

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 / Title block: *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, Extension, Insertion, Perpendicular, Tangent, & Parallel*.
Polar and Object Tracking
*Reading Assignment: *Chapter 1*
*Problems/Graphic Assignments: 1-2, 1-3 & 1-4
**Dimension: Center Marks, Radius, Diameter, Angular*

Week 2

Day 1

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 2

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

Week 3

Day 1

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: **4-6, 4-8**

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

Day 2

Chapter 2 – Drawing Setup and Organization:

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

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

Advanced Layer Tools: *Isolating, Filtering, & States*

*Reading Assignment: **Chapter 2**

*Problems/Graphic Assignments: **TBA**

Week 4

Day 1

Chapter 5 – Performing Geometric Constructions:

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

*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 2

Lab Day

Week 5

Day 1

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 2 **Lab Day**

Week 6

Day 1 **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 2 **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 7

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, Rounds, Chamfers, & Runouts.***
Multi-view Projection: ***Front, Side, Top, Bottom, Back/Rear.***
*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**

Week 8

Day 1 **Chapter 8 – Shape Description / Multiview Projection: (Continued)**
Shape Description: ***Linetypes, Fillets, Rounds, Chamfers, & Runouts.***
Multi-view Projection: ***Front, Side, Top, Bottom, Back/Rear.***
*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 2 **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

Week 9

Day 1 **Holiday**

Day 2 **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 10

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 & 9-10 (Draw & Fully Dimension)***

Day 2 **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***

Week 11

Day 1 **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 2

Final Exam:

Final Exam: Approximately 2.5 hours to complete.

Portfolio Due:

Final Portfolio Due at Beginning of Class.