

MESABI RANGE COMMUNITY & TECHNICAL COLLEGE – VIRGINIA/EVELETH

Course Outline

Course Title: Engineering Physics II Submitted By: Jason Slattery
Semester Course Prefix and Number: PHYS 1572 Approval Date:
Old Quarter Course Prefix and Number: PHYS 112 & 113 Revision Date: April 2011

Number of Credits: 4 Number of Lecture Credits: 4
Semester(s) Offered: Number of Lab Credits: Number of Lab Hours:
Class Size: 48/Lecture Number of Studio/Demonstration/Internship Credits:

Course Purpose Code:

- 0 – Developmental Courses
- 1 – Non-transferable, General Education
- 2 – Technical course related to career programs
- 3 – College course which has the primary goal of applying certain concepts (e.g. vocal ensemble)
- 4 – Other college course not considered a part of general education (MNTC) e.g. computer science, health, physical education
- 5 – Course which is intended to fulfill the Minnesota Transfer Curriculum (MNTC) requirements.
- 9 – Continuing Education/Customized Training specialized credit course (not occurring in 0-5)

Catalog Description:

This course will cover electricity and magnetism, electromagnetic waves, optics, interference, and diffraction. In addition, the course will cover some modern physics, if time permits.

Prerequisites and/or recommended entry skills/knowledge:

Course Prerequisite(s): PHYS 1571 (Or previous course PHYS 111 AND 112)
Reading Prerequisite: None
Composition Prerequisite: None
Mathematics Prerequisite: Concurrent enrollment in MATH 1562 or instructor’s consent

Career Programs and Transfer Majors Accessing this Course:

Pre-Engineering, Physics, Pre-Medicine, Pre-Dental

Minnesota Transfer Curriculum Goal(s) partially met by this course if applicable: Notes: No more than two goals may be met by any one course. (Curriculum Committee review and the Chief Academic Officer’s approval are required).

- 0. None
- 1. Communications
- 2. Critical Thinking
- 3. Natural Sciences
- 4. Mathematical/Logical Reasoning
- 5. History and the Social and Behavioral Sciences
- 6. The Humanities and Fine Arts
- 7. Human Diversity
- 8. Global Perspectives
- 9. Ethical and Civic Responsibility
- 10. People and the Environment

Learning outcomes, including any relevant competencies listed in the Minnesota Transfer Curriculum:

The student will:

- Demonstrate an understanding of the laws of physics
- Critically analyze and solve problems with multiple steps
- Communicate laboratory findings, both orally and in writing (from PHYS 1582)
- Formulate and test hypotheses by performing laboratory experiments (from PHYS 1582)

Student assessment methods:

Assigned homework, exams, quizzes, and written laboratory reports (from PHYS 1582).

Use of instructional technology (includes software, interactive video and other instructional technologies):

Outline of the major course content:

- I. Electricity
- II. Magnetism
- III. Electromagnetic Waves
- IV. Optics
- V. Interference and Diffraction
- VI. Modern Physics (time permitting)

Additional special information (special fees, directives on hazardous materials, etc.)

PHYS 1582 – Engineering Physics Lab II (1 lab; 1 credit) is required with this course.

Transfer Information: (Please list colleges/majors that accept this course in transfer.)

Approvals:

Body	Representative Signatures	Date
Curriculum Committee		
Faculty Association		
Meet and Confer		
Chief Academic Officer		

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