IDES 1001 / Arch 2101 – Industrial Design Analysis – Winter 2018

COURSE OUTLINE

Instructor
WonJoon Chung, Ph.D.

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Office Hours
By appointment

Teaching Assistants*
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*Note: Please contact TA via email for any questions you may have outside of office hours. They will contact the instructor in case they are unable to address the question.

Course Time and Location
Thursday 11:35 am - 2:25 pm / Southam Hall 304

Course Description
Principles of comparative industrial design analysis covering marketing and sales, manufacturing techniques and materials, ambiance and qualities of the object/context relationship, and design analysis from the perspective of the designer, the maker, and the user.

Learning Outcomes
• Demonstrate qualitative and quantitative comparative product analysis techniques
• Identify and describe fundamental human factors elements and evaluation techniques
• Disassemble, analyze, and identify product components and production techniques
• Describe products and environments using professional terms for ambiance, form, color, and style
• Carry out and demonstrate application of preliminary research regarding market, use, manufacture, and environmental context along with observational research of product use
• Discuss the principles of sustainability of products and manufacturing methods
• Write a basic product design brief based on analysis process and findings
• Understand better the challenges and advantages to teamwork and the need to develop interpersonal communication skills for teamwork
• Demonstrate improvement in presentation and graphic skills, and make group presentations of knowledge gained

Course Support
This course will be supported by the CuLearn Course Management System. Course-related announcements and a variety of resources (some readings, handouts, class presentations or relevant links) will be made available through the CuLearn site. Make sure that your CuLearn account is activated (webct.carleton.ca) and check the class site well before each class. You are responsible for reading and responding to all information distributed through CuLearn.
## Course schedule

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Topics</th>
<th>Homework</th>
<th>Test</th>
<th>Team Project</th>
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</thead>
<tbody>
<tr>
<td>Wk1.</td>
<td>Introduction to the course What is industrial design? (Origin, Related fields, Good design, Designability ...)</td>
<td>Read Ch.1 (Product Design)</td>
<td></td>
<td>Choose two different design under the same products category</td>
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<tr>
<td>Wk2.</td>
<td>Aesthetic aspect I: Style, Form principles (Balance, Proportion, Rhythm, Harmony, Dominance, Movement, Unity, Golden Ratio, Fibonacci Sequence, Rule of Thirds...)</td>
<td>Read articles</td>
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<tr>
<td>Wk3.</td>
<td>Aesthetic aspects II: Sensory sensation, Attributes of a product’s image (Descriptive, Referential, Metaphoric attributes)</td>
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<td>Ch1. Aesthetic aspect</td>
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<tr>
<td>Wk4.</td>
<td>Structural Principles: compression, tension, shear, torsion, etc.</td>
<td>Artifact analysis (Attribute position map)</td>
<td>Quiz (wk1~3)</td>
<td>Ch2. Functional, Structural aspects</td>
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<td>Wk5.</td>
<td>Manufacturing and Mass productions</td>
<td></td>
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<td>Ch3. Manufacturing aspects</td>
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<tr>
<td>Wk6.</td>
<td>Physical HF (Ergonomics, Anthropometry), Cognitive HF (Affordance, perception), Social and cultural HF</td>
<td></td>
<td></td>
<td>Ch4. Human factor aspects</td>
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<tr>
<td>Wk7.</td>
<td>Winter Break, No class</td>
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<td>Wk8.</td>
<td>Mid Term exam</td>
<td>Midterm (wk1~6)</td>
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<td>Wk9.</td>
<td>Design planning, Branding</td>
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<tr>
<td>Wk10.</td>
<td>Design research to understand the market (SWOT ...)</td>
<td>Submit the draft of the team report</td>
<td>Ch5. Marketing aspects</td>
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<tr>
<td>Wk11.</td>
<td>Design concept &amp; Creativity in Design</td>
<td>Quiz (wk9~10)</td>
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<tr>
<td>Wk12.</td>
<td>Contemporary Issues</td>
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<tr>
<td>Wk13.</td>
<td>Final Team Report (Hand out) &amp; Infographic Poster (Present)</td>
<td>Infographic poster (24” x 36”)</td>
<td>Team report</td>
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**Industrial Design**

- **Beautiful ART**
- **Functional Engineering**
- **Affordable Marketing**
- **Profitable Cog.Sci**
- **Contemporary issues**

**Weeks:**
- Wk.1: Jan.11
- Wk.2: Jan.18
- Wk.3: Jan.25
- Wk.4: Feb.01
- Wk.5: Feb.08
- Wk.6: Feb.15
- Wk.7: Feb.22
- Wk.8: Mar.01
- Wk.9: Mar.08
- Wk.10: Mar.15
- Wk.11: Mar.22
- Wk.12: Mar.29
- Wk.13: Apr.05

**Notes:**
- Wk.11: Creativity, Design Thinking
- Wk.12: Contemporary issues
- Wk.9: Design planning, Branding
- Wk.10: Design research to understand a market

**Language:**
- **Weeks:**
  - Jan
  - Feb
  - Mar
  - Apr
Reading Materials
Course Textbooks:

*Additional readings may be added. You will be notified in advance.*

Course Format
The course consists of lectures, analyses of existing products and student poster presentations, and in-class quizzes. Each lecture presents a different approach to product analysis. Readings will be assigned in order to prepare for the next lecture and/or for the quizzes. Attendance and participation is required and critical to learning and success. Those who do not attend classes are unlikely to achieve their full potential in this course.

Course Deliverables
- Team Project (40%)
  Four (4) students will work as a team to analyze two (2) different consumer products under the same product category according to material delivered in the course and will make a final team report and an infographic poster (24” x36”) of their results.
- In class quizzes (10% x2=20%)
  There will be a range of in-class quizzes to periodically evaluate comprehension of the ongoing readings and course materials.
- Midterm exam (20%)
  After the winter break, there is a midterm exam about the lesson from week 1~6.
- Final team poster (20%)
  Graphic visual representations of the 4 products analysis.

Course Evaluation Information

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Team project</td>
<td>40%</td>
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<tr>
<td>Quizzes (10% each)</td>
<td>20%</td>
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<tr>
<td>Midterm exam</td>
<td>20%</td>
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<tr>
<td>The team poster</td>
<td>20%</td>
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Individual/Group Work
Courses may include various combinations of individual and group work. Students must demonstrate individual aptitude, and achieve a passing grade for individual work, in order to pass the course. Where the evaluation for individual work is below a passing grade, that grade will be awarded for the course. It is important where collaborative work is undertaken that students be able to clearly demonstrate that individual contribution has been made.

Late Submission of Hand-in Deliverables
All hand-in 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 prior approval from the instructor, will result in a grade of F.

Review Attendance and Deliverables
Attendance at scheduled project reviews is mandatory. Failure to attend and present as scheduled will result in a grade of F for the review. If you are not able to attend a review, please call the instructor or the General Office (520-5672) and 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. Such documentation must state the date of illness onset, the expected date of recovery, and
the extent to which the student is incapacitated. A grade of F can be modified only if a student submits such documentation and completes the project requirements on a date agreed upon with the instructor. A student not remaining for the complete session, or arriving late for the review, without approval from the instructor, will earn a maximum grade of D+.

**Instructional Offenses / Plagiarism**
The regulations of the university require that we bring to your attention 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. Please refer to the Guide to Engineering Program available at the Engineering Registrar's office.

**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.

**Changes to the Course Outline**
The course outline may be subject to change in the event of extenuating circumstances. Every effort will be made to inform students in as timely a manner as possible.

**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:* Any requests for academic accommodation should be made in writing 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: [http://www2.carleton.ca/equity/](http://www2.carleton.ca/equity/)

*Religious obligation:* Any requests for academic accommodation should be made in writing 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: [http://www2.carleton.ca/equity/](http://www2.carleton.ca/equity/)

**Academic Accommodations for Students with Disabilities:** The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your Letter of Accommodation at the beginning of the term, and 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 me to ensure accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally scheduled exam (if applicable)