

Week 9 - Sketching Your ABM (part - II)

Description

In Week 8, you ideated on your ABM in the lab and have refined your sketches for homework. Your task for this week is to further refine your sketches and include component-drawings for your ABM in your sketchbook. The ABM you are designing will have several parts and will take a coordinated group effort to complete successfully. Your group is responsible for dividing the labor to ensure both contribute equally. Next week, you will start creating the ABM parts and assembly using OnShape; therefore, communication with your TA to ensure a smooth assembly process.

In Lab Activities

1. Oral Presentations (2 hours)

Each student, using their sketches and concept will give a 3 to 5-minute presentation outlining the following:

- Introduce ABM name and descriptor;
- Discuss the design of the animated machine;
- Explain the motivation for the design; and,
- Describe the workings of the mechanical components.

Your goal is to convince the class and TA that your proposed design is possible. After each presentation, the TA will provide feedback and the other students may ask questions.

NOTE: the presentation is about ideas and sketches and not about powerpoint skills.

2. Defining the Necessary ABM Parts (30 minutes)

After the presentation, determine the parts your ABM is composed of and start making separate multi-view drawings for each of them. Each part should be given a descriptive name. Each part should be carefully sketched and thoroughly dimensioned to ensure all parts will fit together when composed together into a digital assembly. Use as many of the sheets as needed on Page 3.

Homework

Design is an iterative process, so we do expect that your parts may change *slightly* as you progress through the project. This week's homework is to submit **a final set of ABM sketches** together with a complete set of part-drawings before next week's lab. The TA will look at the sketches one by one and grade those in-the next lab. For Reference, please look at the example sketch sets from last years on the course website under Week 09 material, to understand what is expected of you.

Assessment

Item	Due	Individual or Team	Criteria	Activity Mark	Part Mark	Total
Complete ABM multi-view drawing	before next lab	individual	Understandability of sketch Drawing Conventions Line Quality Completeness		30	
Complete ABM isometric drawings	before next lab	individual	Understandability of sketch Drawing Conventions Line Quality Completeness Iso-blow-ups when needed		20	
Part by part drawings	before next lab	Individual	These will be considered as Sketchbook entries		50	
TOTAL						100

Sketchbook

Sketch. A lot. Use your sketches to solve problems. You must do this as an individual activity, but are free to discuss it with your partner so that you reflect your group's thinking as you progress through the project. You must show your TA your sketchbook in order to receive a weekly mark. **TIP: Sketch at each step of the project. Your ideas will come in very handy on the final individual reflection report.**

An example of part-by-part drawing sheet

NOTE: This is just a sample, you may use this OR you may draw parts individually one per page

StudentName _____

Part Name	Sketch (with dimensions)