



# A Systems Integration-Centered Interdisciplinary Undergraduate Engineering Curriculum

Frontiers of Engineering Education theme: Curriculum

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## Current Systems Engineering Graduates

Given a problem, Systems graduates are primarily educated to be skilled at recommending solutions and requirements for those solutions.

## A New Vision

Graduates will be able to provide value through engaging in engineering work from disciplines other than their own.

In particular, the value added of a TLP student is grounded in their ability to engage in both systems integration and domain-specific engineering work.

## Current Electrical, Computer, and Mechanical Engineering Graduates

Given a recommended solution / requirements for that solution, ECE and ME graduates are primarily educated to be skilled at creating and analyzing a design that implements the recommended solution.

## INTERDISCIPLINARY DESIGN

TLP graduates will be able to:

- design systems requiring the integration
- apply different design methodologies
- design multicomponent systems
- apply hands-on prototyping skills

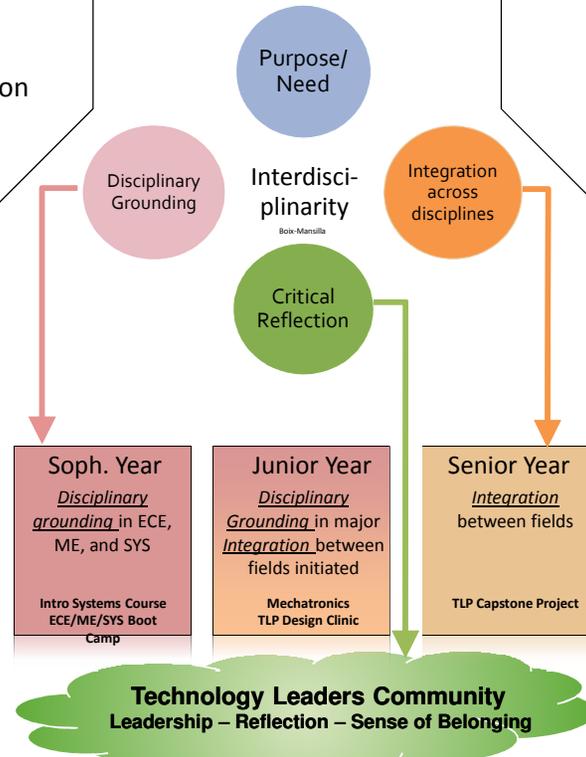
## INTERDISCIPLINARY TEAMWORK

TLP graduates will

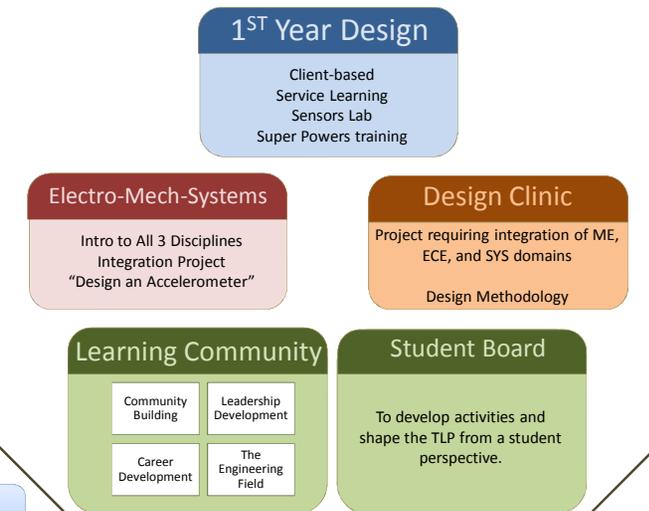
- collaborate on interdisciplinary teams, not just work as specialists on multidisciplinary teams
- Value the work of individuals from other disciplines.

## HOW IS THIS DIFFERENT?

- NOT just throwing a bunch of majors together into a capstone project**  
But an integrated education focused on developing interdisciplinary design skills
- NOT just a minor**  
Which leaves students on their own to piece together the multiple disciplines
- NOT just design bookends**  
But design every year
- NOT just multiple disciplines**  
But a focus on pairing a top-down systems approach with bottom-up disciplinary areas
- NOT just a set of courses**  
But a program students identify with and that helps link them with jobs



## NEW COURSES & MATERIALS



## Technology Leaders Program

