

Course Syllabus

TEE
1200

Computer Aided Drafting/Design

Course Description

This course is designed to introduce students to SolidWorks and the world of 3D modeling. The learning material is designed to not only teach you the concept and tools needed to create virtual 3D models but to help you understand how to take those 3D models and use them to create real products and prototypes. **Students will need access to a Windows computer with sufficient privileges to download and install Solidworks and/or campus labs with Solidworks.**

The final exam for the course will be the SolidWorks Certified Associate - Mechanical Design (CSWA) exam

Fees

- Course Fee: \$80 - Used to provide software and CSWA exam vouchers and Solidworks Licensing
- Online Course fee: \$45 (\$15 / Credit)

Course Objectives

By the end of this course, you will be able to:

- Develop an understanding of objects as they are represented in the physical world (real objects), virtual world (3D computer models), and in 2D orthographic drawings (engineering drawings). Students will also begin to develop skills in modifying, designing, and improving objects throughout the three mediums.
- Develop and apply understandings of engineering graphics and standards.
- Develop the ability to create 3D CAD models and assemblies.
- Take the CSWA exam to become Solidworks certified

IDEA Objectives

1. Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course
2. Gaining a basic understanding of the subject (e.g., factual knowledge, methods, principles, generalizations, theories)

3. Developing creative capacities (**inventing, designing**, writing, performing in art, music, drama, etc.)

Instructor



Cory J. Ortiz, Ph.D.



Aviation and Technical Education

Feel free to call or text between 8 a.m. and 8 p.m. Mon - Sat

[Schedule a meeting with me](#)

Course Resources

- my.solidworks.com (<http://my.solidworks.com>)

Course Requirements

Each student will:

1. Complete the assignment submission and quiz each week by the due date
2. Complete a midterm project
3. Complete a final open-ended design project (portfolio piece)
4. Take the CSWA exam

Evaluation Methods and Criteria

This course is very competency-based, meaning that assignments are marked complete or incomplete. Your assignments will either be given full points or sent back to be redone. The quizzes in this class will allow you 5 attempts to obtain your desired score. Incorrect answers will be awarded 0 points. **A midterm will be administered near the midpoint of the class to assess student learning.** The **CSWA exam in conjunction with a final design project, will serve as a final** for this course and will be included in the grade book.

You are also welcome to resubmit any assignment for credit after the instructor evaluation. If you are not

y with your grade, please fix the assignment!

Late work: Late work will only be accepted with permission from the instructor. After permission is received, you will have one week from the original due date to submit the assignment before a penalty of

10% per day is assessed to the assignment. It is important that **you** stay on pace with the dates listed to not become completely overwhelmed at the end.

Due dates: Assignments are due at Sunday night at midnight the week the material is covered.

Grade Scheme

The below constitute grade weights for this class:

- Assignments: 50%
- Quizzes: 15%
- Exams: 15%
- Projects: 20%

The following grading standards will be used in this class:

Grade	Range
A	100 % to 93.0%
A-	< 93.0 % to 90.0%
B+	< 90.0 % to 87.0%
B	< 87.0 % to 83.0%
B-	< 83.0 % to 80.0%
C+	< 80.0 % to 77.0%
C	< 77.0 % to 73.0%
C-	< 73.0 % to 70.0%
D+	< 70.0 % to 67.0%
D	< 67.0 % to 60.0%
F	< 59.0 % to 0.0%

University Policies

Non-Attendance Policy

 **Students May Be Dropped For Nonattendance**

If a student does not attend a class during the first week of the term or by the second class meeting, whichever comes first, the instructor may submit a request to have the student dropped from the course. (***This does not remove responsibility from the student to drop courses which he or she does not plan to attend.***) This option is typically used for classes that are full and the instructor is trying to make a seat available for another student, but may be considered for other courses. Requests must be made during the first 20 percent of the course and will be considered on an individual student basis. Students who are dropped from courses will be notified by the Registrar's Office through their preferred e-mail account (see [2018-2019 General Catalog](http://catalog.usu.edu/content.php?catoid=12&navoid=3955) (<http://catalog.usu.edu/content.php?catoid=12&navoid=3955>)).

Academic Dishonesty

The instructor of this course will take appropriate actions in response to Academic Dishonesty, as defined in the University's Student Code. Acts of academic dishonesty include but are not limited to:

- **Cheating:** using, attempting to use, or providing others with any unauthorized assistance in taking quizzes, tests, examinations, or in any other academic exercise or activity. Unauthorized assistance includes:
 - Working in a group when the instructor has designated that the quiz, test, examination, or any other academic exercise or activity be done "individually;"
 - Depending on the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments;
 - Substituting for another student, or permitting another student to substitute for oneself, in taking an examination or preparing academic work;
 - Acquiring tests or other academic material belonging to a faculty member, staff member, or another student without express permission;
 - Continuing to write after time has been called on a quiz, test, examination, or any other academic exercise or activity;
 - Submitting substantially the same work for credit in more than one class, except with prior approval of the instructor; or engaging in any form of research fraud.
- **Falsification:** altering or fabricating any information or citation in an academic exercise or activity.
- **Plagiarism:** representing, by paraphrase or direct quotation, the published or unpublished work of another person as one's own in any academic exercise or activity without full and clear acknowledgment. It also includes using materials prepared by another person or by an agency engaged in the sale of term papers or other academic materials.

For additional information go to: [ARTICLE VI. University Regulations Regarding Academic Integrity](https://studentconduct.usu.edu/studentcode/article6)

 <https://studentconduct.usu.edu/studentcode/article6>

Academic Integrity – "The Honor System"

Each student has the right and duty to pursue his or her academic experience free of dishonesty. To enhance the learning environment at Utah State University and to develop student academic integrity, each student agrees to the following Honor Pledge:

"I pledge, on my honor, to conduct myself with the foremost level of academic integrity."

A student who lives by the Honor Pledge is a student who does more than not cheat, falsify, or plagiarize. A student who lives by the Honor Pledge:

- Espouses academic integrity as an underlying and essential principle of the Utah State University community;
- Understands that each act of academic dishonesty devalues every degree that is awarded by this institution; and
- Is a welcomed and valued member of Utah State University.

Disability Statement

USU welcomes students with disabilities. If you have, or suspect you may have, a physical, mental health, or learning disability that may require accommodations in this course, please contact the [Disability Resource Center \(DRC\)](http://www.usu.edu/drc/)  (<http://www.usu.edu/drc/>) as early in the semester as possible (University Inn # 101, (435) 797-2444, drc@usu.edu (<mailto:drc@usu.edu>)). All disability related accommodations must be approved by the DRC. Once approved, the DRC will coordinate with faculty to provide accommodations.

Students who are at a higher risk for complications from COVID-19 or who contract COVID-19 may also be eligible for accommodations.

Discrimination and Sexual Misconduct

General Overview

USU strives to provide an environment for students and employees that is free from [discrimination](https://www.usu.edu/equity/non-discrimination.php)  (<https://www.usu.edu/equity/non-discrimination.php>) and [sexual misconduct](https://www.usu.edu/equity/sexual-misconduct/Sexual-Misconduct-Terms.php)  (<https://www.usu.edu/equity/sexual-misconduct/Sexual-Misconduct-Terms.php>). If you experience sexual misconduct or discrimination at any point during the semester inside or outside of class, you are encouraged to contact the [USU Title IX Coordinator](https://www.usu.edu/equity/sexual-misconduct/Title-IX-Coordinator.php)  (<https://www.usu.edu/equity/sexual-misconduct/Title-IX-Coordinator.php>) via Old Main room 161 in Logan, [435-797-1266](tel:1-435-797-1266) (<tel:1-435-797-1266>), titleix@usu.edu (<mailto:titleix@usu.edu>), or at [equity.usu.edu/report](https://www.usu.edu/equity/report.php)  (<https://www.usu.edu/equity/report.php>). You can learn more about the USU resources available for individuals who have experienced sexual misconduct at [sexualrespect.usu.edu](https://www.usu.edu/sexual-respect/)  ([s://www.usu.edu/sexual-respect/](https://www.usu.edu/sexual-respect/)). Resources for individuals who have experienced discrimination are listed at [equity.usu.edu/resources](https://www.usu.edu/equity/resources)  (<https://www.usu.edu/equity/resources>).

Required Reporting of Sexual Misconduct

The instructor is designated by USU as a "[reporting employee](https://www.usu.edu/equity/sexual-misconduct/employees.php)." This means that if you share information about [sexual misconduct](https://www.usu.edu/equity/sexual-misconduct/Sexual-Misconduct-Terms.php) (sexual harassment, sexual assault, relationship violence, or sex-based stalking) with the instructor, they *will report* that information to the [USU Title IX Coordinator](https://www.usu.edu/equity/sexual-misconduct/Title-IX-Coordinator.php). The instructor is also required to tell you about [designated confidential resources](https://www.usu.edu/sexual-respect/resources.php), [supportive measures](https://www.usu.edu/equity/Supportive-Measures.php), and [how you can file a report](https://www.usu.edu/equity/report.php) with the USU Title IX Coordinator.

Grievance Process

Students who feel they have been unfairly treated may file a grievance through the channels and procedures described in the Student Code: [Article VII](https://studentconduct.usu.edu/studentcode/article7).

Mental Health

Mental health is critically important for the success of USU students. As a student, you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce your ability to participate in daily activities. Utah State University provides free services for students to assist them with addressing these and other concerns. You can learn more about the broad range of confidential mental health services available on campus at [Counseling and Psychological Services \(CAPS\)](https://counseling.usu.edu).

Students are also encouraged to download the ["SafeUT App"](https://healthcare.utah.edu/uni/programs/safe-ut-smartphone-app) to their smartphones. The SafeUT application is a 24/7 statewide crisis text and tip service that provides real-time crisis intervention to students through texting and a confidential tip program that can help anyone with emotional crises, bullying, relationship problems, mental health, or suicide-related issues.

Land Acknowledgement Statement

 As a land-grant institution, Utah State University campuses and centers reside and operate on the territories of the eight tribes of Utah, who have been living, working, and residing on this land from time

immemorial. These tribes are the Confederated Tribes of the Goshute Indians, Navajo Nation, Ute Indian Tribe, Northwestern Band of Shoshone, Paiute Indian Tribe of Utah, San Juan Southern Paiute, Skull Valley Band of Goshute, and White Mesa Band of the Ute Mountain Ute. We acknowledge these lands carry the stories of these Nations and their struggles for survival and identity. We recognize Elders past and present as peoples who have cared for, and continue to care for, the land. In offering this land acknowledgment, we affirm Indigenous self-governance history, experiences, and resiliency of the Native people who are still here today.

Online Course Fee

\$15 per credit course fee is applied to all online courses to sustain current digital technologies and support services required for engaging and effective online learning.

Withdrawal Policy and "I" Grade Policy

Students are required to complete all courses for which they are registered by the end of the semester. In some cases, a student may be unable to complete all of the coursework because of extenuating circumstances, but not due to poor performance or to retain financial aid. The term 'extenuating' circumstances includes: (1) incapacitating illness which prevents a student from attending classes for a minimum period of two weeks, (2) a death in the immediate family, (3) financial responsibilities requiring a student to alter a work schedule to secure employment, (4) change in work schedule as required by an employer, or (5) other emergencies deemed appropriate by the instructor. See [Adding and Dropping Classes](https://www.usu.edu/registrar/registration/after/add-drop)  (<https://www.usu.edu/registrar/registration/after/add-drop>) for more information.

USU Course Policies:

[Appropriate Use of Canvas and Other IT Resources \(https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#appropriate\)](https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#appropriate)

[Academic Freedom and Professional Responsibilities \(https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#freedom\)](https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#freedom)

[Academic Integrity - "The Honor System" \(https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#integrity\)](https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#integrity)

 [Academic Dishonesty \(https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#dishonesty\)](https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#dishonesty)

[Discrimination and Sexual Misconduct \(https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#misconduct\)](https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#misconduct)

[Withdrawal Policy and “I” Grade Policy \(https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#policy\)](https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#policy)

[Students with Disabilities \(https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#disabilities\)](https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#disabilities)

[Students Who are Pregnant or Have a Pregnancy-related Condition \(https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#pregnant\)](https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#pregnant)

[Inclusive Excellence \(https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#excellence\)](https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#excellence)

[Grievance Process \(https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#grievance\)](https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#grievance)

[Full Details for USU Academic Policies and Procedures \(https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#details\)](https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#details)

[Emergency Procedures \(https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#emergency\)](https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#emergency)

[General Health Protocols \(https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#general\)](https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#general)

[Mental Health \(https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#mental\)](https://www.usu.edu/teach/help-topics/teaching-tips/syllabus-resources#mental)

Course Summary:

Date	Details	Due
Mon Aug 29, 2022	 Tips for Success	to do: 11:59pm
	 Week 1: Introduction and MySolidworks	to do: 11:59pm
Fri Sep 2, 2022	 Check Your Understanding (https://usu.instructure.com/courses/711951/assignments/3707449)	due by 11:59pm
	 Introduction (https://usu.instructure.com/courses/711951/assignments/3707451)	due by 11:59pm
Sun Sep 4, 2022	 Week 1: Assignment 1 (https://usu.instructure.com/courses/711951/assignments/3707465)	due by 11:59pm



Date	Details	Due
Mon Sep 5, 2022	 Week 2: 2D Sketching in Solidworks	to do: 11:59pm
	 Week 3: Materials Properties and 3D Basics	to do: 11:59pm
Sun Sep 11, 2022	 Week 2: Quiz https://usu.instructure.com/courses/711951/assignments/3707447	due by 11:59pm
	 Week 2: Assignments https://usu.instructure.com/courses/711951/assignments/3707466	due by 11:59pm
Sun Sep 18, 2022	 Week 3: Quiz https://usu.instructure.com/courses/711951/assignments/3707446	due by 11:59pm
	 Week 3: Assignments https://usu.instructure.com/courses/711951/assignments/3707467	due by 11:59pm
Mon Sep 19, 2022	 Week 4 and 5: 3D Modeling	to do: 11:59pm
Sun Oct 2, 2022	 Week 4 and 5: Quiz https://usu.instructure.com/courses/711951/assignments/3707445	due by 11:59pm
	 Week 4 and 5: Assignment 4 https://usu.instructure.com/courses/711951/assignments/3707468	due by 11:59pm
Mon Oct 3, 2022	 Weeks 6 and 7: Multi-view Drawings	to do: 11:59pm
Sun Oct 16, 2022	 Week 6: Quiz https://usu.instructure.com/courses/711951/assignments/3707450	due by 11:59pm
	 Final Project Pitch https://usu.instructure.com/courses/711951/assignments/3790205	due by 11:59pm
	 Week 6 & 7: Assignment 5 https://usu.instructure.com/courses/711951/assignments/3707469	due by 11:59pm
	 Week 6 & 7: Assignment 6 https://usu.instructure.com/courses/711951/assignments/3707470	due by 11:59pm



Date	Details	Due
Mon Oct 17, 2022	 Week 8: Midterm	to do: 11:59pm
Sun Oct 23, 2022	 Midterm (https://usu.instructure.com/courses/711951/assignments/3707448)	due by 11:59pm
Mon Oct 24, 2022	 Week 9 - Advanced Modeling	to do: 11:59pm
Sun Oct 30, 2022	 Assignments Week 9 (https://usu.instructure.com/courses/711951/assignments/3707455)	due by 11:59pm
Sun Nov 6, 2022	 Assignments: Week 10 (https://usu.instructure.com/courses/711951/assignments/3707453)	due by 11:59pm
Mon Nov 7, 2022	 Weeks 12-14	to do: 11:59pm
Sun Nov 13, 2022	 Assignments Week 11 (https://usu.instructure.com/courses/711951/assignments/3707454)	due by 11:59pm
Sun Nov 20, 2022	 CSWA Exam Prep (https://usu.instructure.com/courses/711951/assignments/3707456)	due by 11:59pm
Mon Nov 21, 2022	 CSWA Exam Instructions	to do: 11:59pm
Fri Dec 2, 2022	 End of Class Survey (https://usu.instructure.com/courses/711951/assignments/3707458)	due by 11:59pm
Fri Dec 2, 2022	 Week 15: Submit <u>mysolidworks.com page (EXTRA CREDIT)</u> (https://usu.instructure.com/courses/711951/assignments/3707464)	due by 11:59pm
Sun Dec 4, 2022	 Final Exam CSWA	to do: 11:59pm
Sun Dec 4, 2022	 Final Project (https://usu.instructure.com/courses/711951/assignments/3707460)	due by 11:59pm
Fri Dec 9, 2022	 Final Project Presentation (https://usu.instructure.com/courses/711951/assignments/3707452)	due by 11:59pm



Date	Details	Due
Fri Dec 16, 2022	 CSWA Final Exam (https://usu.instructure.com/courses/711951/assignments/3707457)	due by 11:59pm
	 Assembly Configurations (https://usu.instructure.com/courses/711951/assignments/3722650)	
	 Configurations using Design Tables (https://usu.instructure.com/courses/711951/assignments/3722651)	
	 Connecting Rod Animation (https://usu.instructure.com/courses/711951/assignments/3722645)	
	 Connecting Rod Assembly (https://usu.instructure.com/courses/711951/assignments/3722646)	
	 Exploded View (https://usu.instructure.com/courses/711951/assignments/3722652)	
	 Extra Credit (Submit Errors Here) (https://usu.instructure.com/courses/711951/assignments/3707459)	
	 Gripper Assembly (https://usu.instructure.com/courses/711951/assignments/3722647)	
	 Interference Detection (https://usu.instructure.com/courses/711951/assignments/3722653)	
	 Scissor Lift Assembly (https://usu.instructure.com/courses/711951/assignments/3722648)	
	 Section View (https://usu.instructure.com/courses/711951/assignments/3722643)	
	 The Speed Reducer Assembly (https://usu.instructure.com/courses/711951/assignments/3722654)	
	 Using Assemblies in the Real World (https://usu.instructure.com/courses/711951/assignments/3722644)	



Date

Details

Due

 [Wheel Linkage Assembly](https://usu.instructure.com/courses/711951/assignments/3722649)
(<https://usu.instructure.com/courses/711951/assignments/3722649>)

