

# LINC 77B: DESIGN THINKING & TINKERING

## Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2023
Units:	2
Hours:	2 lecture per week (24 total per quarter)
Advisory:	Experience with internet software tools, browsers, hyperlinks, online media resources, and basic skills using a computer.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

## Student Learning Outcomes

- Define and explain the design thinking process and specify how prototyping is integral to the process.
- Research problems that need solutions that can be prototyped with low-tech, high-tech, and digital resources.

## Description

Student participants from community, business, and education practice design thinking, a process that innovators, designers, policy makers, and educators are using to develop innovative and collaborative solutions to real world challenges. Participants use the design thinking process as they build low resolution prototype models using both physical and digital materials. Focus is on working individually and in teams, to hone skills of defining problems, collecting information, brainstorming, and developing solutions.

## Course Objectives

The student will be able to:

1. Define and explain the design thinking process and specify how prototyping is integral to the process
2. Research problems that need solutions that can be prototyped with low-tech and high-tech resources
3. Apply the prototyping process in a larger design thinking project
4. Create multiple prototypes for problems that have been identified through the design thinking process

## Course Content

1. Design thinking process and ideation
  - a. Empathize, define the problem, ideate, prototype, test
  - b. Ideation importance and types
2. Problems that need solutions
  - a. In education
  - b. In business

- c. In industry
  - d. In government
3. Prototyping process
    - a. Ideation
    - b. Iterative testing and redesigning
    - c. Finalizing a prototype
  4. Creation of multiple prototypes
    - a. Low tech
    - b. High tech
    - c. Digital

## Lab Content

Not applicable.

## Special Facilities and/or Equipment

1. When offered on/off campus: Lecture room equipped with projector, whiteboard, and a demonstration computer connected online. Computer laboratories equipped with computers or laptops with internet access.
2. When taught via the internet: Students must have current email accounts and ongoing access to computers with web browsing capability and internet access.

## Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

- Developing a project utilizing design thinking and prototyping to solve a problem
- Presenting their design thinking project to peers and providing constructive feedback to peers' projects
- Making constructive contributions to class discussions

## Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

Lecture presentations delivered in student-centered learning style, during which students take notes, follow demonstrations, or complete an activity

- Facilitated discussions of live presentations, readings, or video presentations
- Student presentations in small group and whole class situations
- Creation of prototypes

## Representative Text(s) and Other Materials

Instructor-assigned notes, materials, and resources, including instructional materials, open education resources, multimedia, and websites.

## Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Reading assignments include analysis of texts, selected examples, and student projects

2. Writing assignments include a course project and multiple developmental projects, reflections, discussion responses, and peer feedback on projects
3. Outside assignments include project planning and development, participation in online peer collaboration activities, and project development through an iterative process

When taught online, these methods may take the form of multimedia and web-based presentations. Assignments will be submitted online as well.

## **Discipline(s)**

Instructional Design/Technology