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

Semester(s) Offered:

Class Size: 48/Lecture

Number of Lecture Credits: 4

Number of Lab Credits:

Number of Lab Hours:

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:

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