

PEOPLE TO PRODUCTS

EL3331 - Engineering Design: People to Products

Fall 2017

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 **three 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 your 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

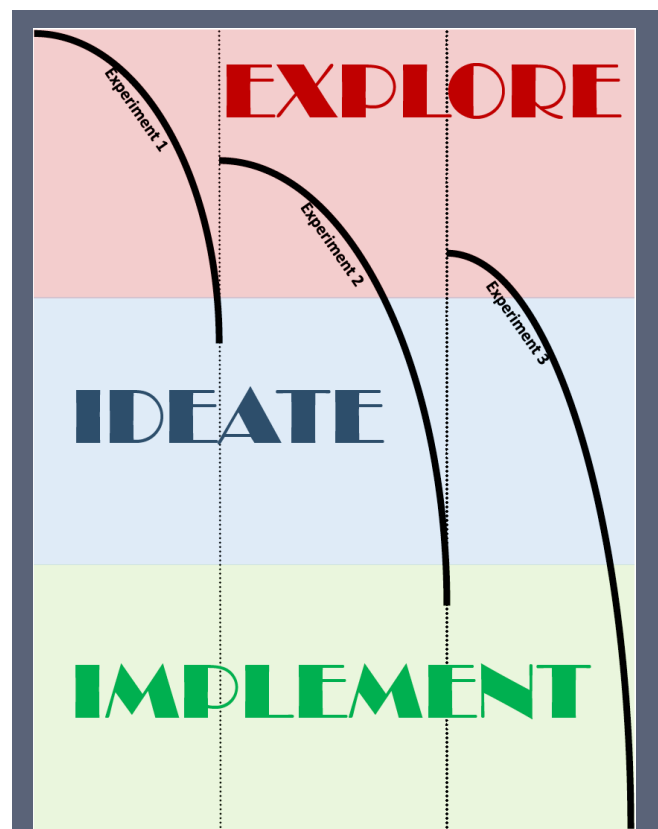
Systems Thinking

Business Acumen Toolkit

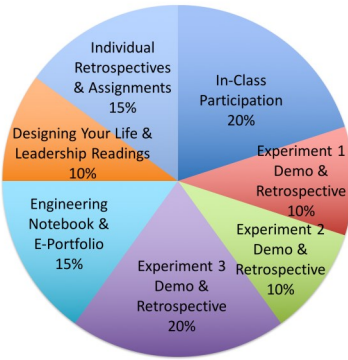
Hands On Prototyping

Teamwork

Leadership Development



Grading Overview



Meeting Times & Locations

Tues & Thurs 9:00-10:20am

Friday Lab 8:30-11:30am

All in E-Lead Studio's C001

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

If you need accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. Additionally, please visit the CASS website at www.sa.utep.edu/cass. CASS' Staff are the only individuals who can validate and if need be, authorize accommodations for students with disabilities.

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

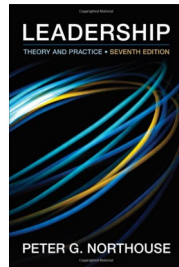
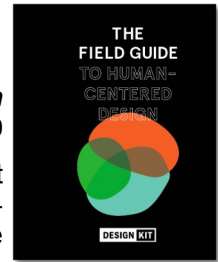
Work in Progress Disclaimer

This syllabus is a work in progress! 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.

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 and the University Bookstore



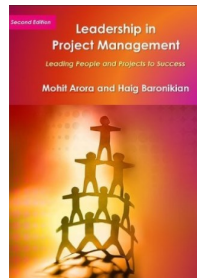
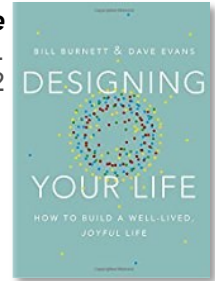
Leadership: Theory and Practice

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 and Travel Funds

Each team will have access to a modest prototyping and travel funds to cover a day-trip to conduct customer discovery interviews and to prototype their solution.

Instructor Info

Dr. Meagan Kendall

mvaughan@utep.edu
EEL Department, E230A
Office Hours: T & Th
12:30-1:30 pm or by appt.

Dr. David Novick

novick@utep.edu
EEL Department, E230H
Office Hours: by appointment

TA: Cesar Venagas

cevegegas@miners.utep.edu
Empathic Design Studio, E225
Office hours: F 8:30-11:30 am

Course Website

Blackboard