DATE OF LAST REVIEW: 02/2013

CIP CODE: 46.0302

SEMESTER: Departmental Syllabus

COURSE TITLE: Electrical Circuits, Instruments, and Measurements

COURSE NUMBER: ELET0232

CREDIT HOURS: 2

INSTRUCTOR: Departmental Syllabus

OFFICE LOCATION: Departmental Syllabus

OFFICE HOURS: Departmental Syllabus

TELEPHONE: Departmental Syllabus

EMAIL: KCKCC issued email accounts are the official means for electronically communicating with our students.

PREREQUISITE (S): ELET0100, ELET0101

REQUIRED TEXT AND MATERIALS: Please check with the KCKCC TEC bookstore, http://www.kckccbookstore.com, for the required texts for your particular class.

COURSE DESCRIPTION:

This course introduces electrical symbols and their use in construction blueprints, electrical schematics, and diagrams. Topics include: Electrical Symbols, Component Identification, Print Reading, Scales and Measurement.
METHOD OF INSTRUCTION:

A variety of instructional methods may be used depending on content area. These may include but are not limited to lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, and panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE:

I. Identify electrical symbols
II. Match symbols to electrical components
III. Interpret electrical plans for a single family residence
IV. Develop an electrical plan for a single family residence
V. Component Identification
VI. Develop a panel schedule from an electrical plan
VII. Develop a schedule of special purpose outlets for a residence from an electrical plan
VIII. Read residential floor plan diagrams
IX. Identify major framing components and mechanical symbols
X. Write specifications for a residence from an electrical plan
XI. Calculate the size of a residential service based on load
XII. Compile a list of materials from electrical plans
XIII. Understand job costing, bidding procedures and inventory
EXPECTED LEARNER OUTCOMES:

A. The student will be able to identify electric symbols.
B. The student will be able to match symbols to electrical components.
C. The student will be able to interpret electrical plans for a single family residence.
D. The student will be able to develop an electrical plan for a single family residence.
E. The student will be able to develop a panel schedule from an electrical plan.
F. The student will be able to develop a schedule of special purpose outlets for a residence from an electrical plan.
G. The student will be able to read residential floor plan diagrams.
H. The student will be able to identify major framing components and mechanical symbols.
I. The student will be able to write specifications for a residence from an electrical plan.
J. The student will be able to compile a list of materials from electrical plans.
K. The student will be able to understand job costing and bidding procedures.

COURSE COMPETENCIES:
Upon successful completion of this course:

*The student will be able to identify electric symbols.*
1. The student will be able to explain the function of each symbol.
2. The student will be able to draw the symbols.

*The student will be able to match symbols to electrical components.*
3. The student will be able to identify component with each electrical symbol.

*The student will be able to interpret electrical plans for a single family residence.*
4. The student will be able to explain design of a single family home.
5. The student will be able to determine square footage.

*The student will be able to develop an electrical plan for a single family residence.*
6. The student will be able to draw an electrical plan for single family home.
7. The student will be able to determine service load.

*The student will be able to develop a panel schedule from an electrical plan.*
8. The student will be able to size the load for panel schedule.
9. The student will be able to determine by formula how many panels.

*The student will be able to develop a schedule of special purpose outlets for a residence from an electrical plan.*
10. The student will be able to determine how many emergency outlets.
11. The student will be able to look at the blueprints for special purpose outlets.
The student will be able to read residential floor plan diagrams.
12. The student will be able to analyze how many switches.
13. The student will be able to determine how many light fixtures.
14. The student will be able to determine how many appliances.

The student will be able to identify major framing components and mechanical symbols.
15. The student will be able to explain symbols for plumbing.
16. The student will be able to explain symbols for duct work.
17. The student will be able to explain symbols for framework.

The student will be able to write specifications for a residence from an electrical plan.
18. The student will be able to determine how many lights.
19. The student will be able to determine power requirements.
20. The student will be able to determine types of switches.
21. The student will be able to determine low voltage requirements.

The student will be able to compile a list of materials from electrical plans.
22. The student will be able to determine how much wire.
23. The student will be able to determine how many junction boxes.
24. The student will be able to determine panel boards.
25. The student will be able to determine lighting fixtures
26. The student will be able to determine how many receptacles
27. The student will be able to determine how many switches
28. The student will be able to determine low voltage transformers.

The student will be able to understand job costing and bidding procedures.
29. The student will be able to determine cost from previous work.
30. The student will be able to determine cost of material using formula.
31. The student will be able to determine cost based on demand.
32. The student will be able to determine a bid based on previous jobs.

ASSESSMENT OF LEARNER OUTCOME:
Student progress is evaluated by means that include, but limited to exams, written assignments, and class participation.

SPECIAL NOTES:

This syllabus is subject to change at the discretion of the instructor. Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student's progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome anytime.
Kansas City Kansas Community College is committed to an appreciation of diversity with respect for the differences among the diverse groups comprising our students, faculty, and staff that is free of bigotry and discrimination. Kansas City Kansas Community College is committed to providing a multicultural education and environment that reflects and respects diversity and that seeks to increase understanding.

Kansas City Kansas Community College offers equal educational opportunity to all students as well as serving as an equal opportunity employer for all personnel. Various laws, including Title IX of the Educational Amendments of 1972, require the college’s policy on non-discrimination be administered without regard to race, color, age, sex, religion, national origin, physical handicap, or veteran status and that such policy be made known.

Kansas City Kansas Community College complies with the Americans with Disabilities Act. If you need accommodations due to a documented disability, please contact the Director of the Academic Resource Center at (913) 288-7670 V/TDD.