

COURSE OUTLINE

Revision: Mike Steffancin, February 2008

DEPARTMENT:	Academic Programs
CURRICULUM:	Applied Academics
COURSE TITLE:	Technical Physics II
COURSE NUMBER:	PHYS 112
TYPE OF COURSE:	Academic Transfer
Special Requirement Met:	None
AREA(S) OF KNOWLEDGE:	None
COURSE LENGTH:	1 quarter
CREDIT HOURS:	5
LECTURE HOURS:	33
LAB HOURS:	44
CLASS SIZE:	30
PREREQUISITES:	Basic Algebra and PHYS 111 (Technical Physics I)

COURSE DESCRIPTION:

Explores properties of solids, liquids and gases; temperature and the effect of heat; specific heat, heat transfer, basic Thermodynamics, heat engines; Electrostatics, DC circuits, magnetism, electromagnetic induction, capacitance, inductance AC circuits. Lab included.

PHYS 112 Technical Physics II
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STUDENT LEARNING OUTCOMES ADDRESSED:

1. Computation – Use arithmetic and other basic mathematical operations as required by program of study. Apply quantitative skills for personal, academic and career purposes.
2. Critical Thinking and Problem Solving – Think critically in evaluating information, solving problems and making decisions.
3. Technology – Select and use appropriate technological tools for personal, academic and career tasks.

GENERAL COURSE OBJECTIVES:

At the end of the course the student will:

1. Have an understanding of the basic principles, analytical methods and terminology of thermodynamics, electricity and magnetism.
2. Develop competence in problem analysis and solution by experimental as well as theoretical methods.

TOPICAL OUTLINE

- I. Thermodynamics
 - A. Temperature and Kinetic Theory
 - B. Heat
- II. Electricity and Magnetism
 - A. Electric charge, forces and fields
 - B. Electric potential
 - C. DC Electric circuits
 - D. Magnetism
 - E. AC Circuits

Total

66

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Course Prefix and Number: PHYS 112
 Course Title: Technical Physics II

SLO #	Included in Course Objective Number	SSCC Student Learning Outcomes
SLO 1.1	1	Communication - Read and listen actively
SLO 1.2		Communication - Speak and write effectively
SLO 2.1	1, 2	Computation - Use mathematical operations
SLO 2.2	1, 2	Computation - Apply quantitative skills
SLO 2.3	1, 2	Computation - Identify, interpret, and utilize higher level mathematical and cognitive skills
SLO 3.1		Human Relations - Use social interactive skills to work in groups effectively
SLO 3.2		Human Relations - Recognize the diversity of cultural influences and values
SLO 4.1	1, 2	Critical Thinking and Problem Solving -
SLO 5.1	1, 2	Technology - Select and use appropriate technological tools
SLO 6.1		Personal Responsibility - Be motivated and able to continue learning and adapt to change
SLO 6.2		Personal Responsibility - Value one's own skills, abilities, ideas and art
SLO 6.3		Personal Responsibility - Take pride in one's work
SLO 6.4		Personal Responsibility - Manage personal health and safety
SLO 6.5		Personal Responsibility - Be aware of civic and environmental issues
SLO 7.1	1	Information Literacy - Access and evaluate information
SLO 7.2	1	Information Literacy - Use information to achieve personal, academic, and career goals, as well as to participate in a democratic society

PREPARED BY: Mike
 Steffancin
 DATE: August 2008