

ARIZONA WESTERN COLLEGE  
SYLLABUS

ECT 225 LOAD CALCULATIONS

Credit Hours: 3 Lec 2 Lab 2

PREREQUISITE: ECT 110 and ECT 115

COURSE DESCRIPTION

Advanced electrical load calculation

1. COURSE GOAL

To provide the student with continued electrical load calculation, conductor and over current protection sizing training.

2. OUTCOMES

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

- 2.1 calculate loads for single-phase and three-phase branch circuits and size over current protection devices for noncontinuous and continuous duty circuits.
- 2.2 use load calculations to determine branch circuit conductor sizes.
- 2.3 select electrical conductors for specific applications.
- 2.4 derate conductors for fill, temperature and voltage drop.
- 2.5 explain the basic differences between emergency systems, legally required standby systems and optional standby systems.
- 2.6 describe the National Electrical Code (NEC) requirements that pertain to the installation of standby and emergency power systems.
- 2.7 describe the difference between authority and responsibility.
- 2.8 list the characteristics of effective leaders.
- 2.9 demonstrate an understanding of the importance of safety.
- 2.10 define planning and describe its importance and what it involves.

3. METHODS OF INSTRUCTION

- 3.1 Lecture
- 3.2 Lab activities
- 3.3 Presentations
- 3.4 Demonstrations

4. LEARNING ACTIVITIES

- 4.1 Group discussions
- 4.2 Classroom demonstrations
- 4.3 Lab participation

5. EVALUATION

- 5.1 Quizzes/exams
- 5.2 Written assignments
- 5.3 Lab assignments
- 5.4 Participation

6. STUDENT RESPONSIBILITIES

- 6.1 Under AWC Policy, students are expected to attend every session of class in which they are enrolled.

- 6.2 If a student is unable to attend the course or must drop the course for any reason, it will be the responsibility of the student to withdraw from the course. Students who are not attending as of the 45th day of the course may be withdrawn by the instructor. If the student does not withdraw from the course and fails to complete the requirements of the course, the student will receive a failing grade.
- 6.3 Americans with Disabilities Act Accommodations: Arizona Western College provides academic accommodations to students with disabilities through AccessABILITY Resource Services (ARS). ARS provides reasonable and appropriate accommodations to students who have documented disabilities. It is the responsibility of the student to make the ARS Coordinator aware of the need for accommodations in the classroom prior to the beginning of the semester. Students should follow up with their instructors once the semester begins. To make an appointment call the ARS front desk at (928) 344-7674 or ARS Coordinator at (928) 344-7629, in the College Community Center (3C) building, next to Advising.
- 6.4 Academic Integrity: Any student participating in acts of academic dishonesty—including, but not limited to, copying the work of other students, using unauthorized “crib notes”, plagiarism, stealing tests, or forging an instructor’s signature—will be subject to the procedures and consequences outlined in AWC’s Student Code of Conduct.
- 6.5 Texts and Notebooks: Students are required to obtain the class materials for the course.
- 6.6 Arizona Western College students are expected to attend every class session in which they are enrolled. To comply with Federal Financial Aid regulations (34 CFR 668.21), Arizona Western College (AWC) has established an Attendance Verification process for “No Show” reporting during the first 10 days of each semester.
- Students who have enrolled but have never attended class may be issued a “No Show” (NS) grade by the professor or instructor and receive a final grade of “NS” on their official academic record. An NS grade may result in a student losing their federal financial aid.
- For online classes, *student attendance in an online class is defined as the following* (FSA Handbook, 2012, 5-90):
- Submitting an academic assignment
  - Taking an exam, an interactive tutorial or computer-assisted instruction
  - Attending a study group that is assigned by the school
  - Participating in an online discussion about academic matters
  - Initiating contact with a faculty member to ask a question about the academic subject studied in the course