2016   2

Course Title	( )		( )	Dynamics

( ) Lecturer	( )		/ / (Course No. /)	004642/ /3
(/HP) Contact No.			/ (Class Hour/Venue)	/ 09:00 - 10:30, 109
(Course Prerequisite)			(Target Student)	2
E-mail (E-mail Address)			/Office Hour (Office/Office Hour)	/ 16:30-18:00, 1114

(Objectives)	Newton (Kinematics) , (kinetics) . , , , , . , , , .
CQI (Continuous Quality Improvement Plan)	- solution - ,
(Text book & References)	: R.C. Hibbeler, "Engineering Mechanics: Dynamics", 13th edition in SI Units, Pearson and Prentice Hall : Ferdinand P. Beer, Russell Johnston Jr., William E. Clausen, "Vector Mechanics for Engineers: Dynamics", Seventh Ed. in SI Units, McGraw Hill
(Assignment book)	R.C. Hibbeler, "Engineering Mechanics: Dynamics", 11th edition in SI Units, Pearson and Prentice Hall
(Lecture Methods)	,
(Assignment)	, 1
(Reading Materials)	
(Course Grading)	[ ] (%) : 40, (%) : 40, (%) : 10, (%) : 10, (40 %), (40 %), (10 %), (10 %) 10 --> FA, 2 = 1
(Etc.)	

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(Week)	(Course Contents)	(Etc.)	
1	Introduction to Dynamics Kinematics of a Particles (position, velocity, acceleration) Kinematics of a Particles (position, velocity, acceleration) Introduction to Dynamics Kinematics of a Particles (position, velocity, acceleration)	ppt	
2	Kinematics of a Particles (curvilinear motion) Kinematics of a Particles (curvilinear motion: normal & tangent components)	ppt	HW#1
3	Kinematics of a Particles (curvilinear motion: cylindrical components) Kinematics of a Particles (dependent motion, relative motion analysis) Kinetics of a Particles : Force and Acceleration (Newton's Law, E.O.M.)	ppt	
4	Kinetics of a Particles : Force and Acceleration (EOM in rectangular, normal-tangent, cylindrical coordinates) Kinetics of a Particles : Work and Energy (work of a force, spring, weight)	ppt	HW#2
5	Kinetics of a Particles : Work and Energy (principle of work and energy) Kinetics of a Particles : Work and Energy (principle of work and energy for a system of particles, Power & efficiency)	ppt	
6	Kinetics of a Particles : Work and Energy (conservative force & potential energy, conservation of energy) Kinetics of a Particles :Impulse and Momentum (principle of linear impulse and momentum for a particle and a system of particles)	ppt	HW#3
7	Kinetics of a Particles :Impulse and Momentum (conservation of linear momentum) Kinetics of a Particles :Impulse and Momentum (Impact)	ppt	HW#4
8	Review	ppt	

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(Week)	(Course Contents)	(Etc.)	
9	Planar Kinematics of a Rigid Body (angular momentum, angular impulse and momentum principles, conservation of angular momentum) Planar Kinematics of a Rigid Body (rigid body motion: translation, rotation about a fixed axis)	ppt	
10	Planar Kinematics of a Rigid Body (relative motion analysis: velocity) Planar Kinematics of a Rigid Body (Instantaneous center of zero velocity, relative motion analysis: acceleration)	ppt	HW#5
11	Planar Kinematics of a Rigid Body (relative motion analysis using roatating axis) Planar Kinetics of a Rigid Body :Force and Acceleration (moment of inertia)	ppt	
12	Planar Kinetics of a Rigid Body :Force and Acceleration (planar kinetic equations of motion) Planar Kinetics of a Rigid Body :Force and Acceleration (planar kinetic equations of motion,EOM: general plane motion))	ppt	HW#6
13	Planar Kinetics of a Rigid Body :Force and Acceleration (EOM: general plane motion) Planar Kinetics of a Rigid Body :Force and Acceleration (EOM: general plane motion)	ppt	
14	Planar Kinetics of a Rigid Body :Work and Energy (Kinetic energy, work of a force Planar Kinetics of a Rigid Body :Work and Energy (principle of work and energy, conservaation of energy)	ppt	HW#7
15	Planar Kinetics of a Rigid Body :Impulse and Momentum (linear and angular momentum, principle of impuluse and momentum) Planar Kinetics of a Rigid Body :Impulse and Momentum (conservation of momentum, eccentric impact)	ppt	HW#8
16	Review		

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1 (Additional Guide1)	Students who require special assistance (including special needs students) may contact their professors during the first week of the semester to discuss issues related to attendance, lectures, assignments and exams and request learning assistance. Blackboard
2 (Additional Guide2)	

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