

Analysis of Engineering Systems – MAE 488

Homework # 6

Spring 2019

Instructions: SHOW YOUR WORK! *If insufficient work is shown, you will receive no credit (even for a correct answer). As always, be sure to include units where appropriate. All plots should have labels on each axis (with units), a title (e.g. "MAE 488, Homework 1, Problem 1, Part a"), and a legend if more than one plot is in the same figure (except for subplots).*

Solve the following problems from Chapter 5 of the textbook.

Problems 3, 4, 5, 6, 8M, 9M, 12, 14, 15, 17, 18, 23(b)M, 25(b)M, 35M, 41S, 45S, 46S

Extra Credit (10%): 5.28M

An M indicates the problem requires Matlab. An S indicates the problem requires Simulink.

NOTE: unless otherwise stated, you should define the states as the dependent variable(s) and as many derivatives required to obtain the correct number of states.