COURSE SYLLABUS

LAST REVIEW	Fall 2022
COURSE TITLE	Fundamentals of CAD Technologies
COURSE NUMBER	BEMT 0190
DIVISION	Career and Technical Education
DEPARTMENT	BEMT
CIP CODE	46.0401
CREDIT HOURS	3
CONTACT HOURS/WEEK	Class: 3
PREREQUISITES	BEMT 0108, BEMT 0188

COURSE DESCRIPTION

This course is designed for the person that will maintain daily operation of CAD systems. Information covered will be hardware selection, drawing naming and archiving techniques, keeping time records, file recovery techniques, using Windows to organize hard disk space, setting up CAD software for maximum performance, menu systems, symbol libraries, bill of material extraction, advanced CAD commands and an introduction to advanced Rendering. A continual shift from traditional drafting to computer aided drafting has created a need for individuals to learn management of CAD systems.

PROGRAM LEARNING OUTCOMES

Students will demonstrate a proficiency reading architectural prints, providing project cost estimates, adhering to professional communication skills, demonstrating professional work ethic skills, showing proficiency in trade math essentials, and trade measurements.

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.