Study Guide and Assignment 1

This study guide and others to follow is to assist you to guide your learning process and clearly specify the homework and assignments so that you can plan your time and better enjoy the learning process.

The study guide, the web page are not a substitute for your own class notes. You should study both since not everything said in class will end up in a web page. The opposite will also happen, some of the things on this web page are additional materials to help you which not necessarily be discussed in class, but they will supplement other exercises done in homework or in class. Here you will find helpful suggestions, which in my view are the result of experiences I have seen with teaching this class in the past that also will save you time.

I Introduction

1_1_Introduction_Tires (Suggest read and go over the experimental graphs but not necessarily memorize)
1_2_Cornering_Tires (Read and understand experimental graphs)
1_3_Performance_Tires (Read and understand experimental graphs)
1_4_0 Review_2D_Dynamics_notes (This is a review of the principles of kinematics which you learned in E110)
1_4_1_Exercise_1 (Suggestion. Redo this exercise at home with the help of the solution)
1_4_2_Exercise_2 (Suggestion. Redo this exercise at home with the help of the solution)
1_4_3_Exercise_3 (Suggestion. Redo this exercise at home with the help of the solution)

II Learning Working Model 2D, Mechanisms

2_0_0_Working_Model_Tutorial (You may want to redo this tutorial on your own to reinforce the one done in class)
2_0_Mechanisms_2D_Kinematics_Kinetics (Go over this notes, they are a review of your dynamics of rigid bodies principles learned in E110)
2_1_1_Exercise_1 (Suggestion. Redo this exercise at home with the help of the solution. Special attention to the free body diagrams)
2_1_2_Exercise_2 (Suggestion. Redo this exercise at home with the help of the solution. Pay special attention how the forces are calculated)
2_1_3_Exercise_3 (Suggestion. Redo this exercise at home with the help of the solution. Special attention. Overall process, FBD, forces)
2_1_4_Exercise_4 (Suggestion. Redo this exercise at home with the help of the solution)
2_1_5_Exercise_5 (Suggestion. Redo this exercise at home with the help of the solution. Special attention. Overall process, FBD, forces. Think about it, could this be used to calculate all positions as time goes on?)

Computer Assignment 1 (Due Tuesday, September 12, 2017 at 11.59 p.m.)

1. Using the solution of 1_4_1_Exercise_1 and 1_4_3_Exercise_34_3_1_Exercise create a 2D Model of these mechanisms and using the computer.

2. Draw the geometry and reproduce the mechanisms.

3. Verify the results that were obtained by hand.

4. Please turn in a directory by creating and transferring to Voyager your files that contain:
   - A document in Word or PowerPoint format with your answers, showing the steps you used to solve the problem.
   - Take screen shots of the work and paste them in your document and explain what you did.
   - The Working Model 2D files.

Name your directory:
   YourLastName_Introduction_Mechanisms_ME143F17

5. Please turn electronically to the path indicated on Voyager .//faculty/granda/me143

Please do not send your assignments via email, except on emergencies (not just to make deadlines).

First Quiz (Tuesday, September 14, 2017)