

SYLLABUS

DSGN 100: Prototyping – Winter 2024

Logistics

Lectures: Tuesday and Thursday from 12:30 -1:50 pm.

- Tuesday classes will be remote on zoom.
- Thursday classes are on campus in Peterson Hall (PETER) 103.

Each Tuesday lecture will be recorded in Zoom for you to rewatch, or in case you cannot make it to class. To join Lecture via Zoom, please use this link: <https://ucsd.zoom.us/j/91680014068>

NOTE: We will not be recording Thursday classes. Please try to attend all classes to get the most of this course.

Studios: in DIB 254 (Design and Innovation Building 2nd Floor Makerspaces):

- (A01) Mondays 9:00AM-9:50AM (Instructors: Rachel & Adrian)
- (A02) Mondays 10:00AM-10:50AM (Instructors: Rachel & Adrian)
- (A03) Mondays 11:00AM-11:50AM (Instructors: Tony and Joanne)
- (A04) Mondays 12:00PM-12:50PM (Instructors: Tony and Joanne)

NOTE: Studio sections begin on Monday Jan 8th.

Note that we use a Slack channel for class communication. Please join the Slack channel via this link:

https://join.slack.com/t/dsgn100ucsd/shared_invite/zt-2a09uzbup-RBP5sPL3O3OAcjRD0575MA

The syllabus and class schedule are subject to change. Updates will be posted on Canvas. Important and relevant changes will be announced via Canvas/Slack/or during lectures. It is each student's responsibility to read and frequently check the online syllabus/policies/modules throughout the course.

1. Instructional Team

Instructor: Dr. Bryan Rill ([website](#))

Office hours (Thursdays from 11-12 am or by appointment)

Office Hours Location: Makerspace

Teaching Assistant (TA):

Alexa Wang	alw015@ucsd.edu	Time:	Zoom Link
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Instructional Assistants (IA):

Hartanto, Rachel Sabriana	rhartanto@ucsd.edu	
Meng, Tony	tqmeng@ucsd.edu	
Tolentino, Adrian Mickel	atolenti@ucsd.edu	
Tsai, Joanne	c3tsai@ucsd.edu	

Note: IA Office Hours by appointment only (DM your IA through Slack).

Makerspace Director: David Lesser, daless@ucsd.edu

2. Course Description

This studio course introduces students to the basic practices of prototyping through a focus on working with visual, physical, and digital material. We follow a human-centered design process that includes research, concept generation, prototyping, testing, and refinement. Students must work effectively as individuals and in small teams to create visual designs, information systems, physical devices, and other interactive experiences. Assignments approach design on three levels: specific user interactions, contexts of use, and larger systems. Students will become familiar with design methodologies such as sketching, prototyping, storyboarding, wire framing, user-testing etc. No coding is required. This course serves as a requirement for the cross-department Design Minor.

In the land of design consultancies, designers seldom have enough time or resources to do their work at the level it demands. If you feel a bit overwhelmed by the pace of the class and the amount of work assigned, then you are right where you should be. A big part of this class is to gain a visceral feeling for what designers experience every day. We want you to work fast and to bring an attitude of play and playfulness to the classroom.

Prerequisites: DSGN 1 or another comparable introductory design course.

2.1 Learning Objectives

Students who have successfully completed this course will be able to do the following:

- give and receive feedback in a constructive way during critiques
- sketch as a means of visual exploration and ideation
- give form to design ideas through prototyping
- create physical prototypes using makerspaces
- use visual hierarchy to prioritize information and optimize interactions
- conduct user research to inform a human-centered design process
- create interactive digital experiences (e.g., screen designs)
- effectively test, assess, and iterate on designs
- interpret content in order to meet the needs of multiple stakeholders
- make decisions that build on existing design patterns
- select appropriate methodologies for engaging in a human-centered design process
- understand how designers think in order to collaborate on interdisciplinary teams
- communicate design ideas to a variety of stakeholders

2.2 Critique Guidelines

Critiques are an essential part of the design process, and will be an important part of many lectures and studios. Verbalizing what you see helps you to learn. You are expected to be an active participant in all critiques. You should not expect to get personal feedback on your work every time. We will do our best to distribute feedback evenly across the quarter, and you can meet with us by appointment if you have specific questions. Critiques are not beauty contests. When giving criticism, always describe what you are seeing and experiencing, rather than your opinion as it relates to your personal taste. For example, rather than saying, "I don't like this," it is more constructive to say, "I'm not sure what you want me to look at first," or, "I was drawn to this first, but then I got confused about where to go next," or, "this was hard for me to read – I had to squint my eyes."

Do not take what is said about your work personally, no matter how difficult this seems. These assignments require you to take risks and try new things. Your effort and willingness to approach problems with originality is a greater reflection of your potential as a designer than whether your solution is aesthetically perfect. During a critique, there may be conflicting thoughts and opinions expressed about your work. It is up to you to determine the best way to use the feedback you've received.

3. Course Logistics and Grading

This class will involve a fair amount of discussion and unstructured studio time, in addition to online lectures, in-class activities, student presentations, and group critiques. Grades will reflect performance on assignments, team projects, and participation on assignments and in class. Students are expected to attend online lectures and studios, participate in group activities and discussions, and be a good team member. As a show of respect to fellow students, please fully engage in the class during lectures and sections--do not use your phone, or open other windows or applications.

3.1 Assignments and Grading Overview

The course involves the following aspects and grading percentages:

A1 Memento Design	15%
A2 Poster Design	15%
A3 User Research for Kiosk Design	20%
A4 Prototype an Interactive Kiosk	30%
Reading Reflections	10%
Course Engagement	10%

A1 and A2 are individual assignments, while A3 and A4 will be done in teams from your studio section. These assignments are structured in such a way to clearly communicate the requirements and learning outcomes expected. They are also designed to give you an opportunity to put into practice course concepts from the lectures, readings, and critiques. See the Assignments section for details about each one.

All assignments will be due BEFORE 11:59 pm on the date indicated in the instructions and schedule unless otherwise specified. Any and all assignments submitted after the 11:59pm cutoff are subject to a recurring 10% reduction in the total possible points. This policy applies to both individual AND group submissions.

For example an assignment that is worth 20 points that is due before 11:59pm on day 0:

- Submitted anytime on the 1st day late (up to 11:59pm): 18 points possible
- Submitted anytime on the 2nd day late (up to 11:59pm): 16 points possible
- Submitted anytime on the 3rd day late (up to 11:59pm): 14 points possible
- Submitted anytime on the 4th day late (up to 11:59pm): 12 points possible
- Anything submitted after 11:59pm on the 4th day (entering into the 5th day of being late) will automatically be marked as a zero in the grade book

Note: consistent with the above policies, it is each student's/group's responsibility to check and verify their submission is correct (such as the correct file). Any submission errors will be subject to the same late assignment policy outlined above.

Full details found under "Assignments" on Canvas.

3.2 Lecture and Studio Sections

Lectures will start on Tuesday Jan 8th. This is a hybrid class, with Tuesdays being remote and Thursdays in person on campus. *Thursday attendance on campus is required.* This format will introduce you to the realities of mixed work environments in the professional world. Class recordings will be available within 24 hours in the weekly module on Canvas.

Lectures will also include many in-class activities, peer exercises, critiques on work-in-progress, and team presentations. Dr. Rill will leave time at the end of the lectures for clarification, discussion, and Q&A. *The lecture recordings will not capture in-class activities or Q&A periods, so attending lecture in person is highly recommended.*

Studio sections will meet IN PERSON each week starting on Mon Jan 15th. Since the course will rely heavily on the new makerspace in the Design and Innovation building, we will require students to come in person. Studio sections will not be recorded. Section leaders will take attendance and this will contribute to the Course Engagement portion of the grade. Section times provide the primary opportunity for students to interact with their assigned IAs. *Monday studio attendance is required.*

3.3 Readings and Reading Responses

We have selected a series of short engaging essays, mostly written by practitioners, to guide your design work this quarter. The required readings and reflections are expected to be completed by all students BEFORE we discuss them in class (due the day they appear in the schedule). Each assignment will also include additional optional readings for those that wish to delve more deeply into a theme or concept, have additional/alternative perspectives on a topic, or to provide more background and supporting relevant ideas for assignments.

There will be nine graded Reading Responses starting in Week 1 and ending in Week 9. The reading reflections are due on Canvas before we discuss them in the lectures and should cover all readings posted for that week. The same late policy for assignments will also apply to reading reflections.

Full details on the "Readings and Reflections" page on Canvas.

3.4 Participation and Engagement

Engagement in this course is vital for your success. There will be many opportunities throughout the quarter to participate and engage with instructors and peers. The overall participation grade will take into account factors such as interacting with others during lecture and studios, participating in Canvas reading discussions, making Slack contributions, submitting work for crits, and commenting on others' work during crits. *Students are required to attend Monday studios and Thursday lectures.*

4. Class policies

We are committed to creating a class culture that is respectful, fair, inclusive, challenging, and rewarding. We invite critical engagement with the course material and differences of opinion expressed in a respectful manner. The instructional team will support your success by providing high quality content and learning opportunities based on educational research. Ultimately,

students carry the responsibility for their own learning and academic success. Students who use the syllabus, policies, and course website, engage with discussions/activities, complete all assigned readings, complete all assignments, and go to office hours as needed will get the greatest return on their investment in this course. For additional student support services, please visit caps.ucsd.edu

4.1 Accommodations for Special Needs

Students requesting accommodations for this course due to a special need or disability must provide a current Authorization for Accommodation (AFA) letter issued by the Office for Students with Disabilities (OSD), which is located in University Center 202 behind Center Hall. Students are required to present their AFA letters to faculty and to the OSD Liaison in the department in advance so we can arrange proper accommodations. Contact the OSD for further information: 858-534-4382, osd@ucsd.edu, disabilities.ucsd.edu.

4.2 Academic Integrity

We will uphold UCSD's commitment to academic integrity and will enforce University rules regarding cheating, plagiarism, and any form of academic dishonesty. Any evidence of academic misconduct will be reported to the UCSD Academic Integrity Office. We encourage you to discuss assignments and readings with your peers. All assignments, however, must be written by you, must contain your own ideas and words, and must clearly indicate where the ideas or words of others have been incorporated into your assignment by including appropriate citations. This applies to *all* submitted work, including drafts.

4.2. Extenuating Circumstances

In the policies above, we have noted that there may sometimes be extenuating circumstances that do not fall under the guidelines or situations discussed. We are sensitive to the fact that such events can arise—especially given the unique circumstances on this time—and we are here to support you and handle them accordingly. While all of the above policies are meant to serve as a “catch-all” means of preemptively resolving the majority of scenarios, you should still know that we will be reasonable, understanding, and fair in accommodating things such as:

- Being hospitalized or otherwise having a doctor's note excusing you from class
- Death of a loved one
- OSD accommodations
- Other unforeseeable circumstances that are an exception to the typical cases discussed above, to be determined at my discretion

If you feel comfortable doing so, you are encouraged to DM your IA, the TAs or the instructor concerning these matters.

SCHEDULE

WEEK 1

Monday Jan 8th (in studio sections)

- Get to know your IAs
- Icebreakers
- Introduction to the laser cutter
- Watch lasercutter videos: (<https://youtu.be/ecyz2G3hEMA>)
(<https://youtu.be/4LyPF47bh9E>)

Tuesday Jan 8

- LECTURE: Course Introduction (design process, logistics, syllabus)
- ASSIGNMENTS: Introduce A1 (memento design)
- ACTIVITIES: sketching exercises

Thurs Jan 11

- LECTURE: Makerspaces and laser cutters
- Guest lecturer: David Lesser, Director of DIB Makerspace
- Critique memento designs
- *Reading reflection due: Hallgrímsson on Prototyping and Modelmaking in Product Design (pages 6-26)*
- Sign Docusign waivers for makerspace (A1: Stage 0)
- Start on sketches for A1

WEEK 2

Monday Jan 15 (MLK Holiday- no studio)

Tuesday Jan 16

- Introduction to design critiques
- LECTURE: Visual Emphasis
- ACTIVITY: Bring memento sketches to share (A1 Stage 1)
- *Reading reflection due: Christensen on [Critique at Facebook](#)*

Thursday Jan 18

- MINI LECTURE: Building Cross Functional Teams
- ASSIGNMENT: Team skills assessment

- A1 work session: Inscape design time, Using the laser cutter to print and iterate on your designs

WEEK 3

Monday Jan 22 (in studio sections)

- A1 work session (using the laser cutter to print and iterate on your designs)

Tuesday Jan 23

- LECTURE: Text and Grids
- ASSIGNMENTS: Introduce A2 (poster design), Stage 0
- *Reading Reflection due: Lupton on Letter, Text, Grid*
- ACTIVITY: Grid demo in Figma and text exercise (Typographic diseases)

Thursday Jan 25

- A2 critique: share poster examples to discuss what's good/bad (stage 0)
- A2 work session (Stage 1)
- A1 ASSIGNMENT DUE: submit PDF on canvas (due Friday by 11:59 pm)

WEEK 4

Monday Jan 29 (in studio sections)

- A1 critique: Showcase Memento Designs (Final crit)
- *Bring your mementos to studio!*

Tuesday Jan 30

- A2 critique: share sketches for poster design (stage 1)
 - Upload images to Google slides
- LECTURE: Visual Organization
- ASSIGNMENTS: A2 Stage 2

Thursday Feb 1

- A2 critique: Share two black-white prints (stage 2)
 - Print and bring full size posters to class
- *Reading reflection due: Meggs on Image-Text*
- LECTURE: Image & Color
- ASSIGNMENTS: A2 Stage 3

WEEK 5

Monday Feb 5 (in studio sections)

- A2 critique: Two color versions (stage 3)
 - Upload images to Google slides
- A2 Spray mount demonstration (video)

- A2 work session: iterate designs

Tuesday Feb 6

- LECTURE: User Research
- ASSIGNMENTS: Introduce A3 (User research and conceptualization for interactive kiosk)
- *Reading reflection due: QuestionPro on Secondary Research; Hall and Fernando on Interviewing*
- Announce A3 Team assignments
- A3 work session: team prep, social contract

Thursday Feb 8

- A2 critique: Showcase event posters (Final Crit)
- A2 ASSIGNMENT DUE: submit PDF on Canvas
- A3 work session: research brief, secondary research

WEEK 6

Monday Feb 12 (in studio sections)

- A3 work session: online research and fieldwork
- A3 learn the basics of Miro

Tuesday Feb 13

- LECTURE: Personas and Scenarios
- POV Madlibs
- A3 work session: Miro brainstorming exercises
- *Reading reflection due: Cooper 2003 and Dam & Siang on Personas; Babich on Storyboarding in UX Design*

Thursday Feb 15

- LECTURE: Storyboarding and Interviewing
- ACTIVITY: Sketching human forms
- A3 work session: storyboards and interview guides

WEEK 7

Monday Feb 19 (Presidents' day Holiday, no class)

Tuesday Feb 20

- A3 Crit: share draft personas, storyboards, and interview guides
- LECTURE: Qualitative Data analysis
- *Reading reflection due: Delve on The Essential Guide to Coding Qualitative Data*
- A3 work session/ assignment: Practice interviewing

Thursday Feb 22

- A3 work session: interviews, analysis, and slide decks
- LECTURE: Prototyping Theory
- ASSIGNMENTS: Introduce A4 (Prototyping an interactive kiosk)

WEEK 8

Monday Feb 26 (in studio sections)

- ASSIGNMENT: User research talks (5-7 minutes per team)
- A3 ASSIGNMENT DUE: submit PDF on canvas

Tuesday Feb 27

- LECTURE: Wireframing and Paper Prototyping
- A4 work session: wireframing and paper prototyping
- *Reading reflection due: Fanguy on Wireframing vs. Prototyping; Babich on The Magic of Paper Prototyping*

Thursday Feb 29

- Figma Wireframing Demo & Industry Tips
- A4 work session: wireframing and paper prototyping
- *Reading reflection due: Saarinen on Building a Visual Language, Nicole Saidy "[How to streamline your UI/UX workflow with Figma \(Links to an external site.\)](#)"*

WEEK 9

Monday Mar 4 (in studio sections)

- ASSIGNMENT: digital and paper prototyping with peers

Tuesday Mar 5

- LECTURE: Interactivity
- ACTIVITY: "Wizard of Oz" method
- A4 work session: work on specs for kiosk chassis, prototype revisions

Thursday Mar 7

- LECTURE: Design Systems
- A4 work session: moodboards and style guide

WEEK 10

Monday Mar 11 (in studio sections)

- A4 Crit: bring moodboards and style guides to share
- A4 work session: fabricate chassis; iterate on style guides

Tuesday Mar 12

- LECTURE: Hi-Fi Prototyping and User Testing

- A4 work session: design hi-fi screens; prep for user testing
- *Reading reflection due: Moran on Usability Testing 101; [Babich on Usability Testing: Moderated vs Unmoderated](#)*
- ASSIGNMENT: refine digital designs; fabricate chassis

Thursday Mar 14

- LECTURE: Presenting Deliverables
- A4 work session: User testing (in class)
- ASSIGNMENT: synthesize feedback, finalize digital designs and Kiosk chassis.

WEEK 11

Final Exam Day (Mar 19)

- A4 Final Presentations: Showcase Kiosks in DIB208
- A4 ASSIGNMENT DUE: submit PDF on canvas