

**NEOSHO COUNTY COMMUNITY COLLEGE  
MASTER COURSE SYLLABUS**

**COURSE IDENTIFICATION**

Course Code/Number: ETEC 125

Course Title: Computer Applications in Manufacturing

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 is a continuation of Engineering Graphics I, ETEC121. This course presents a further development of planes, angles between lines and planes, orthographic projections to include descriptive geometry principles, auxiliary views, oblique views, developments and transitions.

**MINIMUM REQUIREMENTS/PREREQUISITES AND/OR COREQUISITES**

None

**TEXTS**

The official list of textbooks and materials for this course is found on [myNeosho](http://www.neosho.edu/ProspectiveStudents/Registration/CourseSyllabi.aspx).

<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)**

1. Demonstrate an understanding of computer fundamentals including:
  - a. Hardware
    - Demonstrate the ability to hookup monitor, keyboard, mouse, and printer.
    - Demonstrate the ability to pull and replace serial cards.
    - Identify the type of computer memory and where it is installed.
    - Identify and follow basic rules for computer lab.
  - b. Software
    - Identify steps to install software.
    - Identify computer-aided drafting equipment.
    - Describe computer-aided drafting methods and procedures.
    - Demonstrate ability to configure.
    - Identify system requirements for software.
    - Demonstrate the ability to use computer peripherals.
2. Demonstrate the ability to create basic and advanced drawings including:
  - a. Setup Drawing and Save Drawing
    - Demonstrate the ability to load software.
    - Demonstrate the ability to setup: grid, snaps, limits and units.
    - Create a prototype drawing.
    - Identify and establish various units of measure.
    - Demonstrate the ability to create new or open previously saved drawing.
    - Describe differences between save, save as, qsave, and autosave when saving drawings.
    - Describe the difference between ending and quitting and drawing.
  - b. Create Drawing Using Lines and Shapes
    - Demonstrate the ability to use absolute, relative, and polar coordinate point entry system.
    - Demonstrate the ability to draw lines using line, pline, dline, trace and sketch.
    - Demonstrate the ability to erase, redraw, regenerate, and unerase entities.

Demonstrate the ability to use dragmode in creating circles, arcs, ellipse, polygons and doughnuts.

Demonstrate the ability to use the @ symbol Function.

Identify and describe functions of dialog boxes.

Describe the difference between the pan and zoom features.

c. Editing Drawings

Demonstrate the ability to chamfer and fillet corners.

Demonstrate the ability to break, trim, and extend lines and arcs.

Demonstrate the ability to change, copy or move entities.

Demonstrate the ability to mirror, rotate or align objects.

Demonstrate the ability to scale or stretch existing objects.

Demonstrate the ability to use grip features.

Demonstrate the ability to use geometry calculator to edit drawings.

Demonstrate the ability to perform automatic editing form "modify" dialog box.

Create a selection set with filters.

Demonstrate the ability to change properties of an object.

Demonstrate the ability to change existing polylines with PEDIT.

Demonstrate the ability to remove all polyline width characteristics with EXPLODE.

d. Printing and Plotting

Identify plotter and printer options and variables.

Demonstrate the ability to determine scale factor of drawing.

Demonstrate the ability to print and plot drawings.

## MINIMUM COURSE CONTENT

### I. SETTING UP THE COMPUTER HARDWARE

- A. Monitor, Keyboard, Mouse, and Printer Hookups
- B. Card Installation
- C. Memory Upgrade

### II. INTRODUCTORY BASICS

- A. Using the workbook with the text
- B. Integrating drawings with computers
- C. Learning how the networks operate
- D. Outside readings
- E. Lab times.

### III. SOFTWARE AND HARDWARE

- A. Installing Systems
- B. Configuring
- B. Hardware Requirements
- C. Memory Requirements
- D. Peripherals
- E. Related Software

#### IV. WINDOWS FUNCTIONS

- A. Move Files to Different Drives and Directories
- B. Copy Files to Different Drives and Directories
- C. View File Information
- D. Create a Directory
- E. Window Manipulation
- F. Opening and Closing Windows

#### V. BEGINNING AND SETTING UP A NEW DRAWING

- A. Filenames
- B. Path
- C. Prototype Drawings
- D. Opening an Existing Drawing
- E. Saving and Exiting Drawings
- F. Setting
  - 1. Grid
  - 2. Snaps
  - 3. Limits
  - 4. Units
  - 5. Drawing Aids
  - 6. Color and Linetype
- G. Drawing Environments
- H. Auto Save and Quick Save Features
- I. Ortho Commands
- J. Dialog Boxes

#### VI. DRAWING AND ERASING LINES AND BASIC SHAPES

- A. Coordinate Systems Using Keyboard to enter data
  - 1. Absolute Coordinate
  - 2. Relative Coordinate
  - 3. Relative Polar Coordinate System
- B. Drawing Objects
  - 1. Line
  - 2. Polyline
  - 3. Dline
  - 4. Point
  - 5. Circle
  - 6. Arc
  - 7. Elipse
  - 8. Polygon
  - 9. Doughnuts
  - 10. Trace
  - 11. Sketch
- C. Redraw
- D. Undo Commands
- E. Regenerate
- F. Zoom Features and Pan

## VII. EDITING EXISTING DRAWING

- A. Erasing
- B. Move
- C. Copy
- D. Rotate
- E. Scale
- F. Extend
- G. Stretch
- H. Trim
- I. Change Point or Properties
- J. Dialog Box to Modify
- K. Offset
- L. Array
- M. Polyedit
- N. Editing with Grips
- O. Text and Filters

## VIII. PRINTING

- A. Plot Scale
- B. Plot Size
- C. Limits
- D. Paper Size
- E. Rotation

## STUDENT REQUIREMENTS AND METHOD OF EVALUATION

### INSTRUCTIONAL METHODS

1. Lecture and discussion will be used in presentation of concepts, information, and assignment requirements.
2. Outside assignments will consist of reading and completion of worksheets.
3. Illustrations will be presented on the chalk board, overhead projector, audio-visuals and computer network. Handouts, mock-ups, models or charts will be used to clarify problems.

### STUDENT REQUIREMENTS

1. Concepts will be evaluated through the use of workbook, periodic tests, and computer drawings.
2. Worksheets and drawings will be scored according to format requirements for style and accuracy.
3. Points will be assigned and accumulated for each worksheet, test, and computer application.

### GRADING SCALE

Grades will be determined according to the following scale:

90% to 100% = A; 80% to 89 = B; 70% to 79% = C; 60% to 69% = D; 50% to 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**