S y l l a b u s

(2015 / Spring)

Course No.	3	Sec. No.	2	Course Name	System analysis in Mechanical & Aerospace Engineering	Unit	3

Lecturer	Name : Dongjun Lee, Assistant Professor	Homepage : http://inrol.snu.ac.kr
	E-mail : djlee@snu.ac.kr	Telephone : 02-880-1724
	Office hour: M/W 1:00-2:00pm or by appointment (office: 301-1517)	
1. Goal	- able to develop mathematical models of mechanical, electrical and mechatronic systems - able to analyze and predict system behavior in s, time, and frequency domains - able to design and analyze simple feedback control system	
2. Textbook and references	- Main text: W. J. Palm III, System Dynamics, 2nd edition, McGraw-Hill - References: 1) K. Ogata, System Dynamics, Prentice Hall 2) S. H. Crandall et al, Dynamics of Mechanical & Electromechanical Systems, Krieger Publication	

3. Evaluation	quiz	homework	mid exam	final exam			Total
	15	15	30	40			100%
	- mid-term: 4/20, 7:00-9:00pm; final exam 6/15, 7:00-9:00pm						

4. Schedule	week	Tentative Schedule
	1	Introduction + Laplace transform review
	2	Laplace transform applied to system analysis
	3	Mechanical systems
	4	Mechanical systems
	5	Lagrangian dynamics
	6	Lagrangian dynamics & linearization
	7	State-space technique + mid-term
	8	State-space technique
	9	Electrical systems
	10	Mechatronic systems + fluid/thermal systems
	11	s-domain and time-domain response
	12	Frequency response
	13	Frequency response
	14	Feedback control
	15	Review + final

5. Notice	- TA session will teach (important) MatLab/SimuLink and solve problem sets (time & place: TBA) - Attendance is mandatory: more than or equal to 5 unjustified absences = F grade; one absence (or more than 15 min tardiness) = -2 points; one tardiness (i.e., < 15 min tardiness) = -1 point - HW will be graded 0/0.5/1.0 from 0-1 scale; HW should be turned in at the beginning of the lecture on the due date; if turned in late but on the same day = -50%; otherwise = 0% - You are expected to behave professionally in the class: going-in/out during the class, phone call, texting, or any other unprofessional behaviors are now allowed.
6. Process of cheating act	Any form of academic dishonesty is strictly prohibited in this course and, if caught, may result in F-grade and academic disciplinary actions.