CARLETON UNIVERSITY
SCHOOL OF INDUSTRIAL DESIGN

COURSE OUTLINE IDES 4310C • CAPSTONE PROJECT • Fall-Winter (2024-25)

Instructor: **Chiara Del Gaudio**

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Office Hours: **Available upon request**

Teaching Assistant: n/a

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: Current State & Opportunity Definition – Researching the Context (group)	25%
Phase 2: Ideation & Concept Direction – Ideation and Exploration	15%

Winter Term: 60% of Final Grade

Phase 3: Design Concept - Exploration and Experimentation	10%
Phase 4: Design Detailing - Specifying the Final Concept	15%
Phase 5: Communicating the Design – Refining & Publicizing the Design	30%
Check-in/Progress meetings (covers both terms)	5%

Student Access to Quiz, Test, and Exam Papers

Examinations will be returned to students with comments and explanations.

Required Materials

All Materials required for the course and their costs are listed below. Please note some materials costs are dependent on the project and the materials chosen so a range listing minimum and maximum values will be given.

General

- *Carleton University Academic Integrity Policy*. Retrieved September 1, 2009, from https://carleton.ca/senate/wp-content/uploads/Academic-Integrity-Policy1.pdf
- Hanington, B. & Martin, B. (2012). Universal Methods of Design: 100 Ways to Research Complex Problems, Develop Innovative Ideas, and Design Effective Solutions. Beverly, MA: Rockport Publishers.
- Humar, V. (2012). *101 Design Methods: A Structured Approach for Driving Innovation in Your Organization*. Wiley

Co-Design

- Sanders, E. B. -N., & Stappers, P. J. (2012). *Convivial Toolbox. Generative Research for the Front End of Design*. BIS.
- Sanders, E. B. -N. (2000). Generative Tools for Co-designing. In: Scrivener, S.A.R., Ball, L.J., Woodcock, A. (Eds.) *Collaborative Design*. Springer. https://doi.org/10.1007/978-1-4471-0779-8_1
- iconoclasistas. (2016). Manual of collective mapping. critical cartographic resources for territorial processes of collaborative creation. https://iconoclasistas.net/wp-content/uploads/2020/05/Manual_Ingle%CC%81s.pdf
- Kollective, Organotango+. (Ed.). *This is not an atlas. A global collection of Counter-cartographies*.

Co-Design and Communication of the Design

- Lupi, G. (2016). Data Humanism, the Revolution will be Visualized. Print Mag, Fall 2016. (this can also be found as medium post at: https://medium.com/@giorgialupi/data-humanism-the-revolution-will-be-visualized-31486a30dbfb)

Design for Social Innovation

- Manzini, E. (2015). *Design when Everybody Designs*. Cambridge: MIT Press.
- Manzini, E., & Jegou, F. (Eds). (2003) *Sustainable Everyday. Scenarios of Urban Life.* Milan: Edizioni Ambiente
- Manzini, E., & Jegou, F. (Eds). (2007) *Collaborative Services.* Milan: Edizioni PoliDesign

- Meroni, A. (Ed) (2007). *Creative Communities People inventing sustainable ways of living*. Milan: Edizioni PoliDesign.
- Celi, M. (2015). *Advanced Design Cultures. Long-Term Perspective and Continuous Innovation*. Springer

Speculative Design

- Dunne, A., & Raby, F. (2013). *Speculative Everything*. Cambridge: MIT Press.

Design for Services

- Meroni, A., Sangiorgi, D. (Eds.), *Design for services.*Aldershot: Gower Publishing.

Transformative Justice

- Mingus, M. (2019). Transformative Justice: A Brief Description. https://leavingevidence.wordpress.com/2019/01/09/transformative-justice-a-brief-description/

Students are not required to purchase textbooks. The above textbooks are available through Carleton Library.

Cost range for prototyping material: 150 cad min - 300 cad max.

Technology Requirements

Please refer to the technology 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 coursework.

https://carleton.ca/id/student-info/computer-it-support/computer-requirements/

Individual/Group Work

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

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 instructor's discretion.

If you are unable 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.

Late Submission of Assignments

Students who do not hand in assignments on time will have their earned grade reduced by 10% per day at the instructor's discretion. If you foresee not meeting the submission due date and are requesting an extension, please provide your instructor with a minimum of 24 hours' notice.

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.

Health and Safety

Students must participate in training to access all the SID Labs and Maker Space. Apart from this training, students are required to follow the health and safety standards of the School of Industrial Design as well as Carleton's health and safety standards. All materials related to SID health and safety are available here Health and Safety and it is expected that students review and understand these materials and apply these standards throughout their studies.

Use of Studio Spaces

Access to studio space to attend courses and complete assignments is an important part of student success. To support access, specific studios have been designated to certain years and/or sections.

1st Year Studio Section A – AP448-A

1st Year Studio Section B – AP448-B

2nd Year Studio Section A – AP448-A

2nd Year Studio Section B – AP448-B

3rd Year Studio Section A & B – AP430

4th Year Studio All Sections (Capstone and Minor) – AP432

MDes Studio – ME3490

Students are welcome and encouraged to use their designated spaces to work during non-studio hours. Out of respect for your colleagues, instructors, and Carleton cleaning staff, ensure you leave the space in good condition. This includes cleaning your area and storing your items in your designated storage space. The School will not be responsible for items that are not stored properly.

Academic Integrity

Carleton's Policy on Academic Integrity is available at: https://carleton.ca/registrar/academic-integrity/ and covers the following violations, but is not limited to:

- *Plagiarism*
    - *Submitting work written 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*
    - *Attempting to read another student's exam paper*
    - *Speaking to another student (even if the subject matter is irrelevant to text)*
    - *Using material not authorized by the examiner*
- *Other Violations*
    - *Improper access to confidential information such as exams or test questions*
    - *Disruption of classroom activities or periods of instruction*
    - *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 before conducting any work at the University.

USE OF ARTIFICIAL INTELLIGENCE (AI) TECHNOLOGIES

To effectively address the incorporation of AI technologies, specifically generative AI tools, into courses, we have instituted the following guidelines. Further information can be found here - https://carleton.ca/tls/teachingresources/generative-artificial-intelligence/recommendations-and-guidelines/. Another useful resource is the Library's guide on AI tools - https://library.carleton.ca/guides/subject/artificial-intelligence-ai-tools.

1. Academic Integrity Standards: In the absence of explicit permission from the instructor within a given course, the use of generative AI tools to create content, (e.g., text, code, images, summaries, videos, etc.), is deemed a breach of academic integrity standards.

2. Instructor's Discretion: Instructors have the authority to grant permission for the use of generative AI tools, (e.g., ChatGPT and similar tools), based on alignment with the course's educational objectives and learning outcomes. Assignment and examination guidelines will be written to explicitly reflect this granted permission.

3. Clear Instructions: Should instructors choose to permit the use of generative AI tools, an assessment guideline will provide students with clear and detailed direction, including;

    i. Identification of specific generative AI tools that are acceptable for use.
    ii. Clarity on the approved applications of these tools.

These measures aim to create a balanced and transparent educational environment, ensuring both academic integrity and the responsible integration of AI technologies into the learning experience.

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 below topics, refer to this link - https://students.carleton.ca/course-outline/ and open the needed section.

Topics:

- *Pregnancy Obligations*
- *Religious/Spiritual Obligation*
- *Academic Accommodations for Students with Disabilities*

- *Survivors of Sexual Violence*
- *Accommodations for Student Activities*
- *Academic Considerations for Medical and Other Extenuating Circumstances*
- *Scheduling and Examination Support*

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, refer to this link - https://wellness.carleton.ca/ and open the needed section.

Topics:

- *Counselling*
- *Resource Guide*
    - *Thriving on Campus*
    - *Everyday Stress*
    - *Mild Mental Health Concerns*
    - *Moderate Mental Health Concerns*
    - *Complex Mental Health Concerns*
- *Umbrella Project*

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, or valuable information may be shared, all of which can greatly benefit the student's learning experience. As external professionals may be 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

Course Overview

The Capstone Project is a comprehensive exploration and demonstration of what you have learned over your 4 years in the School of Industrial Design applied to a context with significant complexity. The project is meant to establish your readiness for the profession. The project expands upon both your previous studio and lecture-based course experience in the School of Industrial Design and follows an incremental multi-phased approach. Instructors act as mentors, facilitators with external organizations, and evaluators of professional capabilities. Students also interact with people from external organizations who offer their expertise and assistance in terms of identifying real-world problems and opportunities, valuable information, technical expertise and insight.

Phased Approach

Complex projects are highly process-oriented, often involve working in interdisciplinary teams and are normally developed through a series of iterative development phases. During the fall semester, you will conduct preliminary research with the assistance of your team to define a problem or gap, specifically, an area that design might be able to serve, improve or transform (Phase 1 deliverables are group deliverables, but by the end of the phase you will have defined an area of focus). From Phase 2 onwards, all deliverables will be individual submissions. In the winter semester, you will explore your initial concepts and ideas, and experiment, test and/or evaluate more developed concepts in Phase 3 and refine your design to create an appropriate solution in Phase 4. Phase 5 is the final communication of your work in a variety of mediums culminating in the final presentation of your thesis work. Throughout the whole process, you will be consulting with stakeholders (e.g., subject matter experts, participants who represent your audience, etc.) and adopt a co-design approach to design. Refer to the following schedule for activities, deliverables and suggestions on how to manage your progress. We will have weekly project meetings to discuss your work, which will include meetings with the teaching assistant, lead studio lab technician and project specific lab technicians. Please refer to Brightspace for more information on each phase, weekly events, helpful information and resources to help you develop your final industrial design project. Workshops and guest lectures may change in order to accommodate everyone’s schedules or respond to changes needed in project management.

Please see **IDES 4310C CAPSTONE PROJECT W25 - Chiara Del Gaudio - Appendix A Course Schedule**.