

AC MACHINES
COURSE SYLLABUS

Revised 11/28/2011

C - L - CR
2 - 3 - 3

COURSE NUMBER: EEM 211

PREREQUISITE(S): EEM 117 or permission

CO-REQUISITE(S): None

COURSE DESCRIPTIONS This course is a study of the application, operation, and construction of AC Machines.

TEXTBOOK(S): Herman, Stephen L. Standard Textbook of Electricity.
Albany: Delmar, 2004.
Lab Book: LABVOLT INVESTIGATIONS IN ELECTRICAL POWER

REFERENCE(S): None

OTHER REQUIRED MATERIALS, TOOLS, AND EQUIPMENT: Safety Glasses, Digital Multimeter, Calculator

METHOD OF INSTRUCTION: This is written as a lecture/lab course. The course will be supplemented throughout by visual presentations and lab demonstrations.

GRADING SYSTEM:

90	-	100	=	A
80	-	89	=	B
70	-	79	=	C
60	-	69	=	D
Below	-	60	=	F

GRADE CALCULATION METHOD:

Unit Test	=	50%
Projects & Labs	=	20%
Exams	=	20%
Participation	=	10%
		100%

ATTENDANCE POLICY: Students are responsible for punctual and regular attendance in all classes, laboratories, field trips, and other class activities. The College does not grant excused absences; therefore, students are urged to reserve their absences for

emergencies. When illness or other emergencies occur, the student is responsible for notifying instructors and completing work missed.

Students are tardy if not in class at the time the class is scheduled to begin. Tardy students are admitted to class at the discretion of the instructor.

If you have attended at least one session during the first week of the semester you are responsible for dropping yourself from the class. **It is the students' responsibility** to withdraw from a course. A student who stops attending class and fails to initiate a withdrawal will remain on the class roster.

If you do not attend a class session during the first week of class you will automatically be dropped by the College. A student who does not complete an assignment, test, or final exam in the course will receive a zero for each missing grade and the final course grade will be calculated accordingly. **Points will be deducted for attendance.**

Absences for Religious Holidays: Students who are absent from class in order to observe religious holidays are responsible for the content of any activities missed and for the completion of assignments occurring during the period of absence. Students who anticipate their observance of religious holidays will cause them to be absent from class and do not wish such absences to penalize their status in class should adhere to the following guidelines:

1. Observance of religious holidays resulting in three or fewer consecutive absences: Discuss the situation with the instructor and provide written notice at least one week prior to the absence(s). Develop (in writing) and instructor-approved plan which outlines the make up of activities and assignments.
2. Observances of religious holidays resulting in four or more consecutive absences: Discuss the situation with the instructor and provide the instructor with written notice within the first 10 days of the academic term. Develop an instructor-approved plan which outlines the make-up of activities and assignments.

ACADEMIC CONDUCT:

ACADEMIC DISHONESTY: Students are expected to uphold the integrity of the College's standard of conduct, specifically in regards to academic honesty. All forms of academic

dishonesty including, but not limited to, cheating on assignments/tests, plagiarism, collusion, and falsification of information will call for disciplinary action. Disciplinary action imposed may include one or more of the following: written reprimand, loss of credit for assignment/test, termination from course, and probation, suspension, or expulsion from the College. For further explanation of this and other conduct codes, please refer to the Student Handbook.

CELLULAR PHONES AND PAGERS/BEEPERS: Cellular phones, pagers and beepers are not permitted to be turned on or used within the classroom. Use of these devices during classroom time will be considered a violation of the student code as it relates to “disruptive behavior.”

CLASS/LAB PROCEDURES:

All labs will be submitted in written form, complete with equipment list, procedures, results, and summaries.

ACCOMMODATIONS:

Students who need special accommodations in this class because of a documented disability should notify Student Disability Services. You may contact Student Disability Services by calling, (864) 592-4811, toll-free 1-800-922-3679; via email through the Spartanburg Community College web site at www.sccsc.edu/SDS/; or by visiting the office located in the Dan Lee Terhune Student Services Building, room 112 of the Spartanburg Community College campus. By contacting Student Disability Services early in the semester, students with disabilities give the College an opportunity to provide necessary support services and appropriate accommodations.

COURSE
COMPETENCIES &
OBJECTIVES:

Upon satisfactory completion of this course, the student will be able to:

- I. Demonstrate safety practices in lab area.
 1. Discuss basic safety rules.
 2. Describe the effects of electric current on the body.
 3. Implement safety procedures required for each lab.

- II. Demonstrate the operation of single-phase motors.
 1. Explain the principle of operation of single-phase motors.
 2. Identify the operation characteristic of a various single-phase motors.
 3. Explain methods used for controlling the speed and direction of single-phase motors.
 4. Connect a single-phase motor for operation in a lab environment.

- III. Demonstrate the operation of three-phase motors.
 1. Explain the principle of operation of three-phase motor.
 2. Explain the methods used for controlling the speed and direction of three-phase motors.
 3. Identify the operational characteristics of a various three-phase motors.
 4. Connect a three-phase motor for operation in a lab environment.

- IV. Differentiate between three-phase and single-phase voltages.
 1. Explain the characteristics of Delta and Wye connections.
 2. Compute voltage and current values for Delta and Wye connections.
 3. Connect three-phase motors using Delta and Wye connection.