

**COURSE OUTLINE IDES 1301A • PROJECTS IB • WINTER(2022)**

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**Instructor:** **Nathalie Tambay**

Nathalie.Tambay@carleton.ca

Location: **In-Person (ME 3490)**

Office Hours: Tues & Wed 9:30-4:30 location TBD

**Teaching Assistant: Therese Abouassaf**

thereseabouassaf@cmail.carleton.ca

Office Hours: by appointment

**Time and Location:** Please refer to Carleton Central under Student Services – Registration – Search Schedule: [https://central.carleton.ca/prod/bwysched.p\\_select\\_term?wsea\\_code=EXT](https://central.carleton.ca/prod/bwysched.p_select_term?wsea_code=EXT)

### **Course Description**

Aspects of industrial design theory and practice, specifically those dealing with principles of product development, fundamentals of form and color, and case studies. Students will explore the design process with emphasis on creative problem-solving techniques and visual communication in design. Includes: Experiential Learning Activity. Prerequisite(s): IDES 1300. Studio and lectures six hours a week.

### **Learning Outcomes**

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

1. Identify and apply the basic principles and tools of design.
2. Perform and recognize the value of Idea exploration – idea explanation.
3. Generate visualization and ideation sketching techniques through the use of line, value, and colour.

4. Identify the elements of form and translate these principles in project-based assignments.
5. Perform layout techniques through computer graphics software to show product operation and use cycle.
6. Investigate and conduct a range of prototyping techniques through the use of solid modeling materials.
7. Interpret the principles of mechanical operation through analysis, then through the use of computer-aided design software produce a general arrangement technical drawing that identifies the product specifications.
8. Participate as a team member in basic research to identify product requirements.
9. Conduct effective product presentations incorporating computer graphics software to produce hardcopy visual materials in combination with oral communication techniques.
10. Apply basic computer-aided design with emphasis on orthographic projection to explore the principles of surface development.
11. Identify the design scope of a project through the generation of a design brief.

### **Course Deliverables**

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

1. 4 Minor Assignments – 40%
2. Major Project 1 – 20%
3. Major Project 2 – 20%
4. Sketchbook – 15% (interim review -Take Home Exam final Submission - 15%)
5. Design Journal / Professional Mark – 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.

- Safety Glasses/Goggles will be required in all shop activities – a must to use the shops
- Dust Masks – recommended
- HB bright-white inkjet paper or similar
- 11x17 tabloid paper
- Cool Gray Markers 1,3,5 – and any other between 5 & 10
- Two pastel-colored markers with matching chalk or pencil crayon
- Black and White Prismacolor (1 each), 1 white pressed white chalk or conté pencil
- One white-out pen or liquid paper pen
- Black Markers – Chisel Tip – Medium Point
- Urethane Foam – Picked up at Carleton
- Mini File Set (Nail filing set is good)
- Micro plane Round Rasp
- Assorted Sanding blocks
- **\*Digital Calipers**
- **\*One 3” Door Hinge- details to be discussed in studio**
- Tool Box – Start assembling a basic modeling tool kit – suggested tools will be presented during studio

## **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 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 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 which 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/>

- *Parental Leave*
- *Religious/Spiritual Obligation*
- *Academic Accommodations for Students with Disabilities*
- *Survivors of Sexual Violence*
- *Accommodations for Student Activities*

## **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**

### **WEEK 1**

- Introduction / Review Last Term / Course Outline / Material Requirements
- Presentation - Process / Product Rendering & Sketching
- Sketching Warm-Up – Brain Storm Sketching - Analysis & Development Sketching – Context Sketching
- One Week Drawing Assignment presented
- Major Project 1 Presented

### **WEEK 2**

- REVIEW – One Week Drawing Assignment
- Presentation - Form Development Sketching Organic Form
- Form Development – In-Class Assignment
- Safety / Technique Presentation by Walter Zanetti

- Form Development Assignment Presented

### **WEEK 3**

- Studio Session – Form Development

### **WEEK 4**

- REVIEW – Form Development Assignment
- Presentation on Presentation Grids
- Work Session – Major Project 1

### **WEEK 5**

- Studio Session – Major Project 1

### **WEEK 6**

- REVIEW – MAJOR PROJECT 1
- HAND-IN Sketch Books

-----=**STUDY BREAK**-----

### **WEEK 7**

- Use Cycle/Layout Project Presented
- Major Project 2 Presented
- CAD/Surfaces
- Sketching Exercises
- Indesign Tutorials

### **WEEK 8**

- REVIEW • Use Cycle
- Sketching/Visualizing Exercise

### **WEEK 9**

- Solidworks Tutorials / Session
- Present Technical Drawing Project

**WEEK 10**

- Solidworks Studio Session

**WEEK 11**

- Review Technical Drawing
- Studio Session- Keyshot/Solidworks

**WEEK 12**

- Studio Session Major Project 2

**WEEK 13**

- REVIEW – Major Project 2
- Take Home Exam – Sketchbook Submission