

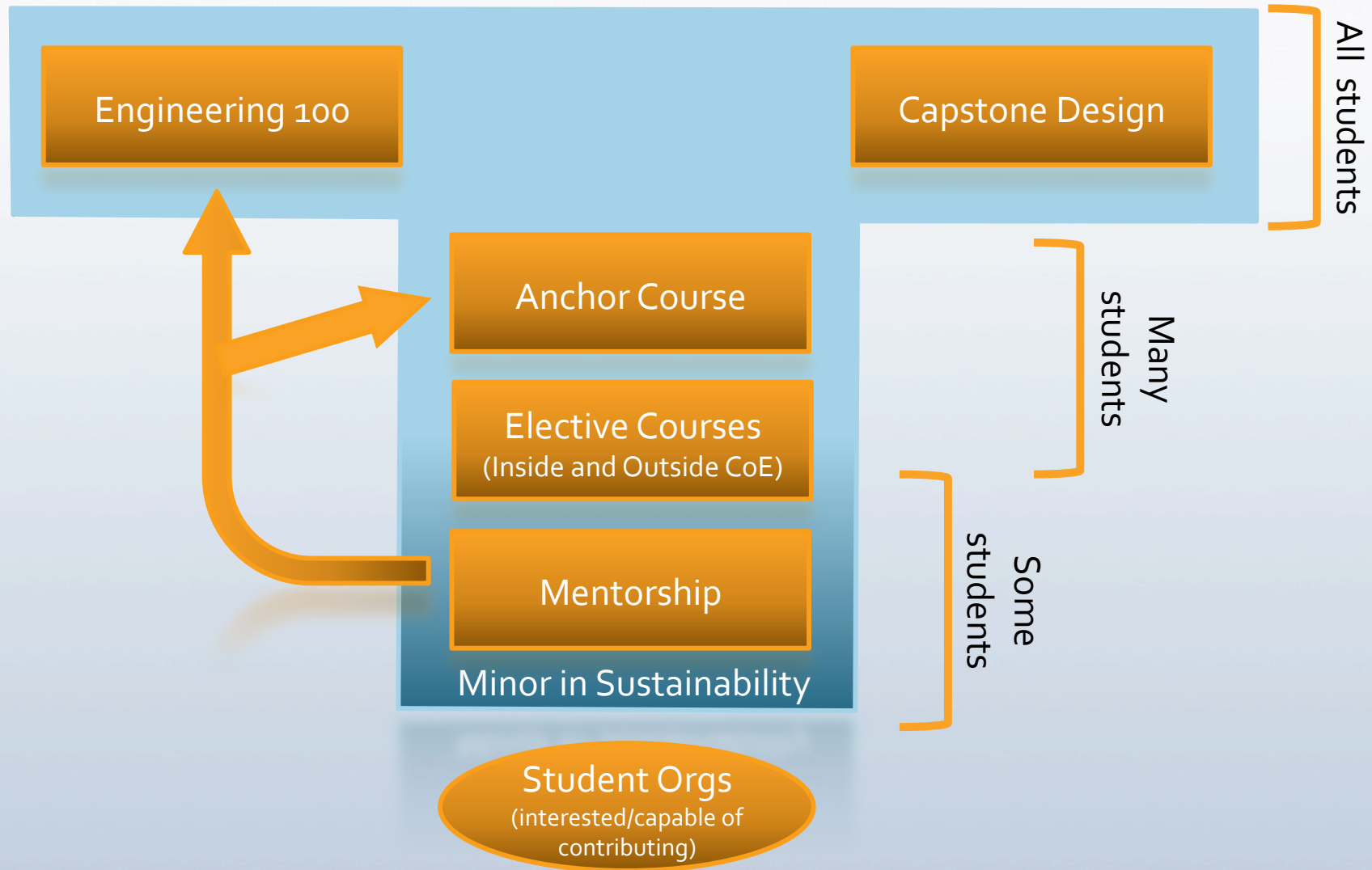
***Socially Relevant  
Professional Practice:  
Problem Solving and Ethical Decision  
Making Through Service Learning***

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# Curriculum Commission

- Sustainability and Connections of Engineering to Society
- Professional Ethics Education
- College Ethics and Sustainability Courses
- Provision of Teaching Resources
- Curriculum Committee Oversight

# Implementation Team



# Proposed Learning Objectives

- Explain the different ethical and sustainability frameworks from which engineering decisions might be made
- Identify multi-faceted implications of engineering decisions (environmental, public health, ethical, legal, political and economic) and identify impacts of technological solutions across the full spectrum of stakeholders and time scales
- Evaluate and communicate trade-offs between economic interest, social concerns, environmental impact and ethical considerations and use this evaluation to make engineering decisions
- Demonstrate the ability to apply judgment in decision contexts that mimic the real world

# Engineering 100

- Project-based experiential learning course
- Introduces students to the professional skills required of engineers
  - technical communications
  - technical problem solving and the creative engineering design process
  - teamwork and team management
  - the ethics of engineering practice
  - the influence of engineers on society
  - environmental sustainability and decision-making



# Learning Outcomes

- Basic Ethics/Sustainability Frameworks/Concepts
- Case Study and Design Project
  - Identify unintended consequences
  - Presence of risk
  - Comprehensive list of stakeholders and interests
  - Conflicting interests
  - Decision-making process

*See handout for details*



# Engineers Making a Difference

- Service-Learning Curriculum
- Power of the Partnership
  - Social Sustainability
  - Real Solutions for Real People - Motivation
- Responsibility of Engineers for Solving World Problems
  - Local Focus on World Hunger – Food Insecurity in Urban America
- Case studies linking engineering, sustainability and ethics
  - The real cost of food...
- Underlying Keys
  - Developing the maturity to see more than one side of an issue,
  - Identification of conflicting issues,
  - Developing the habit of reflection
  - Practice in reflective judgment in the service of more informed defensible decisions

