

## Grande Prairie Regional College

## Department of Science

F.916

## PC1010 INTRODUCTORY GENERAL PHYSICS II 3.0 (3-0-3) UT(3)

Lectures	M W F	10:00 - 10:50 a.m. J229
Laboratory	T or W	3:00 - 5:50 p.m. J103

<b>INSTRUCTOR:</b>	Dr. Robert Hunt, P.Eng.	
<b>OFFICE:</b>	C414	
<b>PHONE:</b>	539-2008/532-1338 (GPRC/HOME)	
<b>E-MAIL:</b>	hunt@gpro.ab.ca	
<b>TEXT:</b>	<u>Physics</u> . Cutnell & Johnson, 3rd Edition	
<b>COURSE CONTENT:</b>	Linear and rotational dynamics, work and energy, gravitation, momentum and collisions, rigid body rotation, statics, kinetic theory, heat and thermodynamics.	
<b>PRE-REQUISITE:</b>	Physics 1000	
<b>MARK DISTRIBUTION:</b>	Assignments	10%
	Laboratories	20%
	1st Mid-Term Examination	15% (Oct. 16/96)
	2nd Mid-Term Examination	15% (Nov. 13/96)
	Final Examination	40% (TBA)

COURSE OUTLINE

Chapter 1	Summary of measurements, units and vectors.
Chapter 2	Speed, velocity, and uniform acceleration.
Chapter 3	Two dimensional kinematics.
Chapter 4	Forces, Newton's Laws of Motion, FBDs, friction, and equilibrium. Dynamics of translational motion. Gravitation.
Chapter 5	Dynamics of uniform circular motion.
Chapter 6	Work, energy, power, and Work-Energy Theorem.

**PC1010 Course Outline****Page 2**

Chapter 7	Impulse, linear momentum, 1 and 2-D collisions.
Chapter 8	Rotational kinematics and linear kinematics.
Chapter 9	Rotational dynamics, torque, equilibrium, FBD, $c$ of $g$ , and moment of inertia.
Chapter 12	Temperature, thermal expansion, specific and latent heats, calorimetry.
Chapter 13	Heat transfer.
Chapter 14	Ideal Gases, Kinetic Theory of Gases.
Chapter 15	Thermodynamics, heat engines, Carnot cycle and entropy.

**LABORATORY COMPONENT**

Lab #	Source	Content	Week of
1	Exp. #1	Graphical and Error Analysis	Sept. 9
2	Exp. #10	Kinematics	Sept. 16
3	Exp. #9	Acceleration Due to Gravity	Sept. 23
4	Handout	Vector Addition	Sept. 30
5	Exp. #11	Atwood Pulley	Oct. 7
6	Exp. #12	Trans. of Mech. Energy	Oct. 21
7	Exp. #13	Collision Ramp	Oct. 28
8	Exp. #23	Bending of a Beam	Nov. 4
9	Exp. #16	Constant Vol. Gas Therm.	Nov. 18
10	Exp. #17	Mech. Equiv. of Heat	Nov. 25

**GRADING GUIDELINES**

Percent (Approx.)	Grade
90 - 100	9
80 - 89	8
72 - 79	7
65 - 71	6
57 - 64	5
50 - 56	4
45 - 49	3
26 - 44	2
0 - 25	1

(Cambridge System)