CARLETON UNIVERSITY
# SCHOOL OF INDUSTRIAL DESIGN

## COURSE OUTLINE IDES 2105A • COMPUTER APPLICATIONS • WINTER(2022)

**Instructor:** **Gerry Kanter**

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Location: **In-Person (SA 416)**

Office Hours: TBA

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**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

### Course Description

Provides industrial design students with a working knowledge of design related 3D computer applications, as well as graphic manipulation and illustration software. Labs and projects are oriented towards building a foundation in software and group work skills for studio courses. Includes: Experiential Learning Activity. Prerequisite(s): IDES 1301. Lecture and tutorials three hours a week.

### Learning Outcomes

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

1. Demonstrate working knowledge of parametric modeling techniques in CAD.
2. Apply basic digital rendering techniques.
3. Competency in industry specific software, which currently includes Solidworks, Adobe Illustrator and Adobe Photoshop.

4. Demonstrate a CAD workflow that also incorporates hand sketching and integrating multiple software products simultaneously (e.g Illustrator decals to Solidworks).
5. Create assemblies in Solidworks Assembly modeller.
6. Demonstrate awareness of advanced modeling techniques, such as surface modelling.
7. Render basic photo-realistic representations of their CAD models.
8. Demonstrate awareness of technical drawing tools in SolidWorks.
9. Demonstrate awareness of other CAD applications for design.
10. Work as a team and use each other's resources effect

## Course Deliverables

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

## 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.

Type here to list the basic materials. More detailed information can be placed on Brightspace.

## 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 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

- **Project 1 (Solidworks)** The objective of this project is to create a model of a humanoid robot/Toy based on a sketch, a photo or an existing toy. Students will be required to apply the tools and techniques learned in class to generate individual parts, assemblies, renderings, and drawings of their models.
- **Homework, Labs & Groupwork** Students will be required to complete a set of homework and lab and group assignments as part of their project deliverables.
- **Midterm** There will be a midterm examination to evaluate application of knowledge based on classwork
- **Project 2 (Rendering)** This is a take-home exam where students will produce a rendering and presentation package using the tools, techniques and software packages discussed in class.

| Week | Date | Lab Topics | Labs & Projects | Main HW Assignment | Alternate HW Assignment |
|---|---|---|---|---|---|
| **Week 1** | Jan 14 | Interface & Sketch Tools | Dice | Lolipop Man | N A |
| **Week 2** | Jan 21 | Basic Features | Lego Block | Trace Key | Robot arm |
| **Week 3** | Jan 28 | Advanced Features | Super Slide | Mug | Robot Leg |
| **Week 4** | Feb 4 | Assembly & Drawings | Coffee Lid | Dish Rack | Robot Body |
| **Week 5** | Feb 11 | Rendering Part I | Tria Marker | Part Render | Robot Head |
| **Week 6** | Feb 18 | Rendering Part II | MIDTERM | | |
| **Week 7** | Feb 22-25 | Reading Break | | | |
| **Week 8** | Mar 4 | Photoshop (part 1) | Project 1 due | | |
| **Week 9** | Mar 11 | Photoshop (part 2) | | | |
| **Week 10** | Mar 18 | Illustrator (part 1) | | | Bonus 1 |
| **Week 11** | Mar 25 | Illustrator (part 2) | | | |
| **Week 12** | April1 | Materials | | | Bonus 2 |
| **Week 13** | April 8 | Surfaces | Group Projects | | |
| **Week 14** | April 12 | OPEN (3) | Last day of classes | Optional Class | |
| **Week 16** | April 28 | No class | Project 2 due | Last day for take home Exams | |