LAB Assignments for IENG 248L (so far …)

Lab 01: Introduction to SolidWorks

- Open SolidWorks, Open SolidWorks Curriculum: Tutorials
- Perform the Introduction to SolidWorks (~ 1 hour)
- Print out your drawing, staple it to a cover page

Due at the start of next **LAB**

Lab 02: : SolidWorks Lessons 1 - 2

- Open SolidWorks, Open SolidWorks Curriculum: Tutorials
- Perform the Lesson 1: **Parts** (~ 1/2 hour). Have the instructor check your part at the following stages:
    - After you have finished **Creating the Shell**
    - After you have almost completed **Creating a Section View of the Shell,** but still have a section view onscreen, and …
    - After you have finished **Recreating the Face Fillets** , ***skip*** Steps 2 and 3 of **Adding a Realistic Appearance** (because most tablets do not have the graphics driver for the *RealView Graphics)*, then get the the Shaded (Trimetric) view checked off.
- Perform the Lesson 2: **Assemblies** (~ 3/4 hour). Have your part checked at the following stages:
    - After you have finished **Changing the Color of a Part** (print the Trimetric View)
    - After you have completed **Using Display States** (print the Trimetric View)

Due at the start of next **LAB**.

Lab 03: Term Project: Parts 1 and 2

- Locate the Rough Dimensions for the Term Project in the design package here.

- Perform the rough modeling for the Cab Left Side:
    - Some dimensions are missing – these are primarily cosmetic and up to you.
    - Start giving some thought as to how you will create a multi-view projection drawing for the part – what views and what dimensions will be necessary in the final package?
    - Save your part into a folder on your computer where you can access it for modifications
    - There will also be a Cab Right Side that will eventually be necessary, although another drawing will not be needed. Think about how you will get a right side part model later on.
- Perform the rough modeling for the Cab Sheet Metal:

    - Some design aspects are ambiguous – these aspects may be used to save material and are up to you.
    - Again, give some thought as to how you will create a multi-view projection drawing for the part – what will be necessary in the final package?
    - Save your part into a folder on your computer where you can access it for modifications
    - This part will go in-between the cab sides when assembled.

Due at the end of the **TERM**.

Lab 04: Term Project: Parts 3 - 6

- Locate the Rough Dimensions for the Term Project in the design package here.

- Perform the rough modeling for the Lift Arm:
    - Some dimensions are missing – these are primarily cosmetic and up to you.
    - Start giving some thought as to how you will create a multi-view projection drawing for the part – what views and what dimensions will be necessary in the final package?
    - Save your part into a folder on your computer where you can access it for modifications
- Perform the rough modeling for the Wheel Rim, Wheel Hub and Tire:
    - Some design aspects are ambiguous – these aspects may be used to save material and are up to you.
    - Again, give some thought as to how you will create a multi-view projection drawing for the part – what will be necessary in the final package?
    - Save your part into a folder on your computer where you can access it for modifications
    - The Rim and Tire parts will need to fit together, and the Hub will hold the Rim to the body when assembled.

Due at the end of the **TERM**.

Lab 04: Term Project: Parts 3 - 6

- Locate the Rough Dimensions for the Term Project in the design package here.

- Perform the rough modeling for the Lift Arm:
    - Some dimensions are missing – these are primarily cosmetic and up to you.
    - Start giving some thought as to how you will create a multi-view projection drawing for the part – what views and what dimensions will be necessary in the final package?
    - Save your part into a folder on your computer where you can access it for modifications
- Perform the rough modeling for the Wheel Rim, Wheel Hub and Tire:

- Some design aspects are ambiguous – these aspects may be used to save material and are up to you.
- Again, give some thought as to how you will create a multi-view projection drawing for the part – what will be necessary in the final package?
- Save your part into a folder on your computer where you can access it for modifications
- The Rim and Tire parts will need to fit together, and the Hub will hold the Rim to the body when assembled.

Due at the end of the **TERM**.

Lab 05: Term Project: Parts 7 - 9

- Locate the Rough Dimensions for the Term Project in the design package here.

- Perform the rough modeling for the Cab Interior and Cab Roof:
  - Some features are missing – the interior will have to be held together along with the Cab Sheet Metal. The Cab Sides should do this, but how they do that is up to you.
  - The Cab Roof should be able to snap onto the sides – how to do that will also be up to you.
  - Give some thought as to how you will create a multi-view projection drawing for the parts – what views and what dimensions will be necessary in the final package?
  - Save your parts into a folder on your computer where you can access it for modifications
- Perform the rough modeling for the Arm Pivot:
  - This part will be an interference fit with the hole in the Cab Sheet Metal, and will provide a sliding fit for the Cab Sides and running fit for the Lift Arm to rotate about.
  - Save your part into a folder on your computer where you can access it for modifications

Due at the end of the **TERM**.