SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE:	CONCEPTS OF TECHNICAL PHYSICS		
CODE NO. :	PHY117	**SEMESTER:**	2
PROGRAM:	Pre Trades and Technology		
AUTHOR:	Douglas McKinnon		
DATE:	FEB 2011	**PREVIOUS OUTLINE DATED:**	JAN 2010
APPROVED:	*"Corey Meunier"* **CHAIR**		**DATE**
TOTAL CREDITS:	3		
PREREQUISITE(S):	None, *although* grade 12 college mathematics is *strongly recommended*		
HOURS/WEEK:	3		

For additional information, please contact Corey Meunier, Chair
School of Technology & Skilled Trades
(705) 759-2554, Ext. 2610

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 mater 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.

Scientific Calculator

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	Definition	*Grade Point Equivalent*
A+	90 – 100%	4.00
A	80 – 89%	
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% and below	0.00

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:

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, the learning process has begun. Late arrivers will not necessarily be granted admission to the room.

VII. COURSE OUTLINE ADDENDUM:

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