COURSE IDENTIFICATION

Course Code/Number: ETEC 153

Course Title: Computer Aided Design I (CAD)

Division: ☐ Applied Science (AS)   ☐ Liberal Arts (LA)   ☒ Workforce Development (WD)

☐ Health Care (HC)   ☐ Lifetime Learning (LL)   ☐ Nursing   ☐ Developmental

Credit Hour(s):   Three (3)

Effective Date: Fall 2013

Assessment Goal Per Outcome: 70%

COURSE DESCRIPTION

This course provides a comprehensive introduction to computer-aided design software. Students will learn to navigate and use the software to create basic designs.

MINIMUM REQUIREMENTS/PREREQUISITES AND/OR COREQUISITES

None

TEXTS

The official list of textbooks and materials for this course is found on *my*Neosho.

http://www.neosho.edu/ProspectiveStudents/Registration/CourseSyllabi.aspx

GENERAL EDUCATION OUTCOMES

1. Practice Responsible Citizenship through:
    * identifying rights and responsibilities of citizenship,
    * identifying how human values and perceptions affect and are affected by social diversity,

- identifying and interpreting artistic expression.
2. Live a healthy lifestyle (physical, intellectual, social) through:
   - listing factors associated with a healthy lifestyle and lifetime fitness,
   - identifying the importance of lifetime learning,
   - demonstrating self-discipline, respect for others, and the ability to work collaboratively as a team.
3. Communicate effectively through:
   - developing effective written communication skills,
   - developing effective oral communication and listening skills.
4. Think analytically through:
   - utilizing quantitative information in problem solving,
   - utilizing the principles of systematic inquiry,
   - utilizing various information resources including technology for research and data collection.

COURSE OUTCOMES/COMPETENCIES (as Required)

I. The student will demonstrate an understanding of the structure of computer-aided design software.
    A. Be able to Start AutoCAD, preview drawing files, open drawing files, view details, and exit AutoCAD workspace.
    B. Open AutoCAD 2D drafting and annotation workspace, switch to 3D modeling workspace, then to AutoCAD classic workspace.
    C. Identify and use the parts that make up the AutoCAD user interface and describe the function of each part.
II. Students will demonstrate the ability to create, edit, and save projects.
    A. Create, save, and open an AutoCAD drawing file.
    B.   Draw two-dimensional views of holes, cylinders, and rounded and polygonal features, as well as other basic objects.
    C. Erase and restore objects in AutoCAD.
    D. Resize objects parametrically.
    E. Describe several methods of entering coordinates.
    F. Copy, rename, move, and delete drawing files and create and delete folders.
    G. Set and use running object snap modes.
    H. Track time spent on a drawing file.
    I. Set and use AutoCAD's visual grid and establish a snap grid.
    J. Zoom in on portions of a drawing to view or add detail.
    K. Pan from one zoomed area to another.
    L. Produce solid filled objects.
    M. Create chamfered corners.
    N. Create an object's properties.
    O. Stretch objects to change their overall shape.
    P. Scale objects using a scale factor or reference length.
    Q. Hatch objects and parts according to industry standards to improve the readability of drawings.
    R. Create and edit text dynamically.
    S. Create a table and populate it with text.
    T. Create layers with appropriate characteristics for the current drawing or template.
    U. Preview a plot.

     V.   Create and use multiple viewports in model space.

MINIMUM COURSE CONTENT

I. Introduction to the structure AutoCAD software:
- A. Opening AutoCAD documents
- B. Navigating AutoCAD documents
- C. Create Project Folders
- D. Saving AutoCAD projects in organized folders

II. Basic Skills Review
- A. Utilize cascading menus
- B. Utilize docked toolbars
- C. Utilize floating toolbars
- D. Utilize pull down menus

III. Understand Dimensions
- A. Two Dimension Shapes
  1. Holes
  2. Cylinders
  3. Polygonal Features
  4. Curved Objects
     a. Circles
     b. Arcs
     c. Ellipses
     d. Donuts
  5. Rectangles
- B. Three Dimension
  1. Holes
  2. Cylinders
  3. Polygonal Features
  4. Curved Objects
     a. Circles
     b. Arcs
     c. Ellipses
     d. Donuts

STUDENT REQUIREMENTS AND METHOD OF EVALUATION

<u>INSTRUCTIONAL METHODS</u>
1. Lecture
2. Audio-Visual aids
3. Example and demonstration
4. Tests

STUDENT REQUIREMENTS
(See instructional methods.)

Evaluation of student performance is determined primarily from results of examinations, basic skills tests, major writing projects, homework, and lab work. Class participation is, of course, considered.

GRADING SCALE
On objective materials, the following scale is used:

90-100%	A
80-89%	B
70-79%	C
60-69%	D
0-59%	F

ASSESSMENT OF STUDENT GAIN

The purpose of assessing student learning at Neosho County Community College is to ensure the educational purposes of the institution are met and appropriate changes are made in program development and classroom instruction to allow for student success.

Pre-assessment ideally begins during the advisement and enrollment process prior to the beginning of the course where the advisor and student determine through the interview process the level of placement for the student. During the period of the first two weeks of a normal semester, each student will be observed and/or interviewed and initial papers produced will be examined to determine needed competency development throughout the course. Post-assessment to determine gain in competency will be measured at the end of each unit of study.

Attendance Policy

1. NCCC values interactive learning which promotes student engagement in the learning process. To be actively engaged, the student must be present in the learning environment.

2. Unless students are participating in a school activity or are excused by the instructor, they are expected to attend class. If a student's absences exceed one-eighth of the total course duration, (which equates to one hundred (100) minutes per credit hour in a face-to-face class) the instructor has the right, but is not required, to withdraw a student from the course. Once the student has been dropped for excessive absences, the registrar's office will send a letter to the student, stating that he or she has been dropped. A student may petition the chief academic officer for reinstatement by submitting a letter stating valid reasons for the absences within one week of the registrar's notification. If the student is reinstated into the class, the instructor and the registrar will be notified.   Please refer to the Student Handbook/Academic Policies for more information

3. Absences that occur due to students participating in official college activities are excused except in those cases where outside bodies, such as the State Board of Nursing, have requirements for minimum class minutes for each student. Students who are excused will be given reasonable opportunity to make up any missed work or receive substitute assignments from the instructor and should not be penalized for the absence. Proper procedure should be followed in notifying faculty in advance of the student's planned participation in the event. Ultimately it is the student's responsibility to notify the instructor in advance of the planned absence.

ACADEMIC INTEGRITY

NCCC expects every student to demonstrate ethical behavior with regard to academic pursuits. Academic integrity in coursework is a specific requirement. Definitions, examples, and possible consequences for violations of Academic Integrity, as well as the appeals process, can be found in the College Catalog, Student Handbook, and/or Code of Student Conduct and Discipline.

ELECTRONIC DEVICE POLICY
Student cell phones and other personal electronic devices not being used for class activities must not be accessed during class times unless the instructor chooses to waive this policy.

NOTE

Information and statements in this document are subject to change at the discretion of NCCC. Students will be notified of changes and where to find the most current approved documents.

ACCOMMODATIONS

If you are a student with a disability who may need accommodation(s), in compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990, please notify the Dean of Student Services in the Student Services Office, Sanders Hall, 620-432-0304, on the Chanute Campus, or the Dean for the Ottawa and Online Campuses, 785-248-2798, on the Ottawa Campus as soon as possible. You will need to bring your documentation for review in order to determine reasonable accommodations, and then we can assist you in arranging any necessary accommodations.

NON-DISCRIMINATION POLICY

The following link provides information related to the non-discrimination policy of NCCC, including persons with disabilities. Students are urged to review this policy.

http://www.neosho.edu/Departments/NonDiscrimination.aspx

SEXUAL MISCONDUCT POLICY (TITLE IX)

At NCCC, it is the responsibility of an instructor to help create a safe learning environment in the classroom, including both physical and virtual classrooms.   All instructors are considered mandatory reporters at NCCC, therefore any information regarding sexual misconduct that is shared by a student in one-on-one meetings with the instructor must be reported to appropriate personnel at the College. Instructors will keep the information private to the greatest extent possible, but it is not confidential. Generally, climate surveys, classroom writing assignments or discussions, human subjects research, or events such as Take Back the Night events do not provide notice that must be reported to the Coordinator by employees, unless the reporting party clearly indicates that they wish a report to be made.

The following link provides information related to the sexual misconduct policy of NCCC, including resources, reporting options, and student rights. Students are urged to review this policy.

http://www.neosho.edu/TitleIX.aspx

COURSE NOTES