

## AME 21216 – Technical Memo Score Sheet

A1/A2 – Meter Stick Measurements and Galileo's Inclined Plane

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

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

### General Requirements (12 points)

Item and Description	Points Awarded	Possible Points
<b>Overall quality of writing</b> (spelling, grammar, readability and discussion)		5
<b>Format</b> (font, margins, page numbers, grading sheet, heading, abstract/summary, findings, and conclusion)		3
<b>Technical Elements</b> (numbered equations, variables, and figures)		3
<b>References</b> (2 sources must be included in the reference section and cited in the text)		1
<b>TOTAL</b>		12

**Overall quality of writing** – The student must clearly explain the procedure and *discuss* the results using college-level English. Reports should avoid long-winded descriptions of the experimental method and focus on discussing the results per the suggested talking points in the lab handout.

**Format** – The students **MUST** follow the *Technical Memo* format given by the template posted on the lab website.

#### Technical Elements

- All figures and tables are properly labeled (i.e. Figure 1, Table 1, etc.), captioned, and referenced in the text. Axes on figures must be labeled with units, and plots with multiple data sets must include a legend.
- 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 report before you turn it in. Sometimes, equations and figures do not print correctly!

**References** – The report must include 2 references. These can be data sheets from the lab website, articles from the internet, the textbook, etc.

Additional information on technical writing and proper format can be found in Chapters 15 and 16 of the textbook (*Dunn*).

### Specific Requirements for A1 (21 points)

Note that any curve fit or theoretical curve must be plotted as a *smooth, continuous* line, and the equation for said curve *must* be included as a numbered equation in the main text with all the variables defined. For more details on any of the items below, please refer to the lab handout.

Item and Description	Points Awarded	Possible Points
Schematic illustrating the technique for measuring water tower height		3
Photo of parabolic fountain jet with dimensions superimposed		3
Equations for initial velocity components in terms of parabola dimensions		2
Measured tower height compared to actual value*		1
Hydrostatic pressure at base of water tower*		1
Values of initial velocity components $v_x$ and $v_y$ *		1
Estimate stagnation pressure inside the nozzle*		1
Plot of distance $x$ vs. time $t$ for both angles on inclined plane <i>with error bars and quadratic curve fits</i>		4
Extrapolated values of $g$ with uncertainties (these should go in the caption of previous item)		2
Plot of distance $x$ vs. time $t$ for Brachistochrone		3
<b>TOTAL</b>		<b>21</b>

\*Please include a table in your report to summarize all of these values.

OVERALL SCORE \_\_\_\_\_ / 33