

**AAE 364L – Experiment #2 Grading Sheet**  
**The Control of a Gantry**

Name \_\_\_\_\_

Possible Points

**Cover Page - 1**

Title, Name, Course, Date, TA etc.	1	
<b>Subtotal</b>	<b>1</b>	

**Introduction - 4**

Objectives/Goals/Purposes	2	
Intended Methods	2	
<b>Subtotal</b>	<b>4</b>	

**~~Procedure - 10~~**

<del>Definition of Variables including State Variables</del>	<del>2</del>	<del></del>
<del>Schematic and Description of Apparatus</del>	<del>3</del>	<del></del>
<del>Procedure of Experiments</del>	<del>5</del>	<del></del>
<del><b>Subtotal</b></del>	<del><b>10</b></del>	<del></del>

**Results - ~~20~~ 8**

Part (i) $\omega_p$ from both linear approximation and experiment	2	
<del>Part (ii) <math>\omega_n</math> and <math>\zeta</math> from eigenvalues of A</del>	<del>2</del>	<del></del>
<del>Part (ii) <math>\omega_n</math> from computed from Bode plot</del>	<del>1</del>	<del></del>
<del>Part (ii) <math> G_0(i\omega) </math> from Bode plot and experiment</del>	<del>3</del>	<del></del>
Part (iii) Values of K from Simulink/Prelab and poles location, $t_s$ when $d\alpha/dt(0) = \pi/2$	3	
Part (iii) Values of K from experiment and poles location, estimated $t_s$ when $d\alpha/dt(0) = \pi/2$	3	
<del>Part (iv) Values of K from Simulink/Prelab and poles location, <math>t_s</math></del>	<del>2</del>	<del></del>
<del>Part (iv) Values of K from experiment and poles location, <math>t_s</math></del>	<del>2</del>	<del></del>
<b>Subtotal</b>	<b><del>20</del> 8</b>	

**Analysis and Discussion - ~~30~~ 20**

Nonlinear EOMs	1	
Linearized EOMs and equilibrium points	1	
State variables, state vector, system matrices A,B,C,D	3	
Part (i)	5	
<del>Part (ii)</del>	<del>5</del>	<del></del>
Part (iii)	5	
<del>Part (iv)</del>	<del>5</del>	<del></del>
Discussion of state feedback and pole placement	5	
<b>Subtotal</b>	<b><del>30</del> 20</b>	

**Conclusion and Recommendation – 10**

Main Points	5	
Theoretical/Experimental Limitations	3	
Personal Lessons Learned and Suggestions for Improvement	2	
<b>Subtotal</b>	<b>10</b>	

**Style, Participation, and Prelab – 25**

Organization	4	
Grammar	3	
Neatness	3	
Participation	5	
Prelab	10	
<b>Subtotal</b>	<b>25</b>	

<b>Total</b>	<b><del>100</del> 68</b>	
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