

Undergraduate Minor in Human-Centered Design Proposal

Offered by the Institute of Design (ID) starting Fall 2020
December 3, 2019

Rationale and target students

The minor in Human-Centered Design provides undergraduate students with exposure to the field and techniques of the modern-day practice of design. The minor is relevant to students interested in leveraging design thinking and creative skills towards their undergraduate major and associated careers.

The minor will provide undergraduate student access to the Institute of Design without requiring prerequisite undergraduate degrees in design or equivalent professional experience. Over time, depending on demand, additional courses from the Institute of Design may be offered.

Curriculum

15 credits are needed to earn the minor. The required courses expose students to human-centered design philosophy and foundational design techniques, while the elective courses allow students to stay focused on their major or explore other schools while still building a minimum understanding of contemporary design.

Required design courses - 6 credits

- ID 410 Introduction to Design Processes (3crs)
- ID 420 Fundamentals of Design (3crs)

Required interdisciplinary courses - 3 credits

- IPRO 497 (3crs)

Domain-specific - choose a minimum of 6 credits**

- HUM 371 Fundamentals of Game Design
- HUM 372 Interactive Storytelling
- ITMD 361 Fundamentals of Web Development
- ITMD 362 HCI Web Design
- MMAE 232 Design for Innovation
- MMAE 445 Computer Aided Design
- COMM 424 Document Design

***Courses in colleges outside of ID may include prerequisites or have restricted enrollment. Some 4th year undergraduate students may be allowed to enroll in 500 level courses at ID on a case by case basis as assessed by ID faculty and the student's advisor.*

Protocol for adding domain specific courses

Depending on demand, additional courses can be added to the domain specific electives list by any college. The process starts with a proposal of a current course to the Institute of Design. A committee of ID faculty will review the syllabus and determine if the course is following a human-centered design philosophy and complementary to the required courses. If approved, ID will add the proposed course to the domain-specific electives list.

ID 410 Introduction to Design Processes

Introduction to the typical process and tools designers use to solve fuzzy problems

Course Overview

This course is an introduction to the typical process and tools designers use to understand fuzzy problems and develop insightful directions to pursue. It begins with a review of different approaches to analysis and synthesis. Students also work on a real-world project, allowing them to progress through the major phases of the process, including problem framing, creating and using frameworks for analysis, generating insights, establishing a point of view, and synthesizing directions.

Learning Objectives

Students enrolled in this course will learn a variety of approaches and tools of analysis and synthesis that generate deep insights and innovative solutions. Typical heuristics along with more elaborate and structured approaches will be covered. Both generative as well as evaluative techniques will be included to maximize exposure to the field of design and its philosophy.

Learning Outcomes

- Describe the role of analysis and synthesis in the design process
- Outline a range of approaches and methods, highlighting their strengths and weakness
- Select analysis and synthesis methods appropriate for a problem

Course Outline

1. Solving problems
2. Product and engineering design
3. Design thinking
4. Strategy formulation
5. Start up thinking
6. Lean thinking
7. Wrap up and presentations

Format & Grading

Grading is based on contributions to class discussions, weekly progress, and final paper/presentation

Enrollment Restrictions

No prerequisites.

ID 420 Fundamentals of Design

Examines the principles and methods of prototyping and visual representations for all stages of the design process.

Course Overview

Design, being an extremely expansive field, includes experts with highly specialized skills. This course examines the principles and methods of two fundamental skills in prototyping and visual representation. These skills help designers to make ideas more readily understandable, supporting perception, cognition and insightful decision-making.

Although prototyping and communication is often thought of as coming at the end of the design process to verify and explain a solution, our approach maintains that prototyping and visual communication needs to happen throughout the process from initial research to storytelling, to concept generation, and lastly to refine and improve a selected direction.

Learning Objectives

Students will gain an understanding of (through short exercises and lectures) fundamental types of prototypes and visual communication and the logic for when and how to employ their techniques.

- Prototyping framework: Inspire, Evolve, Validate
 - Experience vs. resolution
 - Brainstorming
 - Inspiration collage
 - Franken-prototypes
 - Scenarios
 - Sketch modeling
- Basic visual communication design methods and principles
 - Content categories
 - Communication goals and audience situations
 - Different sign systems—text, pictures, diagrams—for effective and clear communication

Learning Outcomes

- Demonstrate the application of methods covered through practice projects
- Able to discern and describe the appropriateness of different methods for different contexts and positions within a design development cycle
- An improved understanding of information related to describing a problem/solution and the various ways in which it can be represented via sign systems
- Able to create visual representations through applying basic visual communication principles in layout and typography

Course Outline

1. <TBD>

Format & Grading

Grades will be based on the student's contribution to discussion and the quantity, quality, and progress of his/her work. Quality work will be highly tangible, conceptually strong, and visually clear.

Enrollment Restrictions

No prerequisites.