4.051  THE HUMAN FACTOR IN INNOVATION AND DESIGN STRATEGY

SYLLABUS

| Course Information | Course Year: Fall 2018 – Design Minor  
Course Type: Lecture  
Credit Hours: 3-3-6 U  
Schedule: Friday 9:00-12:00 AM  
Optional Weekly Lab Tuesday 7:00-9:00 PM 
Location: 5-233  
Prerequisites/Co-requisites (if any): None |
|-------------------|--------------------------------------------------|
| Instructor Information | Instructor Name: Lee Moreau 
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| Teaching Assistant | TA Name: Angeline Claire Jacques 
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TA Phone Number: 603-459-5461 |
### Course Description

**Using Human-Centered Design to Impact the World.**

The Human Factor in Innovation and Design Strategy will expose students to the core methodologies used in human-centered design with a focus on understanding how it can be applied to solve real-world challenges. In the course, students will hear leading design practitioners, thinkers, and business leaders explain how they approach design challenges, and how design brings value to human experiences and to the contemporary marketplace.

The whole point of human-centered design is to tame complexity, to turn what would appear to be a complicated tool into one that fits the task, that is understandable, usable, enjoyable. – Don Norman

Design research both inspires imagination and informs intuition through a variety of methods with related intents: to expose patterns underlying the rich reality of people’s behaviors and experiences, to explore reactions to probes and prototypes, and to shed light on the unknown through iterative hypothesis and experiment. – Jane Fulton Suri

Get closer than ever to your customers. So close that you tell them what they need well before they realize it themselves. – Steve Jobs

Human-centered design has been practiced for decades, but its design research methods have only recently become refined and codified by thought leaders and scholars (Donald A. Norman, Jane Fulton-Suri, Roger Martin), design innovation practices (IDEO, Continuum, and Frog) and within academic institutions (Rotman School of Management, the IIT Institute of Design, and Stanford's d.school). Compared to most artistic and design practices, this is relatively new creative territory…and its rules are still being written.

This course will serve as an introduction to human-centered design through both its theory and its practice. The course will meet once per week in a single 3-hour session. One half of each class will feature a lecture presentation by the instructor or an inspirational guest speaker. A typical lecture will include a brief introduction by the instructor to help provide context, a 30-45 minute presentation by the guest speaker, followed by a moderated discussion between the guest and the students. The other half of each class will be a group working session intended to introduce human-centered design methods, present case studies, review weekly assignments, and allow for critique with the instructor(s).

**Inspiration and provocation.**

The course’s four multi-week assignments are meant to provide students with an opportunity to experience the primary aspects of the human-centered design process first hand, engaging from the early stages of in-context qualitative research, through envisioning, to iteratively prototyping and testing new experiences.

**Design Problems**

Exercise 1: Building Empathy (Human Understanding) – 2 weeks  
Exercise 2: Analyzing Field Research – 2 weeks  
Exercise 3: Envisioning Experiences – 3 weeks  
Exercise 4: Prototyping to Learn – 3-4 weeks

To succeed in this course, students will need to demonstrate the curiosity, persistence, and craft necessary to engage in human-centered design. Students will frequently be asked to work in teams of 2-4 people, therefore effective collaboration and team work will be necessary to fulfill the course requirements.
### Evaluation Criteria

**Requirements**

The readings are highly recommended, but not required. Each student is expected to attend all lectures and spend approximately 6 hours per week on assignments and projects outside of class.

**Grading Criteria**

- Attendance for all lectures is mandatory.
- Most of the assignments in this course will be iterative in nature. Students will be expected to take risks, attempt new things, work in new ways, and play out a number of scenarios before arriving at the optimal solution. The design process takes work.
- You are expected to present substantial new work at each class. Make progress every week.
- The design process is progressive in nature. Late work is not acceptable and will affect grading.

Students will be graded on originality of concept, quality of design work, clarity of communication, participation in class activities and lecture discussions, improvement during the course, ability to work as a team, and helpfulness to other students in class.

For students, the final grade is based on:

- 30% Class Attendance and Participation (Showing up and contributing to the course’s positive chemistry.)
- 30% Communication of Concepts and Ideas (Clarity of thought and communication.)
- 20% Conceptualization and Execution of Design (Great ideas rendered beautifully.)
- 20% Teamwork and Collaboration (Working well with others.)

Note: For assignments or projects requiring teamwork, each student will be graded individually based on their performance.
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Course Schedule:

The course is assumed to be based upon a 14-week semester and breaks down as follows. Each exercise identifies its particular meeting schedule and work requirements:

Week 1  Introductory Lecture: Understanding Human-Centered Design
Friday 9/07
   Readings:

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Week 2  Lecture 1: Empathize
Friday 9/14
   Readings:
   • Fulton Suri, Jane and IDEO. The Little Book of Design Research Ethics. Boston, IDEO, 2016
   • Patnaik, Dev. Wired to Care: How Companies Prosper When They Create Widespread Empathy. FT Press, 2009.

Assign Exercise 1: Building Empathy (Human Understanding) – 2 weeks
Assignment Deadline: Week 4

Work Session

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Week 3  NO CLASS – STUDENT HOLIDAY
Friday 9/21
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Week 4
Friday 9/28
Lecture 2: Analyze
Readings:
- Stickdorn, Marc. This is Service Design Thinking: Basics, Tools, Cases. Wiley, 2012.

Group Critique: Exercise 1: Building Empathy (Human Understanding)

Week 5
Friday 10/0
Guest Lecture: TBD Ethnographic Research
Readings:
- IDEO.org. The Field Guide to Human-Centered Design
- Govindarajan, Vijay and Trimble, Chris. Reverse Innovation: Create Far From Home, Win Everywhere
- Patnaik, Dev. Wired to Care: How Companies Prosper When They Create Widespread Empathy

Assign Exercise 2: Analyzing Field Research – 2 weeks
Assignment Deadline: Week 7

Week 6
Friday 10/12
Guest Lecture: TBD Service and Systems Design
Readings:

Work Session

Week 7
Friday 10/19
Lecture 3: Envision
Readings:
- Philips Design Probes: https://www.90yearsofdesign.philips.com/article/67
- Fisher-Price: The Future of Parenting: https://youtu.be/2BPIdRZ_F5Y
- Corning: A Day Made of Glass 2: https://youtu.be/iZkHpNnXLB0
- IDEO Automobility: https://youtu.be/hqbsL825U7c

Group Critique: Exercise 2: Analyzing Field Research
Week 8
Friday 10/26 (Continuum)

Lecture 4: Prototype

Readings:

Tour of Continuum’s studio in Boston

Assign Exercise 3: Envisioning Experiences – 2 weeks
Assignment Deadline: Week 10

Week 9
Friday 11/02

Guest Lecture: TBD Product Design

Readings:

Work Session

Week 10
Friday 11/09

Guest Lecture: TBD Experience Design

Readings:

Group Critique: Exercise 3: Envisioning Experiences

Week 11
Friday 11/16

Lecture 5: Test

Readings:

Assign Exercise 4: Prototyping to Learn – 3-4 weeks
Assignment Deadline: Final Exam – Date TBD
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Week 12
NO CLASS – THANKSGIVING RECESS
Friday 11/23

Week 13
Guest Lecture: TBD Theatrical Prototyping
Friday 11/30
Readings:

Work Session

Week 14
Guest Lecture: TBD Making It Real
Friday 12/07
Readings:

Work Session

Date TBD
FINAL EXAM
12/17 – 12/21
Final Presentation: Exercise 4: Prototyping to Learn

Additional Readings:
- https://www.90yearsofdesign.philips.com
- Weinschenk, Susan M. 100 Things Every Designer Needs to Know About People. New Riders, 2011.