

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:

APPLIED PHYSICS; by - Dale Ewen, Neill Schurter and P. Eric Gundersen; **10th Edition**; Prentice Hall; ISBN-13: 978-0-13-611633-2, ISBN-10: 0-13-611633-7

Scientific Calculator; similar to Sharp – EL520W

V. EVALUATION PROCESS/GRADING SYSTEM:

Final grade will be awarded based on the composite score derived from the following:

Tests (4)	50%
Quizzes	20%
Tutorials	20%
<u>Attendance</u>	<u>10%</u>
Total	100%

(The percentages shown above may have to be adjusted to accurately evaluate student skills. Students will be notified of any changes made.)

The professor reserves the right to adjust the mark up or down 5% based on attendance, participation, leadership, creativity and whether there is an improving trend.

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

NOTES: If a student misses a test or surprise quiz without contacting the instructor, the Dean's office or the switchboard prior to the test or quiz, a mark of zero will be granted without a re-write option.

A minimum of 80% attendance required in the lectures.

- Makeup Tests are at the discretion of the instructor and will be assigned a maximum grade of 50%.
- The professor reserves the right to adjust the number of tests, practical tests and quizzes based on unforeseen circumstances. The students will be given sufficient notice to any changes and the reasons thereof.
- A student who is absent for 3 or more times without any valid reason or effort to resolve the problem will result in action taken.
NOTE: If action is to be taken, it will range from marks being deducted to a maximum of removal from the course.

The following semester grades will be assigned to students:

<u>Grade</u>	<u>Definition</u>	<u>Grade Point Equivalent</u>
A+	90 – 100%	4.00
A	80 – 89%	3.00
B	70 - 79%	2.00
C	60 - 69%	1.00
D	50 – 59%	0.00
F (Fail)	49% and below	
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
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:

Electronic Devices in the Classroom:

Students who wish to use electronic devices in the classroom will seek permission of the faculty member before proceeding to record instruction. With the exception of issues related to accommodations of disability, the decision to approve or refuse the request is the responsibility of the faculty member. Recorded classroom instruction will be used only for personal use and will not be used for any other purpose. Recorded classroom instruction will be destroyed at the end of the course.

To ensure this, the student is required to return all copies of recorded material to the faculty member by the last day of class in the semester. Where the use of an electronic device has been approved, the student agrees that materials recorded are for his/her use only, are not for distribution, and are the sole property of the College.

Attendance:

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 been closed on the half-hour, the learning process has begun. Late arrivals will not be granted admission to the room.

NOTE:

- Your attendance and attention in all classes, and your final grade are directly related. A deduction of 1% per theory hour missed will be imposed. (including double periods)
- Any student that is absent for a test, will be required to provide a doctors' note immediately upon returning. Failing to do so will result in a grade of 0% being assigned to the missed test.
- There will be no rewrites for any test written.
- Tests, quizzes and other activities will not be scheduled on an individual basis, unless it is for a medical or family emergency.
- Disruptions to theory classes, such as lateness, are not acceptable and will be dealt with on an individual basis.

VII. COURSE OUTLINE ADDENDUM:

The provisions contained in the addendum located on the portal form part of this course outline.