ASHA 421: "Invention"

Winter 2019
Lectures: Tues/Thurs 9:30-10:45 AM
Location: TI Learning Studio B

Instructors	Office Location	Email
Yuen-ying Carpenter	EEEL 237B	yyscarpe@ucalgary.ca
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Instructor office hours will be typically held jointly by appointment.

COURSE WEBPAGE
This course will be offered in the Desire2Learn (D2L) learning management system, accessible through MyUofC. The course D2L page will be used for posting detailed office hours and assignments, submitting assignments and posting grades.

COURSE DESCRIPTION
Invention stems from collaboration, failure, and persistence. While considering the larger historical context is important, innovators need to also focus on the real-world, local context of the problem at hand. Instead of considering large-scale statistics, innovation requires an understanding of individual people, their attitudes and beliefs, and their everyday interactions with the world around them. From this understanding, inventors generate a wide variety of creative solutions– creating representations and prototypes that can be brought back to the people who may be impacted by those solutions. This course will examine the nature and development of conceptual and technological invention using a practice-based approach.

COURSE LEARNING OBJECTIVES
Students will leave this course able to…
- Ask questions about a design problem to better understand the constraints and assumptions behind it.
- Apply idea generation methods to come up with a quantity and variety of novel ideas on a given prompt.
- Express design ideas to an external audience using diverse representations, including writing, oral presentation, and visual or physical prototypes.
- Describe and represent at least one theoretical model for the design process and apply this to their own inventive experience.
- Support the development of constructive teams and teamwork.
- Give, solicit, and iterate based-on constructive and targeted feedback.
- Describe and appreciate the complex social, cultural, and contextual factors that support or influence invention and design.

ASSIGNMENTS AND EVALUATION
There are 4 major assignments in this course that will be part of the course final grade. These assignments and their weighting towards the final grade are listed below. Detailed descriptions of these assignments, their sub-components and expected performance criteria will be provided in supplemental course materials.

Sub-components evaluated strictly on a completion-basis are indicated by the C/NC designation (complete/not complete).

- **Design Journal** (Individual) – 20%
  Each student will keep a journal throughout the term to visually document their innovation process, sources of inspiration, and reflections. We will provide formative feedback on your design journal twice during the term prior to final submission; part of your journal grade will be C/NC based on submitting a digital scan of your journal on time for formative feedback. We will grade your journal on its overall quality and responsiveness to instructor feedback at the end of the term.
  Due dates for each formative feedback installment are:
      Thursday January 31 at 6 p.m.
      Thursday February 28 at 6 p.m.
  The final submission of your journal is due on Thursday March 28 at 6 p.m.

- **Process & Progress Portfolio** (Individual) – 15%
  The Process & Progress Portfolio is an opportunity to document and reflect on how your innovation skills develop during the course. Throughout the term, we will do in-class hands-on exercises to help you develop different innovation skills or fundamental knowledge (e.g., creative mind-set, prototyping, design communication, critique, innovation infrastructure). Your grade will be partially determined by your participation in in-class activities (C/NC), a midterm consultation with a professor to discuss your in-progress portfolio, as well as your reflections on your skill development in a final portfolio.
      Final Portfolio Due Date: Thursday April 11 at 6 p.m.

- **Innovation Bootcamp** (Individual) – 15%
  Students will participate in a week-long design bootcamp. During this week, we'll challenge students to complete a short, focused design task on-the-spot, sprinting to the "finish line" to share their work.
      Due Date: January 15 & 17 (in class); written reflection due January 21 at 8 a.m.

- **Invention Project** (Small Teams) – 50%
  Over the course of the term, students will form small teams to work on an innovation project. Evaluation for the project will be broken down into 6 components outlined below.
    - Team contract (3%) (C/NC)
        Due Date: February 5 at 11:50 p.m.
    - Problem brief & user research plan (7%) – a statement drafting the direction and scope of the problem your team seeks to solve + a concrete timeline of who and how you'll investigate users experiencing this real-world problem
        Due Date: February 7 at 11:59 pm
    - Pitch (5%) – a 2-minute presentation to the class of your invention problem (C/NC)
        Due Date: March 1 (in class)
    - Interim Critique (10%) – a 10-minute presentation to the class to gain feedback on your invention prototypes v.1.0
        Due Date: March 12 & March 14 (in class)
    - Final Presentation (10%) – a 10-minute presentation to a "panel of experts" on your invention prototypes v.2.0
        Due Date: April 2 & 4 (in class)
    - Final Report (15%) – a 5-page paper describing the details of your invention concept
        Due Date: April 4 at 11:59 pm

There is no registrar scheduled final exam in this course.

Policy for Late Assignments
Assignments submitted after the deadline may be penalized with the loss of 5% per day. Late assignments will not normally be accepted after 5 days past the due date; extenuating circumstances may be accommodated at the instructors' discretion.

GRADING SYSTEM

A+	96-100
A	90-95.99
A -	85-89.99
B+	80-84.99
B	75-79.99
B-	70-74.99
C+	65-69.99
C	60-64.99
C-	55-59.99
D+	53-54.99
D	50-52.99
F	0-49

ADDITIONAL FACULTY AND UNIVERSITY INFORMATION

Freedom of Information and Protection of Privacy Act
This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIP). As one consequence, **students should identify themselves on all written work by using their ID number. Also you will be required to provide a piece of picture identification in order to pick up an assignment or look at a final exam.**
 For more information see also http://www.ucalgary.ca/secretariat/privacy**.**

Academic Honesty
Cheating or plagiarism on any assignment or examination is regarded as an extremely serious academic office, the penalty for which may be an F on the assignment, an F in the course, academic probation, or requirement to withdraw from the University. See the relevant sections on 'Academic Misconduct' in the current University Calendar. Intellectual honesty requires that your work include adequate referencing to sources. Plagiarism occurs when you do not acknowledge or correctly reference your sources. If you have questions about correct referencing, consult your instructor.

Academic Accommodation

Students seeking an accommodation based on disability or medical concerns should contact Student Accessibility Services. SAS will process the request and issue letters of accommodation to instructors. For more information on support services and accommodations for students with disabilities, visit http://www.ucalgary.ca/access/ Students who require accommodation in relation to their coursework based on a protected ground other than disability should communicate this need in writing to their instructor. The full policy on student accommodations is available at http://www.ucalgary.ca/policies/files/policies/student- accommodation-policy_0.pdf

D2L Help

Desire2Learn is UCalgary's online learning management system. Important information and communications about this course may be posted on D2L. Go to http://www.ucalgary.ca/it/services/d2l for help.

General Academic Concerns and Program Planning

Have a question but not sure where to start? The Arts Students Centre is your information resource for everything in the Faculty of Arts. Drop in at SS102, call 403-220-3580, or email ascarts@ucalgary.ca . Advisors in the ASC can also provide assistance and advice in planning your program through to graduation. Visit the Faculty of Arts website at https://arts.ucalgary.ca/undergraduate for detailed information on common academic concerns

Internet and Electronic Communication Device Information

The instructor reserves the right to establish course policies regarding the use of devices such as laptops, tablets, and phones. If allowed, these devices must be used exclusively for instructional purposes and must not cause disruption to the instructor or to fellow students. Cell phones should be set to silent mode during lectures. Audio or video recording of lectures is not permitted without the written permission of the instructor. Students violating this policy are subject to discipline under the University of Calgary's Non-Academic Misconduct policy.

Emergency Evacuation

In case of an emergency evacuation during class, students must gather at the designated assembly point nearest to the classroom. The list of assembly points is found at http://www.ucalgary.ca/emergencyplan/assemblypoints . Please check this website and note the nearest assembly point for this course.

Other Helpful Contacts

- Safewalk and Campus Security: 403-220-5333.
- Faculty of Arts Student Representatives: arts1@su.ucalgary.ca , arts2@su.ucalgary.ca, arts3@su.ucalgary.ca, arts4@su.ucalgary.ca
- Faculty of Science Student Representatives: science1@su.ucalgary.ca, science2@su.ucalgary.ca, science3@su.ucalgary.ca
- Student Ombudsperson: http://www.ucalgary.ca/provost/students/ombuds
- Wellness Centre: https://www.ucalgary.ca/wellnesscentre/
- Campus Mental Health Strategy: https://www.ucalgary.ca/mentalhealth/