Course Data: Electrical Systems for Industry, 4 credit hours, Electrical symbols and schematics, resistance, Ohm’s law, capacitance, inductance, Kirchhoff’s law, meters, AC fundamentals, transformers, power factor, and safety. Laboratory Prerequisite: Math 111 or equivalent.


Web Resources:

http://wps.prenhall.com/chet_boylestad_introdutct_10/0.5356.271101-00.html

The web page listed above contains material specifically designed for the text book used in this class. Students will complete the web site chapters for each chapter covered. This material will be used to calculate the grade. There is a provision to email the results to me for my review.

Instructor: David T Williams B.S., M.S.
Office: D111
Phone: 453-7820
Office Hours: MWF 11-2
Email: dtw322@siu.edu

Goals: To provide students with an understanding of the basic principles and applications of electrical fundamentals.

Topics for exploration include but not limited to the following:
History, scientific notation and unit conversion
Current and Voltage
Resistance
Ohm’s law, power and energy
Series circuits
Parallel circuits
Capacitors
Inductors
Sinusoidal waveforms
Phasers
Series and Parallel A.C. circuits
A.C. Power
Three phase systems
Transformers

Grading system: The grades will follow a standard grading system
A 90 – 100
B 80 – 89.99
C 70 – 79.99
D 60 – 69.99
F 59.99 AND BELOW

All work is required and

No make-up exams or late homework permitted. Homework may be electronically submitted when necessary before the due date.

Grade will be calculated using the following breakdown.

Lab work and lab reports 20%
Attendance and class participation 10%

1. Homework Quizzes 10% - Given in the first 12 minutes of each class day. No exceptions. **Course number and name**
   ET245a – Introduction to Circuit Theory and Applications

2. Credits and contact hours
   4 Credits, 5 Contact hours: Lecture 3hrs/week, Lab 2 hrs/week

3. Instructor
   David T Williams

4. Text book, title, author and year
   Boylestad Lab Manual 12th ed.

   a. **Supplemental materials**

5. Specific course information
   a. **Course Catalog Description**
      This course covers the fundamental theories of electric circuits. It covers symbols and diagrams that represent electric circuits and includes mathematical definitions and application of circuit components. Students analyze circuits using Ohm’s and Kirchhoff’s Laws. The course introduces mathematical descriptions for alternating currents with practical examples. A laboratory demonstrates theory.

   b. **Prerequisite/Co-requisite:**
      Prerequisite: MATH 111, ET 150 or equivalent

   c. **Required/Elective/Selected Elective**
      Required

6. Specific goals for the course
   a. **Specific outcomes of instruction**
Be knowledgeable in the fundamental theories of electric circuits.
Be knowledgeable in symbols and diagrams that represent electric circuits.
Be knowledgeable in mathematical definitions.
Be knowledgeable in and application of circuit components.
Be knowledgeable in analysis of circuits using Ohm’s and Kirchoff’s Laws.

b. **Student outcomes listed in Criterion 3**
EET-1, EET-2, EET-4

7. **Topic List**

- History, scientific notation and unit conversion
- Current and Voltage
- Resistance
- Ohm’s law, power and energy
- Series circuits
- Parallel circuits
- Capacitors
- Inductors
- Sinusoidal waveforms
- Phasors
- Series and Parallel A.C. circuits
- A.C. Power
- Three phase systems
- Transformers
3 Exams plus a final that counts twice 60%

The instructor reserves the right to drop the lowest test score. This is optional and is not definite.

Students will be introduced to and be expected to use computer software that simulates electronic circuits. The student version of Circuitmaker can be downloaded from the web. If you bring a blank CD-R, I can burn this for you. EWB or Multisim can also be used for the circuit simulation.

Laboratory projects may deviate from the lab book as necessary. Sometimes the timing of the lab work does not correspond to the lecture. Students are required to do pre-lab work before the lab. Some of this work includes writing the title page, objective, and other work as required and assigned.

There will be no make up for missed labs. Sometimes the work in the lab may extend over the lab time. You need to make sure that you understand this possibility. Not reading the lab, completing the pre-lab work, and other factors contribute to this situation. The lab time is designed for completing the experiments not preparing for the experiments.

**Attendance:** Attendance is mandatory and will be taken at the beginning of each class period. FINAL GRADE WILL BE LOWERED 2% PER DAY FOR UNEXECUSED ABSENCES. Instructor must be notified prior to class. Exceptions will be handled on a case by case basis and granted with appropriate documentation and/or circumstances.

8. **Course number and name**
   ET245a – Introduction to Circuit Theory and Applications

9. **Credits and contact hours**
   4 Credits, 5 Contact hours: Lecture 3hrs/week, Lab 2 hrs/week

10. **Instructor**
    David T Williams

11. **Text book, title, author and year**
    Boylestad Lab Manual 12th ed.

    a. **Supplemental materials**

12. **Specific course information**
    c. **Course Catalog Description**
This course covers the fundamental theories of electric circuits. It covers symbols and diagrams that represent electric circuits and includes mathematical definitions and application of circuit components. Students analyze circuits using Ohm’s and Kirchoff’s Laws. The course introduces mathematical descriptions for alternating currents with practical examples. A laboratory demonstrates theory.

d. **Prerequisite/Co-requisite:**  
Prerequisite: MATH 111, ET 150 or equivalent

c. **Required/Elective/Selected Elective**  
Required

13. **Specific goals for the course**

c. **Specific outcomes of instruction**  
Be knowledgeable in the fundamental theories of electric circuits.  
Be knowledgeable in symbols and diagrams that represent electric circuits.  
Be knowledgeable in mathematical definitions.  
Be knowledgeable in and application of circuit components.  
Be knowledgeable in analysis of circuits using Ohm’s and Kirchoff’s Laws.

d. **Student outcomes listed in Criterion 3**  
EET-1, EET-2, EET-4

14. **Topic List**

- History, scientific notation and unit conversion  
- Current and Voltage  
- Resistance  
- Ohm’s law, power and energy  
- Series circuits  
- Parallel circuits  
- Capacitors  
- Inductors  
- Sinusoidal waveforms  
- Phasors  
- Series and Parallel A.C. circuits  
- A.C. Power  
- Three phase systems  
- Transformers
Syllabus Attachment
Spring 2014

"We emphasize student achievement and success because achievement and success are essential if we are to shape future leaders and transform lives."  

IMPORTANT DATES *
Semester Class Begins ..............................................01/13/2014
Last day to add a class (without instructor permission) ...............01/24/2014
Last day to withdraw completely and receive a 100% refund: .......01/26/2014
Last day to drop a course using SalukiNet ................................03/23/2014
Last day to file diploma application (for name to appear in Commencement program): ..............................................03/28/2014
Final examinations: .......................................................5/5 – 5/9/2014
* Note: For outreach, online, and short course drop/add dates, visit Registrar’s Academic webpage http://registrar.siu.edu/

SPRING SEMESTER HOLIDAYS
Martin Luther King, Jr.'s Birthday 01/20/2014
Spring Vacation 03/08—03/16/2014

WITHDRAWAL POLICY – Undergraduate only
Students who officially register for a session may not withdraw merely by the stopping of attendance. An official withdrawal form needs to be initiated by the student and processed by the University. For the proper procedures to follow when dropping courses and when withdrawing from the University, please visit http://registrar.siu.edu/pdf/ugradcatalog1314.pdf

INCOMPLETE POLICY – Undergraduate only
An INC is assigned when, for reasons beyond their control, students engaged in passing work are unable to complete all class assignments. An INC must be changed to a completed grade within one semester following the term in which the course was taken, or graduation, whichever occurs first. Should the student fail to complete the course within the time period designated, that is, by no later than the end of the semester following the term in which the course was taken, or graduation, whichever occurs first, the incomplete will be converted to a grade of F and the grade will be computed in the student’s grade point average. For more information please visit: http://registrar.siu.edu/grades/incomplete.html

REPEAT POLICY
An undergraduate student may, for the purpose of raising a grade, enroll in a course for credit no more than two times (two total enrollments) unless otherwise noted in the course description. For students receiving a letter grade of A, B, C, D, or F, the course repetition must occur at Southern Illinois University Carbondale. Only the most recent (last) grade will be calculated in the overall GPA and count toward hours earned. See full policy at http://registrar.siu.edu/pdf/ugradcatalog1314.pdf

GRADUATE POLICIES
Graduate policies often vary from Undergraduate policies. To view the applicable policies for graduate students, please visit http://gradschool.siu.edu/about-us/grad-catalog/index.html

DISABILITY POLICY
Disability Support Services provides the required academic and programmatic support services to students with permanent and temporary disabilities. DSS provides centralized coordination and referral services. To utilize DSS services, students must come to the DSS to open cases. The process involves interviews, reviews of student-supplied documentation, and completion of Disability Accommodation Agreements.
http://disabilityservices.siu.edu/

STUDENT CONDUCT CODE
http://policies.siu.edu/other_policies/chapter3/ conduct.html

SALUKI CARES
The purpose of Saluki Cares is to develop, facilitate and coordinate a university-wide program of care and support for students in any type of distress—physical, emotional, financial, or personal. By working closely with faculty, staff, students and their families, SIU will continue to display a culture of care and demonstrate to our students and their families that they are an important part of the community. For Information on Saluki Cares: (618) 453-5714, or siucares@siu.edu, http://saluki-cares.siu.edu/index.html

EMERGENCY PROCEDURES
Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. We ask that you become familiar with the SIU Emergency Response Plan and Building Emergency Response Team (BERT) programs. Emergency response information is available on posters in buildings on campus, available on BERT’s website at www.bert.siu.edu, Department of Safety’s website at www.dps.siu.edu (disaster drop down) and the Emergency Response Guideline pamphlet. Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency.

INCLUSIVE EXCELLENCE
SIU contains people from all walks of life, from many different cultures and sub-cultures, and representing all strata of society, nationalities, ethnicities, lifestyles, and affiliations. Learning from and working with people who differ is an important part of education as well an essential preparation for any career. For more information please visit: http://www.inclusiveexcellence.siu.edu/

MORRIS LIBRARY HOURS
http://www.lib.siu.edu/about

LEARNING AND SUPPORT SERVICES
Help is within reach. Learning support services offers free tutoring on campus and math labs. To find more information please visit the Center for Learning and Support Services website:
Tutoring : http://tutoring.siu.edu/
Math Labs http://tutoring.siu.edu/math_tutoring/index.html

WRITING CENTER
The Writing Center offers free tutoring services to all SIU students and faculty. To find a Center or Schedule an appointment please visit http://write.siu.edu/

AFFIRMATIVE ACTION & EQUAL OPPORTUNITY
Our office's main focus is to ensure that the university complies with federal and state equity policies and handles reporting and investigating of discrimination cases. For more information visit: http://diversity.siu.edu/

Additional Resources Available:
SALUKINET: https://salukinet.siu.edu/cp/home/displaylogin

ADVISEMENT: http://advisement.siu.edu/

PROVOST & VICE CHANCELLOR: http://pvcaa.siu.edu/
SIU ONLINE: http://online.siu.edu/

1 Southern Illinois University Carbondale. (2013). Pathways to Excellence: A Strategic Plan

Spring 2014 B.O’Reahe
### SPRING 2014
### FINAL EXAMINATION SCHEDULE

7. Other classes (not those for 1 credit) should hold their final exams as follows:

**First Line of Schedule Listing Shows:**

<table>
<thead>
<tr>
<th>Meeting Time Starts At:</th>
<th>Scheduled Meeting Days:</th>
<th>Date of Exam</th>
<th>Exam Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00</td>
<td>Begin with a T or R</td>
<td>Tue, May 6</td>
<td>7:50-9:50a.m.</td>
</tr>
<tr>
<td>08:00</td>
<td>Begin with a M or W or F</td>
<td>Mon, May 5</td>
<td>7:50-9:50a.m.</td>
</tr>
<tr>
<td>09:00</td>
<td>Begin with a T or R</td>
<td>Thu, May 8</td>
<td>10:10a.m.-12:10p.m.</td>
</tr>
<tr>
<td>09:35</td>
<td>Begin with a T or R</td>
<td>Thu, May 8</td>
<td>7:50-9:50a.m.</td>
</tr>
<tr>
<td>09:00</td>
<td>Begin with a M or W or F</td>
<td>Wed, May 7</td>
<td>10:10a.m.-12:10p.m.</td>
</tr>
<tr>
<td>10:00</td>
<td>Begin with a T or R</td>
<td>Thu, May 8</td>
<td>7:50-9:50a.m.</td>
</tr>
<tr>
<td>10:00</td>
<td>Begin with a M or W or F</td>
<td>Fri, May 9</td>
<td>12:50-2:50p.m.</td>
</tr>
<tr>
<td>11:00</td>
<td>Begin with a T or R</td>
<td>Mon, May 5</td>
<td>12:50-2:50p.m.</td>
</tr>
<tr>
<td>11:00</td>
<td>Begin with a M or W or F</td>
<td>Tue, May 6</td>
<td>10:10a.m.-12:10p.m.</td>
</tr>
<tr>
<td>12:00</td>
<td>Begin with a T or R</td>
<td>Fri, May 9</td>
<td>10:10a.m.-12:10p.m.</td>
</tr>
<tr>
<td>12:35</td>
<td>Begin with a T or R</td>
<td>Fri, May 9</td>
<td>12:50-2:50p.m.</td>
</tr>
<tr>
<td>12:00</td>
<td>Begin with a M or W or F</td>
<td>Wed, May 7</td>
<td>12:50-2:50p.m.</td>
</tr>
<tr>
<td>01:00</td>
<td>Begin with a T or R</td>
<td>Fri, May 9</td>
<td>3:10-5:10p.m.</td>
</tr>
<tr>
<td>01:00</td>
<td>Begin with a M or W or F</td>
<td>Thu, May 8</td>
<td>5:50-7:50p.m.</td>
</tr>
<tr>
<td>02:00</td>
<td>Begin with a T or R</td>
<td>Wed, May 7</td>
<td>3:10-5:10p.m.</td>
</tr>
<tr>
<td>03:00</td>
<td>Begin with a T or R</td>
<td>Thu, May 8</td>
<td>3:10-5:10p.m.</td>
</tr>
<tr>
<td>03:35</td>
<td>Begin with a T or R</td>
<td>Thu, May 8</td>
<td>3:10-5:10p.m.</td>
</tr>
<tr>
<td>03:00</td>
<td>Begin with a M or W or F</td>
<td>Mon, May 5</td>
<td>8:00-10:00P.M.</td>
</tr>
<tr>
<td>04:00</td>
<td>Begin with a T or R</td>
<td>Thu, May 8</td>
<td>3:10-5:10p.m.</td>
</tr>
<tr>
<td>04:00</td>
<td>Begin with a M or W or F</td>
<td>Thu, May 8</td>
<td>8:00-10:00P.M.</td>
</tr>
</tbody>
</table>

**Night classes which meet only on Monday** --- Mon, May 5 5:50-7:50p.m.
**Night classes which meet only on Tuesday** --- Tue, May 6 8:00-10:00P.M.
**Night classes which meet only on Wednesday** --- Wed, May 7 8:00-10:00P.M.
**Night classes which meet only on Thursday** --- Thu, May 8 5:50-7:50p.m.
**Night classes starting before 7:00p.m. and first meeting day is a Monday or Wednesday** --- Mon, May 5 5:50-7:50p.m.
**Night classes starting before 7:00p.m. and first meeting day is a Tuesday or Thursday** --- Thu, May 8 5:50-7:50p.m.
**Night classes starting 7:00p.m. or later and first meeting day is a Monday or Wednesday** --- Wed, May 7 8:00-10:00P.M.
**Night classes starting 7:00p.m. or later and first meeting day is a Tuesday or Thursday** --- Thu, May 8 5:50-7:50p.m.
**First meeting day is a Tuesday or Thursday** --- Fri, May 9 12:50-2:50p.m.

Make-up examinations for students whose petitions have been approved by their Dean --- Fri, May 9 3:10-5:10p.m.