

## Introduction to Contextual Design for Technology

Course Syllabus, 3.0, last revised 11/18/2019

\* Note that this syllabus is subject to change. Students will be notified about any changes.

### Course Logistics

#### Meeting Times:

Tuesdays/Thursdays from 10:10 am – 11:25 am

Meeting Location:

- Milstein 516

### Instructor Information

Instructor: Sarah Morrison-Smith, PhD

- E-mail address (preferred): smorriso@barnard.edu (put “COMS 3364” in the subject)
- Office hours: TBD
- Office location: Milstein 512
- Telephone: 212-853-0333 (during office hours only)
- Class Web site: Canvas Only

To make an appointment, send a formal email with the subject including “COMS 3364” and include your meeting goals, any relevant questions, and several proposed meeting times.

### Course Information

#### Prerequisites:

There are no prerequisites for this course.

#### Catalog Descriptions:

- Course Number 3364 – Introduction to Contextual Inquiry– Credits: 3.  
Introduces methods and tools used in Contextual Inquiry (CI) specifically the early stages of software design focused on meeting user needs. Key concepts include user research, contextual design, design thinking, ideation, iterative design, prototyping, and design documentation. Projects utilize software tools used in the industry.

#### Course Overview:

This is an undergraduate course that introduces students to the methods and tools used in Contextual Inquiry (CI), User Experience (UX), and User Interface (UI) design. This course focuses on the early design stages of a product’s lifecycle, and aims to ensure the product will meet user needs; some example tools and methods to be covered include personas, scenarios, storyboards, interviews, wireframing, prototyping, InVision, Axure, Balsamiq.

This class will serve as an introduction to these methods; no prior design experience is necessary. In this course, students will work on group projects covering one or more of the CI methods for products designed for today's world of ubiquitous and mobile technology. Students will also participate in a final group project designing for a real context: the students will work with a local client to define their needs and requirements, with the end goal that the students' design will be incorporated into the client's real product. Developers with experience in UX/UI design methods are in high demand in today's software industry, and the projects students work on in this course will strengthen their portfolio.

## Course Components:

This course involves the following components:

- Lectures—core user experience design concepts will be presented, discussed.
- In-Class Activities—group activities to introduce and practice user experience design techniques, similar to lab-style activities.
- Quizzes—there will be periodic quizzes throughout the course for class participation points.
- Readings—textbook chapters and other readings will be assigned and discussed.
- Project—one group project covering all phases of the user experience design project lifecycle will be completed, including (1) exploring a design space, (2) generating design concepts, and (3) refining design concepts, ultimately producing an interactive prototype to solve a real-world problem.
- Exams—one midterm.
- Extra credit—there will be opportunities for extra credit throughout the course not to exceed 2% of the final grade.

## Learning Outcomes:

By the end of this course, students will be able to:

- Conduct *exploratory* design activities to understand a design space when designing a new user interaction.
- Conduct *generative* design activities to creatively fill user needs when designing a new user interaction.
- Conduct *refining* design activities to select and iteratively improve a design concept for a new user interaction.
- Participate effectively in *design critiques*, and be able to use this experience to be a more effective design team member.
- Design and produce an *interactive prototype* of a complete design concept to present to a client for a new user interaction.

## Course Materials

### Materials Required:

This course makes heavy use of industry methods for designing software. Students are expected to purchase supplies as needed for these methods, including:

- Scratch paper of various sizes for sketching (unlined)
- Pencils, pens
- Ruler or straight edge

When such supplies will be needed in class, announcements will be made at least one week in advance. Lack of preparation will harm students' class participation grade.

Poster printing is required for the final project. Posters can be printed for a fee at Columbia Copy or other copy/print stores. Posters do not have to be mounted on foam board.

### Textbooks Required:

*Contextual Design, Second Edition*, by Holtzblatt and Beyer, ISBN-10 # 0128008946

There will be additional assigned readings in the form of online resources that will be posted to the course website up to four weeks prior. Students will be responsible for accessing the readings and downloading any relevant links provided.

### Optional Textbooks:

Additional readings for the course will be taken from the following books. Students may choose to purchase their own copy of one or more of these textbooks to read beyond the scope of the course. This may be especially useful for students considering user experience / user interface development careers, which make heavy use of these methods and concepts.

- *The Design of Everyday Things*, by Norman, ISBN-10 # 0465050654
- *Sketching User Experiences: The Workbook*, by Greenberg, Carpendale, Marquardt, and Buxton, ISBN-10 # 0123819598

### Affordable Access to Course Texts:

All students deserve to be able to access course texts. The high costs of textbooks and other course materials prohibit access and perpetuate inequity, and Barnard librarians are partnering with students, faculty, and staff to increase access. By the first day of advance registration for each term, you should be able to view on Canvas information provided by your faculty about required texts (including ISBN or author, title, publisher and copyright date) and their prices. Once you have selected your classes, here are some cost-free methods for accessing course texts, recommended by the Barnard Library: find out if your faculty has placed the texts on reserve at Barnard Library or another Columbia library, and look for course texts using [CLIO](#) (library catalog), [Borrow Direct](#) (request books from partner libraries), [Interlibrary Loan](#) (request book chapters from any library), and [NYPL](#). Students with financial need or insecurity can check items out from the FLIP lending libraries in the Barnard Library and Butler Library and can consult with the [Dean of Studies](#) and the [Financial Aid Office](#) about additional affordable alternatives for getting access to course texts. Talk with your librarian and visit the [Barnard Library Textbook Affordability guide](#) ([library.barnard.edu/textbook-affordability](http://library.barnard.edu/textbook-affordability)) for more details.

## Software Required:

Students are **required to bring a laptop to class** to participate in in-class activities. The following free or trial software packages may be necessary to be installed by students on their laptops or used via online services over the course of the semester:

- Balsamiq, by Balsamiq Studios (<http://balsamiq.com/>)
- Axure RP Pro, by Axure Software Solutions (<http://www.axure.com/>)
- InVision App, by InVision (<http://www.invisionapp.com/>)

## Course Outline

### Course Topics:

- Contextual Inquiry and User Experience Design.
- Graphic Design for computer interfaces.
- Design techniques such as scenarios, personas, storyboards, wireframing, and information architecture.
- Design methods such as focus groups, design probes, and affinity diagramming.
- Prototyping tools, both low-fidelity and high-fidelity.

### Tentative Schedule: subject to change

Week	Dates	Topics	Assignments/Milestones/Readings
1	9/3 & 9/5	Syllabus, course introduction, project goals of contextual inquiry and design	Assignment 0 due (name card)
2	9/10 & 9/12	Data collection & Interviewing Critiques	Assignment 1 due (IRB) Project part 0 due (Groups for project are formed)
3	9/17 & 9/19	Modeling, coding, and consolidation	Project Proposal due
4	9/24 & 9/26	Visioning, the Cool Drilldown, and UI design	
5	10/1 & 10/3	Affordances, controls, interface metaphors	Assignment 2 due
6	10/8 & 10/10	Personas, scenarios, and storyboards	Project part 1 due Project part 1 presentations  *last day to drop is Tuesday 10/8

7	10/15 & 10/17	UEDs and brainstorming techniques	Assignment 3: PP1 Critique is due
8	10/22 & 10/24	Midterm Q&A and Exam	
9	10/29 & 10/31	Wireframing, low fidelity, and paper prototyping	Project part 2 Checkpoint
10	11/7	Graphic design for user interfaces, gestalt principles	Holiday Tuesday 11/5 Project part 2 due
11	11/12 & 11/14	High fidelity prototyping, video sketches	Assignment 4: PP2 Critique is due *last day to withdraw is Thursday 11/14
12	11/19	Evaluating interfaces, Introduction to HCI Research	
13	11/26 & 11/28	In-class work day	*week of Thanksgiving
14	12/3 & 12/5	Project showcase, <b><u>Final Exam Q&amp;A</u></b>	Posters and video sketches due
16	TBD	Final Exam	Project part 3 due

## Tentative Reading List: subject to change

Week	Dates	Assignments/Milestones/Readings
1	9/3 & 9/5	<ul style="list-style-type: none"> <li>• Beyer &amp; Holtzblatt: 3–19 (17 pages)</li> <li>• Canvas: Sketching User Experiences: 3.4 and 3.10 (10 pages)</li> <li>• Online: “How to Survive Critique: A Guide to Giving and Receiving Feedback” <a href="http://arcadenw.org/article/how-to-survive-critique">http://arcadenw.org/article/how-to-survive-critique</a></li> <li>• Online: “Endless Nights—Learning from Design Studio Critique” <a href="http://dl.acm.org/citation.cfm?id=1925838">http://dl.acm.org/citation.cfm?id=1925838</a></li> </ul>

2	9/10 & 9/12	<ul style="list-style-type: none"> <li>• Beyer &amp; Holtzblatt: 32–80 (49 pages)</li> <li>• Canvas: Deciding Who to Interview (3 pages)</li> </ul>
3	9/17 & 9/19	<ul style="list-style-type: none"> <li>• Beyer &amp; Holtzblatt: 110-146, 208–225, 254–262, 272–275 (67 pages)</li> </ul>
4	9/24 & 9/26	<ul style="list-style-type: none"> <li>• Beyer &amp; Holtzblatt: 278–299 (22 pages)</li> <li>• Canvas: Sketching User Experiences: 4.1–4.4 (34 pages)</li> </ul>
5	10/1 & 10/3	<ul style="list-style-type: none"> <li>• Canvas: “The Psychopathology of Everyday Things.” (37 pages)</li> <li>• Canvas: “Applying Affordances, Signifiers, and Constraints to Everyday Objects” (10 pages)</li> <li>• Optional: Canvas: “Controls” and “Non-Traditional Inputs” (10 pages)</li> </ul>
6	10/8 & 10/10	<ul style="list-style-type: none"> <li>• Beyer &amp; Holtzblatt: 225-229, 315-329 (20 pages)</li> </ul>
7	10/15 & 10/17	<ul style="list-style-type: none"> <li>• Canvas: The User Environment Design (39 pages)</li> <li>• Canvas: “Eight tips for Better brainstorming” (5 pages)</li> </ul>
8	10/22 & 10/24	NO READING
9	10/29 & 10/31	<ul style="list-style-type: none"> <li>• Beyer &amp; Holtzblatt: 415-444 (30 pages)</li> <li>• Online: “What is a Wireframe: Designing Your UX Backbone” <a href="https://www.uxpin.com/studio/ui-design/what-is-a-wireframe-designing-your-ux-backbone/">https://www.uxpin.com/studio/ui-design/what-is-a-wireframe-designing-your-ux-backbone/</a></li> <li>• Online: “Prototyping 101: The Difference between Low-Fidelity and High-Fidelity Prototypes and When to Use Each” <a href="https://theblog.adobe.com/prototyping-difference-low-fidelity-high-fidelity-prototypes-use/">https://theblog.adobe.com/prototyping-difference-low-fidelity-high-fidelity-prototypes-use/</a></li> </ul>
10	11/7	<ul style="list-style-type: none"> <li>• Canvas: “Layout and Color on Small Screens” (18 pages)</li> <li>• Canvas: “Coming to Order &amp; Grid Basics” (19 pages)</li> <li>• Canvas: “Color” (14 pages)</li> </ul>
11	11/12 & 11/14	<ul style="list-style-type: none"> <li>• Canvas: “Prototyping &amp; Testing” (11 pages)</li> <li>• Canvas: “Design, Prototyping, and Construction” (11 pages)</li> <li>• Online: “Design Better and Faster with Interactive Prototyping”</li> </ul>

		<a href="http://www.smashingmagazine.com/2010/06/design-better-faster-with-rapid-prototyping/">http://www.smashingmagazine.com/2010/06/design-better-faster-with-rapid-prototyping/</a> <ul style="list-style-type: none"> <li>• Online: “How to Make a Demo Video for your Mobile App” <a href="http://appvj.hubpages.com/hub/How-to-Make-Videos-for-Your-App-Website-Product-or-Service">http://appvj.hubpages.com/hub/How-to-Make-Videos-for-Your-App-Website-Product-or-Service</a></li> </ul>
12	11/19	<ul style="list-style-type: none"> <li>• Canvas: Sketching User Experiences: 6.1–6.3 (24 pages)</li> <li>• Canvas: “Paper Prototypes” (7 pages)</li> </ul>
13	11/26 & 11/28	NO READING
14	12/3 & 12/5	NO READING

## Grading:

The following items will contribute to students’ grades in this course:

Grade Category	Percentage	Letter	Range (%)
<u>Individual</u>		A	93–100
Assignments	5%	A-	90–92
Design Critiques	5%	B+	87–89
Class participation (includes quizzes)	5%	B	83–86
Exam	22%	B-	80–82
		C+	77–79
<u>Group</u>		C	73–76
Project part 1	21%	C-	70–72
Project part 2	21%	D+	67–69
Project part 3	21%	D	63–66
		D-	60–62
<u>Extra Credit</u>	2%		
<b>Total</b>	<b>100%</b>		

**NOTE:** A C- will not be a qualifying grade for maintaining good academic standing. The concept of satisfactory academic progress mandates that students maintain a minimum GPA of 2.0 or better (C or better). Note: an average of C- is equivalent to a GPA of 1.67 and therefore does not satisfy this requirement. For more information on grades and grading policies, please consult the Barnard’s policies regarding academic standing <https://barnard.edu/dos/policies-procedures-academic-standing>. Students must additionally complete the IRB assignment in order to pass.

All final course grades will be rounded to the nearest whole number.

This course will use the Canvas e-Learning course management system via Canvas to post grades and to communicate with class members. If you have a question about the course that other students could benefit from hearing the answer, please post to the appropriate discussion thread on Canvas rather than sending individual emails to the instructor.

**Grade reviews must be requested within one week of a grade being posted.** After two weeks, no grade will be revisited. In the event of a grade review, the entire assignment will be reviewed. Grade reviews must be requested in writing with an explanation describing why the grade received is incorrect.

### Honesty & Collaboration:

High level questions can be discussed amongst each other and amongst the groups. Not allowed in this course include the following:

- 1) **plagiarism** (misrepresenting others' ideas as your own, can be fixed with simple citation),
- 2) **social loafing** (e.g., for group work)

As for other courses at Barnard in the past, offenders will be held to the Barnard Honor Code (see below) including reporting incidents to the Dean of Students. The results of this can include failing grades and disciplinary action (which can lead to expulsion).

## Course Policies

### Late Assignments:

All assignments will be assessed a late penalty of -10% for each day late. After 3 days, students will receive a 0. The only exception to this rule is if students contact the instructor **in writing before the assignment due date** to make arrangements for lateness. Excuses are not accepted.

### Attendance:

Attendance will not be graded. Engagement in class discussions is graded, however, so if students must miss class, the instructor recommends increasing participation on the other days. If a student is sick or will be absent for a significant period of time, please contact the instructor to work out a way to catch up.

### Make-ups:

Students who contact the professor **before the due date** with appropriate requests for extension and/or makeup assignments will be given an additional amount of time to make up late assignments equal to the time lost due to the unforeseen circumstance.



## Incompletes:

Incompletes will be granted for only the most extreme circumstances, e.g. medical or family reasons. To be considered for an incomplete, the student **must** 1) let the professor know at in advance that they are seeking an incomplete, and 2) provide documentation to support the request.

## Classroom Expectations:

To be courteous to your fellow students, please:

- Turn all cell phone ringers to silent and step outside if you must take calls.
- Turn off all audible notifications on laptops and phones.
- Refrain from texting during class.
- Use laptops only for taking notes, looking up relevant information, or answering clicker questions (no Facebook, YouTube, Twitter, etc.).

## Guest Lectures:

In this course, guest lecturers may be invited to present material related to their research or work, and how it relates to the course material. These are experts in their fields and are taking time out of their busy schedules to share their knowledge with you. Please respect their time and attend the guest lectures as you would any other meeting of the course.

## College Policies and Resources

### Honor Code:

Barnard students are bound by The Honor Pledge, established 1912, updated 2016, which states, “We, the students of Barnard College, resolve to uphold the honor of the College... We pledge to do all that is in our power to create a spirit of honesty and honor for its own sake.”

The Honor Code (<https://barnard.edu/dos/honorcode>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor. Note that failure to comply with this commitment will result in disciplinary action compliant with the Barnard

### Academic Accommodations for Students with Disabilities:

If you are a student with a documented disability and require academic accommodations in this course, you must register with the Office of Disability Services (ODS) for assistance. Students requesting accommodations will need to first meet with an ODS staff member. Once registered, students are required to request accommodation letters each semester to notify faculty. Accommodations are not retroactive, so it is best to contact ODS early each semester to access your accommodations. If you are registered with ODS, please see me to schedule a meeting outside of class in which you can bring me your faculty notification letter and we can discuss your accommodations for this course. Students are not eligible to

use their accommodations in this course until they have met with me. ODS is located in Milbank Hall, Room 009.

## Wellness

It is important for undergraduates to recognize and identify the different pressures, burdens, and stressors you may be facing, whether personal, emotional, physical, financial, mental, or academic. We as a community urge you to make yourself--your own health, sanity, and wellness--your priority throughout this term and your career here. Sleep, exercise, and eating well can all be a part of a healthy regimen to cope with stress. Resources exist to support you in several sectors of your life, and we encourage you to make use of them. Should you have any questions about navigating these resources, please visit these sites:

- <http://barnard.edu/primarycare>
- <http://barnard.edu/counseling>
- <http://barnard.edu/wellwoman/about>
- [Stressbusters Support Network](#)

## Software Use

All faculty, staff, and students of Barnard College are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against Barnard's policies and rules, disciplinary action will be taken as appropriate. We, the members of the Barnard College community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.