

Course Outline

Technical Design 200 – (TEC D 200)

Introduction to Computer Aided Drafting

Week 1

Day 1

General Introduction to TEC-D 200:

Class Roster verification, Syllabus, Course Outline, Verification of Student Folders on campus server, Windows Interface, AutoCAD Interface.

Introduction to AutoCAD:

General Overview of AutoCAD: Basic Commands (*Quick Reference Sheet*)
Introduction to Prototype Drawing Templates: *Architectural, Decimal, & Metric*
Introduction to Sheet Border / Titleblock: *Name, Drawing, Scale*

Introduction to *File Saving (SAVEAS)*

Basic Introduction to *Printing / Plotting*

*Problems/Graphic Assignments: 1-1

***Dimension: Linear, Aligned**

Day 2

Chapter 1 – Getting Started with AutoCAD:

Basic Drawing Techniques: *Line, PLine, & Circle,*

Coordinate Systems: *Cartesian/Rectangular, Absolute, Polar*

Object Snap Modes: *Endpoint, Midpoint, Center, Node, Quadrant, Intersection, Insertion, Perpendicular, & Tangent.*

Polar and Object Tracking

*Reading Assignment: *Chapter 1*

*Problems/Graphic Assignments: 1-2, 1-3 & 1-4

***Dimension: Center Marks, Radius, Diameter, Angular**

Day 3

Chapter 3 – AutoCAD Display and Basic Selection Operations:

Drawing View Magnification: *Zoom – all, center, dynamic, extents, previous, scale, window, & object.*

Moving Display: *Pan*

Wheel Mouse (real-time display): *Pan & Zoom In/Out/All*

Object Selections: *Crossing, Window, Fence, All*

*Reading Assignment: *Chapter 3*

*Problems/Graphic Assignments: 1-5, 1-6 & 1-7

Day 4/5

Chapter 4 – Modifying Your Drawings:

Basic Modification Commands: *Move, Copy, Scale, Rotate, Offset, Fillet, Chamfer, Trim, Extend, & Break.*

Advanced Modification Commands: *Array, Mirror, Stretch, Pedit, Explode, Lengthen, Join, Undo, & Redo.*

*Reading Assignment: *Chapter 4*

*Problems/Graphic Assignments: 4-1, 4-3, 4-4, 4-6 & 4-8

***Extra Credit: 4-5, 4-10, 4-11, 4-13 & 4-14**

Week 2

Day 1

Chapter 2 – Drawing Setup and Organization:

Drawing Setup: ***Drawing Units, Grids, and Limits***

Layer Properties: ***Names, Color, Line types, Line weights, Match Properties***

*Reading Assignment: ***Chapter 2***

*Problems/Graphic Assignments: ***TBA***

Day 2

Chapter 5 – Performing Geometric Constructions:

Constructing Geometric Shapes: ***Arc, Donut, Ellipse, Mline, Divide, Point, Polygon (inscribed/circumscribed), Ray, Rectangle, Spline, Circle (Tan Tan Radius), Boundary***

*Reading Assignment: ***Chapter 5***

*Problems/Graphic Assignments: ***5-1, 5-2, 5-3 & 5-10***

***Extra Credit: 5-4, 5-6, 5-7, 5-9**

Day 3

Chapter 6 – Working with Text, Fields, & Tables:

Creating Text in a Drawing: ***Mtext & Dtext***

Text Styles: ***Create, Modify, & Edit***

*Reading Assignment: ***Chapter 2***

*Problems/Graphic Assignments: ***5-11, 5-12, 5-13, 5-14***

Day 4

Lab / Mid-Term Review:

Lab Time: ***This is an opportunity for students to catch up on any assignments that need to be completed.***

Mid-Term Review: ***Mid-Term Exam Review***

Day 5

Mid – Term Exam:

Mid-Term Exam: Approximately 2.5 hours to complete.

For Students who complete Exam early:

*Reading Assignment: ***Chapter 7***

*Lab Time: ***This is an opportunity for students to catch up on any assignments that need to be completed.***

Week 3

Day 1

Chapter 7 – Object Grips and Changing the Properties of Objects:

Object Grips: ***How they are used.***

Properties Palette: ***Modifying Objects***

*Reading Assignment: ***Chapter 7***

Problems/Graphic Assignments: ***Tutorial or TBA***

Day 2

Chapter 8 – Shape Description / Multiview Projection:

Shape Description: ***Linetypes, Fillets, Chamfers.***

Multi-view Projection: ***Front, Top, & R.Side***

*Reading Assignment: ***Chapter 8***

*Problems/Graphic Assignments: ***8-3, 8-6, 8-9, 8-12, 8-15, 8-18, 8-21 & 8-22***

****3D-Solids: Boundary, Extrude, Isometric Views, Rotate3d, Union, Subtract, Slice, Mview (properties/hidden), Hide, DISPSILH, FACETRES***

Day 3

Chapter 8 – Shape Description / Multiview Projection: (Continued)

Shape Description: ***Linetypes, Fillets, Chamfers.***

Multi-view Projection: ***Front, Top, & R.Side***

*Reading Assignment: ***Chapter 8***

*Problems/Graphic Assignments: ***8-24, 8-25, 8-27, 8-28, 8-29, 8-31, 8-32 & 8-34***

****Extra Credit: 3D-isometric: (3 to 5) items from ch.8***

Day 4

Chapter 9 – Creating Section Views:

Section Views: ***Full, Half, Assembly, Aligned, Offset, Broken, Revolved, Removed, & Isometric Sections.***

Hatch and Gradient: ***Applying Hatch & Gradient Patterns to Drawings***

*Reading Assignment: ***Chapter 9***

*Problems/Graphic Assignments: ***9-1***

****Extra Credit: Paint/Modify Car – Convert to PDF***

Day 5

Chapter 9 – Creating Section Views: (Continued)

Section Views: ***Full, Half, Assembly, Aligned, Offset, Broken, Revolved, Removed, & Isometric Sections.***

Hatch and Gradient: ***Applying Hatch & Gradient Patterns to Drawings***

*Reading Assignment: ***Chapter 9***

*Problems/Graphic Assignments: ***9-2***

****Extra Credit: Download JPG and Trace/Paint image – Convert to PDF***

Week 4

- Day 1** **Chapter 10 – Adding Dimensions to your drawings:**
Auxiliary Views: *Xlines used to project line of site.*
*Reading Assignment: **Chapter 10**
*Problems/Graphic Assignments: **9-6 (Draw & Fully Dimension)**
- Day 2** **Chapter 10 – Adding Dimensions to your drawings: (Continued)**
Auxiliary Views: *Xlines used to project line of site.*
*Reading Assignment: **Chapter 10**
*Problems/Graphic Assignments: **9-10 (Draw & Fully Dimension)**
- Day 3** **Chapter 11 – Managing Dimension Styles:**
Basic Dimensioning: *Linear, Aligned, Diameter, Radius, Angular*
Dimension Styles: *Using Dimension Styles Manager*
*Reading Assignment: **Chapter 11**
*Problems/Graphic Assignments: **Extra Credit**
- Day 4** **Lab / Final Review:**
Lab Time: *This is an opportunity for students to catch up on any assignments that need to be completed.*
Final Exam Review: **Final Exam Review**
- Day 5** **Final Exam:**
Final Exam: Approximately 2.5 hours to complete.
- Portfolio Due:**
Final Portfolio Due at Beginning of Class.
- For Students who complete Exam early:**
*Lab Time: *This is an opportunity for students to catch up on any assignments that need to be completed for Final Portfolio submittal.*