Project Overview:

In this project you will work in teams on a common topic then effectively communicate the logic, results, and improvements made to solve the problem. Your final results will be presented on a discussion board where you will interact with your colleagues and comment on each other's methods and results. You will investigate and solve **one** of the four topics related to next level engineering course using the information and problem statements provided.

Project Deliverables & DUE Dates

Deliverable	Percent	DUE Date
Summary + Algorithm with Test Cases	10	Friday, April 14, 2017 @ 11PM
Group Code (Rubric Provided)	40	Friday, April 28, 2017 @ 11PM
Individual Component (see below)	25	Friday, April 28, 2017 @ 11PM
Interview Component	10	Friday, April 28, 2017 @ 11PM
Individual Comment on Other Projects	15	Monday, May 1, 2017 @ 11PM

Group and Individual Roles:

Groups will be made up of 3 students (2 students only if necessary). Each person will be a lead on one individual component and a reviewer for a different individual component. The lead person is ultimately responsible for the grade for that component of the project. Your group evaluation grade will be determined from peer reviews based on your contribution on the topic selection, code development and review process.

Topics:

You will investigate and solve **one** of the four topics related to next level engineering course using the information and problem statements provided. There are tasks associated with each topic. Your project will require you to use the reference material provided to investigate the topic at hand then apply MATLAB as a tool to solve the problem.

1. Numerical Methods and Modeling: Recommended Majors – Civil, Mechanical, Chemical, Petroleum
2. Industrial Processes: Recommended Majors –Industrial, Civil, Petroleum
3. Biomedical Processes: Recommended Majors – Biomedical & Chemical
4. Circuit Analysis: Recommended Majors - Electrical & Computer

Deliverable Descriptions (Rubrics provided for all components):

Summary + Algorithm with Additional Test Cases (Team Submission and Group Grade) - 10%

As a group, you will submit a one-paragraph summary of the topic. You must also present a completed algorithm on how you will be investigating the data with additional test cases that will evaluate the functionality of you code.

Code (Team Submission and Group Grade) – 40%

Your matlab script and associated functions with be submitted as a .ZIP file by one member in your group. A general rubric will be provided to guide you on what is expected beyond solving the problem given to you.

Project Summary (Individual Contribution and Individual Grade) – 25%

A written, 2 page (12 font, single spaced) document that describes the background equations, derivation, logic (algorithm), iterations in project development, results, and additional considerations or questions. It should not exceed 2 pages.

Tutorial Video (Individual Contribution and Individual Grade) – 25%

A video of the code should walk through the entire development and final code. You should run the code with different scenarios to show the capability and functionality of your code. It will be uploaded to youtube and you will provide the link.

Academic Poster (Individual Contribution and Individual Grade) – 25%

Using the provided poster template, you must explain the background equations, derivation, algorithm, results, and future steps. The poster template is in PPT but you will be required to save your submission as a PDF file.

Interview (Individual Contribution and Individual Grade) – 10%

Based on *Listening is an Act of Love* by Dave Isay, you will be interviewing an upper classman in engineering about their path, advice on how to be successful, and what they have learned about themselves and engineering. This book was your freshman reading book and contains sample questions at the back for your reference. Your questions should be thoughtful and insightful getting at who the person is (why did they come to UH, where did they come from) and what you can learn from their experience (what actions have lead to their successes and/or failures). Each individual member will complete an interview of someone that must be an upper classman in engineering at UH and farther along in their path to graduation than yourself. The interview should last 10-15 minutes. Along with turning in a recording of the interview and a list of questions that you asked, you will submit a 1-page (12 font, double-spaced) reflect that discussion what you learned from the conversation.

Comment on Other Projects (Individual Contribution and Individual Grade) – 15%

After the submission date, you will be required to comment on two other group's work (one in your area study and one in a different area study).

- Make sure you have posted your individual portion to your group's thread (if you do not post your individual portion, you will not receive credit for the commenting on other discussion board posts).
- This is an individual grade - each person must complete 2 replies.
- You must reply to 2 different threads.
- One thread must be in the topic that you did yourself (but not your same group).
- The second reply must be in a topic that is different from what you did yourself.
- The rubric for how your responses will be graded has been added the documents in P3 (under projects)
- Your reply should not be longer than a simply paragraph. The preference is for them to be short and concise.
- The average score between the two post will be your grade for this portion of the project.
- There can not be more than 8 replies to a single thread (some may have more if group members replied to their own thread to add material).
- If you reply to a thread after 8 other students (outside that group) have replied, your response will not be graded. It is up to you to be aware of this - you will not be notified that your response doesn't count. You will just receive a zero for one of your two responses.
- You only need to look at one of their submission but may look at all three if you like!