

## MECH 310 – winter, 2003

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**Text:** Engineering Mechanics: Dynamics  
R.C. Hibbeler, 9<sup>th</sup> edition, Prentice Hall

**Grading:** Homework and quizzes: 25%  
Test 01: 25%  
Test 02: 25%  
Final: 25%

WEEK	CHAPTER	TOPICS
1		Introduction. Review of Vector Mechanics, Free Body Diagrams, and Trigonometry. Definitions of Particle/Rigid Body Mechanics, Newton's Laws.
2	12	Kinematics of a particle, rectangular coordinates. Kinematics of a particle in normal-tangential and radial-transverse coordinates, relative motion.
3	13, 14	Kinetics of a particle using Newton's Laws. Kinetics of a particle using work-energy and impulse methods.
5	15	Impact. Particle dynamics applications.
6		<b>Test 01 – 02/20/03</b>
7	16	Kinematics of a rigid body, relative motion. Kinematics of a rigid body, different reference systems.
8	17	Kinetics of a rigid body using Newton's Laws. <b>Test 02 – 03/13/03</b>
9	18, 19	Kinetics of a rigid body using work-energy and impulse methods.
10	19	Impact. Planar rigid body dynamics applications
11		<b>Final exam</b>