

## AME 40453 – Tech Memo Score Sheet

### C7 – Coupled Water Tanks

NDID#: \_\_\_\_\_

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

**Please include a horizontal line denoting the set-point height for the relevant plots listed below.**

Item and Description	Points Awarded	Possible Points
<b>Technical writing</b> – Using the correct format, address all questions from the lab handout, and include equations from the pre-lab.		5
<b>Part I - A table containing the system parameters:</b> tank area $A_T$ [in <sup>2</sup> ], time constant $\tau$ [s], and calculated LQR coefficients $k_{p1}$ and $k_{p2}$ [in <sup>2</sup> /s].		5
<b>Part I - A plot of the water heights vs. time for the case where <math>h_{1S} = h_{2S}</math>.</b>		5
<b>Part I - A plot of the water heights vs. time for the case where <math>h_{1S} \neq h_{2S}</math>.</b>		5
<b>Part II - A table containing the system parameters:</b> tank area $A_T$ [in <sup>2</sup> ], time constants $\tau_1$ and $\tau_2$ [s], and calculated LQR coefficients $k_{11}$ , $k_{12}$ , $k_{22}$ , and $k_{21}$ [in <sup>2</sup> /s].		5
<b>Part II - A plot of the water height vs. time for the case where <math>h_{1S} &gt; h_{2S}</math>.</b>		5
<b>TOTAL</b>		30