COURSE SYLLABUS

LAST REVIEW	Fall 2022
COURSE TITLE	Advanced Electrical Circuits/Theory
COURSE NUMBER	BEMT 0212
DIVISION	Career and Technical Education
DEPARTMENT	BEMT
CIP CODE	46.0401
CREDIT HOURS	2
CONTACT HOURS/WEEK	Class: 1 Lab: 2
PREREQUISITES	BEMT 0101, BEMT 0112

COURSE DESCRIPTION

This course is the continuation of BEMT 0112 – Residential Electrical. It is in alignment with NCCER and the Kansas Board of Regents. It is (in part) a component of the Core Curriculum for the KCKCC Electrical Technology program and the KCKCC Building Engineering and Maintenance Technology program. The course topics include: Environmental sustainability, OHMS law, Print Reading (Electrical Sections), Sizing conductors for circuits, OCP's for circuits, AMP loads for circuits, OHMS calculations for circuits, Basic NEC applications.

PROGRAM LEARNING OUTCOMES

Students will demonstrate an adherence to safety standards and proficiency in the installation or repair of residential electrical, plumbing, HVAC, exterior building materials, roofing, irrigation systems, landscape/hardscape, concrete placement and finish, masonry install and repair.

TEXTBOOKS

http://kckccbookstore.com/

METHODS OF INSTRUCTION

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

COURSE OUTLINE

I. Introduction to CAD Technologies
II. Review of the CAD Workstation

A. Hardware
B. Software

III. Hardware Selection
A. CPU's
1. Hard Discs
2. Floppy Discs
3. Serial and Parallel selection
4. Optional Keyboards
5. Monochrome
6. Color, CGA, EGA, VGA, PGA, High Res
B. Printers
1. Dot Matrix
2. Daisy Wheel
3. Impact
4. Ink Jet
5. Laser
C. Plotters
1. Flat Bed 2. Roll
3. Thermal
4. Electrostatic
5. Pencil
6. Multi pen
7. Screen Capture
D. Digitizing Tablets/Scanning
1. Scanning-raster images-Raster Design
2. Magnetic-Summagraphics

IV. Setting Up Software for Maximum Performance
A. Symbol Libraries and Blocks
B. Custom Menu's
C. Drawing, Naming and Archiving
D. Formatting
1. Hard Disks
2. Floppy
3. Dual Booting
E. Organizing Hard disk space
F. File management
G. Directories
H. Time management of drawings
I. Menu's systems-custom menus
1. Screen
2. Pull Down
3. Buttons

4. Image
5. Tablet

J. External references

V. Bill of Material Extraction
A. Attributes
B. Template files
C. Basic
D. Lotus

VI. Writing Marco's and Using LISP Routines
A. Auto-LISP – Making your own commands
B. Aliases

VII. Three Dimensional Drawing and Shading
A. Review of 3D drawing
B. Software Updates-rendering C. 3D Studio (Time Permitting)

COURSE LEARNING OUTCOMES
Upon successful completion of this course, the student will:

A. Define CAD systems.
B. Identify the components of a CAD workstation.
C. Select hardware for a CAD workstation.
D. Set up software on a CAD workstation to achieve maximum performance.
E. Set up a Bill of Materials.
F. Write and use LISP ROUTINES.
G. Create and shade 3D drawings.

ASSESSMENT OF COURSE LEARNING OUTCOMES
Student progress is evaluated through both formative and summative assessment methods. Specific details may be found in the instructor's course information document.

COLLEGE POLICIES AND PROCEDURES
Student Handbook
https://www.kckcc.edu/files/docs/student-resources/student-handbook-and-code-of-conduct.pdf

College Catalog
https://www.kckcc.edu/academics/catalog/index.html

College Policies and Statements
https://www.kckcc.edu/about/policies-statements/index.html

Accessibility and Accommodations
https://www.kckcc.edu/academics/resources/student-accessibility-support-services/index.html.