



DFTG-2432-201HY-FA2023
Advanced Computer-Aided Drafting
Fall 2023
Monday - 6:00 pm to 8:50 pm

Instructor Information: Steven Britt, Adjunct
sbritt1@com.edu
832-326-7935 (cell)
Please text to cell number outside of class hours.

Student hours and location: During Class hours and as available by text message & email. There will NOT be a class held on Mondays that fall during a holiday per the [C.O.M. Academic Calendar](#).

Required Textbook/Materials:

Required: None

Reference: “AutoDesk Inventor 2020 & Engineering Graphics, An Integrated Approach” by Randy H. Shih



Course Description: An advanced level drafting course. This course will cover advanced CAD techniques. Prerequisite: DFTG-1305 and DFTG-1433 with a grade of "C" or better. Offered fall semester only.

Course requirements: Each week there is the same process for learning the material:

1. First you read the assigned text, watch the provided videos demonstrating methods described in the chapters, and complete the assigned exercises. All assignments will be in the D2L Brightspace LMS.
2. In the lab we will collectively review any questions the class members have on the exercises/assignments in D2L Brightspace.
3. In the lab we will individually and collectively complete the drawing/parametric modeling problems along with output exercises such as large format printing, digital imagery generation, digital animation generation, and 3D printing.

Determination of Course Grade/Detailed Grading Formula: Student learning outcomes will be measured through the critique of drawing assignments coupled with major and minor output exercises. Students will also be assessed on participation, completion of special projects and responses. The final course grade will be based on the total points for attendance, drawings, quizzes, discussion forum, and course evaluation.

Grading Formula Students will be graded on "points-earned" criteria. An earned grade of C or above is considered acceptable.

Student learning outcomes will be measured through the critique of drawing and/or coupled with major and minor output assignments. Students will also be assessed on participation, completion of special projects and responses. The final course grade will be based on the following grading percentages:

Assignments: 75%

Quizzes: 25%

Grading Scale

90-100 = A

80-89 = B

70-79 points = C

60-69 points = D

Late Work, Make-Up, and Extra-Credit Policy: Late work will incur up to a 20% penalty. If there is a documented medical or family emergency, please see me to discuss a work plan to get you caught up.

Attendance Policy: Attendance is required at the lab sessions. In addition, you are required to log in to 'D2L Brightspace' LMS a minimum of once per week.

Communicating with your instructor: ALL electronic communication with the instructor must be through your COM email. Due to FERPA restrictions, faculty cannot share any information about performance in the class through other electronic means. (Faculty may add additional statement requiring monitoring and communication expectations via D2L or other LMS)

Communication Best Practice:

1: Send a detailed email using your COM email address/account to sbritt1@com.edu fully explaining your communication/message.

2: Text Mr. Britt at 832-326-7935 with a text message "Please look at your COM email for a message from (your name)".

Core Objectives: This course addresses the following core objectives

1. Critical Thinking Skills: Students will demonstrate creative thinking, innovation, and the ability to analyze, evaluate, and synthesize information.

2. Communication Skills: Develop, interpret, and express ideas through written, oral, and visual communication.
3. Empirical and Quantitative Skills: Students will demonstrate applications of scientific and mathematical concepts.
4. Teamwork: Students will have the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.
5. Social Responsibility: Students will demonstrate intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities.
6. Personal Responsibility: Evaluate choices and actions of others or one's own and relate consequences to ethical decision-making.

Table Mapping SLO's, Core Objectives and Assignments

Student Learner Outcome	Maps to Core Objective	Assessed via this Assignment
1. Use a customized CAD system to create documents and/or solid models	Critical Thinking	Unit 1 Drawing Problems
2. Use OLE with external software	Critical Thinking	Unit 2 Drawing Problems
3. Complete drawings in a collaborative team.	Communication Visual	Unit 5 Animation Problem

Academic Dishonesty: Any incident of academic dishonesty will be dealt with in accordance with college policy and the Student Handbook. Academic dishonesty – such as cheating on exams, or sharing drawing files is an extremely serious offense and will result in a grade of zero on that exam/drawing assignment and the student will be referred to the Dean of Students for the appropriate disciplinary action. Out in the work world, in most cases you would be immediately fired and a negative report given if the company is called for a reference. It simply isn't worth it.

Student Concerns: If you have any questions or concerns about any aspect of this course, please contact me using the contact information previously provided. If, after discussing your concern with me, you continue to have questions, please contact Professor Sheena Abernathy, Chair Science and Engineering Department at sabernathy@com.edu or 933-8330

Course outline:

Unit 1:

Reading
Exercises
Modeling Problems
Quiz
Discussion
Duration: Three weeks 3

Introduction to Inventor or a Refresher

Posted in D2L (Online)
Modeling 4 different parts (Online)
Compiling an assembly using a project file (Online)
A short quiz over that concepts and commands (Online)
A mini essay on the discussion forum topic. (Online)

Unit 2:

Reading
Exercises
Printing Problem
Quiz
Discussion
Duration

2D printing

Posted in D2L (Online)
Printing on inkjet - 4 different parts (Online)
Printing on oversize/large format paper. And tiled images. (Online)
A short quiz over that concepts and commands (Online)
A mini essay on the discussion forum topic. (Online)
Two weeks

Unit 3

Reading
Exercises
Rendering Problem
Quiz
Discussion
Duration

Rendering & Digital Created Photographs

Posted in D2L (Online)
Developing material representation of different parts (Online)
Using Inventor Studio (Online)
A short quiz over that concepts and commands (Online)
A mini essay on the discussion forum topic (Online)
Three weeks

Unit 4

Reading
Exercises
Animation Problem
Quiz A
Discussion
Duration

Animation & Digital Created Video

Posted in D2L (Online)
Composing an animated assembly (Online)
Animating Inventor Assembly file with audio (Online)
short quiz over that concepts and commands (Online)
A mini essay on the discussion forum topic (Online)
Four weeks

Unit 5

Reading
Exercises
Printing Problem
Quiz A
Discussion
Duration

3D printing

Posted in D2L (Online)
Printing from Inventor (Online)
Preparing Inventor File and Printing Project at a scale
short quiz over that concepts and commands (Online)
A mini essay on the discussion forum topic (Online)
Four weeks

Institutional Policies and Guidelines

Grade Appeal Process:

Concerns about the accuracy of grades should first be discussed with the instructor. A request for a change of grade is a formal request and must be made within six months of the grade assignment. Directions for filing an appeal can be found in the student handbook [Student Handbook 2023-2024 v2.pdf](#).

An appeal will not be considered because of general dissatisfaction with a grade, penalty, or outcome of a course. Disagreement with the instructor's professional judgment of the quality of the student's work and performance is also not an admissible basis for a grade appeal.

Academic Success & Support Services:

College of the Mainland is committed to providing students the necessary support and tools for success in their college careers. Support is offered through our Tutoring Services, Library, Counseling, and through Student Services. Please discuss any concerns with your faculty or an advisor.

ADA Statement:

Any student with a documented disability needing academic accommodations is requested to contact Kimberly Lachney at 409-933-8919 or klachney@com.edu. The Office of Services for Students with Disabilities is located in the Student Success Center.

Textbook Purchasing Statement:

A student attending College of the Mainland is not under any obligation to purchase a textbook from the college-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

Withdrawal Policy:

Students may withdraw from this course for any reason prior to the last eligible day for a "W" grade. Before withdrawing students should speak with the instructor and consult an advisor. Students are permitted to withdraw only six times during their college career by state law. The last date to withdraw from the 1st 8-week session is October 11. The last date to withdraw from the 16-week session is November 28. The last date to withdraw for the 2nd 8-week session is December 7.

FN Grading:

The FN grade is issued in cases of failure due to a lack of attendance, as determined by the instructor. The FN grade may be issued for cases in which the student ceases or fails to attend class, submit assignments, or participate in required capacities, and for which the student has failed to withdraw. The issuing of the FN grade is at the discretion of the instructor. The last date of attendance should be documented for submission of an FN grade.

Early Alert Program:

The Student Success Center at College of the Mainland has implemented an Early Alert Program because student success and retention are very important to us. I have been asked to refer students to the program throughout the semester if they are having difficulty completing assignments or have poor attendance. If you are referred to the Early Alert Program you will be contacted by someone in the Student Success Center who will schedule a meeting with you to see what assistance they can offer in order for you to meet your academic goals.

Resources to Help with Stress:

If you are experiencing stress or anxiety about your daily living needs including food, housing or just feel you could benefit from free resources to help you through a difficult time, please click here <https://www.com.edu/community-resource-center/> College of the Mainland has partnered with free community resources to help you stay on track with your schoolwork, by addressing life issues that get in the way of doing your best in school. All services are private and confidential. You may also contact the Dean of Students office at deanofstudents@com.edu or communityresources@com.edu.

Success Tips for Students, Course Delivery & Expectations:**Course Communication:**

To communicate with me in an expedient manner use my COM email.

- 1: Send me a detailed email to my sbritt1@com.edu email address
- 2: Send me a text message to 832-326-7935. Include your name along with “please check your COM email for my message”.

Course Delivery & Expectations:

The course content is delivered via the online portion through reading, watching demonstrations videos in D2L, and completing the drawing and output exercises. You will need to log in each week. The reading, watching the demos, and completing the Essentials and Beyond problem will probably take between 4 and 8 hours.

The lab is intended to address your questions on the current chapter and give an opportunity to work on and perhaps complete the assignments for that chapter.

The drawing problems, discussion forum, and quiz are due the night prior to our lab meeting at 10:00 pm. All drawing problems should be attached to the course assignment in the online course. The files should be in the required format, meaning, if it is an AutoDesk Inventor drawing, submit the .IPT, .IAM, IDW or other file.

Course Prerequisite:

DFTG 1305 and DFTG 1433 With a grade of 'C' or better.

Course Format:

The structure of this hybrid course is the topics are introduced in the lab, and the exercises are completed in the collective setting. Online you continue practicing and mastering the skills and concepts for the week by completing the Essentials and Beyond. This exercise combines all the commands and concepts presented in the chapter exercises. There is a video showing step-by-step how to complete the Essentials and Beyond. In addition, you complete a quiz and discussion forum online. Both the online and lab parts of the class are essential. At the lab session, we will open with a discussion of issues or problems the group encountered in the previous week, provide more face-to-face demonstrations, and review your work one-on-one at your computer.

Technology Outage Policy:

It is your responsibility to complete the coursework in a timely manner. THE ONLY EXTENSION OF DUE DATES related to technology outage is an outage of the College of the Mainland's systems, such as the internet connection to the College. If your computer or internet provider is experiencing a technological outage, other options include completing the work at the College or at another location that has WIFI