



**TRINITY VALLEY COMMUNITY COLLEGE  
ADMINISTRATIVE-MASTER SYLLABUS**

The Administrative- Master Syllabus is an administrative tool; it is **not intended to be distributed to students.** It is the intention of this Administrative-Master Syllabus to provide a general description of the course, outline the required elements of the course and to lay the foundation for course assessment for the improvement of student learning, as specified by the faculty of TVCC, regardless of who teaches the course, the timeframe by which it is instructed, or the instructional method by which the course is delivered. It is not intended to restrict the manner by which an individual faculty member teaches the course but to be an administrative tool to aid in the improvement of instruction. The Administrative-Master Syllabus will demonstrate that there is consistency and comparability in course offerings.

**Course Title**

Advanced Computer Aided Drafting

**Course Prefix and Number**

DFTG 2332

**Department – Division**

Drafting – Vocational/Technical

**Course Type** – select from one of the following categories.

- Academic General Education Course (from ACGM – but not in TVCC Core)
- Academic TVCC Core Course
- WECM Courses

**Semester Credit Hours: Lecture Hours: Lab/other hours**

Semester Credit Hours	Lecture Hours	Lab/Other* Hours
3	2	4

Other hours include practicum, clinical or other types of non-lecture instruction. \*If other, please specify: \_\_\_\_\_

## **Course Catalog Description**

Exploration of the use of system customization for drawing production enhancement and the principles of data manipulation. Presentation of advanced applications, such as three-dimensional objects creation and linking graphic entities to external non-graphic data.

## **Prerequisites/co requisites**

DFTG 1309 Basic Computer Aided Drafting

## **Topical Outline**

- 1) Customizing AutoCAD
  - a) Profile
  - b) Template
  - c) Workspace
  - d) Toolbars
  - e) Tool Palette
- 2) Blocks
  - a) Defining attributes
  - b) Creating blocks within a drawing
  - c) Creating external blocks (wblock)
  - d) Inserting Blocks to a drawing
  - e) Create data extraction files of blocks
- 3) External References (Xref)
  - a) Inserting
  - b) Working with
- 4) File transfer techniques
- 5) Three Dimensional AutoCAD
  - a) User Coordinate System
    - i) Manipulating
    - ii) Restoring
  - b) View
    - i) Manipulating
    - ii) Restoring
    - iii) Preset views
      - (1) Orthographic views
      - (2) Isometric views
    - iv) 3D Orbit
      - (1) Constrained orbit
      - (2) Free orbit
      - (3) Continuous Orbit
  - c) Boolean theory
  - d) Solid Primitives
    - i) Box

- ii) Cylinder
- iii) Cone
- iv) Wedge
- v) Sphere
- vi) Torus
- e) Solid Modifiers
  - i) Extrude
  - ii) Revolve
  - iii) Shell
  - iv) Taper Face
  - v) Press Pull
- f) Sweeps
- g) Lofts
- h) Creating Orthographic Views
- i) Presentation Techniques
  - i) Lights
  - ii) Materials
  - iii) Rendering

<b>Course Learning Outcomes</b>
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Upon completion of this course, the student will be able to:

- 1) Develop and employ a profile for customizing the AutoCAD startup.
- 2) Create and use a template file to automate the drawing creation process.
- 3) Demonstrate an understanding of the basic skills used in drafting.
- 4) Create and insert blocks with attributes.
- 5) Demonstrate an understanding of attributes and attribute extraction.
- 6) Demonstrate an understanding of advanced plotting practices.
- 7) Create 3D surface drawings.
- 8) Create 3D solid model drawings.
- 9) Demonstrate an understanding of the use of multi-viewports.
- 10) Demonstrate an understanding of various non-AutoCAD file types for the purpose of exporting to and importing from other CAD programs.

<p><b>Relationship to General Education Outcomes</b> – In addition to the core competencies, Trinity Valley Community College has established ten general education goals which specify knowledge and skills that students should gain from completing courses in the various component areas of the core curriculum. Information regarding curriculum and assessment as a means for the improvement of student learning through the general education component. (Select all that apply.)</p>
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Mark with an "X"	General Education Outcome
	A. To communicate clearly and effectively in both oral and written English.

	B. To improve reading skills focused on comprehending, analyzing, interpreting, and evaluating printed materials.
	C. To understand mathematical information and utilize mathematical skills.
X	D. To demonstrate qualitative and quantitative critical thinking skills.
	E. To understand and appreciate cultural and ethnic diversity.
X	F. To utilize computer based technology in accessing information, solving problems, and communicating.
	G. To recognize and evaluate artistic achievements in the visual and performing arts.
	H. To improve basic understanding of political, economic, and social systems.
	I. To demonstrate knowledge of the physical universe and living systems.
	J. To develop skills and strategies to become an engaged learner.

<b>Required Text(s)</b>
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AutoCAD and Its Applications Comprehensive 2008, 15th Edition  
 Craig P. Black, David A. Madsen, David P. Madsen, Terence M. Shumaker  
*Goodheart-Wilcox Company, Inc.*  
 ISBN:978-1-59070-834-7

<b>Optional Text(s)</b>
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NONE

<b>Material/Technology to be supplied by the student.</b>
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Optional USB Flash drive for back ups

<p><b>Course Requirements/Grading System</b> – describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course; not intended to restrict the individual nature by which each faculty member who teaches the course determines course requirements and final student performance, but should offer consistency within reason for all sections taught for those departments without a standardized format.</p>
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Assignments will be made at various points throughout the semester designed to challenge the student to develop advanced computer aided drafting skills. A final exam will be given to evaluate your success in this course. Your grade will be computed as follows:

Lab Assignments 90%  
Final Exam 10%  
100%

***Approvals – the contents of this document have been reviewed and are found to be accurate.***

Prepared by	Signature	Date
Department Head	Signature	Date
Division Chair	Signature	Date
Vice President	Signature	Date