INTERMEDIATE MECHANICS TUTORIALS:
EXAMPLE SYLLABUS (VELOCITY DEPENDENT FORCES FIRST)

Tentative schedule of class topics, assigned readings, and exams

Week of Mon.:	Class topics	Required readings
Aug. 29	Fundamental concepts, vector algebra, review of kinematics	Chap. 1 (all)
Sept. 5	Review of inertial reference frames, Newton's laws ** *Labor Day holiday: Mon. 9/5 – Tues. 9/6*	Sect. 2.1 – 2.2
Sept. 12	Review of work-energy theorem; velocity-dependent forces	Sect. 2.3 – 2.5
Sept. 19	More on velocity-dependent forces; simple harmonic motion ***Exam #1 (in-class portion): Thurs., Sept. 22***	Sect. 3.1 – 3.3
Sept. 26	Damped oscillations, phase space diagrams	Sect. 3.4 – 3.5
Oct. 3	Forced oscillations, resonance, non-linear oscillators	Sect. 3.6 – 3.8
Oct. 10	Separable forces; del operator, gradient, curl; conservative forces and potential energy	Sect. 4.1 – 4.3
Oct. 17	Harmonic motion in two dimensions; motion of charged particles in E- & B-fields	Sect. 4.4 – 4.5
Oct. 24	Constrained motion ***Exam #2 (in-class portion): Thurs., Oct. 27***	Sect. 4.6
Oct. 31	Accelerating reference frames; fictitious "forces"	Sect. 5.1 – 5.3
Nov. 7	Effect of Earth's rotation, Foucault pendulum	Sect. 5.4, 5.6
Nov. 14	Gravitation, angular momentum, Kepler's laws	Sect. 6.1 – 6.4
Nov. 21	Potential energy, gravitational potential ** *Thanksgiving holiday: Wed. 11/23 – Fri. 11/25*	Sect. 6.7 – 6.9
Nov. 28	More on Kepler's laws, orbital mechanics ***Exam #3 (in-class portion): Thurs., Dec. 1***	Sect. 6.5 – 6.6
Dec. 5	Orbital energies, "effective" potential of orbital motion, Rutherford scattering	Sect. 6.10 – 6.12

FINAL EXAM (in-class portion):
Wednesday, December 14, 10:00 – 11:50 a.m., PAD 261