

**COURSE OUTLINE IDES 2300A • PROJECTS IIA • Fall (2024)**

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Location: **3478 ME**

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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**

Principles of design sketching used in the industrial design process. Topics include: sketching as a tool for problem definition; idea exploration and form development; rendering techniques and the communication of design concepts; basic physical prototyping and modeling-making techniques.

Includes: Experiential Learning Activity.

Prerequisite(s): IDES 1001 and IDES 1301, 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. Describe theoretical foundations behind industrial design sketching conventions such as perspective, foreshortening, light and shade, orthographic projection, ground figure relationships, viewpoint and orientation, intentional ambiguity, material indication and design annotations.

2. Apply and continue to develop mastery in the above.
3. Apply ideation and critical thinking simultaneously within the design process in the form of competent sketching.
4. Explore formal issues regarding composition and proportion through explorative hand sketching and model making in low fidelity materials simultaneously as tools to facilitate iterative design process to develop multiple design alternatives.
5. Implement contextual information (e.g., people and environment) through hand sketching and digital images to discover and convey design direction.
6. Execute the importing of analog sketches into a digital format to further develop designs.
7. Understand professional terminology regarding sketch and drawing conventions.
8. Determine appropriate levels of sketching and drawing approaches based on the intended visual communication audience and stage of development.

## Course Deliverables

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

### *Grading Document:*

The final grade for the course will be based:

1. Daily Sketching Practice (DSP)	10% (total 100 pages)
2. 3 sketching tests	15% (5% per each)
3. Project 1 (Parking Meter)	20% (Due by Oct. 10)
4. Project 2 (Souvenir Design)	30% (Due by Dec. 6)
5. Ideation workshops	15% (5% per each)
6. Professionalism	10%
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Total	100%

*These are the deliverables for this course:*

### **1. Daily Sketching Practice (DSP) – 10%**

You don't need hours of practice to improve your sketching skills. Spending just 30 minutes a day on focused and continuous practice can significantly enhance your technique and boost your confidence. This short daily practice helps maintain your skills even when you're busy. With the warm-up exercise

at the beginning of each week's class, you'll complete 100 pages of DSP on letter-size paper by the end of the semester. This deliverable will be evaluated based on the total number of pages (100 pages).

## **2. Three (3) sketching tests – 15% (5% per each)**

In the last week of each month (Sept 30, Oct 28, Nov 25) in the semester, there will be a test to assess how well you have understood the material covered in class during the month and to check your progress in sketching ability. (Assessment point: Fluency in idea visualization in sketches)

## **3. Project 1 (Parking meter design) – 20%**

By applying Gestalt principles, your team will redesign the display of an existing parking meter to make it aesthetically pleasing and user-friendly design. While team members will collaborate on research to find pain points and ideation, the final design results using hands-on sketching/rendering must be individually submitted, showcasing different design solutions.

## **4. Project 2 (Souvenir Design) – 30%**

Souvenirs are one of important part of human experiences, with tourists often bringing back memorabilia from their travel. Ideally, souvenirs should be authentic and memorable, but many are generic, stereotypical, and cliché, prioritizing profit over quality, resulting in cheap and uninspired designs. This project aims to address these issues by creating unique, authentic and creative souvenir that represent either Carleton University or the School of Industrial Design (SID).

## **5. Ideation workshops – 15%**

Achieving successful ideation that explores a wide range of diverse ideas can be challenging and requires constant practice. By applying the concept of design heuristics, a series of ideation workshops will be conducted to practice creative ideation through sketching. Using the Design Heuristics tool for product design, students will learn how to foster initial ideation, develop ideas, generate subcomponent ideas, and collaborate within design teams.

## **6. Professionalism – 10%**

a. Punctuality and Attendance: Being punctual for classes, meetings, and deadlines to respect for your instructors and peers.

b. Respect and Courtesy: Maintaining a respectful and professional demeanor in all interactions.

c. Responsibility and Accountability: Taking ownership of one's actions and their consequences, including academic honesty and integrity.

d. Appearance and Presentation: Dressing appropriately for the academic or professional setting and presenting oneself in a clean and neat manner.

e. Preparedness and Participation: Coming to class prepared with the assigned readings and materials.

f. Ethical Behavior: Adhering to ethical guidelines and academic codes of conduct, including plagiarism rules and fair treatment of others.

g. Time Management: Balancing academic commitments with extracurricular activities and personal life.

h. Teamwork and Collaboration: Working effectively with others, valuing diverse perspectives, and contributing to group projects.

### **Readings / Book Considerations:**

1. Baskinger, M. and Bradel, B. *Drawing Ideas: a hand-drawn approach for better design*, New York: Watson-Guption Publications, 2013. (You may already have purchased this book for IDES1300 & 1301)
2. Eissen, K and Steur, R., *Sketching: Drawing Techniques for Product Designers*, Amsterdam: Bis, 2007 (optional)\*
3. Olofsson, E and Sjolen, K, *Design Sketching - Including an Extensive Collection of Inspiring by 24 students at the Umea Institute of Design*, Ljungbergs Tryckeri, 2005 (optional)\*
4. Shimizu Y, *Creative Marker Technique In Combination With Mixed Media*, Tokyo: Graphic-sha Publishing Company, 1990 (optional)\*

### **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.

#### **Sketching/Drawing**

1. Paper I: A ream of a standard Letter sized (11" x 8.5") white inkjet.
2. Paper II: A book of newsprint paper (18"x24")
3. Pen: Any ballpoint pens (black)
4. Pencil: Black or Indigo Blue, Prismacolor Verithin pencils
5. Pencil II: Prismacolor – Primer White and Black (two pencils is recommended)
6. Ruler: Cork Backed Metal Ruler (recommend 14")
7. Markers: A set of Cool Gray Marker No.1 to 10 Suggest multi-tip professional brands such as Shinhan, Alpha, Prismacolor, Zig, Touch or Copic.
8. Markers II: Several Professional-brand Coloured Markers (pastel colours recommended)
9. Hard pastels (optional)

Model Making (Many of these materials you may have purchased for IDES1300 & 1301)

1. Segmented Knife (Olfa) - Spare blades
2. X-Acto Cutter – Extra Blades
3. Rasp
4. Safety Goggles (mandatory)

5. Electronic Vernier Calipers (optional)
6. Masking Tape
7. Different Sandpapers: 80 grit, 120 grit, 220 grit

### **Student Access to Quiz, Test, and Exam Papers**

Examinations will be returned to students with comments and explanations.

### **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.

1<sup>st</sup> Year Studio Section A – Studio A

1<sup>st</sup> Year Studio Section B – Studio B

2<sup>nd</sup> Year Studio Section A – Studio A

2<sup>nd</sup> Year Studio Section B – Studio B

3<sup>rd</sup> Year Studio Section A & B – Studio C

4<sup>th</sup> 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.

## **Appendix A - Course Schedule**

<b>Date</b>	<b>Topic</b>	<b>Class Activity</b>	<b>Next week Homework</b>	<b>Materials to bring</b>
Week 1 (09.09)	Introduction	<ul style="list-style-type: none"> <li>• Introduce the course (e.g. learning outcome, term projects, etc.)</li> <li>• The principles of design sketches (Lecture)</li> <li>• Basic line drawing practice (Practice)</li> <li>• Introduce a circle drawing practice</li> </ul>	•DSP (7 pages)	<ul style="list-style-type: none"> <li>• Canson paper</li> <li>• Color pencils (White &amp; Black)</li> <li>• Circle template, a ruler, Pencil sharpener.</li> </ul>
Week 2 (09.16)	Gestalt Principles	<ul style="list-style-type: none"> <li>• Warming up (lines)</li> <li>• Drawing Circles (practice)</li> <li>• Gestalt Principle (Lecture)</li> <li>• What to draw? (Lecture)</li> <li>• How to use a marker? (Demo by WJ)</li> </ul>	<ul style="list-style-type: none"> <li>•DSP (7)</li> <li>•Canson sketches using marker and color pencils</li> </ul>	<ul style="list-style-type: none"> <li>• Gray markers</li> <li>• White paper (11x8.5")</li> <li>• Chalk pastel</li> </ul>
Week 3 (09.23)	Perspective drawing	<ul style="list-style-type: none"> <li>• Warming up (Circles)</li> <li>• Drawing Ellipse (Practice)</li> </ul>	•DSP (7)	Newsprints (18x24")

	(Ellipses)	<ul style="list-style-type: none"> <li>• Principle of perspective (Lecture)</li> <li>• Drawing cubes (Lecture &amp; practice)</li> <li>• <b>Idea sketching workshop #1 (5%)</b></li> </ul>	•Idea sketches of cylindrical product	(optional)
Week 4 (09.30)	Perspective drawing (cube)	<ul style="list-style-type: none"> <li>• Warming up (cubes)</li> <li>• Review of the principle of perspective</li> <li>• Cube drawing practice on newsprint (practice)</li> <li>• Ortho to Perspective (quiz)</li> <li>• Curvilinear form, planes + arrows (practice)</li> <li>• Human figure and Hand interaction (practice)</li> <li>• <b>Sketch test 1 (5%)</b></li> <li>• Project 1 - Team set up</li> </ul>	<ul style="list-style-type: none"> <li>•DSP (7)</li> <li>•Research of existing parking meters.</li> <li>•Idea sketch for P1</li> </ul>	
Week 5 (10.07)	Early Ideation	<ul style="list-style-type: none"> <li>• Warming up</li> <li>• Explanatory sketch for the display design using Markers, canson paper or pastel etc.</li> <li>• Sketch of User scenario</li> <li>• Pin up primary idea sketches for P1 followed by group critique (6 thinking hats)</li> </ul>	DSP (14)	
10.14	Thanksgiving			
10.21	Fall Break			
Week 6 (10.28)	Ideation workshop	<ul style="list-style-type: none"> <li>• Warming up (cubes, cylinder, arrow)</li> <li>• <b>Sketch test 2 (5%)</b></li> <li>• Adobe tutorial for digital sketches #1 (by TA)</li> <li>• <b>Idea sketching workshop #2</b></li> <li>• Marker rendering demo (WJ)</li> </ul>	<ul style="list-style-type: none"> <li>•DSP (7)</li> <li>•Digital sketches</li> </ul>	
Week 7 (11.04)	Creativity in Design	<ul style="list-style-type: none"> <li>• Warming up</li> <li>• How to generate creative ideas? (Lecture)</li> <li>• Adobe tutorial for digital sketches #2 (TA)</li> <li>• <b>Idea sketching workshop #3</b></li> <li>• Marker rendering demo (WJ)</li> </ul>	<ul style="list-style-type: none"> <li>•DSP (7)</li> <li>•Digital sketches</li> </ul>	
Week 8 (11.11)	Project 2 (officially) begins	<ul style="list-style-type: none"> <li>• Warming up</li> <li>• About souvenir design (Lecture)</li> <li>• Group Brainstorming (practice)</li> <li>• Idea exploration through sketches (practice)</li> <li>• Adobe tutorial for digital sketches #3 (TA)</li> <li>• Rendering Demo (WJ)</li> </ul>	<ul style="list-style-type: none"> <li>•DSP (7)</li> <li>•Data collection</li> <li>•Explorative idea sketches</li> </ul>	
Week 9 (11.18)	Design critiques	<ul style="list-style-type: none"> <li>• Warming up</li> <li>• Team critiques using 6 thinking hats methods</li> <li>• Individual Idea refinements</li> </ul>	<ul style="list-style-type: none"> <li>•DSP (7)</li> <li>•Idea refinement</li> <li>•Lo-fi prototypes</li> </ul>	
Week 10 (11.25)	Idea visualization	<ul style="list-style-type: none"> <li>• Warming up</li> <li>• <b>Sketch test 3 (5%)</b></li> <li>• Ortho + Tech drawing</li> <li>• Form development (Perspective &amp; Ortho)</li> <li>• Visualization of the intended context of use expected user interaction</li> </ul>	<ul style="list-style-type: none"> <li>•DSP (7)</li> <li>•Explanatory sketches</li> <li>•Lo-fi mock-up</li> </ul>	

Week 11 (Dec.02)	Individual work session	<ul style="list-style-type: none"> <li>• Warming up</li> <li>• User scenario building</li> <li>• Final board (2D)</li> <li>• Final model</li> </ul>	<ul style="list-style-type: none"> <li>•DSP (7)</li> <li>•Final Board</li> <li>•Final model</li> </ul>	
Week 12 (Dec.06, <b>Friday</b> )	Final presentation	<ul style="list-style-type: none"> <li>• Warming up</li> <li>• Final Presentation</li> <li>• Wrap up</li> </ul>		