

**ME349**  
**Engineering Design Projects**  
**Design Process General Outline**

**Form the design team**

- Inter-team issues
- Setting rules

**Develop Engineering Specification(s)**

- Establish the design problem
- Assess customer base
- Research area
- Develop customer requirements
- Assess the competition
- Generate engineering requirements
- Establish engineering targets

**Develop Concepts**

- Generate concepts
  - Functional decomposition
  - Concepts from functions
- Evaluate concepts
  - Assess feasibility
  - Determine technological readiness
  - Go/no-go screening
  - Use the decision matrix
  - TRIZ method

**Develop Product**

- Product generation
  - Generate form from function
  - Material and process selection
- Evaluate the product
  - Evaluating performance
    - Experimentation
    - Prototyping
  - Design for cost
  - Value engineering
  - Design for manufacture
  - Design for assembly
  - Design for reliability
  - Design for environment
    - Working environment
    - Green design