Course Information Form (CIF)

Course Code: CAD 232

Course Title: Civil Survey CAD Applications

Department: Applied Sciences and Technologies
PCS Code: 1.2 - Occupational/Technical Instruction
CIP Code: 15.1302
Repeatability: 0

Effective Date: Summer 2026

Credit Hours

Catalog Notation: 2-1-2
Credit Hour Distribution:

Lecture: 2	Lab: 1	Clinical: 0	**Total: 2**

General Course Information

Catalog Description

Advanced computer-aided drafting using MicroStation and OpenRoads software. Includes survey data acquisition and processing, terrain models, highway geometry, and corridor modeling.

General Course Objectives

Enable the students to use Microstation and OpenRoads to prepare surveying and civil construction designs.

Minimum Placement Levels

English	Reading	Math
None	None	None

Prerequisites

Credit in CAD 132

Recommended before enrolling (not required):
Credit in CIT 130

Methods of Evaluation

Students will be assigned at least 8 design-oriented assignments.

Instructional Materials and Additional Supplies

None.

Course Content

General Learning Outcomes (GLOs)

- Technology: Students will demonstrate the ability to evaluate, select, and appropriately use current and emerging tools.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Simple 2D Roadway Design Using MicroStation	1. Create simple 2D roadway plans using MicroStation.	4	1	0
Understand OpenRoads Technology	1. Demonstrate basic skills using OpenRoads Technology, immersive modeling, parametric design, and design intent.	6	4	0
Survey Operations Using OpenRoads Survey	1. Import, review, and edit raw survey data using OpenRoads Survey. 2. Create Terrain Models from previously imported Survey data.	10	5	0
Roadway Design Using OpenRoads Technology	1. Use the software to set up working files, attach existing ground terrain and aerial imagery, and define horizontal and vertical geometry. 2. Additionally, model the roadway corridor and review the 3D corridor model.	10	5	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
30	15	0