CARLETON UNIVERSITY
SCHOOL OF INDUSTRIAL DESIGN

COURSE OUTLINE IDES 3302A • PROJECTS IIIB • Winter (2025)

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Location: 3478 ME

Office Hours: **Available upon request**

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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 principles of innovation as found in industrial design. Invention, innovation, entrepreneurship, basic mechanisms. 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 3301 (no longer offered).
Prerequisite(s): IDES 3300 or IDES 3310 or permission of the School of Industrial Design.
Studio and lectures six hours a week.

Learning Outcomes

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

1. Generate creative and compelling design solutions through the meeting to the deliverables presented in a design brief.

2. Develop a final design solution that integrates a test protocol for quality assurance of a specific product requirement and a detailed assembly drawing with Bill of Materials.

3. Demonstrate an ability to develop prototypes to explore, prove and understand ergonomics, materials, and structures as a collective requirement.

4. Design and test a mechanism incorporating movement through sliding, hinging, or another relevant principle of movement.

5. Recognize the relationships between aesthetic, ergonomic, and usability to develop an industrial design solution.

6. Employ research synthesis tools- to Identify latent user needs and contextual concerns.

7. Apply the given business and/or technological requirements presented by a third party to develop a product opportunity.

8. Demonstrate professional behavior as an industrial designer.

Course Deliverables

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

Grading Documents:

The final grade for the course will be based:

1.	Project 1 (Apprehension Engine Design)	35% (Due by Feb 25)
2.	Project 2 (Designing memories)	30% (Due by Mar 25)
3.	Project 3 (Inspiration and Interpretation)	20% (Due by Apr 08)
4.	Portfolio	5% (Due by Apr 15)
5.	Year End Review	5% (TBD)
6.	Professionalism	5% (throughout the semester)
	Total	100%

These are the deliverables for this course:

Project 1 (Apprehension Engine Design) - 35%
This project aims to inspire students to think outside the box through iterative process so that they could utilize tangible mediums like sketches, and prototypes to design a creative module for AE machine. In partnership with Professor Jess Stewart at the Music Department in Carleton. students will undertake the design of a novel Apprehension Engine (AE). By challenging students to move beyond typical mass-produced product design, this project encourages the exploration of unconventional design approaches. Through hands-on experimentation and iterative prototyping, students will gain a deeper appreciation for the essential role of prototyping in the design process.

Project 2 (Designing memories) – 30%
When we celebrate a person in life or death and make choices about how we remember them, we are designing memories. We are creating personal connections, and these can be understood as links between our memories of a person or people, our philosophical standpoint on life and death, and the particular cultural and religious context of our beliefs. Together, these factors offer a wide range of possible design outcomes when considering new alternatives we can propose. What new understandings, materials, processes, and/or communication technologies can be integrated? What impact will these have on the way we celebrate life and remember people after death?

Project 3 (Inspiration and Interpretation) – 20%
The third project focuses on inspiration and interpretation, essential skills for designers. Creative ideation, a fundamental aspect of design, is a collaborative process that combines creativity with logical reasoning. Through this project, students will gain an understanding of these principles and apply them to their design work. By designing a product, students will share their personal and unique experiences to create something distinctive. This process will enable them to objectify their subjective experiences through the act of design, fostering both creativity and logical thinking.

Portfolio – 5%
Each student submit 6-10 high quality digital slides of the projects completed in this course. The slides should collectively represent sketching, concept development, prototypes, illustrations, and final design outcomes. *Deadline:* All slides are due by 9:00 am April 15 on Brightspace.

Year-End Review – 5%
Each student is required to nicely display their work for the projects completed this semester. Collectively, the slides must represent sketching, concept development, model making, illustrations, and final prototypes. The display for Projects 1 and 2 should include the final boards (11 x 17”), models, and prototypes.

Professionalism – 5%
• Punctuality and Attendance: Being punctual for classes, meetings, and deadlines to respect for your instructors and peers.
• Respect and Courtesy: Maintaining a respectful and professional demeanor in all interactions.
• Responsibility and Accountability: Taking ownership of one's actions and their consequences, including academic honesty and integrity.

• Appearance and Presentation: Dressing appropriately for the academic or professional setting and presenting oneself in a clean and neat manner.
• Preparedness and Participation: Coming to class prepared with the assigned readings and materials.
• Ethical Behavior: Adhering to ethical guidelines and academic codes of conduct, including plagiarism rules and fair treatment of others.
• Time Management: Balancing academic commitments with extracurricular activities and personal life.
• Teamwork and Collaboration: Working effectively with others, valuing diverse perspectives, and contributing to group projects.

Student Access to Quiz, Test, and Exam Papers

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

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. This list is intended to outline the required materials for reference purposes only. Students are not required to purchase new items if they already own suitable materials. The cost ranges provided are included to offer guidance in case purchasing is necessary.

Project 1. Project 1 (Apprehension Engine Design)
Since this project involves experimenting with various materials and multiple iterations to explore the sounds they can produce, it is challenging to provide an exact cost estimate, as the materials used may vary. However, the estimated range is between $20 and $100 range, including the printing cost of the final presentation boards.

Project 2 (Designing memories)
Since this project will explain the student's design intention/concept through CAD renderings and scenarios, there will be less amount of cost for creating prototypes or models. The main cost will be for printing of the presentation boards and a project report, which is estimated to be in the range of $20 to $50.

Project 3 (Inspiration and Interpretation)
The proof-of-concept prototype, made with low-fidelity materials, will vary depending on the students' designs, making it difficult to estimate the budget. However, the estimated cost is around $20 to $50 range, including the printing cost of the final presentation boards and a project report.

Textbook:
Students are not required to purchase textbooks for this course.

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 – Studio A
1st Year Studio Section B – Studio B
2nd Year Studio Section A – Studio A
2nd Year Studio Section B – Studio B
3rd Year Studio Section A & B – Studio C
4th Year Studio All Sections (Capstone and Minor) – Studio D
MDes Studio – MDes Studio

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.

Course Schedule*

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Date	Topic	Focus/Activities	Deliverables
Jan 07	Course Overview and approach	Ideation Theory and Principles	
Jan 14	Learn about the Apprehension Engine in detail	Visit Jess's Lab & Guest lecture	Discover the diverse sounds created by various materials
Jan 21	Test the generated sound	Specifications for material components and the assembly plan	Idea sketches
Jan 28	Team consultation	Develop works-like prototype (version 1) in the Lab	Sound dubbing
Feb 04	Demo in the class	Refine the works-like prototype (version 2) in the Lab	Sound dubbing & Test
Feb 11	Creating a final model	Bill of materials, Tech.drawing	Sound dubbing & Test
Feb 18		WINTER BREAK	
Feb 25	P1 final presentation Research and concept	Introduce P2 (Designing memories)	Statement of the philosophical context of your unique interpretation of death and memory.
Mar 04	Definitive design	Explorative sketches	Statement of design concept along with sketches
Mar 11	Design refinement	Explanatory sketches	Design specification

Mar 18	Detailed design	CAD rendering & Scenario	Final presentation board and a report
Mar 25	P2 Presentation	Introduce P3 (Inspiration and interpretation)	Idea sketches
Apr 01	Design concept critique	Explanatory sketches & scenario	Final board and a report
Apr 08	P3 Presentation		

** More detailed information will be outlined in the weekly class agenda and announced on Brightspace.*