

# Syllabus (Tentative)

( 2014 / Fall )

Course No.	446.204A	Sub. No.	3	Course Name	Dynamics	Unit	3
Lecturer	Name : Dongjun Lee, Assistant Professor			Homepage : <a href="http://inrol.snu.ac.kr">http://inrol.snu.ac.kr</a>			
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	Office hour: TBA						
1. Goal	<ul style="list-style-type: none"> <li>- able to understand, formulate, and solve kinematics of particles and rigid bodies in 2D and 3D</li> <li>- able to understand, formulate, and solve kinetics of particles and rigid bodies in 2D and 3D</li> <li>- able to apply the concepts of dynamics to engineering problems</li> </ul>						
2. Textbook and references	F. P. Beer & E. R. Johnston Jr., "Vector Mechanics for Engineers, Dynamics," 9th Edition in SI Units, McGraw-Hill, 2010.						
3. Evaluation	quiz	homework	mid exam	final exam			Total
	15	15	30	40			100%
	- mid-term: 10/28/2014 7pm;      final exam: 12/12/2014 7pm						
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	review & mid-term exam					
	8	kinematics of rigid bodies – planar motion (Ch.5)					
	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	<ul style="list-style-type: none"> <li>- TA session will be held every week and solve problem sets (time &amp; place: TBA)</li> <li>- 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., &lt; 15 min tardiness) = -1 point</li> <li>- 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%</li> <li>- 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.</li> </ul>						
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.						