Review** - November 9
*Deliverables: Design Brief v.2.0 & Review Presentation*

- Concept design presentations
- Feedback & discussions
- Concept refinement

**Week 10: Prototyping** - November 16

- Preliminary design overview
- Progress meetings
- Concept refinement & prototype development

**Week 11: Prototyping** - November 23

- Progress meetings
- Concept refinement & prototype development
- Test planning
- Preparation of deliverables

**Week 12: Phase 3 Review**- November 30
*Deliverables: Design Brief v.3.0 & Review Presentation*

- Preliminary design presentations
- Feedback & discussions
- Concept refinement & prototype development
- Preparation of deliverables

**Week 13: Documentation & Test Prep** - December 7
*Deliverables: Test Plan & Process Book (draft)*

- Progress meetings
- Preparation of deliverables
- Preparation for prototype testing & evaluation

**Exams & Holiday Break**

## Phase 4: Definitive Design

**Week 14: Testing** - January 11/12

- Definitive design overview
- Progress meetings
- Prototype testing & evaluation

**Week 15: Testing** - January 18/19

- Progress meetings
- Prototype testing & evaluation

**Week 16: Testing** - January 25/26

- Progress meetings
- Prototype testing & evaluation
- Design revisions

**Week 17: Design Refinement** - February 1/2

- Progress meetings
- Design revisions

**Week 18a: Review Preparation** - February 8

- Preparation of deliverables

## Phase 5: Final Design

**Week 18b: Phase 4 Review (Walk-Around)** - February 9
*Deliverables: Review Presentation*

- Definitive design presentations
- Feedback & discussions
- Detailed design development

**Week 19: Detailed Design** - February 15/16

- Final design overview
- Progress meetings
- Detailed design development

**Winter Break** - February 19-23

**Week 20: Detailed Design** - February 29/March 1

- Progress meetings
- Detailed design development

**Week 21: Detailed Design** - March 7/8

- Progress meetings
- Detailed design development

**Week 22a: Review Preparation** - March 14

- Preparation of deliverables

## Phase 6: Final Documentation

**Week 22b: Phase 5 Review** - March 15
*Deliverables: Review Presentation & Technical Package (draft)*

- Final design presentations
- Feedback & discussions
- Final detailing & planning

**Week 23: Design Communication** - March 21/22

- Final documentation overview
- Progress meetings
- Preparation of deliverables

**Week 24: Design Communication** - March 28
*Deliverables: Design Poster (draft)*

- Progress meetings
- Preparation of deliverables

**Week 25: Design Communication** - April 4/5

- Progress meetings
- Preparation of deliverables

**Week 26: Phase 6 Review** - April 10
*Deliverables: Design Poster, Design Model, Design Video, Technical Package & Process Book*

- Final documentation presentations
- Feedback & discussions
- Preparation for grad show

**46th Annual Industrial Design Graduation Exhibition** - April 19-21