Design Teaching Portfolio

Teaching Philosophy

Throughout my time at the University of Illinois Urbana-Champaign (UIUC), first as a graduate student and now as a Lecturer and Senior Design Strategist, I have developed a true passion for teaching and working with the exemplary students and the cohort brought together by an R1 University. Engaging with students through created lesson plans and hands on project structures has been the most rewarding parts of my time with UIUC. I look forward to the opportunity to continue learning through teaching as I progress through my career. Teaching studios, seminars, and workshops has provided me with the experience necessary to develop my own teaching style, as well as the opportunity to collaborate with other instructors across course sections in order to provide a more comprehensive educational experience for students.

In the classroom, I work to provide demonstrations, beneficial feedback, and critique, while encouraging independent learning and providing tools for problem solving and self-sufficiency. Throughout each course students engage in the learning process through research, iteration, creation, critique, and reflection; making improvement to their skills through hands-on experience and practice. As I guide students through a human-centered design process, emphasizing the importance of context (user, task, environment) and design integrity, I make intentional decisions to reduce scaffolding for students over time so they might learn to develop individual design processes and self-motivation to demonstrate an exceptional level of skill in each representation of their work.

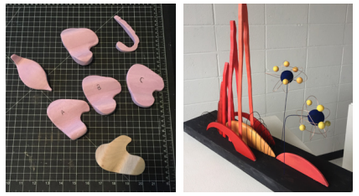
As students progress through the design process of each project, one-on-one check-ins are key in helping students navigate their own thought process and develop the narrative of their design. Introducing new questions and ways of thinking allows students to explore their ideas in supported discussion, talking through the intentions and story of a user's interaction with their design concept, and demonstrating conceptual advancements for proof of concept. Students must learn to communicate their designs and sometimes that means they must embrace their days of "bad" sketching, learn to let ideas flow; focusing on quality of concept over quality of render in the initial stages of a design. This practice of explaining and visualizing thought process, allows students to create forms with purpose and learn design representation skills in stages, as they check-in on concepts, visual narrative, and fabrication methods. I believe it is important to push students to identify worthwhile problems and product opportunities, while also supporting their initial inspiration or insight, frequently these ideas can be advanced by asking students to empathize with extreme users and consider analogous situations; encouraging them to reflect on their own concept and come to a resolution.

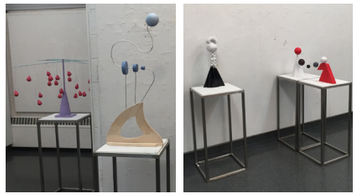
While one-on-one discussions help to guide individual student projects, it is also important to introduce forms of group feedback and critique. As students learn to explain their concepts to their peers and are subject to both positive and negative feedback they will learn to trust both their design colleagues and themselves, knowing when they should follow their own research or instinct over another's opinion. Decisiveness is a skill that must be honed in each designer, as there will always be a surplus of input and opinion on any project. Similarly, group projects allow students to begin to negotiate the complex social structures that exist in collaborative environments; learning as much about themselves as they do the project they pursue. Each of these group exercises help students to begin separating 'self' from work, garnering a sense of confidence in themselves and their ability to solve the problem; learning to step back and reassess when feedback is negative, and more importantly not developing design arrogance if feedback is positive.

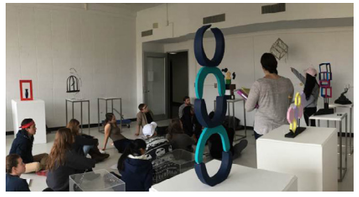
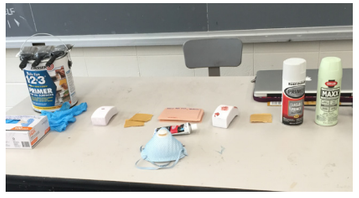
With each new semester, I like to revisit course goals and student learning objectives in order to create and refresh projects that will lead students to build new and necessary skills. Making connections and searching out interdisciplinary campus and community involvement can provide new topics of inspiration for students, while also highlighting the value of design across these contexts. By engaging students in projects with topics of cultural importance, they can expand their user-centered and literary research skills; diving deep into topics they never expected.

With each project developed, individually or collaboratively, I incorporate project constraints to guide students, but also allow some flexibility for student growth and idea evolution when necessary. The developed constraints of many of these projects have also allowed me to begin exploring some research questions related to instructional interventions, factors that influence student engagement, risk taking, and learning outcomes. In exploring these areas, I can begin to identify strengths and weaknesses of projects both through outcomes and student feedback, most often provided through reflective writing in order to encourage and develop written communication skills. This practice allows me to improve instructional methods and project structures as well as disseminate findings for publication.

During my time in the classroom there are a few things I have come to firmly believe. Design is not a place for apathy or arrogance, there is always room for improvement in any concept or project, and both time management and decisiveness are integral to success. As I continue my teaching career, my goal is to support students in thinking big and developing skills to best express their ideas, leaning into their strengths while making improvements to weaknesses. Teaching has helped me to shape my own process and research as a designer, as I expect the same high quality work from my students as I do myself. My hope is to instill a love of design in each student; inspiring them to explore and expand what it means to be a designer. I look forward to sharing my experiences and course inspiration from UIUC and Carnegie Mellon University, as I expand upon my research and grow as an educator.





ArtD 103: Foundations

Fall 2016 | Duration: 2 Sections, 8 weeks each

Project 1: Group Marble Track
Students worked in groups to create a marble track, each student was responsible for creating one section that moved the marble in a way that symbolized one word they use to describe their personality.

Project 2: Handheld Wooden Form
Students explored methods for creating forms with complex multi-directional curves.

Project 3: Balance + Intersection
Given three materials (foam, wood, and wire) students where asked to create sculptures that played with the concepts of balance and intersection.

Project 4: Form in Motion
Students created simple gear structures to bring a cut paper scene to life through an automaton toy.

ArtD 201: Industrial Design I

Fall 2017 | Duration:16 weeks

Project 1: Body Support using Cardboard
Using only cardboard students were tasked with creating a human body support for a specific context location.

Project 2: Discarded to Precious
After contemplating the meaning of preciousness and nomadic existence, students were required to transform discarded materials into an item they determined was precious.

Project 3: Plant Sustaining System
Students explored methods for keeping plants alive in various indoor locations, without the need for frequent human care.

Project 4: User Centered Lighting
Lighting greatly impacts many facets of every day life, students focused on specific user groups to create lighting elements that would enhance the lives of users.

ArtD 201 + 202: Workshops

Fall 2016 + Spring 2017 | Duration: 16 Sections, 16 weeks each

Workshop Topics:
Adobe creative suite (InDesign, Illustrator, Photoshop), studio photography, posters, mood boards, portfolios, storyboarding, low fidelity models, urethane foam models, finishing methods, soft goods, independent problem solving, large format printing, lasercutting, documenting process, etc.

ArtD 202: Industrial Design II

Spring 2017 | Duration: 16 weeks

Project 1: Biomimicry
Students explored inspiration from the natural world in order to identify product forms and functions that might resolve user needs.

Project 2: Discarded to Precious
After contemplating the meaning of preciousness, students were required to transform discarded materials into an item they determined was precious.

Project 3: Canine Wheelchair Project
Students worked in groups to design canine mobility products that took into account the needs and limitations of the dog, the owner, and the people fabricating the product.

Project 4: Transportation + Aging
Students were asked to consider what it means to age, how they would like to age, and how aging influences transportation. After creating visual representations of each consideration, students completed transportation interviews with a person of advanced age before creating conceptual design solutions to resolve user need.

Drawing Exercise: Self Portraits
Students were asked to draw 3 self portraits, first with their foot, then their nondominant hand, and lastly with their dominant hand.

Spring 2018 | Duration: 16 weeks

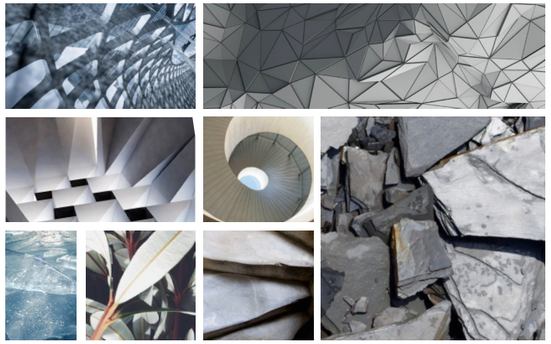
Project 1: Biomimicry
Students will explore inspiration from the natural world in order to identify product forms and functions that might resolve user needs.

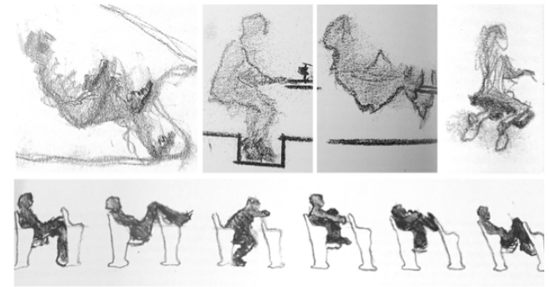
Project 2: Reverse Engineering Form
Students will recreate and improve an assigned product form in various mediums of design representation, in order to emphasize the importance of detail accuracy.

Project 3: Authentic Human Behavior
Students will observe human behavior in their surrounds, paying special attention to misused products in order to identify a product opportunity gap or user need.

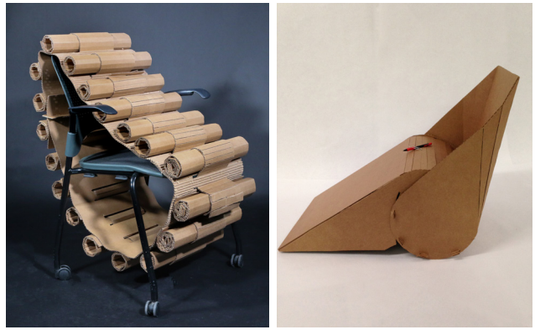
Project 3+: Brand Juxtaposition
Students will complete basic brand identity research in order to apply styling elements to their authentic human behavior product in a quick aesthetic redesign rendering.

Project 4: Imagined Future
Students will make predictions about future needs of user groups in an extreme climate change situation, students will research and begin a design process before switching topics and concepts with a classmate to complete the design process.





Imagery provided as reference for student observation sketches.
(*Rethinking Sitting* by Peter Opsvik)



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ArtD201: F17
Industrial Design I
University of Illinois
Urbana-Champaign

Body Support using Cardboard

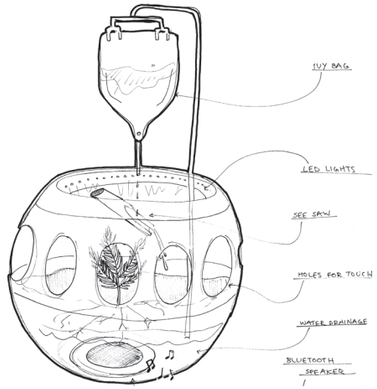
Project Duration: 3 weeks

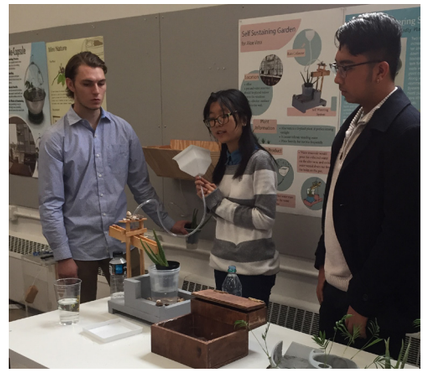
Project Synopsis

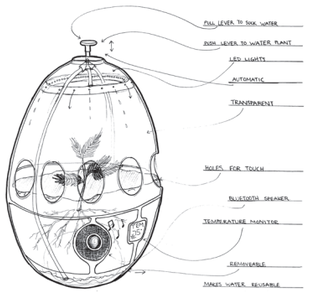
As an introduction to preliminary design process, students were asked to create a human body support out of a single material, cardboard, for a specific context. Students were required to observe an assigned context and make observations about human behavior in that space, documenting their exploration through notes, sketches, and photographs. Upon completion of initial observations, students participated in collaborative mind mapping in order to gain insight into the diverse, individual perspectives of classmates.

Each student was then asked to create a mood board that would inspire and accompany their final model, introducing the use of imagery as a tool for creating a distinct feeling a design is intended to convey to viewers and users. Continuing the design process, students began sketching and testing the provided material, creating low fidelity scaled models to test form and structure before building a final full scale model. Students were required to photograph their models prior to presenting and testing them in context.

Project developed with Dr. Deana McDonagh and Professor Simrun Sethi © 2017







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Plant Sustaining System

Project Duration: 4.5 weeks

ArtD201
Industrial Design I
University of Illinois
Urbana-Champaign

Project Description

There are many benefits to keeping plants in an environment, including some directly impacting human health and wellbeing. Unfortunately, caring for plants can often pose some difficulties, as they need the appropriate amount of sunlight and water in order to sustain life. The goal of this project was to create a design that will help sustain the life of a plant by providing it water over a prolonged period of time. This design was required to provide necessary hydration and allow for adequate sunlight to reach the plant.

For this project students worked with a group to identify and research a plant species and intended location that their design will support. After the initial research and ideation process was complete, each student was required to create an individual functional model that belongs in the family of objects created by their group.

Project Objectives

1. Students will engage in collaboration with group members to determine a design direction and overall aesthetic.
2. Students will follow an iterative design process from start to finish, completing multiple generations of their design before fabricating the final model.
3. Students will learn to use new tools and finishing processes within the 3D Lab, including the lathe, thermoform, and bondo/primer finishing process.
4. Students will demonstrate their project narrative through a graphic poster and demonstrative presentation.

Design Requirements

1. The designed system must provide water to the plant over a prolonged period of time.
2. The designed system must be waterproofed in necessary areas (i.e. don't use the urethane foam as the water access point - your final model shouldn't leak).
3. Materials must be finished: all urethane foam needs to be finished with bondo and painted with grey sandable primer, wood elements must be sanded and either painted with grey sandable primer or coated with clear polyurethane.
4. Students must use the thermoform machine to create a portion of their design.

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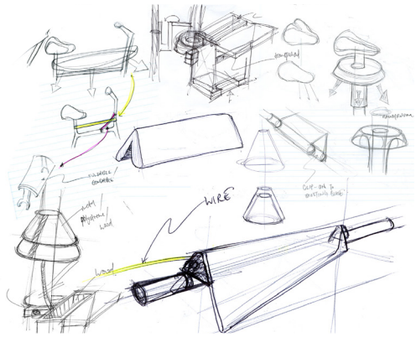

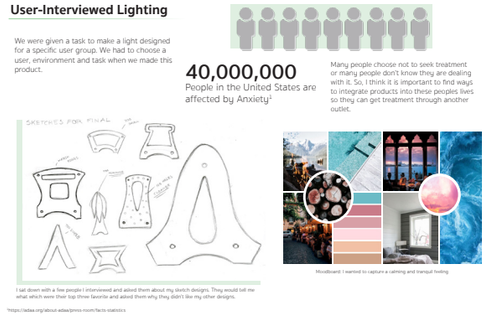

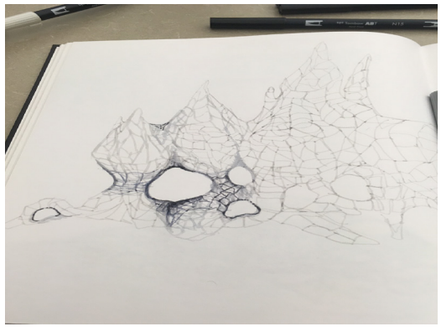

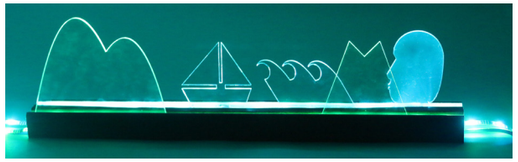

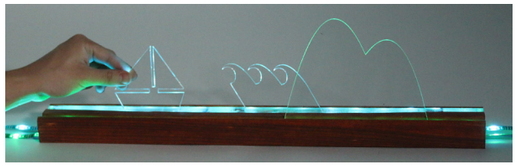

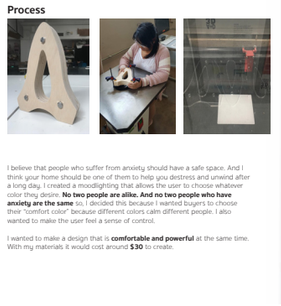

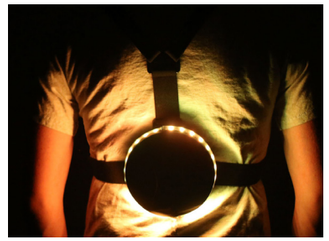

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ArtD201
Industrial Design I
University of Illinois
Urbana-Champaign

User-Centered Lighting

Project Duration: 6 weeks

Project Description

Light plays a remarkably important role in everyday life. The presence or absence of light can influence our mood, behavior, and health. As lighting is such an important aspect of everyday life, this project focused on creating a lighting element for a specific user group. In order to create user-centered lighting; students needed to identify user, task, and environment. Thorough research into context and user needs was completed, as well as user feedback on early concepts and prototypes.

Each student worked individually to create a functional prototype (had to light up!) using the fabrications methods identified as appropriate for creating the form and functionality. While the lighting element needed to work, it did not necessarily need to demonstrate the full range of functions intended for the product. In order to ensure that each student's portfolio shows a wide breadth, students were asked to select a group or environment that they had not worked with in the past. This project was an opportunity for students to explore new materials, while keeping in mind that they were designing a product that should be reproducable.

Project Objectives

1. Students will gain experience interviewing target product users in demographics other than their own, and will extract and present conclusions about user needs.
2. Students will continue to refine concept selection skills through presentation and critique of research prior to final model execution.
3. Students will gain more understanding of the appropriate level of low fidelity prototyping for a given design project
4. Students will gain experience in a 3D fabrication environment and a better understanding of useful techniques with tools on different types of materials, as well as paint and finishing techniques.
5. Students will develop experience evaluating the effect of light and color on form through low and high fidelity model execution.
6. Students will learn how to effectively communicate a design concept in a multi-page portfolio page spread.

Design Requirements

1. Students need to create a working prototype based on identified user needs. This prototype will be demonstrated in a final presentation.
2. Students need to interview at least one member of their user group about developed concepts.
3. Students must complete research and cite 5-7 references in their final project documentation.
4. Students will complete a 2-page portfolio spread for this project that will be inserted directly into their developing portfolio.

Project developed with Dr. Deana McDonagh and Professor Simrun Sethi © 2017

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ArtD201 + 202
Industrial Design I
University of Illinois
Urbana-Champaign

Discarded to Precious

Project Duration: 1.5 weeks

Part 1: Research

Exploring Meaning
This project focused on transforming discarded materials to create a designed form that could be considered precious. Students were asked to consider what 'precious; meant to them. This definition may vary across cultures and from person to person.

Designing for Nomadic Lifestyle
Students considered the people displaced by recent natural disasters; uprooted from their homes, these people traveled to safety with only their most precious possessions. These possessions are all precious to their owners for differing reasons, some carry person significance and others serve a function, to maintain a high quality of life. As students designed their discarded to precious forms, they were asked to consider how the item they were creating might be elevated to the status of precious for someone who travels with few belongings (natural disasters, nomadic cultures, or homelessness).

Part 2: Form Generation

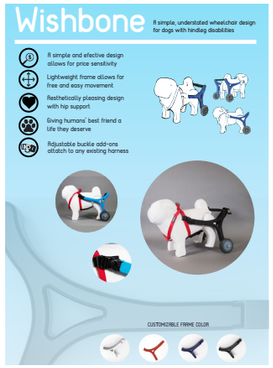
Material Explorations
Students were allowed to use any discarded material(s) they could find to create a final form, with special focus on truly transforming the material(s).

Final Forms
The final form needed to be functional and aesthetically pleasing. This meant students could repurpose any materials they saw fit but the final outcome ccould not be a representation of an object but the object itself.

Part 3: Requirements

1. Find and read at least three (3) articles to inspire your definition of precious for a nomadic lifestyle. These articles may focus on recent natural disasters, traditional nomadic cultures, or homelessness.
2. Transform the discarded material(s) of your choice to create a designed form that could be considered precious for a nomadic lifestyle.
3. Students may spend no more than $10 on this project (primarily for fasteners and adhesives)

Project developed with Dr. Deana McDonagh © 2017



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ArtD202
Industrial Design II
University of Illinois
Urbana-Champaign

Canine Wheelchair Project

Project Duration: 7.5 weeks

Project Description

This project brings together many organizations across the state in order to create a project that will benefit students at high schools in Southern Illinois, incarcerated offenders at the Vienna Correctional Center, and rescued dogs from the midwest area. Teams of sophomore industrial design students, were asked to develop a physical solution for the problem of disabled dog mobility. As a team students worked through the design development process (researching, ideating, sketching, creating low fidelity and functional models) in order to create a final functional product that utilizes the 3D printing and shop production capabilities of the collaborating high schools, that can be assembled by offenders at the Vienna Correctional Center. These devices needed to be adjustable for dogs of varying sizes, but primarily focused on dogs around the size of a pug to start.

Project Objectives

1. Students will complete an extensive research process that explores the needs of both animal and human users.
2. Students will work with a group to manage the project timeline, materials, responsibilities, and development.
3. Students will create mechanically functional models through an iterative design and testing process.
4. Students will learn to roughly estimate the material cost of generating one unit of their final design.
5. Students will consider the manufacturing process for their designs and communicate assembly instructions for the next stages of the project.

Materials and Constraints

1. Low fidelity models should be constructed out of appropriate materials
2. No 3D printing until final presentation model
3. Final model should be functional and a very accurate representation of what would be built, using as many real materials as possible

Project Collaborators

College of ACES, University of Illinois Extension: Johnson County
Vienna Correctional Center
Vienna High School, Vienna,IL
Century Middle & High School, Ullin, IL
Kentuckiana Pug Rescue

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