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term A, 2009
Aug. 27, 2009

PH2201 – Intermediate Mechanics I Syllabus

Time: MT-RF 2:00 – 2:50

Room: Olin 107

Text: Morin, Introduction to Classical Mechanics (Cambridge University Press, 2008)

On reserve: Taylor, Classical Mechanics (University Science Books, 2005)
Kleppner/Kolenkow, An Introduction to Mechanics (McGraw-Hill, 1973)
Marion, Classical Dynamics of Particles and Systems (Academic Press, 1970)

Homework: as assigned in study guides (1st hw due Friday Sept. 4)

Exams:

Mid-term:	in-class	Tuesday	Sept. 22
	take-home	Mon-Tues	Sept. 21-22
Final:	in-class	Thursday	Oct. 15
	take-home	Tues-Thur	Oct. 13-15

Evaluations:

1)	Final	40%
2)	Mid-term	30%
3)	Homework	20%
4)	Class participation	10%

Lecture topics:

<u>Part</u>	<u>dates</u>	<u>chapters</u>	<u>topics</u>
1	8/27-9/4	3,4	<u>Newton's laws:</u> coordinate systems, damping forces, damped oscillations, applying Newton's laws to complex systems
2	9/8-9/17	5	<u>Momentum:</u> conservation of momentum, center of mass, variable mass problems, rockets
3	9/21-9/29	5	<u>Energy:</u> work-energy theorem, conservative forces and potential energy, general motion and small oscillations in 1-D systems
4	10/1-10/9	7	<u>Central forces:</u> reduced mass, effective potential, equation of orbits $r(\theta)$, planetary motion and Kepler's laws