

DESIGN THINKING

51601
FALL 2015

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ROOM 107

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A survey of what differentiates the practice of design, including the habits of mind of designers, from related fields such as craft, art, engineering, story-telling. This course explores the history of design's relatively recent emergence as a field of professional expertise and then a discipline in the university. It examines through a series of practical experiences the contested terrain of 'design thinking' that extends from the adoption of design processes by non-designers to the deployment of designers on strategic challenges not normally framed as design problems. The course focuses on an account of the power of prototyping. Through the course students will have clear ways of talking about the value of design-based innovation, and default techniques for leading design-based problem-solving workshops.

To design is to devise courses of action aimed at changing existing situations into preferred ones.

—Herbert Simon, Sciences of the Artificial

Let us search, instead, for an epistemology of practice implicit in the artistic, intuitive processes which some practitioners do bring to situations of uncertainty, instability, uniqueness and value conflict.

—Donald Schön, The Reflective Practitioner

COURSE STRUCTURE

This course has several goals, which are:

- to provide an introduction to the body of design literature
- to help you to understand past and current discourse in design thinking
- to give you opportunities to discuss design at a high level
- to provide opportunities to create critically aware, designed responses to these ideas

Throughout the semester we will read (a lot), discuss and debate the ideas presented. We will seek out new ways of approaching design as a process, a method, and a way of understanding. Through reading, discussing, and producing responses, we will help each other to gain a better understanding of these ideas and theories of design.

This is a seminar course. Therefore, your presence is required and I expect your full participation in class activities: completing the assigned readings, and attending class prepared with lucid comments. A typical session may include hearing a short lecture and

having a discussion, reviewing relevant papers, collectively creating summaries of ideas, collectively developing other artifacts of understanding. Expect to spend at least six to nine hours outside of class per week working on projects and conducting readings; this will vary depending on your reading comprehension and work habits.

PROJECTS

Four substantial projects form the framework of the semester. These will be similar in duration, but vary in content, and complexity. I will provide you with a description, goals, deliverable specifications, and milestone dates for each project. Note, failure to work within these constraints will affect the grade you receive. When possible, I will show you examples of relevant work throughout the semester. If you see something that interests you be sure to jot down the reference information and share your findings with the class.

READINGS

There is no single, required text for the course. However, I will hand out or point you to articles and chapters that I will require you to read and comment on throughout the term. Note, the last page of the syllabus includes a list of relevant titles, from which we will read excerpts. Both I and the CMU Library have all of these texts if you'd like to see the material books.

CRITIQUES/DISCUSSIONS/EXERCISES

Group activities (especially discussion) are particularly important components of this seminar course. They help you verbalize your thoughts, learn a new vocabulary, and, most importantly, develop the ability to maturely give and accept criticism. Your contributions are vital to the success of the activities and will be expected. Please feel welcomed and ensure you are prepared to jump into the conversation.

LECTURES/PRESENTATIONS

From time to time you, your classmates, and I will present information to the group. As a courtesy to the rest of the class, please turn off or silence all mobile devices, including cell phones and laptops and pay full attention to the speaker. When we're in the midst of a lecture, presentation, or critique please leave your laptop closed.

COURSE EXPECTATIONS

DOCUMENT ALL READINGS

Actively take notes on all readings throughout the semester. Once you have read a piece, spend a few minutes summarizing the content. I will provide a framework for preparing your summaries. This summary will not only help you to understand the content, but also provides an opportunity for you to crystallize your views on the ideas presented.

All your readings for the coming week should be completed, notated and summarized before the first class session of a given week.

SUBMIT YOUR PROJECTS

Digital versions of your final pieces are to be placed in an online folder (I will send you a link to the location.) **prior to the start of class on the due date.** Deliverables should be submitted in .pdf format (do not include crop marks) and digital projects in either .html .mov or .swf format, depending on the project. The files should be identified by your last/ first name—ex: Mages_Michael-Project_1.pdf—or placed in a folder identified by your last/ first name if you are submitting multiple files. Please test files on another computer to make sure the files function properly.

ATTEND CLASS

Absences are frowned upon, but understanding that unforeseen circumstances will occur, I'll overlook two absences. Three or more absences will drop your final grade; five absences will earn you a failing grade. Please schedule doctor's (and other) appointments for times other than class sessions. Be punctual, arriving just before 10:00 am, so we can

start on time. If you are ten minutes late you will be marked as absent. In the event that you can't be in class, please send me a message via email.

COMMUNICATE WITH ME

If you have questions outside of class please e-mail me. I will respond to you as soon as possible. Keep in mind, I don't check e-mail late in the evenings and during the weekends. The questions and comments I receive from students are often relevant to the entire class. Therefore, I frequently use e-mail as a means of distributing pertinent project information to all of you. Please check email often so that you are not left out of the loop.

DON'T PLAGIARIZE

Plagiarism is regarded by the university and the School of Design as a serious academic offense. Depending on the content and context of the offense, and at the recommendation of the course instructor, the penalty shall be either failure of the assignment or failure of the courses. There's more information online at www.cmu.edu/policies/documents/Cheating.html. Here's the gist of what it says: Plagiarism includes but is not limited to, failure to indicate the source with quotation marks or footnotes where appropriate if any of the following are reproduced in the work submitted by a student: 1. a phrase, written or musical; 2. a graphic element; 3. a proof; 4. specific language; 5. an idea derived from the work, published or unpublished, of another person. Also note, **you may not audio record, tape or video record any classroom activity** without my express written consent. Please contact the Office of Disability Resources to request an appropriate accommodation if warranted.

EVALUATION + GRADING

All projects will be critiqued both in progress and in final form. I will also give you written feedback on your performance throughout the course and grades at mid-term and at the end of the semester. I've included a learning and grading rubric below to guide you through the semester and help you understand how I will determine your grades. Note, it's critical for you to excel in ALL of the areas listed. For example, producing a stellar final product void of a cohesive developmental process and consistent participation in class activities indicates that you have not mastered the course objectives.

Each project brief will include goals that dive into facets of the course objectives. Keep in mind that project goals also work in accord. Thus, doing a few well and a few poorly indicates that you may not grasp how all the components relate and work together to create effective communication.

If at any point you'd like additional feedback on your performance please don't hesitate to request it.

TEXTS AND SUPPLIES

REQUIRED TEXTS

All required readings will be provided in PDF form through CMU Cloud storage (box.com)

GRADING

Grades for the semester will be calculated as follows:

Projects = 100 possible points each project (4)

Exercises = 20 points possible each exercise (1-5)

Progress/participation = 10 points for each progress or participation check (daily)

Final grades will be based on the standard scale (below), a calculated percent of total possible points for the semester.

GRADE	POINTS PERCENTAGE
A	OVER 92.5%
A-	90 – 92.499%
B+	87.5 – 89.999%
B	82.5 – 87.499%
B-	80 – 82.499%
C+	77.5 – 79.999%
C	72.5 – 77.499%
C-	70 – 72.499%
D	60 – 69.999%
F	UNDER 60%

CANVAS AND EMAIL

All communication through email will take place exclusively using the university email system. I plan to use the Box.com system to post grades, make announcements, post the syllabus and to conduct class discussions.

COURSE PLAN

Week	Dates	Monday	Wednesday
1	8/31	9/2	Course Intro, What do we mean when we say Design Thinking? Signs
2	9/7	9/9	no class Who decides what gets made?
3	9/14	9/16	Modernism and its Devotees What it means to be post-modern
4	9/21	9/23	Taste and Style Mapping Share our Text/Photo Exercise in class
5	9/28	9/30	Cybernetics and Design Guest: Paul Pangaro
6	10/5	10/7	Designing Interactions Affordances and Patterns
7	10/12	10/14	Artifice and Design Mapping Pre-evaluation
8	10/19	10/21	Share our Mapping Exercise in Class Rhetorical Approaches to Design
9	10/26	10/28	Visual Thinking
10	11/2	11/4	Sketching
11	11/9	11/11	What things know
12	11/16	11/18	Material Backstories Device ecologies
13	11/23	11/25	Practices no class
14	11/30	12/2	Designer as Expert
15	12/7	12/9	Service Design

READINGS

Week	Read before	Readings
1	8/31	Victor Margolin - Design Discourse (Introduction only) Ferdinand de Saussure - Course in General Linguistics
2	9/7	Marx, Karl - The Ruling Class and the Ruling Ideas Loos, Adolf - Ornament and Crime
3	9/14	Gropius, Walter - Bauhaus Manifesto Morris, William - Aims in Founding the Kelmscott Press Venturi & Brown - Learning from Las Vegas
4	9/21	Reiner Banham Loves LA (https://vimeo.com/22488225) Cameron Tonkinwise, A Taste for Practices: Unrepressing Style in Design Thinking Jeff Conklin - Dialog Mapping: Building Shared Understanding of Wicked Problems
5	9/28	Ranulph Glanville - Try again. Fail again. Fail better: the cybernetics in design and the design in cybernetics Paul Pangaro. et al - Notes on the Role of Leadership & Language in Regenerating Organizations.
6	10/5	Donald Norman - The Design of Everyday Things (2013) Donald Norman - The Design of Future Things (2007) Donald Norman - Living with Complexity
7	10/12	Herbert Simon - The Sciences of the Artificial
8	10/19	Gui Bonsiepe - Visual/Verbal Rhetoric
9	10/26	Gunther Kress & Theo van Leeuwen - Reading Images John Chris Jones - Design Methods
10	11/2	Gabriela Goldschmidt - Serial Sketching: Visual Problem Solving in Designing
11	11/9	Bruno Latour - Where are the Missing Masses?
12	11/16	Christopher Alexander - Notes on the Synthesis of Form
13	11/23	Elizabeth Shove - Comfort, Cleanliness and Convenience
14	11/30	Bryan Lawson & Kees Dorst - Design Expertise (2013) Donald Schon, The Reflective Practitioner

Readings may be added or removed as needed. Books listed will be excerpted.

ISSUES

Design scholarship and studio practice, along with design teaching and learning, are complex endeavors. They involve the critical exploration of ideas, theories, design practices, and art and design movements, and encompass such things as the human body, sexuality, race, gender, ethnicity, politics, strong languages, religions, and cultures. This course may cover one or more of the above categories and each student will be required to be an active participant in all course assignments, discussions, and tests. Given this information, it is the student's obligation to determine whether the course content and requirements conflict with the student's core beliefs. If a student determines that there is a conflict with his or her core beliefs, one of the following actions must be taken prior to the last day to drop a course without penalty: 1) drop the class; 2) meet with the instructor to determine if an accommodation can be made. Faculty will ascertain if an accommodation can be made; however, faculty are not required to grant content accommodations.

If critiques, discussions, or lectures are not being conducted in a way that is beneficial for you, please come by my office or email me so that we can discuss and make constructive changes.

FINALLY, THIS SYLLABUS IS A PLAN AND GUIDELINE TO WORK THAT WILL BE ASSIGNED OVER THE COURSE OF THE SEMESTER. TO CREATE AN OPTIMAL STUDENT LEARNING EXPERIENCE, THE CONTENTS OF THE SYLLABUS MAY BE CHANGED AT THE SOLE DISCRETION OF THE INSTRUCTOR. CHANGES WILL BE DISCUSSED IN CLASS, OR SHARED THROUGH EMAIL.