Department:

Engineering & Graphic Technologies

Course Description:

This course is designed to provide students with an advanced understanding of the uses and applications of computer drafting hardware and software. The course will also explore and develop drawing, editing and coordinate input skills.

Course Competencies:

Upon completion of the course, the student should be able to:

1. Create new drawings
   a. Perform drawing set up
   b. Construct geometric figures
   c. Create text using appropriate style and size to annotate drawings
   d. Use and control accuracy enhancement tools
   e. Identify, create, store, and use appropriate symbols and libraries
   f. Create wire frame and solid models
   g. Create objects using primitives
   h. Create 2-D geometry from 3-D models and 3-D models from 2-D drawings

2. Perform editing tasks
   a. Use geometry editing commands
   b. Use non-geometry editing commands
   c. Control coordinates and display scale
   d. Control entity properties
   e. Use standard parts and symbol libraries

3. Perform plotting tasks
   a. Plot drawings on media using correct layout and scale
   b. Use proper line techniques and color
   c. Configure plotters

4. Perform analysis using query commands to interrogate databases

5. Correctly use associative and coordinate dimensioning

6. Use relevant software applications
   a. Produce AutoCAD drawings, Inventor, or Solid works
   b. Produce materials and textures to create raster image from a vector image
   c. Produce Max Visualization drawings
   d. Produce simple animations

7. Manage computer data files
   a. Format, copy, and back up data disks
   b. Use correct syntax to name files

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c. Copy files from one disk to another
d. Use wildcard to copy more than one file
e. Erase and delete files
f. Rename files
g. Create, change, and remove sub-directories
h. Copy and delete files from directory
i. Fdisk a hard drive
j. Install Windows
k. Create text files
l. Load software
m. Back up CAD files
n. Convert files to other formats
o. Import files into other software

8. Work with Word documents
   a. Create, edit, and format Word documents
   b. Add tables and graphics to Word documents
   c. Print Word documents

Course Content:

A. Creating new drawings
B. Editing
C. Plotting
D. Analysis
E. Dimensioning
F. Software
G. Computer data files
H. Word documents

Learning Assessments:

Competencies will be assessed by assignments, case problems, quizzes, chapter tests, hands-on projects, lab assignments, midterm test, and final test. The tests may be in the objective format or in a problem solving format.

Instructional Materials:

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Guidelines for Requesting Accommodations Based on Documented Disability or Medical Condition

It is the intention of Highland Community College to work toward full compliance with the Americans with Disabilities Act, to make instructional programs accessible to all people, and to provide reasonable accommodations according to the law.

Students should understand that it is their responsibility to self-identify their need(s) for accommodation and that they must provide current, comprehensive diagnosis of a specific disability or medical condition from a qualified professional in order to receive services. Documentation must include specific recommendations for accommodation(s). Documentation should be provided in a timely manner prior to or early in the semester so that the requested accommodation can be considered and, if warranted, arranged.

On-Campus Students: At enrollment, any on campus student may complete a form that will allow them to self-identify any disability.

Off-Campus Regional Students: Self-identify your disability and accommodation needs with the Regional Coordinator and/or instructor, preferably prior to the first class meeting.

Online Students: Self-identify your disability and accommodation needs by contacting the Disabilities Coordinator. Students must provide their own programs to allow accessibility on their home computer.

Any student may also identify their disability by completing an online form located on the HCC homepage under Students Services/Resources/Disabilities. Questions should be directed to the Disabilities Coordinator.