

PEOPLE TO PRODUCTS

EL3331 - Engineering Design: People to Products

Fall 2020

Course Overview

This course is the first in a two-course sequence on Design and Entrepreneurship required for the B.S. in Engineering Leadership. However, it's much more than that. It is intended to give you an opportunity to **experience** the human-centered design process from start to finish **2.5 times** in a single semester. You will go from interacting with people to developing a product that could provide them with a better future. This course is not for the faint-hearted. It will take stepping outside your comfort zone, learning to interact with people, resolving conflicts on your team, and developing a functional prototype. Your professors will be there as your advisors and mentors, but you and your users will be your guide. It will be hugely rewarding and very fun, but will take a lot of work. So let's get started!

*"Design thinking is a human-centered approach to innovation that draws from the designer's toolkit to integrate the **needs of people**, the possibilities of **technology**, and the requirements for **business success**."*

- Tim Brown, President and
CEO of IDEO

Course Activities

Throughout the semester, you will be on three different design teams, each focused on a different target people group. As such, you will be unleashing your creative genius on the following major activities during each of three design experiences. In general, each design experience will go through the phases of Exploration, Ideation, and Design Implementation. You will:

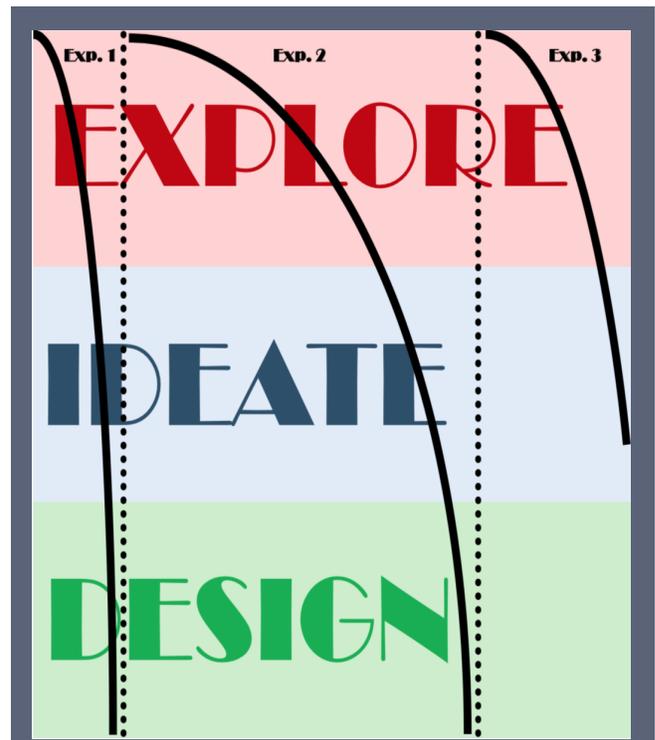
- Learn a variety of key tools and techniques for each phase.
- Identify and apply relevant tools to your given projects.
- Iteratively implement these techniques while engaging with users.
- Deliver your final result.
- Deepen your ability to function as a leader and member of a high performing team using Scrum methodologies.

Each phase will include a combination of the following assignments:

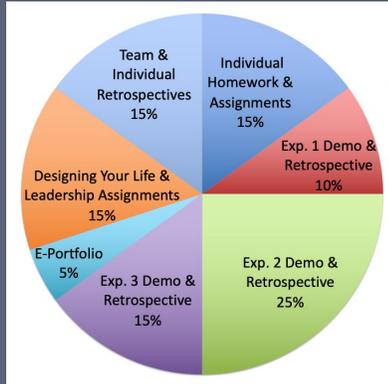
- Individual reflections (Retrospectives)
- Interviews with individuals in you target people group
- Team evaluations and retrospectives
- Engineering Design Notebook
- Product Demo's and design reports
- Prototypes
- Other phase specific deliverables

Key Course Goals and Outcomes

Design & Creativity	Self-Directed Learning
Real World Context	Systems Thinking
Entrepreneurial Mindset	Hands-on Prototyping
Remote Teamwork	Leadership Development



Grading Overview



Meeting Times & Locations

Tues & Thurs 9:00-10:20am

Friday Lab 8:30-11:30am

All on Blackboard

Legalese

Academic Dishonesty

Students are encouraged to collaborate throughout the semester but all graded materials must represent the student's individual work. (When in doubt, ask!) Academic dishonesty is the attempt to present the work of somebody else as his or her own work or attempting to pass any assignment by improper means. It is a serious offense and will not be accepted. Any misconduct will be handled according to the current university policy and reported in accordance with university regulations. For more info visit the Dean of Students or <http://studentaffairs.utep.edu>

Special Accommodations and Health-Related Absences

We are committed to working with students with pre-existing medical and mental health needs, as well as new needs that may arise within the semester. We encourage you to reach out to us as early as possible to discuss any adjustments you think may be necessary in this course. Reasonable accommodations may include leveraging the course modules that have been developed in creative ways to maximize your access during times when students need to quarantine due to COVID exposure, or during an absence related to a disability or COVID-19 diagnosis for yourself or someone you care for.

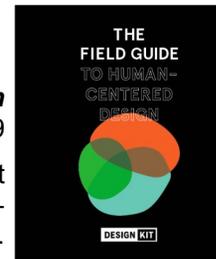
While we cannot guarantee any specific outcome, we are committed to working with you to explore all the options available in this course. If you would like to request special accommodation due to a disability or illness, please contact The Center for Accommodations and Support Services via their website <http://sa.utep.edu/cass/>.

Required Materials

The Field Guide to Human-Centered Design

IDEO.org, 2015. ISBN: 987-0-9914063-1-9

Get a **FREE** .pdf version of the text at www.designkit.org/resources/1! Hardcopies also available through IDEO.



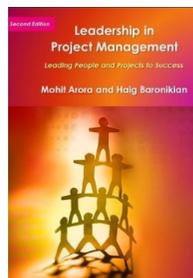
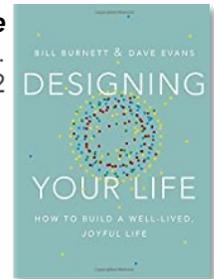
Leadership: Theory and Practice

Peter G. Northouse, 7th ed., 2015. ISBN: 978-1483317533

Designing Your Life

Bill Burnett and Dave Evans, 2016.

ISBN: 978-1101875322



Leadership in Project Management,

Mohit Arora and Haig Baronikian, 2nd Ed. 2013. ISBN: 978-0-9917792-1-5

Prototyping Funds

Because of our limited access to campus due to COVID-19, teams will have a modest budget to use to purchase materials and supplies for prototyping their solutions.

See also separate Course Policies Document for policies on attendance, use of electronics, late submissions, teamwork, etc.

Instructor Info

Dr. Meagan Kendall

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EEL Department, E230A
Office Hours: Th 1:00-2:00 pm
or by appt.

Dr. David Novick

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EEL Department, E230H
Office Hours: Tues 12:30-1:30 pm
or by appt.

TA: Chris Edens

cdedens2@miners.utep.edu
Office hours: F 9:30-11:30 am

Course Website

Blackboard

Work in Progress Disclaimer: This syllabus is a work in progress and, if the past semester is any indication, life is unpredictable! The faculty reserve the right to modify it as necessary throughout the semester. However, we will do our best to adhere to this syllabus and will notify you if anything must change.