Course Information and Instructor’s Expectations

Course Description:
This class is an introduction to a variety of creativity and idea generation tools with an emphasis on innovative product concept development. During lecture weeks, students learn a toolset and apply it to an ongoing project. Work is documented on a blog and in a notebook. This class is required for the product design minor.

Every other week, students will be visiting, touring and participating in creative activities with companies in the Twin Cities. For these site visits, students will meet at the location to engage in a real world activity related to the material discussed in class. For off-site visits, students are expected to be on location at 2:45 and will leave the site at 5:00 to allow time for travel. Students must find their own means of transportation.

Each group of 6-7 students will be assigned a volunteer creativity counselor. The role of this counselor is to provide feedback on the individual work presented in your online homework blog submissions. These counselors are either former students and/or industry representatives.
Student Learning Outcomes following course completion: 

- Identifying, defining, and solving problems
- Understanding the role of creativity, innovation, discovery, and expression across disciplines

This course focuses heavily on two of the approved student learning outcomes:

- Identifying, defining, and solving problems
- Understanding the role of creativity, innovation, discovery, and expression across disciplines

Students will practice a variety of idea generation tools that are used in both engineering and design.

Required and Recommended Materials:

**Required Readings**


**Required Materials**

- Design notebook
- Access to a digital camera or smart phone

**Recommended Readings**


**Attendance:**

Class participation grades are based on both attendance and quality of in-class activity. As there are only 7 lectures in this class, attendance for these 7 lectures is mandatory. Tardiness will also count against the participation grade. One missed lecture will result in a full letter grade deduction and two missed lectures will be considered an incomplete. Only in certain circumstances as described in the UMN Policies will an absence or tardy not affect the grade. Here are some things that do not constitute an excused absence: going to hear a talk, attending an event for another class, job interviews, having a headache. If you are ill, please submit a doctor’s note so I do not count this against you.

**Workload:**

This is a 3-credit class and so students are expected to spend 9 hours each week outside of class time working on assignments. Each of the 7 assignments will span two weeks and so students are expected to put 18 hours of work into each assignment. This time is to be spent physically doing the assignment, documenting your processes and results in your blog, and later doing peer reviewers for several other classmates.
Accepting and Returning Assignments:
Assignments are given at the end of lecture on Thursdays and the assignment will be due as a blog post at midnight on Wednesday of the following week. That Thursday (before midnight) your creativity counselors will provide brief comments on your blog post for improvement. You will then have until Monday at midnight to make any changes or additions suggested by your creativity counselors.

Each week students will review a set of three other blog assignments. The reviews are submitted as blog comments due at midnight on the Wednesday following the final Monday blog submission.

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<th>Week n+1</th>
<th>Mon</th>
<th>Tues</th>
<th>Wed</th>
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<th>Sat</th>
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<tr>
<td>Week n+1</td>
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<td>Assignment Due by Blog at Midnight</td>
<td>Site Visit / Creativity Counselors provide feedback online as comments</td>
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<td>Week n+2</td>
<td>Updated Blog by Midnight</td>
<td>Peer reviews Due by Midnight</td>
<td>Lecture / Results of Assignment Discussed at the End of Lecture</td>
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Grades will be returned the Thursday after assignments are submitted. The TAs will do the official grading on these blog posts based on a grading rubric that we will share with you when the assignments are revealed. Counselors will provide the feedback on the content.

Late assignments will receive a letter grade deduction for every day late. Late peer reviews will not be graded. Every blog post must be formatted correctly to allow your peers and instructors to find it. To minimize grading confusion we will ask you to clearly note in the blog post where you are addressing each component of the rubric for that week.

Make Up Work for Legitimate Absences:
Students will have an extra week to complete assignments missed from legitimate absences.

http://www.policy.umn.edu/Policies/Education/Education/MAKEUPWORK.html

Grading Structure:

Students keep an idea notebook to develop concepts for the weekly assignments. The assignments are also presented digitally on a blog. The notebook should be used to document ideas, collect data, sketch, organize materials and the blog should be used to present the highlights of the assignments. The blog submissions will be peer reviewed weekly in the form of blog comments.

There are 7 assignments that are equally weighted. The assignments will build on each other and are all based on an overarching project theme. Assignments and reviews are evaluated on a combination of quality and presentation. Every few weeks there will be an online creativity test. Students will receive credit if they do these tests on time. There are only 7 lectures in this class, attendance for these 7 lectures is mandatory. One missed lecture will result in a letter grade deduction and two missed lectures will be considered an incomplete. Excused absences, however, will not affect your grade (see policy section). Tardiness will affect your class participation grade. No extra credit options.

70% - Blog Assignments (the final exam/presentation is part of the last assignment)
10% - Class Participation
15% - Peer Reviews
5% - Creativity Test Participation

http://policy.umn.edu/Policies/Education/Education/GRADINGTRANSCRIPTS.html
Schedule and Assignments:

**Week 1 – Thursday September 10**
Theories of Creativity and Innovation:
An introduction to different theories of creativity explained through a variety of creativity tests.
Overview of class format, assignments and logistics.
**Assignment** –
1) Get a design notebook.
2) Blog Entry 1: Creative Experimentation
3) Begin *A Whole New Mind* and read *The Creativity Crisis*

**Week 2 – Thursday September 17 (SITE VISIT: General Mills)**

**Week 3 - Thursday September 24**
Play, Humor and Improvisation:
An introduction to improvisational thinking, play and humor in design, and association based ideation.
**Assignment** –
1) Blog Entry 2: Mind Maps and Humorous Products

**Week 4 - Thursday October 1 (SITE VISIT: HUGE Improv Theatre)**

**Week 5 – Thursday October 8**
Understanding the Customer: An introduction to problem finding, observation and ethnography
**Assignment** –
1) Blog Entry 3: Bug Lists and Observation Study
2) Read *Design of Everyday Things*
3) Optional Reading *The Art of Innovation* Chapter 3-4, *Innovator’s Toolkit* Technique 4, 6, 7, 14, 15, 18, 19, 21, 22, 27, *Cracking Creativity* Part 2 Strat. 9

**Week 6 - Thursday October 15 (SITE VISIT: Target Headquarters)**

**Week 7 – Thursday October 22**
Blue Sky Idea Generation Methods:
Practicing collaborative free form idea generation techniques, brainstorming, brainwriting, KJ method
**Assignment** –
1) Blog Entry 4: Host a Brainstorming

**Week 8 - Thursday October 29 (SITE VISIT: Worrell OR Kablooe OR Logic)**

**Week 9 - Thursday November 5**
Ideation Tools for Manipulating Concepts:
Practicing structured ideation tools including morphological analysis, SCAMPER, and TRIZ
**Assignment** –
1) Blog Entry 5: Manipulating Ideas
2) Procure prototyping materials
3) Optional Reading *Innovator’s Toolkit* Techniques 15, 16, 17, 23, 26, 33

**Week 10 – Thursday November 12 (SITE VISIT: Stratasys)**

**Week 11 - Thursday November 19**
Preliminary Idea Evaluation Tools and Intellectual Property:
Evaluating ideas based on feasibility calculations, sketch modeling, benchmarking, patent searching, and user feedback
**Assignment** –
Week 12 – Thursday December 3 (SITE VISIT: 3M Innovation Center)

Week 13 – Thursday December 10
Concept Selection Methods:
Tools for evaluation and deciding between ideas including: multi-voting, Pugh charts, House of Quality, Six Thinking Hats. Techniques for pitching ideas will also be discussed. Class Review.
Assignment -
1) Blog Entry 7: Decision process for idea selection, Elevator Pitch Video (due Dec 9 at noon)
2) Peer Review of Elevator Pitches
3) Optional Reading Innovator’s Toolkit Techniques 29, 35, 36

University Policies

Release of Work Statement:
Students understand that enrollment in this course grants consent for their work to be selected for inclusion in college or departmental publications (online or in print). Your instructor may select to use your work to represent her/his skills as an instructor in a teaching portfolio (online or in print).

Personal Electronic Devices in Classroom:
PEDs are not permitted in lecture.
http://policy.umn.edu/Policies/Education/Education/CLASSROOMPED.html

Use of Class Notes and Materials:
It is not permitted to profit off of the lecture notes from this class. If you want to reference slides or notes, please give credit to the course instructor and the University of Minnesota.
http://policy.umn.edu/Policies/Education/Education/CLASSNOTESSTUDENTS.html

Scholastic Dishonesty and Student Conduct Code:
http://www1.umn.edu/regents/policies/academic/Student_Conduct_Code.pdf

Sexual Harassment:
http://www1.umn.edu/regents/policies/humanresources/SexHarassment.pdf

Statement on Climate of Inclusivity:
You are expected to be attentive during class, ask questions if you do not understand something, and to offer your opinion. You are also expected to listen respectfully to other students and to me when speaking. The University of Minnesota is committed to providing a safe climate for all students, faculty, and staff. All persons shall have equal access to its programs and facilities without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation. Racism, sexism, homophobia, classism, ageism and other forms of bigotry are inappropriate to express in this class. Reports of harassment are taken seriously, and there are individuals and offices available for help.
(or refer to http://www1.umn.edu/regents/policies/administrative/Equity_Diversity EO AA.pdf)
Academic Freedom and Responsibility:
http://www1.umn.edu/regents/policies/academic/Academic_Freedom.pdf

Availability of Disability and Mental Health Services:

The University of Minnesota is committed to providing all students equal access to learning opportunities. Disability Services (DS) is the campus office that works with students who have disabilities to provide and/or arrange reasonable accommodations.

- Students who have, or think they may have, a disability (e.g. mental health, attentional, learning, vision, hearing, physical or systemic), are invited to contact DS to arrange a confidential discussion at 612-626-1333 (V/TTY) or ds@umn.edu.
- Students registered with DS, who have a letter requesting accommodations, are encouraged to contact the instructor early in the semester to discuss accommodations outlined in their letter.

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce your ability to participate in daily activities. University of Minnesota services are available to assist you with addressing these and other concerns you may be experiencing. You can learn more about the broad range of confidential mental health services available on campus via www.mentalhealth.umn.edu or contact Counseling/Consulting Services at 612-624-3323.

Academic Services:

If you would like additional help, please contact one of the offices listed below.

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<tr>
<td>Center for Writing</td>
<td>10 Nicholson Hall, Mpls</td>
<td>612-626-7579</td>
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<tr>
<td>Student Academic Success Service</td>
<td>340 Appleby Hall, Mpls</td>
<td>612-624-3323</td>
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<td>199 Coffey Hall, St. Paul</td>
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