**Electronics & Advanced Technologies**

**CETT 1405 AC Circuits**

**MASTER SYLLABUS**

Instructor Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Semester: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Section / Synonym: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Location: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Meeting Times: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Instructor Contact Information:**

Office: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Office Hours: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Phone: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Email: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Other hours by appointment

**Course Description:**

A study of the fundamentals of alternating current including series and parallel AC circuits, phasors, capacitive and inductive networks, transformers, and resonance.

#### ****Course Prerequisites:****

#### CETT 1403 DC Circuits and Math 1314 or higher or department approval

**Required Textbook & Lab Parts Kit:**

Introductory Circuit Analysis (12th Ed.)

Robert L. Boylestad

ISBN# 9780137146666

Lab Kit: DC/AC Parts Kit

**Course Rationale/Objective:**

AC Circuits is the course used to introduce the basic concepts of electricity and electronics to the Electronic Technology student. Upon completing the course the student should have basic knowledge of the laws of electricity and the application of the appropriate theorms to understand the operation of basic electrical and electronic circuits.

#### 

**Student Learning Outcomes:**

Operate test equipment; identify various sources of electricity in alternating (AC) circuits; analyze AC circuits using applicable mathematical formulas; and troubleshoot various AC circuits using schematic diagrams.

**SCANS Competencies**

In 1990, the U.S. Department of Labor established the Secretary’s Commission on Achieving Necessary Skills (SCANS) to examine the demands of the workplace and whether our nation’s students are capable of meeting those demands. The Commission determined that today’s jobs generally require competencies in the following areas:

1. Resources: Identifies, organizes, plans and allocates resources
2. Interpersonal: Works with others
3. Information: Acquires and uses information
4. Systems: Understands complex interrelationships
5. Technology: Works with a variety of technologies

The Texas Higher Education Coordinating Board requires that all degree plans in institutions of higher education incorporate these competencies and identify to the student how these competencies are achieved in course objectives.

This course incorporates the SCANS competencies in the following ways:

1. Resources
2. Interpersonal
3. Information
4. Systems
5. Technology
6. Basic Skills
7. Thinking Skills
8. Personal Qualities

**Instructional Methodology:**

The methods of instruction include hands-on training as well as classroom instruction.

Labs will be performed during class time.

**Grading System:**

[Instructor specific policy]

90 ≤ “A” ≤ 100

80 ≤ “B” < 90

70 ≤ “C” < 80

60 ≤ “D” < 70

0 ≤ “F” < 60

**Course Policies**

**Attendance/Participation:**

Attendance is very crucial and may make the difference between passing and not passing this class. You are expected to show up to every class and be on time. More than three unexcused absences from the class may result in you being dropped from the class.

There are a number of in-class exercises and labs where working in groups is key to the successful outcome. In these settings team work, cooperation, and patience is essential for success.

**Cell Phones and IPods**

**Students must turn off or mute all cell phones during lab and class time**. No IPods or other MP3 type devices are allowed in class. No text messaging is allowed in class.

**Food and Beverages**

Other than sealable bottles of water, food and beverage items are prohibited in the classroom and laboratory.

**Withdrawal:**

If circumstances arise such that you cannot complete this course, it is to your advantage to drop the class by the deadline to avoid getting an unsatisfactory grade on your permanent school record. Student or instructor may initiate withdrawals anytime during the semester before the official withdrawal deadline.

Students may be withdrawn from the course by the instructor. However, it is ultimately the responsibility of the student to initiate the withdrawal process if they are unable to attend or complete their coursework as required. Failure to withdraw by the established deadline will result in a grade of “**A**”, “**B**”, “**C**”, “**D**”, or “**F**”, based on the student’s recorded performance in the course. Withdrawal forms are available from campus Admissions and Records offices.

The last day to withdraw is [Date]

**Missed or Late Work:**

[Instructor specific policy]

**Incomplete:**

A student may receive a temporary grade of “**I**” (incomplete) at the end of the semester only if the following conditions are satisfied:

The student is unable to complete the course during the semester due to circumstance beyond their control. The student must have earned at least half of the grade points needed to earn a “**C**” by the end of the semester.

Arrangement for an incomplete must be made with the instructor.

A “Report of Incomplete Grade” form must be completed by the instructor and filed with the Program Coordinator.

To convert the incomplete “**I**” into a grade, the student must submit for grading all work required to complete the course to the instructor by a date specified by the instructor within the next immediately following semester, but absolutely no later than 2 weeks prior to drop date of the that semester. Incompletes not completed by the date specified automatically become a letter grade of “**F**” for the course.

**Scholastic Dishonesty:**

Acts prohibited by the college for which discipline may be administered include scholastic dishonesty, including but not limited to cheating on an exam or quiz, plagiary and unauthorized collaboration with another in preparing outside work. Academic work submitted by students shall be the result of their thought, research or self-expression. Academic work is defined as, but not limited to, tests, quizzes, whether taken electronically or on paper; projects, either individual or group, classroom presentations, and homework. The penalty for any violation of this policy is withdrawal from the course.

**Academic Freedom:**

Students at the college have the rights accorded by the U.S. Constitution to freedom of speech, peaceful assembly, petition, and association. These rights carry with them the responsibility to accord the same rights to others in the college community and not to interfere with or disrupt the educational process. Opportunity for students to examine and question pertinent data and assumptions of a given discipline, guided by the evidence of scholarly research, is appropriate in a learning environment. This concept is accompanied by an equally demanding concept of responsibility on the part of the student. As willing partners in learning, students must comply with college rules and procedures.

Each student is strongly encouraged to participate in class. In any classroom situation that includes discussion and critical thinking, there are bound to be many differing viewpoints. These differences enhance the learning experience and create an atmosphere where students and instructors alike will be encouraged to think and learn. On sensitive and volatile topics, students may sometimes disagree not only with each other but also with the instructor. It is expected that faculty and students will respect the views of others when expressed in classroom discussions.

**Student Discipline:**

ACC's policy on student discipline can be found under Policies and Procedures at <http://www.austincc.edu/current/needtoknow/>

**Statement on Students with Disabilities:**

Each ACC campus offers support services for students with documented disabilities. Students with disabilities who need classroom, academic or other accommodations must request them through the Office for Students with Disabilities (OSD).  Students are encouraged to request accommodations when they register for courses or at least three weeks before the start of the semester, otherwise the provision of accommodations may be delayed.

Students who have received approval for accommodations from OSD for this course must provide the instructor with the ‘Notice of Approved Accommodations’ from OSD before accommodations will be provided.   Arrangements for academic accommodations can only be made after the instructor receives the ‘Notice of Approved Accommodations’ from the student.

Students with approved accommodations are encouraged to submit the ‘Notice of Approved Accommodations’ to the instructor at the beginning of the semester because a reasonable amount of time may be needed to prepare and arrange for the accommodations.  Additional information about the Office for Students with Disabilities is available at <http://www.austincc.edu/support/osd/>

**Safety Statement:**

Austin Community College is committed to providing a safe and healthy environment for study and work. You are expected to learn and comply with ACC environmental, health and safety procedures and agree to follow ACC safety policies. Additional information on these can be found at <http://www.austincc.edu/ehs>. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the Emergency Procedures poster and Campus Safety Plan map in each classroom. Additional information about emergency procedures and how to sign up for ACC Emergency Alerts to be notified in the event of a serious emergency can be found at: http://www.austincc.edu/emergency/

You are expected to conduct yourself professionally with respect and courtesy to all. Anyone who thoughtlessly or intentionally jeopardizes the health or safety of another individual will be immediately dismissed from the day’s activity, may be withdrawn from the class, and/or barred from attending future activities.

**Use of ACC Email Communications:**

All College e-mail communication to students will be sent solely to the student’s ACCmail account, with the expectation that such communications will be read in a timely fashion. ACC will send important information and will notify you of any college related emergencies using this account. Students should only expect to receive email communication from their instructor using this account. Likewise, students should use their ACCmail account when communicating with instructors and staff. Instructions for activating an ACCmail account can be found at <http://www.austincc.edu/accmail/index.php>

**Student and Instructional Services:**

ACC strives to provide exemplary support to its students and offers a broad variety of opportunities and services. Information on these services and support systems is available at http://www.austincc.edu/s4/

Links to many student services and other information can be found at <http://www.austincc.edu/current/>

ACC Learning Labs provide free tutoring services to all ACC students currently enrolled in the course to be tutored. The tutor schedule for each Learning Lab may be found at: http://www.autincc.edu/tutor/students/tutoring.php

For help setting up your ACCeID, ACC Gmail, or ACC Blackboard, see a Learning Lab Technician at any ACC Learning Lab: <http://www.austincc.edu/tutor/locations.php>

**Test Center Policy:**

Under certain circumstances, an instructor may have students take an examination in a testing center. Students using the Academic Testing Center must govern themselves according to the Student Guide for Use of ACC Testing Centers and should read the entire guide before going to take the exam. To request an exam, one must have:

1. ACC Photo ID (info at <http://www.austincc.edu/support/admissions/student_id.php>)

Course Abbreviation (e.g., ENGL)

Course Number (e.g., 1301)

Course Synonym (e.g., 10123)

Course Section (e.g., 005)

Instructor's Name

Do NOT bring cell phones to the Testing Center. Having your cell phone in the testing room, **regardless of whether it is on or off**, will revoke your testing privileges for the remainder of the semester. ACC Testing Center policies can be found at <http://www.austincc.edu/testctr/>

**DEPARTMENTAL ADDENDUM**

* Students in the electronics department who are seeking a degree or certificate in any specialty, should visit with the electronics student advisor, Vidal Almanza, (RVS Campus, Bldg. G, Student Services, 512-223-6404; [vman@austincc.edu](mailto:vman@austincc.edu)) if they haven’t already for a degree audit.
* All Electronics students must check their ACC gmail regularly throughout the semester. We will be sending pertinent information about scholarships, the course scheduling needs survey, job opportunities, MSDNAA free student software program, career fairs, special events, and etc. through the student gmail system.
* All degree and certificate seeking students should declare their major at the Admissions and Records Office if they have not done so already.