



## COURSE SYLLABUS

### Electric Circuits and Systems Spring 2015

**Course:** Electric Circuits and Systems / Lab, Electric Circuits and Systems  
EET K105 / EET K106

**Location:** Room B229

**Time:** MW 2:00-4:06 pm

**Prerequisites:** MAT K095

**Co requisites:** MAT K137

**Instructor:** John Forella  
[forella@earthlink.net](mailto:forella@earthlink.net)

**Office Hours:** By appointment

**Text:** Introduction to Electricity,  
Robert T. Paynter & B.J. Toby  
Boydell

**Course Description:** This course provides an introduction to the basic concepts of DC and AC electric circuits. Voltage, current, resistance, energy and power relationships are introduced. Circuit analysis of basic series and parallel circuits is covered. Instruments and techniques of electrical measurements for both DC and AC circuits are also covered.

The lab course will supplement the course Electric Circuits & Systems. Students will apply the concepts learned in the classroom and gain practical hands-on experience making electrical measurements using a variety of test instruments.

#### **Course Topics:**

- Basic Electrical Concepts
- Electrical Engineering Technology
- Electrical Components and Systems
- AC Concepts/Waveforms
- Basic Circuit Analysis
- Magnetic Circuits
- Electrical Machines
- Diodes and Transistors
- Power Generation and Transmission

#### **Lab Topics:**

- Lab safety & standard practices
- Equipment familiarization
- Voltage and Current Measurement
- Voltage and Current Dividers
- AC Measurements—Function Generators & Scopes
- Wheatstone Bridge
- Electric Motors
- Power Supply Circuits



**Course Format:** This course will be a combination of lecture and lab exercises. All classes are held in the lab for easy transition from lecture topics to hands-on demonstration of theoretical principles.

**Grading:** Homework, Lab Exercises and Reports. Tests, Class Participation, Attendance, Promptness, Professional Attitude.

**Attendance/Timeliness:** Attendance is mandatory at all class and lab sessions. Tardiness of attendance and/or assignments can have a significant negative impact on grading.

**K105/106 Course Outcomes:** The Course Outcomes are defined and assessed to determine the effectiveness of the course at meeting the course objectives.

1. Mastery of electrical technology concepts as defined in this syllabus.
2. Knowledge of advanced electrical quantities, units and relationships.
3. Demonstrate an ability to build and test advanced electrical circuits and systems.
4. Demonstrate an ability to analyze and solve problems relating to advanced electrical systems.
5. Demonstrate oral and written communications skills.
6. Demonstrate an ability to engage in self-directed professional development.
7. Demonstrate proper professional and ethical behavior.
8. Demonstrate a commitment to quality, timeliness and continuous improvement

### **College Withdrawal Policy**

Students may withdraw, in writing or verbally at the Registrar's Office for any reason until the end of the 10<sup>th</sup> week of classes. From the 11<sup>th</sup> week through the end of the 13<sup>th</sup> week, a student may withdraw with the instructor's written approval.

### **Disabilities Statement**

If you are a student with a disability and believe you will need accommodations for this class, it is your responsibility to contact the Disabilities Counseling Services at 383-5240. To avoid any delay in the receipt of accommodations, you should contact the counselor as soon as possible. Please note that I cannot provide accommodations based upon disability until I have received an accommodation letter from the Disabilities Counselor.