

Syllabus

(2013 / 1)

Course No.	M2785.002600	Sub. No.		Course Name	Principles of Control of Spacecraft and Aircraft	Unit	3
Lecturer	Name : Kim, Hyoun Jin (Title : Professor)			Homepage : http://icsl.snu.ac.kr			
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	Office hour : M/W 13:00-14:30 @ 301-1305 or email for appointment						
1. Goal	<ul style="list-style-type: none"> -Concepts of control of dynamic systems -Basic theory for stability analysis of dynamic characteristics. -Ability to design a feedback control system 						
2. Textbook and references	Textbook: G.F. Franklin, J.D. Powell, A. Emami-Naeini, "Feedback Control of Dynamic Systems", 6th ed., Addison Wesley, 2009. Ref: 1. B.C. Kuo, "Automatic Control Systems", Prentice Hall. 2. K. Ogata, "Modern Control Engineering", Prentice Hall.						
3. Evaluation	attendance	homework	mid exam	final exam	project	e.t.c	Total
	5%	20%	35%	35%	%	5%	100%
	e.t.c: in-class quizzes(5%)						
4. Schedule	week	Schedule					
	1	Introduction, linear systems, transfer function					
	2	Block diagram, pole, zero, time response					
	3	PID control					
	4	System types, robustness					
	5	Stability analysis – Routh, Lyapunov					
	6	Root locus					
	7	Controller design using root locus					
	8	Dynamic compensator design					
	9	Bode plot					
	10	Nyquist plot					
	11	Gain margin, phase margin					
	12	Control design					
	13	State space formulation					
	14	Eigenvalues					
15	Control design in state space						
5. Notice	prerequisite: Understanding of dynamics, linear algebra						