

SEP 24 2007
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GRANDE PRAIRIE REGIONAL COLLEGE
Academic Upgrading Department

PC 0110 - Course Outline

WINTER, 1998

INSTRUCTOR: Sukhvir Sandhu

CLASS TIME: 1:00 - 1:50 (M, W, F) and 1:30 - 2:20 (T, R)

OFFICE: B301B

OFFICE PHONE: 539-2835

OFFICE HOURS: 11:00 - 12:00 (T, R) in A208
2:00 - 3:00 (M, W, F) in A208 or by Appointment

PREREQUISITE: MA 0100 or MA 0110 placement
Recommended: at least 6 in MA 0100/Grade 9 math

TEXT: PHYSICS: Principles and Problems. Murphy, Hollon, Zitzewitz, and Smoot

REQUIRED: Scientific calculator, graph paper, and ordinary paper.

COURSE GOALS: This course is designed to provide the students an understanding of motion and various types of motion; the causes of motion; universal gravitation; momentum and its conservation, work, power and energy. The students will develop problem solving skills and gain an appreciation of the Physics of modern society and in their day-to-day life.

ATTENDANCE: Regular attendance is expected from all students and is essential for passing the course. Students who miss classes will find themselves falling behind and failing. Any student missing more than 10% of scheduled class time may be denied the privilege of writing the final exam.

**TESTS AND
ASSIGNMENTS:**

There are ten units in this course, and each unit will have an assignment which may cover problem-solving and/or require the students to create their own word-problems and solutions. This will count 20% towards the final grade. there will be 5 tests, and each test will count 4%. Any student not attending class on a test date will receive a grade of zero for that test unless an explanation of the absence satisfactory to the instructor is provided. There will be a final exam after the course is completed. There will be four labs and each lab report will count 3%.

Assignments and lab reports should be handed in on the specified dates. Late delivery may be decreased by 10% per day will not be marked once assignment/lab report has been returned to the rest of the class.

EVALUATION:

Assignments	20%
Tests	20%
Mid-term Exam	12%
Lab Reports	12%
Final Exam	36%

COURSE CONTENT

- Test 1:**
1. Study S.I. system of units, significant digits and scientific notation. Correct method of setting up and solving problems.
 2. Study significance of slope of lines, direct and inverse variations. Learn how to plot points, and the difference between dependent and independent variables.
- Test 2:**
3. Study linear motion of objects if acceleration is zero. Study linear motion of objects with an acceleration. Study the motion of objects falling under gravity.
 4. Study Graphical Analysis of motion: Position-Time graph for constant velocity; Position time, velocity-time, and acceleration-time graph for uniform acceleration.
- Test 3:**
5. Study forces and the result of these forces. Study Newton's first and second laws of motion. Distinguish between mass and weight, scalar and vector quantities.
- Test 4:**
6. Study projectile motion horizontal and vertical motions. Study centripetal motion; simple harmonic motion.
 7. Study gravitational motion, Kepler's three laws, Newton's law of universal gravitation, Newton's inverse square law.
- Test 5:**
8. Study momentum of objects, conservation of momentum; impulse. Study Newton's third law of motion.
 9. Study work and power.
 10. Study of energy, law of conservation of energy, elastic collisions.
 11. Optional section will be covered if time permits.

Final Exam:

The 9-Point Grading System

9 or 8	-----	Excellent
		First Class Standing
7 or 6	-----	Good
		Second-class Standing
5 or 4	-----	Pass
3, 2, or 1	-----	Fail