Introduction to Contextual Design for Technology

Course Syllabus, 1.3, last revised 9/13/2021

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

Course Logistics
Meeting Times: Tuesdays/Thursdays from 1:10 pm – 2:25 pm New York / EST Time
Meeting Location: Milbank 207

Instructor Information

Instructor: Sarah Morrison-Smith, PhD

- E-mail address (preferred):   smorriso@barnard.edu (subject: "COMS 3364")
- 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: TBD

- E-mail address: TBD

Additional hours can be scheduled by email. Please direct requests for additional hours to Dr. Morrison-Smith, who may delegate to the TA as needed. When requesting additional hours, **please specify at least 3 times when you are available**.

- Dr. Morrison-Smith: Tuesdays/Thursdays 2:30-3:30pm, Milstien 512

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 is not a graphic design course**.

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. **Please bring a piece of paper and pen or pencil to each class for in-class 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–individual assignments covering non-project-related material.

Canvas
This term we will be using Canvas to view and submit assignments, post course announcements, post optional and required readings, and organize the course. This course requires that you know how to do the following:

- Regularly access your Barnard/Columbia email and Canvas accounts with your username and password.
- Download files to a device, with names and to locations that enable you to easily find them later.
- Save/save as/export files in required formats, with files appropriately named, to personal computing devices and to Canvas.
- Proofread your writing without using automated spell-check features (such as Grammarly).
- Back up work on external devices (USB drives) or cloud services like Canvas, Google Drive, or Dropbox.

- Set the preferences in your Canvas account so that it notifies you of course updates in a timely fashion.
- Contact the IT Help Desk or university librarians when you have questions about any of the above. **The instructor is unable to diagnose technical problems**.

Students who are unfamiliar with Canvas are encouraged to reach out to the instructor or TA **before the end of the first week**.

Canvas Submissions:
All Canvas submissions must be reviewed by the student prior to the submission deadline for full credit. It is the responsibility of the student to verify that their work is submitted successfully. **Blank submissions and corrupted files will not receive credit**. I understand that sometimes Canvas has bugs – if a student is unable to submit their assignment on Canvas, they must submit over email to smorriso@barnard.edu **prior** to the submission deadline. I encourage you to submit your assignments well before the deadlines.

Anonymous Submissions
In general, you will submit individual assignments **anonymously** to facilitate fair grading. Anonymous submissions will be marked as such in the assignment description. When submitting anonymously, **do not include your name or UNI in the submission file or file name**.

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.

Find our class signup link at: TBD

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
- **Please bring a piece of paper and a pen or pencil to every class for in-class activities**

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 or rent 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
- Contextual Design: Design for Life (Interactive Technologies) 2nd Edition, by Holtzblatt and Beyer, ISBN-10 # 0128008946

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 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. Refection – 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

All assignments are due at 11:59pm on their respective day. Individual assignments are marked with *. All assignment descriptions are on Canvas.

Week	Module	Topics	Assignments Due
1	0 & 1	Syllabus, course introduction, HCI Goals	
2	2	Contextual design and inquiry, stages of design, interviewing, critiques	
3	2 & 3	Data collection and modeling	• Project Groups (Tues)

			• Syllabus Agreement (Tues)* • Course Orientation Checklist (Tues)* • Assignment IRB (Sun)* • Project Proposal (Sun)
4	3	Consolidation, UI design, Intro to Accessibility	
5	4 & 5	Visions, task analysis Brainstorming, personas,	• Project Part 1 (Sun) • Project Materials (Sun)
6	5	Scenarios and storyboards, UEDs	• Project Part 1 Video (Wed)
7	N/A	**No class:** Fall A final exam period	• Project Part 1 Critique (Sun)* • Assignment P/S/S (Sun)*
8	6	Affordances, controls, interface metaphors	
9	N/A	TBD	• Assignment Controls (Sun)*
10	6	Wireframing, low fidelity, and paper prototyping	• Project Part 2 (Sun)
11	7 & 8	Evaluation Paradigms Evaluating Methods	• Project Phase 2 Video (Wed)
12	8 & 9	In class evaluations	• Project Phase 2 Critique (Sun)*
13	9	High fidelity prototyping, Gestalt principles	
14	9 & 10	Graphic design, In-class work day	• Assignment Redesign (Sun)*
15	10	**No Class:** Reading Days	• Project System & Evaluation (Sun)

16	10	No Class: No final	• Project Phase 3 Video (Wed) • Group Evaluation Form (Wed)*

Grading:

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

Grade Category	Percentage	Letter	Range (%)
Individual (50%)		A	94–100
Class participation	10%	A-	90–93
Design critiques	10%	B+	87–89
Peer evaluations	5%	B	83–86
Assignments	25%	B-	80–82
		C+	77–79
		C	73–76
		C-	70–72
Group (50%)		D+	67–69
Project preparation	5%	D	63–66
Project videos	15%	D-	60–62
Project reports	30%	F	<62
Total	100%		

<u>NOTE:</u> 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. **It is possible to receive a lower grade on**

a reviewed assignment. 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.

Extensions will be granted for the following circumstances.

* Illness or injury that prevents work (with documentation of duration from medical center)
* Religious holidays
* Other extenuating circumstances on a per-instance basis

Attendance:
Attendance will not be graded. Class participation is graded, however, so if students must miss class, please notify the professor **at least one business day** ahead of time. 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 **at least one business day before the due date** (unless faced with an emergency) 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. Starting the semester late due to the shopping period is not considered an unforeseen circumstance and **extensions will not be granted to students for this reason**.

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, class activities, or looking up relevant information (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, 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, or learn more at 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.