Syllabus Fall 2022

CAD – 1202 -100, Civil Applications of CAD

Instructor: Mary Smith
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Text: Fundamentals of Autodesk Civil 3D 2021, SDC Publications

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 work independently to read the assigned chapters in the textbook, review the instructional materials provided in Blackboard, 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 2021 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.

This course is delivered completely online. All assignments, course materials, and quizzes will be posted to the course Blackboard. Students should expect to login to Blackboard at least twice a week to review instructional content and complete assignments. Students must successfully complete the IVCC online orientation course to participate in this course.

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

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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 2nd**. 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	Discussion Board Assignment and Chapter One Practice Activities – 1a,1b, and 1c
Week Two	Chapter Two - Survey	Chapter Two	Practice Activities – Chapter 2a thru 2c - with modifications per instructor notes
Week Three	Chapter Two – Survey Continued	Chapter Two	Practice Activities -Chapter 2d thru 2g - with modifications

			per instructor notes
Week Four	Chapter Three - Surfaces	Chapter Three	Practice Activities Chapter 3a thru 3d and Discussion question
Week Five	Review Chapters One thru Three		Quiz One
Week Six	Chapter Four – Project Files	Chapter Four	Practice Activities Chapter 4a thru 4c
Week Seven	Chapter Five - Parcels	Chapter Five	Practice Activities Chapter 5a thru 5c
Week Eight	Chapter Six - Alignments	Chapter Six	Practice Activities Chapter 6a and 6c, and Discussion question
Week Nine	Review Chapters Four thru Six		Quiz Two
Week Ten	Chapter Seven - Profiles	Chapter Seven	Practice Activities Chapter 7a thru 7c
Week Eleven	Chapter Eight - Corridors	Chapter Eight	Practice Activities Chapter 8a thru 8d
Week Twelve	Chapter Nine - Grading	Chapter Nine	Practice Activities Chapter 9a thru 9c
Week Thirteen	Chapter Ten – Pipe Networks	Chapter Ten	Practice Activities Chapter 10a,10b and 10d
Week Fourteen	Review Chapters 7 thru Ten		Quiz Three
Week Fifteen	Chapter Eleven - Plan Production	Chapter Eleven	Practice Activity 11a thru 11c
Week Sixteen	Chapter Twelve and review	Chapter Twelve	Final Exam