

Advanced CAD (DFTG 2332)

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



Prerequisite: DFTG 2319

Course Description

Application of advanced CAD techniques.

Required Textbook and Materials

1. None Required
2. *Technical Drafting:* (From Previous Course DFTG 1305)
3. 2 GB minimum jump drive

Course Objectives

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

1. Demonstrate a working knowledge of basic and advanced parametric modeling techniques
2. Creating drawing views
3. Create Assemblies

Course Outline

- A. Introduction
 1. Introduction of faculty and students
 2. Review Syllabus
 3. Review Class Policies
 1. Review Lab Assignments
- B. Getting Started
 1. Input Methods
 2. Adding Dimensions Manually
- C. Constraining the Sketch
 1. Change part and sketch Application options
 2. Sketch part outlines
 3. Geometric Constraints
 4. Dimension a sketch
 5. Change dimensions in a sketch
- D. Create and Edit Sketched Features
 1. What is a Feature
 2. Inventor Browser
 3. Extrude
 4. Revolve
 5. Edit Features
- 6. Edit the Sketch
- 7. Create part on Plane
- E. Create Placed Features
 1. Fillets
 2. Chamfers
 3. Holes
 4. Shell
 5. Work Axis,, points and planes
 6. Pattern
- F. Drawing Views
 1. Create Base and projected views
 2. Create Auxiliary, section, detail, and broken views
 3. Annotation
- G. Assemblies
 1. Assembly options
 2. Create components and sub-assemblies
 3. Constrain Components
 4. Edit assembly constraints
 5. Drive constraints

DFTG 2332
Course Syllabi

- 6. Create presentation file
- 7. Create and edit Bill of Materials (BOM)
- 4. Sweep features
- 5. Loft features
- 6. Coil features

H. Advanced Techniques

- 1. Section a Part
- 2. Create Ribs
- 3. Emboss Text

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> |

Course Requirements

- 1. Create Parts and Drawings using computer software.
- 2. Listen to lectures and take notes.
- 3. Take quizzes and tests.

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.

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 online resource:

<http://www.lit.edu/depts/stuserv/special/defaults.aspx>

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.

Supplemental Instruction

Supplemental Instruction (SI) consists of group tutoring sessions conducted once a week for 50 minutes for selected subjects. The SI Leader is a peer who helps students learn difficult content in those specific courses. The SI Leader attends the class with the students to keep up with the course content and engage students in interactive learning strategies at the 50 minute sessions. For this course, the supplemental instruction session will be held on “day” at “time” in “bldg/room”.

Starfish

LIT utilizes an early alert system called Starfish. Throughout the semester, you may receive emails from Starfish regarding your course grades, attendance, or academic performance. Faculty members record student attendance, raise flags and kudos to express concern or give praise, and you can make an appointment with faculty and staff all through the Starfish home page. You can also login to Blackboard or MyLIT and click on the Starfish link to view academic alerts and detailed information. It is the responsibility of the student to pay attention to these emails and information in Starfish and consider taking the recommended actions. Starfish is used to help you be a successful student at LIT.



Course Schedule

| Week | Topic | Reference |
|----------|--|-----------|
| 1 | Course introduction and policies <ul style="list-style-type: none">• Lecture:• Lab: Initial Setup | |
| 2 | Getting Started <ul style="list-style-type: none">• Lecture: Graphics, Command Areas• Lab: Exercises | |
| 3 | Constraining the Sketch <ul style="list-style-type: none">• Lecture: Constraints• Lab: Exercises | |
| 4 | Create and Edit Sketched Features <ul style="list-style-type: none">• Lecture: Creating Features• Lab: Exercises• Project: As assigned | |
| 5 | Create Placed Features <ul style="list-style-type: none">• Lecture: Holes, fillets and rounds• Lab: Exercises | |
| 6-7 | Drawing Views <ul style="list-style-type: none">• Lecture: Create a Drawing• Lab: Exercises• Project: As assigned | |
| 8-10 | Assemblies <ul style="list-style-type: none">• Lecture: Create an Assembly• Lab: Exercises• Project: As assigned | |
| 11-13 | Advanced Techniques <ul style="list-style-type: none">• Lecture: Presentations• Lab: Exercises | |
| 14,15,16 | Final Project <ul style="list-style-type: none">• Lecture:• Project: Assign Final Project | |