GRANDE PRAIRIE REGIONAL COLLEGE J. Santiago
DEPARTMENT OF SCIENCE
Course Outline - PHYSICS 1030/1050 (1993-1994)

INTRODUCTORY GENERAL PHYSICS I (MECHANICS)

Transfer Credits

	PC 1030 (credits)	PC 1050 (credits)
U. of Alberta	PHYS 105 (3)	PHYS 105 (3)
U. of Calgary	PHYS 201 (3)	PHYS 201 (3)
U. of Lethbridge	PHYS 1000 (3)	PHYS 1000 (3)
Athabasca Univ.	Jr. Science (3)	Jr. Science (3)

Physics 1030/1050 is a non-calculus course in Physics for students WITHOUT/WITH Physics 30. This course is intended to be the pre-requisite for PC 1060. Credit may be obtained for only one of PC 1030 or 1050. (PC 1060 is a pre-requisite for PC 2040, etc.)

Topics Covered: Vectors, forces in equilibrium, linear and rotational motion, dynamics of particles, oscillations and waves.

Textbook: Physics Douglas C. Giancoli

Lab Manual: Physics 105/106/204 U. of A.

Lab Book: (Black) hard cover Physics

Instructor: Dr. Jaime P. Santiago (Office - J209)
Phone: (539-2865 office) (539-4534 home)

COURSE OUTLINE

M, W, F 10:00 - 10:50 Lecture component for PC 1030.

M, W, F 10:00 - 10:50 Lecture component for PC 1050. (U. of A. PC 105)

Chapter 2 Speed, Velocity, Acceleration, Uniform acceleration, Acceleration due to gravity

Chapter 3 Vectors - addition, subtraction & multiplication, Relative velocity

Chapter 4 Force, Newton's laws of motion, Mass & weight, Friction, Projectiles

Chapter 5 Circular motion, Gravitation, Centrifugation, Satellites, "Weightlessness"

Chapter 6 Work, Energy - Potential & Kinetic, Conservation of energy, Other forms of energy, Power

Chapter 7	Momentum and its relation to force, Conservation of Momentum, Collision, Impulse, Elastic collision, Center of Mass
Chapter 8	Angular motion, Equations of rotational motion, Torque, Rotational torque and inertia, Angular momentum and its conservation
Chapter 9	Bodies in equilibrium, Stable equilibrium, Conditions for equilibrium, Simple machines, Levers and pulleys, Elasticity - stress and strain
Chapter 11	Vibrations and waves, Simple harmonic motion, Energy in SHM, Periodic and sinusoidal nature of SHM, Simple pendulum, Damped harmonic motion, Resonance, Wave motion, Type of waves

LABORATORY COMPONENT

T OR W OR R OR F 3:00-5:50 in J103

			Week of
1st Lab	(Handout)	Introductory Lab. Exercises	Sept. 6
2nd Lab	(Handout)	Micrometer & Vernier Calipers	Sept. 13
3rd Lab	Exp. #1 Lab Book	Introduction	Sept. 20
4th Lab	Exp. #2 " "	Kinematics	Sept. 27
5th Lab	(Handout)	Vector Addition	Oct. 4
6th Lab	Exp. #3 Lab Book	Acceleration due to gravity	Oct. 11
7th Lab	Exp. #4 " "	Atwood Pulley	Oct. 25
8th Lab	Exp. #6 " "	Transformation of Mechanical Energy	Nov. 1
9th Lab	Exp. #7 " "	Collision Ramp	Nov. 8
10th Lab	Exp. #10 " "	Bending of Beam	Nov. 15
11th Lab	Exp. #5 " "	Simple Pendulum	Nov. 22
12th Lab	Exp. #8 " "	Hook's Law	Nov. 29

SEMINAR COMPONENT

W 2:00 - 2:50 pm and/or W 1:00 - 2:00 pm

MARK DISTRIBUTION AND EXAMS

40%	Final Exam (T.B.A.)
20%	Lab Reports
10%	Homework (assignments)
15%	First Mid-term (Oct. 20, 1993 at 10:00 am)
15%	Second Mid-term (Nov. 12, 1993 at 10:00 am)
100%	Total (Cambridge System)

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

FORMULA SHEET PROVIDED!!!!