

Syllabus Fall 2023

CAD – 1202 -350, Civil Applications of CAD

Instructor: Mary Smith

Office: E321

Phone: (815) 224 - 0520

Email: Mary_smith@ivcc.edu

Text: Fundamentals of Autodesk Civil 3D 2023, SDC Publications

Class Meetings: IVCC's Oglesby Campus, CTC 119, Thursday afternoons, 4pm – 6:40pm

Course Description:

This course introduces the CAD technician to civil applications. Emphasis is placed upon preparing survey plats and topographical drawings from surveyor coordinates. Students will be expected to attend scheduled class meetings, to read the assigned chapters in the textbook, review the instructional materials provided in the class Brightspace, and complete a series of weekly assignments over the course of the semester.

Students will be required to complete weekly Civil CAD drawings and a working knowledge of Autocad 2D will be helpful. Autodesk Civil 3D 2023 is available to students in the in the CAD lab and may also be downloaded from the Autodesk site for free for all students enrolled at IVCC.

Institutional Learning Outcomes

ILO#2 - Inquiry

To apply critical, logical, creative, aesthetic, or quantitative analytical reasoning to formulate a judgment or conclusion.

Expected Learning Outcomes and Related Competencies:

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

1. Demonstrate proficiency with Autodesk Civil 3D Software workspace.
2. Develop and draw plot plans of property plats using the metes and bounds and rectangular systems of legal descriptions.
3. Manage and import survey data to create drawing objects and surfaces within Civil 3D software.
4. Calculate plot azimuths and bearings.

5. Construct contour map profiles, level drawings, highway layouts and plan and profile drawings.
6. Create subdivision drawings with summaries of property types, sizes, and parcel numbers.
7. Create cut and fill summaries for grading projects.
8. Demonstrate proficiency in developing pipe network drawings.

Assessment:

Students will be assessed with three-unit tests and a final exam on their understanding of the software and standards for the industry. Weekly assignments will be used to assess the student's proficiency with the software. The student's final grade will be calculated based on the listing of assignments and tests below.

Course Grade Calculation

Grading Components	Score	Quantity	Subtotal
Unit Tests	100 pts	3	300 points
Autodesk Civil 3D Drawing Projects	25 pts	12	300 points
Final Exam	150 pts	1	150 points
Discussions	5 pts	5	25 points

Letter Grade

Total Points Earned	Letter Grade
Greater than 697	A
Greater than 620	B
Greater than 542	C
Greater than 465	D
Less than 465	F

Plagiarism / Dishonesty Policy: It is permissible to assist fellow students with laboratory assignments by answering questions and demonstrating the use of the CAD software, however any instances of copying drawing assignments will be considered plagiarism and result in disciplinary action. Any occurrence of cheating or plagiarism will result in disciplinary action as deemed appropriate by the instructor and may result in an automatic failing grade for the course.

Late Work: Late work may receive a penalty of 10% of the grade for each week it is late at the discretion of the instructor.

Drop Policy: Students wishing to drop the class will have to initiate the procedure. At the semester end, if a student has not dropped and has not completed the course requirements, a grade of F will be given. Final drop date is **November 3rd**. Please check with a counselor before dropping as it may affect your **Financial Aid** status

Special Needs: If you have a learning difference, there is help at IVCC. If ADHD, a learning disability, Autism Spectrum Disorder, mobility impairment, chronic medical condition, sensory deficit like low vision/blindness or hearing loss/deafness, or psychiatric disability (anxiety, depression, bipolar disorder, post-traumatic stress, and others) limits your ability to fully access and/or participate in this course, please contact Tina Hardy (tina_hardy@ivcc.edu, or 224-0284), or stop by the Center for Accessibility and Neurodiversity in C-211 to see what type of services or supports are offered.

Tentative Schedule

Date	Topic	Reading Assignments	Assignments
Week One	Chapter One – Introduction to Autodesk Civil 3D	Chapter One	Chapter One Practice Activities – 1a and 1b
Week Two	Chapter Two – Survey, Points and Linework	Chapter Two	Practice Activities – Chapter 2a thru 2e

Week Three	Chapter Three - Surfaces	Chapter Three	Practice Activities Chapter 3a thru 3d and Discussion question
Week Four	Review Chapters One thru Three		Quiz One
Week Five	Chapter Four - Alignments	Chapter Four	Practice Activities Chapter 4a thru 4c
Week Six	Chapter Five - Profiles	Chapter Five	Practice Activities Chapter 5a thru 5b
Week Seven	Chapter Six - Corridors	Chapter Six	Practice Activities Chapter 6a and 6c, and Discussion question
Week Eight	Chapter Six - Corridors - (continued)	Chapter Six	Practice Activities Chapter 6d and 6f, and Discussion question
Week Nine	Review Chapters Four thru Six		Quiz Two
Week Ten	Chapter Seven - Grading	Chapter Seven	Practice Activities Chapter 7a thru 7c
Week Eleven	Chapter Eight – Pipe Networks	Chapter Eight	Practice Activities Chapter 8a thru 8d
Week Twelve	Chapter Nine – Project Explorer	Chapter Nine	Practice Activities Chapter 9a thru 9c
Week Thirteen	Chapter Ten – Plan Production	Chapter Ten	Practice Activities Chapter 10a,10b and 10c
Week Fourteen	Review Chapters Seven thru Ten		Quiz Three

Week Fifteen	Chapter Eleven – Styles and Settings	Chapter Eleven	Practice Activities 11a thru 11c
Week Sixteen	Chapter Thirteen -Parcels	Chapter Thirteen	Practice Activities 13 a and 13bFinal Exam