IDES 3107A • DESIGN AND SUSTAINABILITY

Instructor:	**Kevin Brady**
	KevinBrady@cunet.carleton.ca
	Office Location: 3086 MC
	Office Hours: Available upon request
Teaching Assistant	**Emma Bruce**
	EmmaBruce@cmail.carleton.ca

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

Explores the industrial designer's role in creating more environmentally and socially responsible products. Addresses imperatives and drivers for integrating sustainability into products. Includes: sustainable design strategies, strategies and tools, sustainable design business case, circular economy model for designed products, and case studies.

Includes: Experiential Learning Activity.
Prerequisite(s): IDES 2302 and Third or Fourth Year standing or permission of the School of Industrial Design.
Lectures and tutorials three hours a week.

Learning Outcomes

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

1. Articulate the principles of sustainable product design.
2. Discuss the important role of sustainability in product development.
3. Understand how to apply life cycle and circular design strategies to minimize potential impacts of current products or product concepts.
4. Discern and justify a viable eco-design strategy for a product.
5. Apply concepts and techniques of eco-design to real-life products.
6. Identify software and other tools for optimizing sustainable outcomes.
7. Recognize the role that marketing and stakeholders play in the design, development, and promotion of sustainably designed products.
8. Reflect on the ethical responsibilities influencing the future of the design profession.
9. Effectively communicate ideas through visual, written, and oral presentations.
10. Cooperate with team members in working through class exercises and assignments.
11. Adopt professional behaviour.

Course Deliverables

These are the deliverables for this course. For more detailed information, please see the Course Schedule, **IDES 3107A DESIGN AND SUSTAINABILITY W26 - Kevin Brady - Course Schedule**, in Brightspace.

Assignment 1 (40% of course mark)

Research and write an analysis of a product that is marketed as being environmentally or socially responsible/preferred. Address the following:

1. Describe the product, its primary function and main life cycle stages (20 marks)

2. Document the "sustainability" benefits of the product being promoted by the manufacturer/brand owner (10)
3. Research and document the main environmental and social impacts associated with the product life cycle (30)
4. Compare 2 and 3 – do the benefits claimed adequately reflect the main issues identified in your research (30)
5. Speculate on the role of design in addressing any gaps or making additional improvements in the sustainability performance of the product (10)

Assignment 2 (35% of course mark)
Students will be assigned in groups to an "advanced concepts" cross functional product development team. Students in each group will agree on their individual role (e.g. supplier management, material selection, product development, marketing, production and sustainability). Each team will develop a product brief (this can be informed by assignment 1). The brief will include information on the current generation product – bill of materials, key functions, supplier information etc. Working in groups of 5 to 6 during class time, and outside of class as needed, the teams will come up with a set of recommendations for improving the sustainability of the **product system**. Each individual on the team will also be responsible for submitting a one page description of their area of responsibility and how it can/did influence the sustainability of the product.   Results will be presented in the last two class sessions.

2 Quizzes (total of 20 % of course mark)
Individually, marked in class.   These simple quizzes will help confirm your understanding of the concepts as we progress through the course.

Summary of Course Evaluation Information
40%   Assignment 1
35%   Assignment 2 (30% group presentation 5% Individual report)
20%   2 Quizzes (10% each)
5 %   Participation and Professionalism

Course Completion Requirements
Deliverables required to pass the course:
- Assignment 1
- Assignment 2 Group presentation and individual report

Student Access to Exam, Quizzes, and feedback on Academic Work

Carleton University is committed to providing students with appropriate and timely feedback on their work. Please see undergraduate regulations Article 5.3 and graduate regulations Article 23 for more information.

First assigned academic work will be evaluated and returned prior to the 7th teaching day of term.

Students have the right to have questions regarding their grades addressed and to view all material, including material that has not been returned such as final examinations. Please see undergraduate regulations Article 3.3.4 and graduate regulations Article 15 and Graduate Grade Appeal Process for more information.

This course has no exam.

Cost of Educational Materials

Students are not required to purchase textbooks or other learning materials for this course. There is no assigned material. A reference list will be provided.

Technology Requirements

Please refer to the technology requirements on the School of Industrial Design Website (https://carleton.ca/id/student-info/it-support/technology-requirements/). You may be asked by your instructor to refer to Brightspace for other information or requirements related to coursework.

Individual/Group Work

Courses may include individual and group work, and the majority of the grade must reflect individual work. This will support the assessment of individual performance, which may be difficult to determine in group projects. It is also 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 **X%** 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. Students are welcome and encouraged to use available studio 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 whenever you are leaving the 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

- o Failing to acknowledge sources through the use of proper citations when using another's work.
- *Test and Exam Rules*
  - o *Attempting to read another student's exam paper*
  - o *Speaking to another student (even if the subject matter is irrelevant to text)*
  - o *Using material not authorized by the examiner*
- *Other Violations*
  - o *Improper access to confidential information such as exams or test questions*
  - o *Disruption of classroom activities or periods of instruction*
  - o *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

Moderate AI Use – Content Generation with Attribution

Students may use AI tools for sharing ideas, clarifying challenging concepts, or getting started on projects. Some acceptable uses include:

- Sounding board (e.g. generating essay topics with ChatGPT, using Microsoft Word's Smart Lookup or Copilot to find inspiration and related topics)
- Creating outlines (e.g., using AI to structure an essay or presentation flow, using Microsoft Word's Outline View with AI suggestions)
- Providing definitions or explanations of complex concepts (e.g., using AI to explain a difficult theory, or to find relevant information)

Documenting Use of AI It is necessary to document your use of AI in this course, using the following guidelines:

- Clearly identify and cite AI-generated text (e.g., 'The following paragraph was generated by ChatGPT/Microsoft Word's Researcher tool/Copilot')
- Review, edit, and ensure accuracy and originality of final submissions
- AI-generated content should not exceed x% of the total assignment length

Why have I adopted this policy? This policy supports the use of AI as a supplementary tool, helping students develop ideas and structure their work while emphasizing the importance of transparency and personal engagement with the content. AI can be used for inspiration and foundational support and can encourage students to critically assess and refine AI-generated material

As our understanding of the uses of AI and its relationship to student work and academic integrity continue to evolve, students are required to discuss their use of AI in any circumstance not described here with the course instructor to ensure it supports the learning goals for the course. Students can access resources related to citing Generative AI on the MacOdrum Library website. Plus, additional AI resources are also available on Carleton's Artificial Intelligence Hub.

Requests for Academic Accommodation

Carleton is committed to providing academic accessibility for all individuals. You may require special arrangements to meet your academic obligations during the term. The accommodation request processes, including information about the *Academic Consideration Policy for Students in Medical and Other Extenuating Circumstances*, are outlined on the Academic Accommodations website (students.carleton.ca/course-outline). The website covers the below topics.
Topics:

- Pregnancy Obligations
- Religious/Spiritual Obligation
- Academic Accommodations for Students with Disabilities
- Survivors of Sexual Violence
- Accommodation 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.

Course Schedule

Please refer to Brightspace for a detailed Course Schedule: **IDES 3107A DESIGN AND SUSTAINABILITY W26 - Kevin Brady - Course Schedule**.