CARLETON UNIVERSITY
SCHOOL OF INDUSTRIAL DESIGN

COURSE OUTLINE IDES 2302A • PROJECTS IIB • WINTER(2022)

Instructor: **Rob Watters**

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Location: **In-Person (AP 448)**

Office Hours: by appointment

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Office Hours: by appointment

Time and Location: Synchronous. Jan 11, 2022 to Apr 05, 2022 Days: Tue Time: 09:35 - 12:25
Building: Azrieli Pavilion Room: 448A *temporarily online to January 31st.

Course Description

Introduction to the design principles associated with adapting products to an existing product semantic. Topics covered: principles of design, product semantics, design analysis, design synthesis, design evaluation, and modeling techniques. The design project(s) explore some or all of the design principles covered in the lectures. Includes: Experiential Learning Activity. Prerequisite(s): IDES 2300 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. Apply product analysis and synthesis theory from IDES 1001.

2. Apply wood and metal material and manufacturing theory from IDES 2101.

3. Apply polymer material and manufacturing theory from IDES 2102.

4. Integrate multi-sensory aspects of design introduced in IDES 2205.

5. Build on freehand orthographic and perspective sketching competency including construction, line-weight management, shading and shadows from IDES 2300 to effectively demonstrate a working knowledge of the design sketch.

6. Analyze the visual language of a brand in terms of brand characteristics and design cues

7. Incorporate design constraints in projects including standards.

8. Incorporate and discuss product design semantics introduced in IDES 2205.

9. Build on knowledge of technical drawings introduced in IDES 1301 to produce General Arrangement drawings showing all parts and assembly including a Bill of Materials.

10. Compile and present professional looking presentation boards using analog and/or digital methods.

11. Work safely in labs and studio under supervision and develop physical prototyping and model making knowledge and skills in medium to high fidelity materials using analog tools.

12. Demonstrate professional behaviour.

13. Design as part of a team.

Course Deliverables

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

Project 1 (P1): Organizer	35%
Project 2 (P2): Product Revamp	20%
Project 3 (P3): Product Brand Extension	35%
Participation & Professionalism	10%

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.

Books (required):

Hallgrimsson, B. (2012). *Prototyping and Model-Making for Product Design.* Laurence King Publishing, London, UK.

> *(note: this book may also be available online through Ares library reserves, CU)*

OR

Hallgrimsson, B. (2020). *Prototyping and Model-Making for Product Design: Second Edition.* Laurence King Publishing, London, UK.

General Materials:

Utilize the materials and tools that you have been accumulating from previous studio courses. Over time, you will begin to discover what mediums work best for you. At this point, you will want to continue experimenting with different mediums to build your skills and find the right fit for your personal style.

Here is a list of materials that will support your progress in this course:

- Paper: pack of letter-size (8.5"x11") bright white InkJet, LaserJet or similar printer paper and/or a sketchbook of similar size and quality
- Pens: variety of ballpoint and/or nylon-tip pens, preferably black (e.g. BiC Cristal or Round STIC, medium point or 1.0mm)
- Markers: set of grayscale designer markers (No. 1 to 10) and several colored markers (e.g. red, blue, violet, green, yellow, orange, pink, brown), preferably multi-tip professional brands such as Shinhan, Alpha, Prismacolor, Zig, Touch or Copic)
- Tapes: large role of 25mm thick masking/drafting tape or similar and 2-3 rolls of 19mm invisible tape or similar (e.g. Scotch Magic Tape)
- Cutting Knives: precision cutting knife (e.g. X-Acto), a box cutter/utility knife (e.g. Olfa), and several replacement blades for each (pack of 50 recommended)
- Steel Rulers/Squares: 14" minimum length (preferably 24") steel ruler (cork-back recommended) and/or engineer's square
- Cutting Board: 12"x18" minimum self-healing cutting board
- Adhesives: good quality hot glue gun with glue sticks (small craft glue guns may not be sufficient)
- Sandpaper: pack(s) of wet/dry sandpaper (100 and 220 Grit at least) and a sanding block
- Safety Glasses: appropriately fitting glasses or goggles with side shields
- Dust Masks: pack of dust masks (pack of 20 recommended)
- Cardboard: variety of cardstock and corrugated paper/fiberboard (recommended to save scraps from packaging materials)
- Precision Screwdrivers: set of precision/jeweler's screwdrivers (at least Phillips and slotted/flathead drivers)

Project Specific Materials:

Other specific materials will be dependent upon each student's projects. You must be prepared to purchase or acquire the appropriate materials necessary for you to complete your own design activities throughout the term. Some standard materials may be provided by the School to support the project work.

Computer Software:

The software (provided by the School of Industrial Design) that must be installed on your personal computer includes:

- Miro - for virtual studio space progress sharing and class engagement
- Adobe Creative Cloud – specifically Illustrator and Photoshop
- SolidWorks

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 contribution.

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 XX% 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.

Zoom sessions if required

You are expected to have your video on during web conferencing sessions to facilitate participation and studio collaboration. This is similar to being present and available in-class. Remember that while in class, your at-home computer is your classroom - stay engaged in class material throughout class time.

> *Unauthorized student recording of classroom or other academic activities (including advising sessions or office hours) is prohibited. Unauthorized recording is unethical and may also be a*

violation of University policy. Students requesting the use of assistive technology as an accommodation should contact the Paul Menton Centre: https://carleton.ca/pmc/

Unauthorized use of classroom recordings – including distributing or posting them – is also prohibited. Under the University's Copyright Policy (https://library.carleton.ca/copyright-carleton), faculty own the copyright to instructional materials – including those resources created specifically for the purposes of instruction, such as lectures slides, lecture notes, and presentations. Students cannot copy, reproduce, display, or distribute these materials or otherwise circulate these materials without the instructor's written permission. Students who engage in unauthorized recording, unauthorized use of a recording, or unauthorized distribution of instructional materials will be referred to the appropriate University office for follow-up.

Changes to the Course Outline

The course outline may be subject to change in the event of extenuating circumstances.

(EXTREMELY IMPORTANT: follow instructor guidance wrt adjustments resulting from covid and situational responses as necessary**)**

Appendix A - Course Schedule

Week / Date	Focus / Activities	Deliverables
Class 1 Jan. 11/12th	● Course Overview ● Project 1 (P1) Intro: Contextual Analysis	
Class 2 Jan. 18/19th	● Project 1: Ideation, Concept Sketches & Sketch Models	
Class 3 Jan. 25/26th	● Project 1: Concept Development to a Single Direction. Prototype.	
Class 4 Feb. 1st/2nd	● Project 1: Final Design Development, Appearance Model & Presentation Materials	
Class 5 Feb. 08/09th	● **Project 1: Final Review** ● Project 2 (P2) Intro: Product Analysis	**Project 1 Final Presentation**
Class 6	● Project 2 (P2): Concept Development	

Feb. 08/09th		
Feb. 21th-25th	*WINTER BREAK*	
Class 7 Mar. 1/2rd	● Project 2: Final Design Development	
Class 8 Mar. 8/9th	● **Project 2: Final Review** ● Project 3 (P3) Intro: Brand Analysis -	**Project 2 Final Presentation**
Class 9 Mar. 15/16th	● Project 3: Concept Development	
Class 10 Mar. 22/23th	● Project 3: Final Design Development	
Class 11 Mar. 29/30st	● Project 3: Final Design Development	
Class 12 Apr. 5/6th	● **Project 3: Final Review** ● Course Wrap-Up	**Project 3 Final Presentation**