What to do when the paper is blank!

Some suggestions for getting started on your project

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ME 195A
Understand the problem

- Develop a goal statement
  - Ex: “Design a means to measure and record the acceleration of the Engineering Building during an earthquake so that the data can be retrieved within 30 minutes afterwards.”
  - Note: HOW it will be done is NOT specified
  - Work with your sponsor to refine the goal
  - Ask lots of questions
    - Why?
Research the Background and State-of-the Art

Use all resources available to you

- Professors
- Colleagues
- Library (http://www.sjlibrary.org/)
- Internet
- Other sources
Develop the Functional Specifications

- Quantitative description of how your design must perform

- Ex. For acceleration measurement system:
  - 0 to 1.5 g range
  - 0.05 g trigger
  - 0.02 g resolution
  - 3 minute recording time with 15 second delay
  - must function in the event of mains power failure
  - must allow data to be accessed within 30 minutes after earthquake without access to the building
  - 15 year operational life
Generate Solutions

- Think broadly at the start
  - Quantity over quality
- Record ideas in an engineering notebook
  - bound
  - have pages witnessed and signed to protect IP
- Try quick models and mockups
  - Use foamcore, cardboard, CAD models, wood, etc.
Select the Most Promising Approach

- Use a structured approach

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Total or weighted sum