Syllabus (Tentative)

(2012 / Fall)

Course No.	446.204A	Sub. No.	3	Course Name	Dynamics	Unit	3
Lecturer	Name : Dongjun Lee, Assistant Professor				Homepage : http://inrol.snu.ac.kr		
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	Office hour: Tu/Th 4:00-5:00pm or by appointment (office: 301-1203)						
1. Goal	- able to understand, formulate, and solve kinematics of particles and rigid bodies in 2D and 3D - able to understand, formulate, and solve kinetics of particles and rigid bodies in 2D and 3D - able to apply the concepts of dynamics to engineering problems						
2. Textbook and references	F. P. Beer & E. R. Johnston Jr., "Vector Mechanics for Engineers, Dynamics," 9th Edition in SI Units, McGraw-Hill, 2006.						

3. Evaluation	quiz	homework	mid exam	final exam			Total
	15	10	35	40			100%
	- mid-term: place and time TBA; final exam: place and time TBA						

4. Schedule	week	Tentative Schedule
	1	introduction; particle kinematics (Ch.1)
	2	particle kinematics – curvilinear; kinetics of particles – Newton's law (Ch.1,2)
	3	linear/angular momentum; particle under central force (Ch.2)
	4	kinetics of particles: energy & momentum methods (Ch.3)
	5	impulse and momentum, impact; system of particles – Newton's law (Ch.3,4)
	6	system of particles: energy/momentum method; variable system of particles (Ch.4)
	7	kinematics of rigid bodies – planar motion (Ch.5)
	8	review & mid-term exam
	9	motion description in rotating frame (Ch.5)
	10	kinetics of rigid bodies in 2D - forces & accelerations (Ch.6)
	11	kinetics of rigid bodies in 2D – energy & momentum methods (Ch.7)
	12	rigid body kinetics in 3D (Ch.8)
	13	Gyroscopic motion (Ch.8)
	14	brief introduction on Lagrange dynamics (if time permits)
	15	review & final exam

5. Notice	- TA session will be held every week 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.