

## AME 21216 – Tech Memo Score Sheet

### A11 – Chaotic Double Pendulum

Author name or NDID: \_\_\_\_\_

Lab Section (Day/time): \_\_\_\_\_

For more details on any of the items below, please refer to the lab handout.

Item and Description	Points Awarded	Possible Points
<b>Technical writing</b> – Please address all questions from the lab handout in the captions and paragraphs.		5
<b>For the single pendulum, plot <math>\theta_1</math> vs. <math>t</math> for the three data sets</b>		3
<b>For the single pendulum, a phase space plot of the angular speed <math>\omega_1</math> as a function of the <math>\theta_1</math> for one the three data sets</b>		3
<b>For the <i>double</i> pendulum, plot <math>\theta_1</math> vs. <math>t</math> for the three data sets</b>		3
<b>For the <i>double</i> pendulum, a phase space plot of the angular speed <math>\omega_1</math> as a function of the <math>\theta_1</math> for one of the three data sets</b>		3
<b>Plot of accelerometer voltage <math>V_{out}</math> vs. pitch angle <math>\theta</math> with the theoretical <i>trigonometric</i> curve that you derived</b>		3
<b>TOTAL</b>		20

\*These should go in the paragraphs and/or captions corresponding to the respective plots.

#### Guidelines for Deliverables

- All figures and tables are properly labeled (i.e. Figure 1, Table 1, etc.) with captions.
- All plots should be made in Matlab. Do NOT use excel to make plots.
- Axes on figures must be labeled with units, and plots with multiple data sets must include a legend.

- Note that any curve fit or theoretical curve must be plotted as a *smooth, continuous* line. (i.e. Make a new vector using linspace() for the independent variable.)
- Equations must be numbered, and the variables must be defined (i.e. “where  $c$  is the speed of sound.”).
- Variables should be written in italics.
- Students, please **print and proofread** the hardcopy of your deliverables before you turn it in. Sometimes, equations and figures do not print correctly!