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 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 2 D. , Mechanisms

2.0.0 Working Model Tutorial (You may want to redo this tutorial on your own to reinforce the one done in class)
2.0.0 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)
Computer Assignment 1 (Due Tuesday, September 11, 2018 at 11.59 p.m.)

1. Using working model 2D create a Working Model 2D solution of the following mechanisms and using the computer.

2. Solve the problems 1.4.1 Exercise 1, 1.4.2 Exercise 2, 1.4.3 Exercise 3. (Suggestion. Redo these exercises at home with the help of the analytical solution)

3. Draw the geometry and reproduce the mechanisms.

4. Verify the results that were obtained by hand.

5. 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_ME143F18**

6. Please turn electronically to the path indicated on Voyager
   ```
   //faculty/granda/me143
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Please do not send your assignments via email, except on emergencies (not just to make deadlines).

**First Quiz  (Thursday, September 13, 2018)**