SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

SAULT
COLLEGE

<u>COURSE OUTLINE</u>

COURSE TITLE: Applied Physics

CODE NO. : PHY 100   **SEMESTER:** I

PROGRAM: Electrical-Power/Environmental-Water Engineering Technology

AUTHOR: *Subhash Verma, P.Eng*

DATE: May, 2010   **PREVIOUS OUTLINE DATED:** June 2009

APPROVED: "B. Punch"

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                      Chair   **DATE**

TOTAL CREDITS: 4

PREREQUISITE: None

HOURS/WEEK: 4

I. COURSE DESCRIPTION:

This course introduces the student to a number of fundamental concepts of physics, which should prove useful to students in the Civil, Electrical, Environmental, and Water Resources Engineering programs. Topics to be covered include: units of measurement, vectors, forces, accelerated motion, Newton's laws of motion, momentum, work, energy and power, simple machines, force systems, and moments and torques. The assumption is that many of the students will be seeing these concepts for the first time. Because of the number of topics and the potential for difficulties in some of the more complicated areas, the emphasis will be placed on *introducing* the student to the *concepts* rather than a *rigorous mathematical analysis* of the topics.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:
1. Write definitions for the concepts introduced, preferably in the student's own words
2. Answer questions requiring knowledge of concepts presented in class
3. Respond to questions requiring extrapolation of the course content.
4. Solve mathematical based problems requiring an understanding of the course theory.
5. Apply the knowledge learned in this course to other courses which are 'physics based'

III. TOPICS:

1. Units of Measurement

2. Vectors

3. Motion

4. Force and Acceleration

5. Momentum and Impulse

6. Torque and Parallel Forces

7. Work and Energy

8. Simple Machines

9. Properties of Matter

10. Fluids

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

        Ewen, Nelson and Schurter, **APPLIED <u>PHYSICS</u>**, **Ninth edition.**
        Pearson Canada, 2008.

V. EVALUATION PROCESS/GRADING SYSTEM:

The final grade will be derived from the results of the tests and lab work and assignments, weighted as follows:

Tests	- 50%
Quizzes	- 25%
Tutorials	- 25%

To pass the course a minimum of 50% score is required.

The following semester grades will be assigned to students in postsecondary courses:

Grade	Definition	Grade Point Equivalent
A+	90 - 100%	4.00
A	80 - 89%	4.00
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 - 59%	1.00
F (Fail)	<50%	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.	
NR	Grade not reported to Registrar's office.	
W	Student has withdrawn from the course without academic penalty.	

VI. SPECIAL NOTES:

<u>Course Outline Amendments</u>:
The professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

<u>Attendance</u>:
Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session. *It is the departmental policy that once the classroom door has enclosed, the learning process has begun. Late arrives will not be granted admission to the room*