

Intermediate Computer-Aided Drafting (DFTG-2319)

Credit: 3 semester credit hours (2 hours lecture, 4 hours lab)

Prerequisite/Co-requisite: DFTG-1309 or 1409



Course Description

A continuation of practices and techniques used in basic computer-aided drafting including the development and use of prototype drawings, construction of pictorial drawings, extracting data, and basics of 3D.

Required Textbook and Materials

1. *AutoCAD 2013* (From DFTG 1309)
2. *Technical Drawing* (From DFTG 1305)
3. Flash Drive – 1GB Minimum
4. Headphones or Ear Buds (Optional)
5. Notebook.

Course Objectives (with applicable SCANS skills after each)

Upon completion of this course, the student will be able to:

1. Produce a working set of detailed dimensioned drawings with the proper orthographic projections and scales.
2. Create external reference drawings (XREFs) to produce another detailed drawing.
3. Set-up and create Prototype (Template) drawings to the proper scale for use with other drawings.
4. Create pictorial drawings (Isometrics) from 2D views of objects.(Isometrics)
5. Successfully Extract 100% of the data from graphic files using Attributes and use this data to create a bill of material.
6. Create 3D Wireframe and Solids models to scale. Extract the 2D orthographic projections to create a dimensioned detailed working drawing

Course Outline

- A. Introduction
 - 1. Introduction of faculty and students
 - 2. Review Syllabus
 - 3. Review Class Policies
 - 4. Review Lab Assignment
- B. Proto-Type (Template) Drawings
 - 1. Types of Drawings
 - 2. Create Templates
 - 3. Where to Store Drawings
 - 4. How to use Templates
- C. Block Attributes
 - 1. Review Block Libraries
 - 2. Definitions of an Attribute
 - 3. Create / Modify Attributes
 - 4. Using Attributes
 - 5. Extracting Data
- D. External References (XREF)
 - 1. What is an XREF
 - 2. How are XREFS used in Industry
 - 3. Attaching/Detaching
 - 4. Plotting XREFS
- E. Pictorial Drawings
 - 1. Types of Pictorial Drawings
 - 2. Anatomy of an Isometric Drawing
 - 3. Setting up Iso Grid
 - 4. Iso Lines
 - 5. Iso Circles
 - 6. Iso Text and Dimensions
- F. 3D Wireframe Drawings
 - 1. What is the UCS
 - 2. Manipulating the UCS
 - 3. Where is the “Z” Axis
 - 4. Right Hand Rule
 - 5. Creating 3D objects
 - 6. Modify commands and 3D
- G. Solids Modeling
 - 1. Primitives
 - 2. Boolean Operations
 - 3. Modifying/Editing
 - 4. Creating 2D Drawings
 - 5. Creating Assemblies
 - 6. Exporting to STL

Grade Scale

90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
0 – 59	F

Course Evaluation

Final grades will be calculated according to the following criteria:

<i>Activity</i>	<i>Percentage</i>
Homework/Labs	10%
Quizzes	10%
Projects	30%
Final Project	25%
Final Exam	25%
<i>Total</i>	<i>100%</i>

Late Penalties will be assessed on all work turned in late. 5 points per day

Course Requirements

1. Create Drawings with Blocks with Attributes and extracted Data
2. Create a Final Drawing using composite External References (XREFS)
3. Create Isometric Drawings
4. Create Drawings using 3D Wireframe techniques
5. Create Solids Models
6. Create 2D Drawings from Solids Models
7. Build a 3D Solids Model Assembly
8. Produce a working set of Drawings from Solids Models

Attendance Policy:

1. Missing more than 4 classes will result in an automatic “F” for the course.
2. Absences are counted for unexcused, excused and coming to class late.
3. Missing more than 20 minutes of a class period will count as an absence.
4. Being tardy 3 times equals 1 absence.

Course Policies

1. No food, drinks, or use of tobacco products in class.
2. No foul or harsh language will be tolerated
3. Turn off all Cell Phones during lectures
4. Do not bring children to class.
5. No Cheating of any kind will be tolerated. Students caught cheating or helping someone to cheat can and will be removed from the class for the semester. Cheating can result from expulsion from LIT.

6. If you wish to drop a course, the student is responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course, you will earn an 'F' in the course.
7. BACK-Ups
It is the student's responsibility to make back-up copies of their work. Do not rely on the server to be their 100% of the time. I cannot help you if you lose your work. Remember that in order for your work to be graded, it must be in your account on the server.
8. Internet Usage
 - a. Classroom computers have access to the internet.
 - b. Student usage of the internet will be monitored.
 - c. Proper usage of the internet will be allowed. Used for classroom research or as directed.
 - d. Any unauthorized use of the internet will not be tolerated.
 - e. Improper usage of the internet, such as profanity, pornography, gambling, etc... will result in disciplinary action not limited to expulsion from LIT.

Disabilities Statement

The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409) 880-1737 or visit the office in Student Services, Cecil Beeson Building.

Student Code of Conduct Statement

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the LIT Catalog and Student Handbook. The LIT Catalog and Student Handbook may be accessed at www.lit.edu or obtained in print upon request at the Student Services Office.

Course Schedule

Week	Topic	Reference
1	Course introduction and policies <ul style="list-style-type: none">• Lecture• Lab: Practice Drawing	Handouts
2	Proto-Type (Template) Drawings <ul style="list-style-type: none">• Lecture• Lab: Create "A" and "B" Size Templates	Chapter 13

3/4	Attributes	Chapter 17
	<ul style="list-style-type: none">• Lecture• Lab: Chapter Exercises• Project: As Assigned	
5/6	External References (XREFS)	Chapter 18
	<ul style="list-style-type: none">• Lecture• Lab: Chapter Exercises• Project: As Assigned	
7/8	Pictorial Drawings	Chapter 23
	<ul style="list-style-type: none">• Lecture• Lab: Chapter Exercises• Project: As Assigned	
9/10	3D Wireframes	Chapters 24 & 25
	<ul style="list-style-type: none">• Lecture• Lab: Chapter Exercises• Project: As Assigned	
11/12	Solids Modeling	Chapters 26 & 27
	<ul style="list-style-type: none">• Lecture• Lab: Chapter Exercises• Project: As Assigned	
13	3D Printer	Handouts
	<ul style="list-style-type: none">• Lecture• Lab: As Assigned	
14/15/16	Final Project	
	<ul style="list-style-type: none">• Lecture• Project: As Assigned	

Contact Information:

Instructor: Varies per semester

DFTG-2319
Course Syllabi

DFTG-2319 Fall 2015

I have received a copy and have read the Course Syllabus for DFTG-2319 as provided to me by my instructor.

Print Name

Signature

Date