

PRESENTATION #1(15 minutes plus 5 minutes for questions and answers).

This presentation should include:

- Project introduction
  - Why do it?
  - What is the significance/impact of the project?  
(Give some statistic data, e.g., Heart disease caused almost 25% of deaths—almost one in every four—in the United States. Catheter is an effective and less invasive means to monitor or treat heart disease. In 2010, coronary heart disease alone was projected to cost the United States \$108.9 billion.)
- State-of-the-art literature review
  - What are the existing methods/means/ technologies on solving the similar problems?
  - What kinds of results they have achieved?
  - Advantages and disadvantages of existing methods  
(e.g., current catheter assembly is performed manually – slow, error, not cost effective, taking 5 minutes to assemble one catheter)

Please don't forget to put sources of these reviews.

- Functional specification
  - define specifically what are your final device's functions/performance  
(e.g., the accuracy must be 0.5 mm or better; must be able to climb a 45° inclined plane; can finish entire assembly work in 1 minute; can lift 1000 lbs, can fit into an 2 cm x2 cm x 5 cm space, etc.)
- Challenges of the project  
(e.g., fabrication challenge, interface challenge, dimension challenge, control challenge)
- Goals of the project and deliverables  
(e.g., complete design/simulations, make a prototype, perform test, and make a functional device)
- Each team member's responsibility
- Gantt Chart

**Dress Code:** Business Casual.