

Advanced CAD (DFTG 2332)



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

Prerequisite/Co-requisite: DFTG 2319

Course Description

Application of advanced CAD techniques.

Required Textbook and Materials

1. Autodesk Inventor Essentials Plus 2013, Branch & Jones. Delmar Cengage
ISBN: 978-1-133-94223-8
2. *Technical Drafting*: From Previous Course
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 | 5. Edit Features |
| 1. Introduction of faculty and students | 6. Edit the Sketch |
| 2. Review Syllabus | 7. Create part on Plane |
| 3. Review Class Policies | |
| 1. Review Lab Assignments | E. Create Placed Features |
| | 1. Fillets |
| B. Getting Started | 2. Chamfers |
| 1. Input Methods | 3. Holes |
| 2. Adding Dimensions Manually | 4. Shell |
| | 5. Work Axis,, points and planes |
| C. Constraining the Sketch | 6. Pattern |
| 1. Change part and sketch | |
| Application options | F. Drawing Views |
| 2. Sketch part outlines | 1. Create Base and projected views |
| 3. Geometric Constraints | 2. Create Auxiliary, section, detail, |
| 4. Dimension a sketch | and broken views |
| 5. Change dimensions in a sketch | 3. Annotation |
| | |
| D. Create and Edit Sketched Features | G. Assemblies |
| 1. What is a Feature | 1. Assembly options |
| 2. Inventor Browser | 2. Create components and sub- |
| 3. Extrude | assemblies |
| 4. Revolve | |

Approved mm/yyyy

DFTG 2332
Course Syllabi

3. Constrain Components
4. Edit assembly constraints
5. Drive constraints
6. Create presentation file
7. Create and edit Bill of Materials (BOM)

6. Coil features

I. iComponents

1. Create iMates
2. Create relationships between dimensions
3. Create and place iParts

H. Advanced Techniques

1. Section a Part
2. Create Ribs
3. Emboss Text
4. Sweep features
5. Loft features

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.

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. Headphones may be worn only upon Instructor approval
5. Do not bring children to class.
6. 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.
7. 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.
8. 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.
9. 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.

Course Schedule

Week	Topic	Reference
1	Course introduction and policies <ul style="list-style-type: none">• Lecture: Chapter 1• Lab: Initial Setup	Handouts & Textbook
2	Getting Started	Chapter 1

	<ul style="list-style-type: none"> • Lecture: Chapter 1 • Lab: Exercises in Chapter 1 	
3	Constraining the Sketch <ul style="list-style-type: none"> • Lecture: Chapter 2 • Lab: Exercises in Chapter 2 	Chapter 2
4	Create and Edit Sketched Features <ul style="list-style-type: none"> • Lecture: Chapter 3 • Lab: Exercises in Chapter 3 • Project: As assigned 	Chapter 3
5	Create Placed Features <ul style="list-style-type: none"> • Lecture: Chapter 4 • Lab: Exercises in Chapter 4 	Chapter 4
6-7	Drawing Views <ul style="list-style-type: none"> • Lecture: Chapter 5 • Lab: Exercises in Chapter 5 • Project: As assigned 	Chapter 5
8-10	Assemblies <ul style="list-style-type: none"> • Lecture: Chapter 6 • Lab: Exercises in Chapter 6 • Project: As assigned 	Chapter 6
11-12	Advanced Techniques <ul style="list-style-type: none"> • Lecture: Chapter 7 • Lab: Exercises in Chapter 7 	Chapter 7
12-13	iComponents <ul style="list-style-type: none"> • Lecture: Chapter 8 • Lab: Exercises in Chapter 8 	Chapter 8
14,15,16	Final Project <ul style="list-style-type: none"> • Lecture: • Project: Assign Final Project 	Chapter 9