

## Introduction to Contextual Design for Technology

Course Syllabus, 5.5, last revised 9/4/2020

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

### Course Logistics

#### Meeting Times:

**Tuesdays/Thursdays from 2:40 pm – 3:55 pm New York / Eastern time**

Meeting Location: Zoom (See Canvas for links to each lecture)

### Instructor Information

#### Instructor: Sarah Morrison-Smith, PhD

- E-mail address (preferred): smorriso@barnard.edu (subject: "COMS 3364" )
- Student hours: TBD
- Class Web site: Canvas Only

**I welcome you to contact me outside of class and student hours** and I especially invite you to **contact me if you find yourself spending a lot of time without making any progress**. To make an appointment, send an email with the subject including "COMS 3364" and include your meeting goals, any relevant questions, and at least three proposed meeting times.

#### Teaching Assistant: Bob Guan

- E-mail address: bg2676@columbia.edu
- Student hours: TBD

#### Computational Fellow: Rachel Meyer

- E-mail address: ram2264@barnard.edu
- Student hours: TBD

### 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 class is based on the belief that everyone has the capability to design effective technology.** In this course, we will focus 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.
- 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.
- Assignments—small individual assignments covering non-project-related material.

## Piazza

This term we will be using Piazza for class discussion. The system is highly catered to getting you help fast and efficiently from classmates, the TA, and myself. Rather than emailing questions to the teaching staff, I encourage you to post your questions on Piazza. If you have any problems or feedback for the developers, email [team@piazza.com](mailto:team@piazza.com).

Find our class signup link at: <https://piazza.com/columbia/fall2020/comsbc3364>

## Learning Outcomes:

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

- *Explore* and *understand* a design space when designing a new user interaction.
- Creatively *fill user needs* when designing a new user interaction.

- *Select* and iteratively *refine* a design concept for 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 or graph)
- Pencils, pens
- Ruler or straight edge

### Textbooks Required:

There is no textbook required.

### 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. **A copy of *Sketching User Experiences* will be uploaded to Canvas.**

- *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 \(library.barnard.edu/textbook-affordability\)](#) 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/>)
- Figma, by Figma (<http://figma.com/>)

## Course Outline

We will be using the following Canvas modules to organize our topics and assignments:

1. Introduction
2. Investigating Users
3. Consolidating and Understanding Work
4. Reflection – Understanding Users
5. Brainstorming and Exploring Design
6. Low Fidelity Design
7. Reflection – Exploring Design
8. Evaluation
9. High Fidelity Design
10. Reflection – Final Project

## Tentative Schedule: subject to change

Module	Dates	Topics	Deliverables
1	9/8 & 9/10	Syllabus, course introduction, HCI Goals	
2	9/15 & 9/17	Contextual design and inquiry, stages of design, interviewing, critiques	Project Groups due <a href="#">Assignment IRB due</a> <a href="#">Getting to Know You due</a> <a href="#">Syllabus Agreement due</a>
2 3	9/22 9/24	Data collection and modeling	Project Proposal due

3	9/29 & 10/1	Consolidation, UI design, visions, task analysis	Project Materials due Project User Needs due <a href="#">Assignment Observation due</a>
4 5	10/6 & 10/8	Brainstorming, personas, In class workday	Project Work Models due
5	10/13 & 10/15	Scenarios and storyboards, UEDs	Project Phase 1 Video due <a href="#">Project Phase 1 Critique due</a>
N/A	10/20 & 10/22	<b>No class: Fall A final exam period</b>	<a href="#">Assignment P/S/S due</a>
6	10/27 & 10/29	Affordances, controls, interface metaphors	Project UED due
N/A	11/5	Guest Lecture, in class workday	
6	11/10 & 11/12	Wireframing, low fidelity, and paper prototyping	Project Low Prototypes due <a href="#">Assignment Controls due</a>
7 & 8	11/17 & 11/19	Evaluation Paradigms Evaluating Methods	Project Phase 2 Video due <a href="#">Project Phase 2 Critique</a>
8 & 9	11/24	Gestalt principles, In class workday	
9	12/1 & 12/3	Graphic design, High fidelity prototyping,	Project Evaluation due
10	12/8 & 12/10	Intro to Accessibility In-class workday	<a href="#">Assignment Redesign due</a>
10	12/15 & 12/17	<b>No Class: Reading Days</b>	Project System due Project Phase 3 Video due <a href="#">Group Evaluation Form Due</a>
10	12/22	<b>No Class: No final</b>	<a href="#">Project Phase 3 Critique due</a>

\* Individual assignments are written in [blue](#).

## Grading:

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

Grade Category	Percentage	Letter	Range (%)
<b>Individual (50%)</b>			
Class participation	7.5%	A	93-100
Design critiques	10%	A-	90-92
Peer evaluations	7.5%	B+	87-89
Assignments	25%	B	83-86
		B-	80-82
		C+	77-79
		C	73-76
<b>Group (50%)</b>			
Project preparation	5%	C-	70-72
Project videos	15%	D+	67-69
Project reports	30%	D	63-66
		D-	60-62
<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 complete the IRB assignment prior to conducting user interviews 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. **Grade reviews must be requested within one week of a grade being posted.** After this time, 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, with references to the posted rubric.

### 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 often 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

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 watching lectures, taking notes, or looking up relevant information (no Facebook, YouTube, Twitter, etc.).

### Zoom Use

I recognize that learning remotely presents a series of challenges to fostering an accessible and inclusive educational experience. In order to address these difficulties, I am proposing the following practices. **You are encouraged but not required to keep your camera on during class sessions**, and no student will be penalized for choosing to disable their camera. Keep your microphone muted unless you are contributing to discussion in a small group or during a lecture. If you are having connectivity issues or if you have to log off before class ends, please review the lecture video when it is posted. If you are unable to stream the video, please contact me directly via email.



If you are comfortable discussing any circumstances that you anticipate affecting your education this semester, please feel free to set up an appointment with me during student hours. I will be recording all class sessions so that course content is accessible to all students but will pause the recording if sensitive topics are being discussed. Because I am recording the sessions and will be honoring students' requests to pause recordings, **please refrain from recording them on your own**. This is essential to building a community of trust and a culture of respect for one another's privacy.

As your professor, I will be maintaining as much flexibility as possible under the extraordinary circumstances in which this course is taking place. In return I ask for your patience, understanding, and willingness to share feedback with me about the practices that you believe will best support an inclusive and accessible classroom.

### 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 believe you may encounter barriers to the academic environment due to a documented disability or emerging health challenges, please feel free to contact me and/or the Center for Accessibility Resources & Disability Services (CARDS). Any student with approved academic accommodations is encouraged to contact me during office hours or via email. If you have questions regarding registering a disability or receiving accommodations for the semester, please contact CARDS at (212) 854-4634, [cards@barnard.edu](mailto:cards@barnard.edu), or learn more at [barnard.edu/disabilityservices](https://barnard.edu/disabilityservices). CARDS is located in 101 Altschul Hall.

## 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.