CARLETON UNIVERSITY
School of Industrial Design

IDES 2105 – Computer Applications - Winter 2019

Course Outline

Instructor: Gerry Kanter
Office: Sessional Instructor Office (By appointment only)
Email: gerardo.kanter@carleton.ca

Office Hours: Office hours are by appointments, please send an email to schedule

Teaching Assistants: Eric Pond

Time and Location:
- Lecture A: Friday 08:35 -10:55 3101 Canal Building
- Lab A1: Friday 10:05 -11:25 3101 Canal Building

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.
Prerequisite(s): IDES 1301.
Lecture and tutorials three hours a week.

Learning Outcomes
This class will focus on developing their understanding of computers and learning basic skills of 3D modeling and digital graphics. To develop these skills, students will be asked to do a set of exercises and practices during lab hours as well as homework assignments. Upon the successful completion of the course, students will be able to demonstrate ability to assess the connections between design and technology and show proficiency in the creation of 3D models and digital presentations.

Course Format
Course materials for this class will be delivered to students through lectures and lab sessions. Typically, during the lecture portion of this class, course materials will be presented to students via exercises and slide decks, followed by live demonstrations. For the lab portion of the class, students will complete in-class exercises. Additional homework assignments will be required for specific weeks and must be completed at specified dates.

Assignments:

Project 1 (Robot Character) The objective of this project is to create a model of a humanoid robot 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 parts, assemblies, renderings and drawings. Special attention will be focused on model quality and drawing clarity.

Midterm (Take Home Exam) A midterm examination will be administered during a class session and will test knowledge of the course materials for the first half of the course (1.5 hrs.)
Class Presentation (Group Assignment) Students will work in groups to research and deliver a short presentation or live demo on a topic related to specific issues and concepts discussed in class.

Project 2 (Rendering Package) Students will produce a rendering and presentation package using the tools, techniques and software packages discussed in class. Special attention will be given to using Illustrator and Photoshop in conjunction with 3D CAD tools.
### Course Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Lab Topics</th>
<th>Labs &amp; Projects</th>
<th>Main HW Assignment</th>
<th>Alternate HW Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Jan 11</td>
<td>Interface &amp; Sketch Tools</td>
<td>Dice</td>
<td>Lolipop Man</td>
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</tr>
<tr>
<td>Week 2</td>
<td>Jan 18</td>
<td>Basic Features</td>
<td>Lego Block</td>
<td>Trace Key</td>
<td>Robot arm</td>
</tr>
<tr>
<td>Week 3</td>
<td>Jan 25</td>
<td>Advanced Features</td>
<td>Super Slide</td>
<td>Mug</td>
<td>Robot Leg</td>
</tr>
<tr>
<td>Week 4</td>
<td>Feb 1</td>
<td>Assembly &amp; Drawings</td>
<td>Coffee Lid</td>
<td>Dish Rack</td>
<td>Robot Body</td>
</tr>
<tr>
<td>Week 5</td>
<td>Feb 8</td>
<td>Rendering &amp; Modifiers</td>
<td>Tria Marker</td>
<td>Part Render</td>
<td>Robot Head</td>
</tr>
<tr>
<td>Week 6</td>
<td>Feb 15</td>
<td>T-Splines + Booleans</td>
<td>na</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>Week 7</td>
<td>Feb 18</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Week 8</td>
<td>Mar 1</td>
<td>Photoshop (1)</td>
<td></td>
<td>MIDTERM</td>
<td></td>
</tr>
<tr>
<td>Week 9</td>
<td>Mar 8</td>
<td>Photoshop (2)</td>
<td></td>
<td>Project 1 due</td>
<td>Bonus 1</td>
</tr>
<tr>
<td>Week 10</td>
<td>Mar 15</td>
<td>Illustrator (1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 11</td>
<td>Mar 22</td>
<td>Illustrator (2)</td>
<td></td>
<td></td>
<td>Bonus 2</td>
</tr>
<tr>
<td>Week 12</td>
<td>Mar 29</td>
<td>Surfaces</td>
<td></td>
<td>Stat Holiday</td>
<td>Good Friday</td>
</tr>
<tr>
<td>Week 13</td>
<td>Apr 5</td>
<td>T Splines</td>
<td></td>
<td></td>
<td>Bonus 3 &amp; 4</td>
</tr>
<tr>
<td>Week 14</td>
<td>Apr 9</td>
<td></td>
<td></td>
<td>Last day of classes</td>
<td></td>
</tr>
<tr>
<td>Week 25</td>
<td>Apr. 27</td>
<td>No classes (Exams)</td>
<td></td>
<td></td>
<td>Project 2 due</td>
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### Required Materials

Students will require a computer (PC or MAC), Adobe Photoshop CS3 (or higher), Adobe Illustrator CS3 (or higher), and a fully installed version of SolidWorks that can be obtained from the school’s IT administrator. We also recommend that students install a copy of Autodesk Fusion 360 and/or 3Dstudio Max, as a backup modeling software alternative. (this is only a suggestion, not a requirement)

The use of 3 button mouse with a wheel is strongly recommended. If possible, students may want to bring along a WACOM style tablet, although this is not a requirement for most assignments.
Course Evaluation

<table>
<thead>
<tr>
<th>Evaluation</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Project 1 (Robot Character)</td>
<td>40% (Labs + Homework + Robot)</td>
</tr>
<tr>
<td>Mid Term Exam</td>
<td>20% (In class Examination)</td>
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<tr>
<td>Group Presentations</td>
<td>20% (Class Presentation)</td>
</tr>
<tr>
<td>Project 2 (Model + Render)</td>
<td>20% (Take Home Exam)</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
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Individual/Group Work

Courses may include various combinations of individual and group work. Students must demonstrate individual aptitude. It is important where collaborative work is undertaken that students be able to clearly demonstrate that individual contribution has been made. Where the evaluation for individual work is below a passing grade, that grade will be awarded for the course.

Exam Attendance

Attendance to scheduled exams is mandatory. Failure to attend will result in a grade of F. If you are not able to attend an exam, you are required to call the General Office (613-520-5672) and/or send an email to id@carleton.ca to leave a message in advance. A comprehensive medical certificate or other documentation to substantiate the absence must be submitted as soon as possible after the review. The documentation must state the date of illness onset, the expected date of recovery, and the extent to which the student is incapacitated. The student is also required to set up a meeting with the instructor as soon as he or she is well enough to discuss and schedule an alternative date.

Late Submission of Deliverables

Course Deliverables for reviews and other due dates

All deliverables submitted late will accrue a 10% per day deduction from the determined grade, to a maximum of 3 days, from the original deadline time and date. Failure to submit within 3 days, without approval from the instructor, will result in a grade of F.

Participation and Professionalism

Active participation and professional conduct are particularly important in studio courses and will be evaluated. At the same time, when the student’s work is reviewed at the end of the course, an evaluation will be made based on one or more of the following: in class discussion; consultations with instructors; and work ethic. However, none of these evaluations will be used to raise an overall failing grade, to a passing one, based on the quality of the work.

Student Access to Quiz, Test, and Exam Papers

Examinations are for evaluation purposes only and will not be returned to the student.

Instructional Offenses / Plagiarism

The regulations of the university require that we bring to your attention to Regulations on Instructional Offenses, descriptions of which can be found in the current Carleton University Undergraduate Calendar. At the same time, it seems that students do not always understand the meaning of plagiarism and how to avoid it. In industrial design, true and
unique originality is difficult. Ideas and concepts come from a multitude of sources to be modified and utilized in the design and development process. A mature designer understands the need to seek out and acknowledges other successful solutions. The challenge for the student of industrial design is to learn how to develop this understanding.
Student Considerations & Responsibilities

Requests for Academic Accommodation
You may need special arrangements to meet your academic obligations during the term. For an accommodation request, the processes are as follows:

Pregnancy obligation
Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website:
https://carleton.ca/equity/accommodation/

Religious obligation
Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website:
https://carleton.ca/equity/accommodation/

Academic Accommodations for Students with Disabilities
If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. carleton.ca/pmc

Survivors of Sexual Violence
As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and is survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit:
carleton.ca/sexual-violence-support

Accommodation for Student Activities
Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist.
https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-
For more information on academic accommodation, please contact the departmental administrator or visit: students.carleton.ca/course-outline
**Student Responsibility**
The student is responsible for knowing the content of this course outline, the schedule of classes, assignments, and examinations; and material covered during any absence from scheduled classes. Students are also required to attend all lectures and labs as scheduled, and submit their finished work as required.

**Class Schedule**
Unless otherwise arranged, the class will meet during regularly scheduled studio hours. These meetings are mandatory; important issues and questions will be raised, and announcements might be made. Everyone is expected to be based in studio and to work during scheduled hours. The studio should be considered a professional design studio environment. Because of the special involvement of external professionals, scheduling changes for guest lectures, presentations, and reviews may occur at short notice; students should stay informed regularly.

**Changes to the Course Outline**
The course outline may be subject to change in the event of extenuating circumstances.