

## WEI EET 110 ELECTRICAL CIRCUIT ANALYSIS 1 SYLLABUS

**DATE:** February 2011

**CREDITS:** 5.0

**PREPARED BY:** Jim Swartos

**COURSE DESCRIPTION:** Fundamentals of DC electricity, circuits, magnetism and intro to AC electricity. Use of test equipment, building, testing and troubleshooting circuits.

**CO/PREREQUISITE(S):** EET 101 Introduction To Electronics

**TEXT:** Electricity and Electronics, 4<sup>th</sup> Ed, Gibilisco, ISBN 0071459332

**LAB MANUAL:** Electronics, 2<sup>nd</sup> Ed, Cook & Lancaster, ISBN: 0131135902

**COURSE GOALS:** Upon successful completion of the course students will be able to use formulas to calculate voltage, current, resistance and power in series and parallel DC circuits. Kirchoff's Laws and voltage divider networks will be analyzed. Magnetism and AC circuits will be introduced.

**COURSE OBJECTIVES:** Upon successful completion of the course, students will be able to:

- 1) Safely perform basic electrical circuit tests.
- 2) Solve basic electrical problems involving voltage, current, resistance, and power in more complex circuits.
- 3) Explain geomagnetic field, electromagnets and magnetic properties.
- 4) Use an oscilloscope to make DC and AC measurements
- 5) Define alternating current, period and frequency.

### COURSE CONTENT OUTLINE:

- A. DC Series and Parallel Circuits
- B. Power in DC Circuits
- C. Kirchoff's Laws
- D. Magnetism
- E. Electromagnets
- F. Geomagnetic Field
- G. Magnetic Properties
- H. Alternating Current
- I. Period and Frequency
- J. Sine Waves
- K. Complex Waves

**EVALUATION METHODS/GRADING PROCEDURES:**

Students will be evaluated and grades will be awarded on the following criterion: Attendance, Homework/Assignments, Labs/Projects and a comprehensive Final Exam.

Grading will conform to the rules and policies set forth by the Administration of Washington Engineering Institute.

**PLANNED TEACHING METHODS/LEARNING STRATEGIES:**

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| <input checked="" type="checkbox"/> Lecture                    | <input checked="" type="checkbox"/> Small Group Discussion | <input type="checkbox"/> Special Project |
| <input checked="" type="checkbox"/> Labs / Experiments         | <input checked="" type="checkbox"/> Audiovisual            | <input type="checkbox"/> Other (List)    |
| <input checked="" type="checkbox"/> Individualized Instruction |  |  |