**Title:**

**Topic:**

Course Topics:

FLUIDS: pressure of gases, hydrostatic pressure in liquids, gauge pressure, Pascal's Principle, basic hydraulic systems, buoyancy, Archimedes' principle, Bernoulli’s equation

CIRCULAR MOTION & SIMPLE HARMONIC MOTION: properties of oscillatory motion, graphing oscillations as displacement/velocity/acceleration vs. time, equations for displacement, velocity, and acceleration for SHM, phase and phase constant, Hooke’s law, elastic potential energy for a spring/mass system, conservation of energy, natural frequency, horizontal and vertical oscillations, simple pendululum, damped SHM, resonance, Extend the idea of stress/strain to spring systems,Young’s modulus, bulk modulus.

WAVES: longitudinal and transverse waves, snapshot and history graphs, properties of a wave, wave speed vs particle speed, sound waves, power and intensity, decible system, Doppler effect, superposition, standing waves, interference in two systems, contrsuctive and destructive interference, beats, sound interference, light interference, Young's double slit, thin film interference, diffraction grating, circular aperture, Rayleigh criterion

Term: Fall 2011

Instructor: Cynthia Heiner

Contact: For further information on this course, contact Cynthia Heiner (heiner@phas.ubc.ca) or Georg Rieger (rieger@phas.ubc.ca)

course topics