DESIGN THINKING
Human-Centered Approaches to Making the World

Course       U44 BUS 290  
Term         Spring 2016  
Day          Tuesday  
Time         6:00 – 8:30 PM  
Room         Eads 016 (Active Learning Classroom or “ALC”)  
Instructor   Nathan Lucy  
Email        nathanlucy@wustl.edu  
Office Hours Encouraged. By appointment. Preferred on class days.

Course Description
This course introduces design thinking: a process of identifying, creating, and implementing solutions. Students learn methods and work in teams to apply these methods to a locally relevant problem. Methodologies drawn from anthropology, business, design, and engineering enable students to discover users’ needs; synthesize complex information; identify directives for design; generate ideas; and prototype, test, and communicate solutions. Additionally, students explore the role of design thinking in business, education, and social change through readings, case studies, lectures, guest speakers, discussion, and written exercises. No previous experience in design is required.

Objectives & Outcomes
The objective for this course is to expose students to design thinking as a process for approaching problems and generating opportunities. This is course is primarily based in process. Students will be asked to reflect on their creative processes, their methods, and their perceptions of engaging in a team design thinking challenge.

Design thinking is scalable and can be applied incrementally to improve existing ideas (such as how a service is delivered or how a product performs for the user) or it can be applied radically to create disruptive solutions that meet the needs of people in entirely new ways.

– Tim Brown (Why Social Innovators Need Design Thinking, 2011)
Principles of design thinking include:

- “doing rather than thinking”: a bias towards action
- failing forward fast through low resolution-prototyping
- people-focused: lead with the user
- iterative approach
- collaborating across disciplines
- ideas are not precious; there is no right answer

Design thinking is not one process, but a collection of approaches and methods that are used to solve "wicked problems." Students will be exposed to a variety of tools, techniques, and approaches that can be applied through the design thinking process:

- Research
- Synthesis
- Ideation
- Prototyping
- Evaluation

**Method & Organization**

This course will use an experiential approach, where students will apply the course content (i.e., the techniques, approaches, and skills covered through lectures, reading, and discussion) to a real world project which the class will approach as a studio team. Students will be expected to contribute to the project through individual assignments and team activities.

A successful student will demonstrate application of the course content, a willingness to push themselves and their creative boundaries, an inquisitive approach, and a participatory and collaborative mindset.

Each day, we will begin with a brief lecture or presentation. The second half of class will be spent introducing the next step in the project, and working as a large group, in small groups, or independently on a specific element of the project. This course will involve meeting with individuals outside of the course, traveling on some field trips, and sharing work with reviewers and receiving feedback.
Assignments, Media, and Course Schedule

- Detailed assignments, media, and course schedule are available [here](#).
- Schedule will be periodically updated. Please review regularly for updates.
- Upload your completed individual and team assignments to Blackboard before class unless instructed otherwise.
- Media includes readings as well as audio and visual content.
- Reading/viewing/listening to media assignments is required for informed participation in class discussions.

Project

The entire class will be based around a single project, selected by the instructor. See the project description sheet [here](#).

Supplies

In class you will need:
- Architect cardboard tube (don’t buy just yet)
- Butcher paper at least 30 inches wide
- Masking/painters tape
- [Super Sticky Post-It Notes](#)
- [Sharpies](#)

Team Expectations

For the course project, you will work with a team, assigned by the faculty. Within your team, it is recommended that you establish expectations, norms, roles, and tools. A share calendar may be beneficial, or a texting service such as GroupMe. Your whole team does not need to participate in every activity, but all team members are expected to contribute to the project. Peer evaluations will be included in the final grades.

If you experience any challenges with your team or teamwork, please reach out to the faculty for support and guidance.
Grading

Students will be graded on three main areas: assignments, project work, and participation. All assignments will be completed independently. Students will complete most project work independently, except the final report and presentation.

Grading Standards

A  Exemplary work, which is attended with initiative beyond the description of the stated problem. Work which makes evident a significant understanding of the problem, shows competence in the required skills, and exhibits a conceptual clarity and depth. Is attended by an attitude of exploration, of open-mindedness, and a willingness to benefit from criticism.

B  Some exemplary work which shows an understanding of the problem, displays a conceptual foundation and is well crafted. Shows competence and mastery of skills. Is attended with an open and inquisitive attitude.

C  Adequate work which meets the minimum requirements of the problem and course. Shows an understanding of the problem while acknowledging some deficiencies. Shows a reasonable mastery of skills and concepts. This grade is seen to represent the average solution and therefore will be the most prevalent.

D  Work, which although complete, does not show an understanding of the problem, and demonstrates deficiencies in the mastery of skills. This work can often be attended with a belligerent or close-minded attitude particularly with respect to criticism and self-motivation.

F  Failing work which does not meet the requirements of the problem or course, shows a serious deficiency in the mastery of skills.

Grade Breakdown

Individual Assignments  25%
- Design Examples
- Mind Map
- MBTI
- Secondary Research (A)
- Secondary Research (B)
- Research Debrief
- Framework
- Idea Generation
- Insights

Team Project Work 50%
- Research Plan
- Research Report
- Synthesis Report
- Directives
- Prototypes
- Prototyping & User Feedback Report
- Final Presentation
- Final Report

Reflections 15%
- Research
- Synthesis
- Prototyping
- Entire process

Participation 10%

Attendance
More than one unexcused absence will result in a penalty of half a letter grade, because participation in the design process requires your presence.

Incomplete Assignments
No incomplete will be considered unless warranted by external circumstances.

Late Assignments
Assignments are due at the beginning of class on the date listed. Late assignments will be penalized by no less than one letter grade per day the assignment is late.
Credit/No Credit

Students choosing the Credit/No Credit option must complete all assignments. Credit will be given to those who earn a grade of A, B, or C. No credit will be given to those who earn a D or fail.

Academic Integrity

Design is a process of remixing and borrowing, so it is understood that not all your ideas and images will be original. Citation of all references is expected throughout your design process. I expect your good faith efforts to represent your ideas as your own and your sources’ ideas as their own. This course follows the Undergraduate Student Academic Integrity Policy.

Resources

Disability Resources

Students with disabilities are encouraged to register for resources here. Students who would like me to discuss how a particular disability might affect their participation in this course are also encouraged to contact me.

Tools

The following tools and resources are recommended but not required:

- Laptop computer (for use during group work times, not lecture or discussion)
- Mobile device with video capability
- Visualization software
  - Adobe Creative Cloud - Illustrator, Photoshop, Indesign…
  - OmniGraffle - standalone software for Mac and iOS if you don’t want to pay the subscription to Adobe CC
  - Microsoft Office - PowerPoint or Word, with some creativity and finagling, can be used to complete exercises.
  - Apple iWork - Keynote or Pages, same as Microsoft Office.
- Video editing software
  - Avoid online editing tools. Video files are big, and the Internet’s approach to handling big files is "slowly".
• iMovie and Movie Maker - Good free video editing software (Mac and PC, respectively)
• Final Cut Pro X - Intuitive professional video editing software (Mac)
• Adobe Premiere Pro - Less intuitive, more powerful video editing software (Mac and PC)

• Group communication tools
  • Slack - Free team communication tool that integrates with most other tools. It’s the best.
  • Doodle - Scheduling and polling
  • Google Drive - Cloud-based document creation, sharing, and editing.
  • Dropbox - File syncing service that supports comments and editing Microsoft Office documents.
  • Murally - Remote brainstorming tool
  • BoardThing - Remote brainstorming tool
  • Asana - Project management and communication tool. You can both assign tasks and communicate re: those tasks with your team.
  • Hackpad - A fun alternative to Google Documents that supports task lists and collaborative editing
  • Trello - Combine board for project management

• Digital prototyping tools
  • http://prototypingtools.co/
  • https://medium.com/in-beta/you-can-build-your-prototype-faster-than-you-think-20c76da36f23#.9kq268g5k
  • https://askwonder.com/q/the-prototyping-stack-557239c13dcda4201a12ada9
  • popapp.io