

# Syllabus

( 2012 / 1 )

Course No.	446.328	Sub. No.	002	Course Name	System Analysis in Mechanical and Aerospace Engineering	Unit	3
Lecturer	Name : Cho, Kyu-Jin (Title : Assistant Professor)			Homepage : <a href="http://biorobotics.snu.ac.kr/">http://biorobotics.snu.ac.kr/</a>			
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	Office hour : Tuesday and Thursday after class or by appointment						
1. Goal	Provide an overview of the system dynamics and control. Mathematical modeling and analysis of the devices and processes for the purpose of understanding their time-dependent behavior will be presented. Students will acquire skills to model and analyze dynamic systems which are the key skills required to design and build any kind of dynamic system.						
2. Textbook and references	1. System Dynamics, William J. Palm III, McGrawHill 2. Control Systems Engineering Norman Nise, Wiley						
3. Evaluation	attendance	homework	mid exam	final exam	project	Quiz	Total
	5 %	5 %	30 %	45%	5%	10%	100%
	Quiz will be given from selected homework problems. Short project near the end of the term.						
4. Schedule	week	Schedule					
	1	Introduction					
	2	Laplace Transform					
	3	Mathematical Model of Dynamic Systems					
	4	Transfer function approach to modeling dynamic systems					
	5	State space approach to modeling dynamic systems					
	6	Electrical system					
	7	Fluid/Thermal System					
	8	Midterm					
	9	Time domain analysis of dynamics systems (Mid term)					
	10	first order/second order systems					
	11	Transient analysis					
	12	Analysis with MATLAB					
	13	Frequency Domain Analyses of Dynamic Systems					
	14	Stability					
15	Review/ Final						
5. Notice							