Carleton University

School of Industrial Design
Course Outline
Fall 2025

IDES 2101A • DESIGN FOR MANUFACTURING A

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Office Location: 436 AP
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

Transformation techniques applied to manufacturing materials. Part-design requirements and cost factors for manufacturing processes. Influences and role of assembly, finishing, production tooling, and costing.

Includes: Experiential Learning Activity.
Prerequisite(s): IDES 1001, IDES 1301.
Lecture and tutorials three hours a week, laboratory three hours a week.

Learning Outcomes

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

1. Identify primary properties of wood, metals, and textiles and how they are extracted and transformed into raw materials.
2. Examine life cycle issues in regards to metals, wood, and textiles and demonstrate curiosity about evolving materials and processes.
3. Apply a systematic design process for comparing and contrasting different types of specific materials in terms of performance characteristics particular to their intended use.
4. Identify common manufacturing and fabrication processes for wood, metal, and textile products and how they relate to scales of production.
5. Describe common production scaling strategies, such as tooling and automation, as well as knock-down assembly.
6. Work safely in the lab under supervision by professional staff on laboratory projects.

Course Deliverables

These are the deliverables for this course. For more detailed information, please see the Course Schedule, **IDES 2101A DESIGN FOR MANUFACTURING A F25 - Bjarki Hallgrimsson - Course Schedule**, in Brightspace.

Midterm	20		Butterknife Warm Up Project	2%
Final Exam	40		Group Project	33%
Participatory	5	(quizzes and other in class activities)		
	65%	+		35% = 100%

Student Access to Exam

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

Cost of Educational 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.

Materials cost for the group project is estimated at $50-$80 to be split between group members evenly.

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 **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 will be formally evaluated by a grade. Each grade will be part of a cumulative grade as shown in the grade breakdown above. Each in class activity will be graded equally. 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
    - 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

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

- Transparently document AI usage, including specific tools and contributions Please consult resources on the Library website.
- Critically evaluate and refine AI-generated outputs to demonstrate understanding and originality.
- AI should enhance, not replace, the student's learning process.

Why have I adopted this policy? This policy integrates AI as a collaborative partner in learning, encouraging students to use AI throughout the research and writing process. It emphasizes the development of skills in critically evaluating AI outputs and ensuring the originality and depth of their work. This approach helps students become adept at using AI as a tool for enhancing their learning and productivity.

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 2101A DESIGN FOR MANUFACTURING A F25 - Bjarki Hallgrimsson - Course Schedule**.