CARLETON UNIVERSITY
SCHOOL OF INDUSTRIAL DESIGN

COURSE OUTLINE IDES4310 • SECTION B • MAJOR PROJECTS IVB • FALL /19 - WINTER /20

Instructor: Stephen Field
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Teaching Assistant: Kayla Daigle
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Office hours: During studio/lecture hours by appointment

Time Location: Studio: Fall – Thursday 9:35 -12:25 / 1:35 – 4:25
Winter – Thursday Friday – to be determined

Course Description:
Application of design principles in a comprehensive design project. Problem area chosen should be product oriented and of sufficient complexity. Normally undertaken in consultation with off-campus organizations and industry; supervised by faculty members. Includes: experiential learning Activity.
Precludes additional credits for IDES4310 (no longer offered). Prerequisite(s): IDES3301 or permission of the School of Industrial Design.

Studio and lectures six hours a week in fall and twelve hours a week in winter.

Learning Outcomes:
By the end of this course, students will be able to:
1. Apply research methods to define a unique design problem.
2. Bridge their research to the development of an appropriate design proposal.
3. Evaluate their proposed design solution with relevant stakeholders reflect of practitioner behavior.
4. Demonstrate a basic understanding ad need for ethics to develop and evaluate appropriate designs.
5. Develop methods and materials to develop and asses design solutions.
6. Produce a range of appropriate professional deliverables at each phase as reflected in the fields of design.
7. Establish a good working relationship with external partners, which includes receiving and incorporating feedback from partner groups.

**Required Materials:**

Students will not require any additional equipment or tools that they have purchased for previous studio’s.

Materials required will be dependent on the theme and project selected. As this is a comprehensive project, be prepared to purchase mediums and materials that are appropriate for your research and development.

**Computer Requirements:**

Please refer to the computer requirements on the School of Industrial Design Website:

http://www.id.carleton.ca/undergraduate/about-the-bid-program/computer-requirements

**Software Requirements:**

Software that should be installed on laptop:

Adobe Suite (Photoshop, Illustrator, InDesign)

SolidWorks and KeyShop (schools versions)

**Course Deliverables:**

These are the deliverables for this course.

**A PHASE APPROACH**

Comprehensive and complex projects are highly process-oriented and are normally developed through a series of steps, with each step culminating in a deliverable. During the fall semester, students focus on preliminary research to define design problems, as well as developing design concepts in consultation with the instructor and outside stakeholders. In the winter semester, students further their investigation by testing and/or evaluating ideas and deepening their development process in order to create viable product solutions.

**FALL SEMESTER**

The fall semester consists of two phases; Background Research, and Design Concept Development & Feasibility. Each will be evaluated conjunctionally during the fall semester and as a whole at the end of the semester.
WINTER SEMESTER

The winter semester consists of four phases; Preliminary Design, Definitive Design, Final Review with Documentation. These phases will be an extension of the research and conceptual design development completed in the fall semester. The process conducted in this semester will be relevant to the range of projects being done by each student; the activities presented will be required to be completed by all students. It is essential that the students document all the work completed during this semester, as this information will be included in the final presentation and documentation, as will as it will be vital in the development of your portfolio.

Grading:

<table>
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<tr>
<th>FALL</th>
<th>100%</th>
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<tbody>
<tr>
<td>Background Research</td>
<td></td>
</tr>
<tr>
<td>Establishing a concrete background in the project study through literature review, expert interview, emphatic testing etc. and conceptual work</td>
<td>10%</td>
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<tr>
<td>Design Concept and Development</td>
<td></td>
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<tr>
<td>Oral presentation, graphic illustration that explore and identify the project design concept and feasibility.</td>
<td>25%</td>
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<table>
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<tr>
<th>WINTER</th>
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<tbody>
<tr>
<td>Preliminary design</td>
<td></td>
</tr>
<tr>
<td>Idea testing, present potential design solution</td>
<td>15%</td>
</tr>
<tr>
<td>Definitive Design</td>
<td></td>
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<tr>
<td>Present final design intent in every detail</td>
<td>15%</td>
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<tr>
<td>Final Design / Documentation</td>
<td></td>
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<tr>
<td>Produce a document that objectively presents all the design activities that resulted in a final solution.</td>
<td>30%</td>
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| Class conduct                    | 5%   |
|                                  |      |
| TOTAL                            | 100% |

Please see Appendix A Course Schedule and Appendix B, Deliverables for more detailed information.

Individual/Group Work

Courses may include individual and group work. It is important in collaborative work that students clearly demonstrate their individual contribution.
**Studio Review Attendance**

Attendance at scheduled SID Reviews is mandatory. These are equivalent to exams when indicated in the course outline. Failure to attend the Review without reasonable cause, will result in a grade of F.

Students arriving late for the Review 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, 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.

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

Choose an item

**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/](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
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).

The 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.

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 cuLearn. 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.
FOURTH YEAR CAPSTONE PROJECTS

Stephen's Section B • Tanzania, Arctic & Entrepreneur

PROJECT TIME LINE • IDES4310 • Major Projects IVB • 2019-2020
Appendix B – COURSE DELIVERABLES

FALL 2019

BACKGROUND RESEARCH

Students will conduct background research on the chosen design project and investigate the project context and the significant issues to establish a concrete knowledge of the project study. Preliminary design concepts will be explored through visualization methods.

**Deliverable:** Individual Design Brief, Group Round Table and a Preliminary Research Report. This preliminary report (mocked-up, not finalized) will be evaluated and returned with feedbacks and recommendations. Printed report and presentations materials must be presented and submitted by the 16th of October at 4:30 in 4th year studio. Further requirements for deliverable will be presented to students during scheduled studio.

DESIGN CONCEPT AND FEASIBILITY

Students will explore as many alternative design ideas as possible to narrow down to a clear and feasible design concept. Through multiple iterations, students will develop a promising design idea as well as critical questions and challenges required tests through prototypes. The proposed design concept will be reviewed and evaluated accompanied by recommended revisions. Additional research may occur during this milestone as students discover new information that helps them strategies their test plan.

**Deliverable:** Final Research Document, Pecha Kucha, Group Discussion

- **Final Research document:** This document is about the research completed in the fall semester. The research does not end at this point, but further investigation will take place throughout the project. However, this document will be a synthesis of the information gathered in the Preliminary Research Report in the milestone 2 and a proposal of a clear design direction with graphic illustrations.
- **Pecha Kucha:** Will be a three minute presentation that will highlight your research and product direction.
- **Group Discussion:** This will be an oral round table allowing students to present and highlight areas of their research.

WINTER 2019

PRELIMINARY DESIGN

The preliminary design would be a creative and compelling design solution based on all the issues addressed at the conclusion of the fall semester. The design concept that was approved from Milestone 3 will be developed further by employing a range of supporting visual material and test models that capture the overall design concerns and questions.

**Deliverable:** a Walk-Around Review in this review, students will present how they addressed all the design issues and show evidence from usability testing and other methods of evaluation to the public. Presentation material that clearly illustrates design intent will be strongly required to get valuable feedbacks and comments from the audience.

The Walk-Around Review will start on the 7th of February, 9:30 am until 5 pm. All presentation materials and models must be set up the day prior to the Walk-Around Review, if a student is not setup by 9:30am they will not be allowed to present.

Further requirements for deliverable will be presented to students during scheduled studio.
This is a place where final revisions must be made, and all design solution to problems and objectives must be proposed. The proposed solutions through all required and relevant visuals, models and digital representations will be presented to validate the final design outcomes. The final design will illustrate precisely how the test methods used, and the analysis of the findings justified any changes in the chosen design direction. Also, students should be aware that this is the time to avoid any distraction that may undermine your progress with surprising information or developments.

**Deliverables:**
- Technical drawings, physical scale models and detail illustrations that capture the final design intent. Narrative with preliminary digital media and initial draft of final report. March 6th 2020

Further requirements for deliverable’s will be presented to students during scheduled studio.

**FINAL DESIGN**

Students will conduct a formal presentation of their work to the instructors and the industry partners at the Grad show kiosk a day before the Grad Show. The final review will be the final presentation board with a distinct culmination of work completed for all the phases of the project and the final design outcomes as well as the final model. A signed contract (or checklist) will be made between the instructor and the student at the rehearsal on March 27th & 28th to identify the specific deliverable’s agreed upon for completion. Failure to meet to the contract will constitute grounds for failure of the course.

**Deliverable’s:**
- Product design specification and a general assembly with supportive technical drawings, high fidelity appearance models either in 1:1 or with one detail component in 1:1, design process document, Final grad show poster, finished digital media. Further requirements for deliverable will be presented to students during scheduled studio.

Further requirements for deliverable will be presented to students during scheduled studio.

**STUDIO PERFORMANCE**

**Student Demonstrates:**
- Active participation and professional conduct (e.g. class discussion consultation with instructors and participants, work ethic, etc.)

100%