Engineering Design Process

IMAGINE

Brainstorm ideas
Pros ? Cons?
Choose a starting point

Keep in Mind:

- ✓ Address the problem
- ✓ Satisfy constraints
- ✓ Meet the criteria
- ✓ Think Trade-offs
- ✓ Be creative
- ✓ Consider everyone's ideas
- ✓ Failure is an important part of the process

Engineering Design is an adaptable and open process.

ASK

What is the problem? What are the constraints? What are the criteria?

EXPLORE

What have others done?
Explore options
Explore materials

PLAN

Refine best idea
List materials & tools
Make a plan for building
& testing

IMPROVE

Analyze your data Can you make it better? Redesign?

PRODUCTION TEST

ARIZONA

Does design meet criteria & constraints? Present your design Get feedback Reflect

Try it out!
Collect data
Record observations

CREATE

Follow plan & build Document changes

Adapted from University of Arizona College of Engineering