AME 21216 – Tech Memo Score Sheet

A10 – Transient Signals

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
Paragraphs and Captions on plots – Please address all questions from the lab handout in the paragraphs and captions. You should have the relevant equations in your paragraphs!		5
Plot of measured transient temperature *T* vs. *t* (both heating and cooling on same plot)		3
Plot of linearized temperature data *y*(*t*) vs. *t* with linear curve fits for time constants (both heating and cooling on same plot)		3
A table containing all 4 extrapolated time constants τ for the thermocouples in water		2
Plot of measured amplitude vs. driving frequency with theoretical curve for ultrasonic transducer		4
Plot from FFT code of amplitude vs. frequency for one of the baseball bats		1
Plot of measured strain gauge output vs. time with curve fit for one of the baseball bats		4
A table containing: • **Resonance frequency f_0 UT** • **Damping ratio ζ_{UT} for the UT** • **Ringing frequency f_d for both bats** • **Damping ratio ζ_B for both bats**		3
TOTAL		25

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!