



Course Syllabus

Course #: EET 2240 Course Name: Electrical Codes & Prints

Division: Engineering and Industrial Technologies

Class Days: Class Time:
Location: Classroom: Laboratory:
Credit Hours: Contact Hours: Lab Hours: Lecture Hours:

Instructor: Office Location:
Phone: Email Address:

Office Hours: TBD

Division Office/Location: Engineering Building Division Fax: 419-334-2300

Full-time Contact Person: Jayne Bowersox Phone(s): (419) 559-2410

Course Description:

A study of residential, commercial, and industrial blueprints, wiring diagrams, and code specifications. Students will learn the hands-on as well as the basic design aspects of power distribution systemsA study of electrical wiring, as well as laboratory exercises on the installation of these systems. Topics include grounding, panelboards, bus systems, overcurrent protection, and system sizing as well as basic wiring practices. The National Electrical Code is an integral part of many of the topics discussed.

Prerequisite(s): None

Corequisite(s): None

Entry Level Skills and Knowledge:

Required Texts, Supplies and Equipment:

TEXT: National Electrical Code - NFPA

OPTIONAL TEXT: Electrical Wiring - AAVIM

- Safety Glasses Screw Driver
Wire Cutters/Pliers Tape Measure
Wire Strippers or Pocket KnifeMultimeter (Analog or Digital)

Grading:

The final grade for this course will come from an average of two (2) written exams, two (2) projects thirteen (13) lab assignments, and viewing 6 video tapes.

- 90% = A
80% = B
70% = C
60% = D

59% and below = F

Learning Outcomes:

General Education

1. **Communicate effectively**
 2. **Evaluate arguments in a logical fashion**—Competence in analysis and logical argument are explicit learning goals for most general education programs, although these skills go by a variety of names (e.g., critical thinking, analysis, logical thinking, etc.). **Students will be able to demonstrate competence in problem solving in communication, mathematics, and in team settings.**
 3. **Employ the methods of inquiry characteristic of natural sciences, social sciences, mathematics, and the arts and humanities;** general education introduces students to methods of inquiry in several fields of study and thereby prepares students to integrate information from different disciplines.
1. Interpret electrical wiring diagrams.
 2. Properly install three-way and four-way light switches.
 3. Utilize and apply proper grounding techniques.
 4. Interpret the NEC to properly install electrical branch circuits.
 5. Safely install single phase outlet receptacles.
 6. Determine the proper size and type of electrical conductors to use in an installation.
 7. Explain the characteristics of the different NEMA type fuses.
 8. Determine the number and type of electrical panels needed in an installation.
 9. Install a branch circuit in conduit, both aesthetically and according to local electrical code.
 10. Correctly determine the type of overcurrent protection needed in a branch circuit.
 11. Properly bend conduit.
 12. Properly size a residential, commercial and industrial service.
 13. Properly size a grounding system.

Assessment of Student Learning:

Assessment Project and Measurement in course (if any):

Plan of Work:

1. Symbols and floor plans
2. Symbols and floor plans cont'd.

3. Single pole, three-way and four-way switches
4. NM cable, receptacle installation
5. Branch and feeder circuits, wire types
6. Branch circuit calculations
7. Wire types cont'd. and application
8. Conductor sizing, conduit types and installation
9. Service entrance installations and sizing - residential
10. Service entrance installations and sizing - residential cont'd.
11. **TEST #1**
12. Box fill calculations and sizing
13. Box fill calculations and sizing cont'd.
14. Conduit bending
15. Grounding
16. Grounding cont'd.
17. Feeder size calculations
18. Fuse and circuit breaker operation
19. Commercial/Industrial service sizing
20. Commercial/Industrial service sizing cont'd.
21. **TEST #2**

Course Requirements:

Complete all assignments as required	
Completion of 13 lab projects	- 350 Points
Completion of one home projects	- 200 Points
Completion of 2 written exams	- 200 Points
Grounding Report	- 180 Points
Fuse & Brakes Circuit breaking	
2 pages typed	

Policies

Course Withdrawing: If for any reason you need to withdraw from this course, be certain that you do so according to College procedure. It is your responsibility to know and follow this procedure. If you simply stop coming to class, without officially withdrawing from the course, your grade is an automatic "F." Please follow official College procedure for withdrawing from this or any course.

College Academic Policies are located in the College Catalog. A copy of the current catalog may be picked up in any of the division offices or admissions. The list of college policies is also available online at <https://www.terra.edu/register/Collegecat/policies.asp>.

Support Services: The College offers a number of support services to assist in your success in this course and all courses. Among these services are the Writing & Math Center in B105, the Office of Learning Support Services, which coordinates the campus disability services and tutoring programs, the computer labs, and the computers in the atriums.

Any student who feels he/she may need an accommodation based on the documentation of a disability should contact the Office of Learning Support Services privately to discuss his/her specific issues. Please contact the OLSS at (419) 334-8400 X 208 or visit 100 Roy Klay Hall (Building A) to coordinate reasonable accommodations.

If you have a documented disability and are receiving academic accommodations through the Office of Learning Support Services, please schedule a meeting with your instructor in a timely manner so that we may discuss how these services will be arranged.

Tutoring services are available to students beginning the second week of every quarter. Students requesting tutoring services should obtain a tutor request form from the OLSS in 100 Roy Klay Hall (Building A) or online at the Terra website. Please note that instructor verification and acceptance of the Student Learner Agreement is necessary for all tutoring requests. All requests should be submitted to 100 Roy Klay Hall (Building A).