Brandeis | GRADUATE PROFESSIONAL STUDIES

I. Course Information

Course Name: Design Ideation and Prototyping

Course Number: RUCD 150

Course Start and End Dates: April 6 - June 14, 2022

Instructor: Debra Michalides

Office Hours: Upon request, contact instructor through dmichalides@brandeis.edu

Document Overview

This syllabus contains all relevant information about the course: its objectives and outcomes, the grading criteria, the texts and other materials of instruction, and of weekly topics, outcomes, assignments, and due dates.

Consider this your roadmap for the course. Please read through the syllabus carefully and feel free to share any questions that you may have. Please print a copy of this syllabus for reference.

Course Description

The goal of this course is to build practical interaction design and problem-solving skills. Students will be exposed to a toolkit of methods for every stage of the design process, from brainstorming and sketching through prototyping at various levels of fidelity. Throughout the course, students will practice divergent and convergent thinking necessary to solve real world design problems within the context of a collaborative and user-centered process.

Course Outcomes

After taking this course, each student will be able to:

1. Plan and conduct a design workshop.
2. Facilitate a range of brainstorming and visual thinking activities.
3. Understand the role of iterative prototyping in the design process.
4. Choose the right level of prototype fidelity for gathering useful design feedback.
5. Master basic interaction design UI prototyping skills.

Relevant Programs:

This is a required course for the User Centered Design Graduate Program.

Prerequisites

RUCD-101 (Innovation and User Centered Design)

RUCD-120 (Cognitive and Social Psychology of User-Centered Design)

Required Texts

A Project Guide to UX: Second Edition

Author: Unger

ISBN: 9780132931717

Sketching User Experiences

Author: Buxton

ISBN: 9780123819598

Publisher: Morgan Kaufmann Publishers

Sketching User Experiences: The Workbook

Authors: Greenberg, Carpendale, Marquardt, and Buxton

ISBN: 9780123819598

Publisher: Morgan Kaufmann Publishers

The Ultimate Guide to Prototyping

Author: UX Pin

Free Download: https://www.uxpin.com/studio/ebooks/guide-to-prototyping/

All textbooks are freely available through the Brandeis Library as eBooks and can be accessed via our course's O'Reilly Books playlist.

Online Course Content

This course will be conducted completely online using Brandeis' LATTE site, available at http://moodle2.brandeis.edu. The site contains the course syllabus, assignments, our discussion forums, links/resources to course-related professional organizations and sites, and weekly checklists, objectives, outcomes, topic notes, self-tests, and discussion questions. Access information is emailed to enrolled participants before the start of the course. To begin participating in the course, review the Welcoming Message and the Week 1 Checklist.

Course Grading Criteria

Description of Components and Percentages

Component	Description	% Final Grade
Discussions/Online Participation	Compromise of weekly group discussions and peer reviews of project based assignments	20
Assignments	Weekly Assignments	60

Final Project*	Comprised of weekly assignments that accumulate into one final presentation	20

Grading Criteria for Discussions/Online Participation

Discussion responses to instructor posts will be graded on a 50-point scale according to the criterion outlined below:

An exceptional post (50 points):

Provides original, substantive, and thought provoking analysis of the course material.

Is coherent and has a central thesis.

Contains properly cited references.

Is grammatically correct and contains no spelling errors.

A good post (40-49 points):

Contains most elements of an exceptional post, but may lack coherency and/or have a couple minor spelling/grammatical errors.

A fair post (30-39 points):

Provides only a surface-level analysis of the course material.

Contains properly cited references.

Contains a few grammatical and/or spelling errors

A poor post (20-29 points):

Provides only a surface-level analysis of the course material.

Does not properly cite references.

Contains several grammatical and/or spelling errors.

Similarly, substantive responses to peer posts will be graded on a 50-point scale. In addition to the grading metric outlined above, to earn full credit the responses must (1) address the author of the post directly and highlight texts/ideas from the original post and 2) provide constructive insight (i.e. not simply “I agree/disagree with you”).

Assignment Descriptions

II. Weekly Information & Assignment Outline

Week 1	Intro to Agile and Lean UX Design
Objectives	● Understand user centered design process such as Agile and Lean UX ● Discuss Agile UX, Lean UX, and Rapid Prototyping and explain their relevance to the UX field ● Understand that design is about solving problems and how User Centered Design is used to define the problem

Readings	• Topic Note: A brief history of Agile and what it attempted to solve in software development • Book: A Project Guide to UX: Chapter 4 • Article: Lean UX vs. Agile UX - is there a difference? • Article: Doing UX in an Agile World: Case Study Findings

Assignments	• Discussion:
	  ○ What differences can you find in Agile UX, Lean UX, etc., if any and what is the underlying common philosophy behind these approaches?
	  ○ In reflecting on this week's readings, how do you understand it in context of the UX field?

Week 2	Designing with User Data
Objectives	• Plan and conduct user interviews to define the design problem • Respond to user data with design ideas that address their goals and needs • Effectively participate in and run a design workshop • Generate design ideas from user data
Readings	• Topic Note: Designing from User Data • Book: A Project Guide to UX: Chapters 5 and 6 • Video: User Interview Example • Video: Introducing Participatory Design • Article: Planning Effective Workshop Agendas • Article: How to facilitate a design thinking workshop in just 2 hours • Article: How To Run An Awesome Design Thinking Workshop • Article: The Beginner's Guide to the Whiteboard Challenge
Assignments	• Discussion: Design Workshop: Group Brainstorm • Assignment: Gather Design Inspiration
Week 3	Scenarios / Sketches
Objectives	• Identify user scenarios to design for • Produce design sketches that show proposed design ideas
Readings	• Topic Note: Ideation is hard • Book: Sketching User Experiences, Chapter 1, 2, 3 • Article: Scenario Definition • Article: How to Scenarios • Article: User Scenarios • Article: Scenario Mapping • Article: A Designer's Approach to Sketching • Article: Sketching Best Practice
Assignments	• Discussion: Scenario Map Group Activity • Assignment: Design Sketches
Week 4	Storyboarding
Objectives	• Create Storyboard of user scenarios • Understand the role storyboards play as a communication tool • Peer review of design sketches and storyboards
Readings	• Topic Note: Why you want to stay in the lowest level as long as possible • A Project Guide to UX: Chapter 9 • Article: Storyboarding UX Part 1 An Introduction • Article: Storyboards help visualize ideas

Assignments	• Discussion: Storyboards Peer Critique • Assignment: Storyboards
Week 5	Prototyping Basics
Objectives	• Explain what a prototype is and when it is utilized in the user-centered design process • Identify the types of products that can be prototyped • Describe situations when prototyping is necessary • Develop an approach to prototyping based on particular needs of the project or product
Readings	• Topic Note: What is prototyping for UX? • A Project Guide to UX: Chapter 13 and 14 • The Ultimate Guide to Prototyping Chapters 1 and 3 • What a Prototype is (is not) • Sketching User Interfaces Workbook (pages 85-108) • Article: Remote Testing • Article: Prototyping User Experience • Article: Why we Paper Prototype • Video: Low Fidelity Prototype Test • Video: Example Usability Test with a Paper Prototype

Assignments	• Discussion:
	  ○ What were your assumptions about prototypes prior to this course and how has it changed?
	  ○ Find examples of work processes in your professional or personal life where you could design a prototype. Describe the project/product needs and how a prototype could answer questions or resolve issues.
	• Assignment: Create and user test a Paper Prototype (lo-fi)

Week 6	Prioritizing Design
Objectives	• Determine features to put in a prototype based on a needs assessment • Understand and determine the appropriate fidelity level for prototyping
Readings	• Topic Note: Why you don't need to build everything into a prototype • Article: The Best Ways to Prioritize Products and Features • Article: Using Prioritization Matrices to Inform UX Decisions • Article: Integrating Prototyping Into Your Design Process/

Assignments	• Discussion:
	  ○ Explain your experience in testing your prototypes at each fidelity level. What were your assumptions going in and what were the results?
	  ○ Did they support your assumptions? If the user didn't do what you expected, were you surprised, did it affect how you approached the rest of the interview?
	• Assignment: Create and user test a Digital Prototype (lo-fi)

Week 7	Hi-Fidelity Prototyping
Objectives	• Develop and test a high fidelity digital prototype • Understand how to incorporate design changes from user feedback
Readings	• Topic Note: What are the main reasons we prototype? • Article: Best practice for iterative prototype testing

	• Article: Lo-Fi vs. Hi Fi Prototyping • Video: High Fidelity User Test
Assignments	• Discussion: What kind of compromises/changes did you have to make to move your prototype into a new format? How did that change the design and how you thought about the design? • Assignment: Create and user test a Digital Prototype (hi-fi)
Week 8	Creating User Flows and Wireflows
Objectives	• Produce a user flow that shows system level design • Produce a wireflow that shows system level design
Readings	• Topic Note: Why it's important to get the right users at the right time • A Project Guide to UX, Chapter 10 • Article: User Flows and Wireflows • Article: Wireflows • Article: The biggest WTF in design right now: What are user flows and why you need to use them. • Article: User Journey Maps or User Flows, what to do first?
Assignments	• Discussion: Peer Critique / What is the biggest difference in User Flows and Wireflows? • Assignment: User Flow / Wireflow
Week 9	Documenting Design
Objectives	• Create an annotated wireframe to demonstrate the functionality of design
Readings	• Topic Note: Are wireframes dead? • Book: A Project Guide to UX: Chapter 12 • Article: Interaction Design Principles • Article: Best practice for UI • Article: Common UI Elements • Article: Annotating Wireframes
Assignments	• Discussion: Peer Critique / Discuss the controversy over the usefulness or lack there over wireframes. • Assignment: Create Annotated Wireframes
Week 10	Communicating Design
Objectives	• Create a presentation of a design project • Outline elements in a case study presentation • Sift through data and designs to pull relevant summaries of results
Readings	• Article: Great Designers Are Great Communicators • Article: UX Case Study Examples • Article: Making a UX Case Study • Article: How to craft a top-notch UX Case Study • Article: Communicating User Research Findings • Article: 9 Tips for creating your UX Portfolio
Assignments	• Discussion: ○ What were your expectations about what you would learn when you started this class? How has taking the class changed those expectations?

	○ You are trying to convince a colleague to take this class. Write a description of what they will learn in this course and its relevance to the work that you do. Refer to particular activities, processes that you learned, tools that you used, reflect on group work vs. working as an individual, etc. ● Assignment: Complete and Present Final Presentation

III. Course Policies and Procedures

Late Policies

- Discussion responses will be accepted up to 3 days late with a 5-point deduction per day.
- Homework assignments will be accepted up to one week late with a 20 percent deduction per day.
- Substantive responses to discussion posts and the final project will NOT be accepted late.

Grading Standards

Work expectations

Students are responsible to explore each week's materials and submit required work by their due dates. On average, a student can expect to spend approximately **3-5 hours per week reading** and approximately **4-8 hours per week completing assignments and posting to discussions** (3-5 hours for the former and 1-2 hours for the latter). **Exams are designed to take 3-5 hours to complete, and the final project is estimated to take 10 – 15 hours.** The calendar of assignments and due dates is located at the end of this syllabus, and all assignments are due by the close of the associated week (Tuesday evenings, 11:55 EST).

100-94	A
93-90	A-
89-87	B+
86-83	B
82-80	B-
79-77	C+

76-73	C
72-70	C-
69-67	D+
66-63	D
62-60	D-
59 or <	F

Feedback

I will provide weekly feedback on your participation. Your assignments will be graded within 1 week of receipt and grades will be posted on Latte.

Confidentiality

We can draw on the wealth of examples from our organizations in class discussions and in our written work. However, it is imperative that we not share information that is confidential, privileged, or proprietary in nature. We must be mindful of any contracts we have agreed to with our companies. In

addition, we should respect our fellow classmates and work under the assumption that what is discussed here (as it pertains to the workings of particular organizations) stays within the confines of the classroom.

Members of the University's technical staff have access to all course sites to aid in course setup and technical troubleshooting. Program Chairs and a small number of Graduate Professional Studies (GPS) staff have access to all GPS courses for oversight purposes. Students enrolled in GPS courses can expect that individuals other than their fellow classmates and the course instructor(s) may visit their course for various purposes. Their intentions are to aid in technical troubleshooting and to ensure that quality course delivery standards are met. Strict confidentiality of student information is maintained.

Class Calendar

Online class weeks begin on Wednesday and end at midnight on the following Tuesday. Assignments are due by **11:55pm EST** on the last day of the course week unless otherwise indicated.

Week	**Online Week Start/End Dates**	**Assignment(s) due in addition to discussion forums (see Course Grading Criteria for discussion deadlines).**
1		Readings
2		Gather Data - Each student conducts 30min user interviews and adds to group data. As a group analyze data and make a data model (template provided)
3		Design Workshop/Whiteboarding - Create a high level design response as a group based on data gathered. Submit 3 user scenarios designed as a group
4		Sketching/Storyboarding - Using “10 plus 10 method” (Sketching User Interfaces page 17-27), take a one user scenario from the group whiteboarding session and sketch out solutions, Critique Peer Storyboards
5		Submit MVP, Create a Paper Prototype (lo-fi), Test paper prototype (in person and remote)
6		Create a Digital Prototype (med-fi), Test Digital Prototype (in person and remote)

7		Create a Digital Prototype (hi-fi, no color), Create a Usability Script, Conduct a Usability Test with Prototype
8		Sketch and refine design, follow up user testing if needed, peer critique
9		Create Annotated Wireframes, Create User Flows
10		Complete and Present Final Presentation

IV. University & Division of Graduate Professional Studies Standards

Please review the policies and procedures of Graduate Professional Studies, found here: http://www.brandeis.edu/gps/students/studentresources/policiesprocedures/index.html

Accessibility and Accommodations

Brandeis seeks to welcome and include all students. If you are a student who needs accommodations as outlined in an accommodations letter, please communicate with me and present your letter of accommodation as soon as you can. I want to support you.

In order to provide accommodations, I need the letter more than 48 hours in advance. I want to provide your accommodations, but cannot do so retroactively. If you have questions about documenting a disability or requesting accommodations, please contact Student Accessibility Support (SAS) at 781.736.3470 or access@brandeis.edu.

Academic Honesty and Student Integrity

Academic honesty and student integrity are of fundamental importance at Brandeis University and we want students to understand this clearly at the start of the term. As stated in the Brandeis Rights and Responsibilities handbook, “Every member of the University Community is expected to maintain the highest standards of academic honesty. A student shall not receive credit for work that is not the product of the student’s own effort. A student's name on any written exercise constitutes a statement that the work is the result of the student's own thought and study, stated in the students own words, and produced without the assistance of others, except in quotes, footnotes or references with appropriate acknowledgement of the source." In particular, students must be aware that material (including ideas, phrases, sentences, etc.) taken from the Internet and other sources MUST be appropriately cited if quoted, and footnoted in any written work turned in for this, or any, Brandeis class. Also, students will not be allowed to collaborate on work except by the specific permission of the instructor. Failure to cite resources properly may result in a referral being made to the Office of Student Development and Judicial Education. The outcome of this action may involve academic and disciplinary sanctions, which could include (but are not limited to) such penalties as receiving no credit for the assignment in question, receiving no credit for the related course, or suspension or dismissal from the University.

Students may be required to submit work to TurnItIn.com software to verify originality. TurnItIn is a tool that compares student assignment submissions to internet sources and a comprehensive database of other papers. It creates a report that provide a link to possible matches and a '"similarity score". TurnItIn does not determine whether a paper has been plagiarized; individual faculty will make that judgment. All papers submitted to TurnItIn are kept in a separate reference database of Brandeis work, to be used solely for the purpose of detecting plagiarism in the future. Students retain copyright on their original course work. Allegations of alleged academic dishonesty will be forwarded to the Director of Academic Integrity. Sanctions for academic dishonesty can include failing grades and/or suspension from the university. Citation and research assistance can be found at Library guides

Further information regarding academic integrity may be found in the following publications: "In Pursuit of Excellence - A Guide to Academic Integrity for the Brandeis Community", "(Students') Rights and Responsibilities Handbook", AND " Graduate Professional Studies Student Handbook". You should read these publications, which all can be accessed from the Graduate Professional Studies website. A student that is in doubt about standards of academic honesty (regarding plagiarism, multiple submissions of written work, unacknowledged or unauthorized collaborative effort, false citation or false data) should consult either the course instructor or other staff of the Rabb School Division of Graduate Professional Studies.

University Caveat

The above schedule, content, and procedures in this course are subject to change in the event of extenuating circumstances. If you have questions or concerns about course content before the start of the course, please contact the instructor.

V. Grading Rubrics

Assignments Rubric

This rubric represents the grading criteria for class exercises and for the final project.

Criteria (Weight)	Incomplete (≤59)	Not-Yet-Proficient (60-69)	Partially Proficient (70-79)	Proficient (80-89)	Exemplary (90-100)
Meets the Assignment Requirements (25%)	Assignment fails to meet requirements and/or quality of responses is poor.	Assignment meets most requirements. Quality of responses varies.	All assignment requirements are met, but the quality is inconsistent.	All assignment requirements are met. Quality and effort are good.	All assignment requirements are clearly met thoroughly and with the same high level of quality.
Application of Prototyping and/or Evaluation Methods (25%)	Work fails to demonstrate understanding of concepts and methods covered in class.	Work demonstrates only rudimentary understanding of pertinent concepts and methods studied in class.	Work demonstrates some understanding of pertinent concepts and methods studied in class.	Work demonstrates good understanding of pertinent concepts and methods studied in class.	Work demonstrates superlative understanding of pertinent concepts and methods studied in class.
Effective Reasoning & Original Thought (20%)	Work fails to demonstrate original thought and problem-solving with little to no supporting data.	Work demonstrates only negligible original thought, problem-solving and little supporting data.	Work demonstrates some original thought, not necessarily supported by problem-solving and supporting data.	Work demonstrates some original thought and problem-solving with supporting data where appropriate.	Work demonstrates original thought throughout supported by problem-solving with supporting data where appropriate.
Document Structure and Mechanics (15%)	Document is of poor quality and/or contains numerous spelling or grammatical mistakes.	Document is of good quality but contains numerous spelling and/or grammatical mistakes.	Document is of good quality and contains no more than minor spelling or grammatical mistakes.	Document is well put together, though shy of professional quality. No more than minor spelling or grammatical mistakes.	Document is of professional quality with no more than minor spelling or grammatical mistakes.
Connections & References (15%)	Work isn't properly cited. Does not draw connections to class work. Does not include any research beyond class assignments.	Complete citations, where applicable. Contains some surface-quality connections to class work. Does not include any research	Complete citations, where applicable. Contains some connections to class readings. Applies minor research beyond class	Complete citations, where applicable. Demonstrates good connections to class readings and applies research beyond class	Complete citations, where applicable. Demonstrates clear connections to class readings and applies significant research