

I. COURSE DESCRIPTION:

This course introduces the student to a number of fundamental concepts of technical physics. It is designed to satisfy the needs of students who are interested in an overview of the concepts rather than a rigorous mathematical analysis of the topics as might be encountered in a traditional engineering level course in physics. The included topics relate to the trades and technology fields of study.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:

1. *Measurement and The Metric System*

Potential Elements of the Performance:

- differentiate between accuracy and precision
- be aware of various measuring systems such as:
Metric, Imperial, and U.S. Customary

2. *Motion*

Potential Elements of the Performance:

- differentiate between distance and displacement
- understand speed, velocity, and acceleration

3. *Forces, Work, Energy, Power and Simple Machines*

Potential Elements of the Performance:

- identify forces in nature e.g. gravity, magnetism
- define and describe the units associated with work, energy, power and how forces are used by simple machines

4. *Properties of Matter: Solids, Liquids and Gases*

Potential Elements of the Performance:

- identify the characteristics of matter in various states
- describe the cause(s) of matter to undergo a change of state
- quantify the units of measure which are associated with change of state e.g. temperature and/or heat

5. *Basic Electricity*

Potential Elements of the Performance:

- identify the components of electricity: volt, amperage, and resistance
- be aware of fundamental differences between AC and DC current
- configure parallel and serial circuits

6. *Temperature and Heat*

Potential Elements of the Performance:

- be aware of centigrade, celcius and Kelvin temperature scales
- be able to convert temperatures between all three scales
- differentiate between temperature and heat

III. TOPICS:

1. Measurement and The Metric System
2. Motion
3. Forces, Work, Energy, Power and Simple Machines
4. Properties of Matter: Solids, Liquids and Gases
5. Basic Electricity
6. Temperature and Heat

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

No text is required for this course. Students are required to attend class and laboratory settings to receive copies of relevant course content.

V. EVALUATION PROCESS/GRADING SYSTEM:

Your final grade in PHY117 will be determined on the basis of a number of quiz tests to be administered during the semester, combined with the results of your laboratory experiment reports. The final mark will be awarded based on the composite score of lab and quiz tests as follows:

Quiz Tests	60%
Lab Work	40%

The following semester grades will be assigned to students:

Grade	<u>Definition</u>	<i>Grade Point Equivalent</i>
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:

Course Outline Amendments:

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.

Retention of Course Outlines:

It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

Prior Learning Assessment:

Students who wish to apply for advance credit transfer (advanced standing) should obtain an Application for Advance Credit from the program coordinator (or the course coordinator regarding a general education transfer request) or academic assistant. Students will be required to provide an unofficial transcript and course outline related to the course in question. Please refer to the Student Academic Calendar of Events for the deadline date by which application must be made for advance standing.

Credit for prior learning will also be given upon successful completion of a challenge exam or portfolio.

Substitute course information is available in the Registrar's office.

Disability Services:

If you are a student with a disability (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Disability Services office. Visit Room E1101 or call Extension 2703 so that support services can be arranged for you.

Communication:

The College considers **WebCT/LMS** as the primary channel of communication for each course. Regularly checking this software platform is critical as it will keep you directly connected with faculty and current course information. Success in this course may be directly related to your willingness to take advantage of the **Learning Management System** communication tool.

Plagiarism:

Students should refer to the definition of "academic dishonesty" in *Student Code of Conduct*. A professor/instructor may assign a sanction as defined below, or make recommendations to the Academic Chair for disposition of the matter. The professor/instructor may (i) issue a verbal reprimand, (ii) make an assignment of a lower grade with explanation, (iii) require additional academic assignments and issue a lower grade upon completion to the maximum grade "C", (iv) make an automatic assignment of a failing grade, (v) recommend to the Chair dismissal from the course with the assignment of a failing grade. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Student Portal:

The Sault College portal allows you to view all your student information in one place. **mysaultcollege** gives you personalized access to online resources seven days a week from your home or school computer. Single log-in access allows you to see your personal and financial information, timetable, grades, records of achievement, unofficial transcript, and outstanding obligations. Announcements, news, the academic calendar of events, class cancellations, your learning management system (LMS), and much more are also accessible through the student portal. Go to <https://my.saultcollege.ca>.

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.