

Springfield Technical Community College
Academic Affairs

Course Number: CET- 151 Class/Lect. Hours: 2 Lab Hours: 2 Credits: 4 Dept.: Civil Engineering Technology

Course Number Title: CAD/BIM for Construction Semester: Fall Year: 2020

Course Description, Prerequisite, Corequisite: An introduction to visualization and communication tools commonly used in engineering and construction, including AutoCAD, Sketch-Up, and Revit Architecture. Students will learn the basics of using software to produce plans, sections, elevations, profiles, cross-sections, topography, and details for a range of horizontal and vertical construction projects.

OBJECTIVES/COMPETENCIES

Course Objectives	Competencies
Apply and utilize CAD/BIM for all phases of the engineering design and construction process	<ul style="list-style-type: none"> ▪ Develop awareness of digital design for civil engineering and construction and drafting nomenclature with a focus on industry standards ▪ Understand the power and precision of computer-aided design, drafting, and modeling for engineering and construction ▪ Develop awareness of Building Information Modeling (BIM) principles for the design and construction process ▪ Construct accurate 2D geometry as well as complex 3D shapes and objects ▪ Visualize engineering and construction assemblies and structures in three-dimensional presentation ▪ Create 2D representations of 3D objects in plan view, elevations and sections ▪ Manipulate computer models in three-dimensional building information modeling (BIM) software ▪ Assemble drawings in industry-standard plan form and produce plotted hard copies and PDFs ready for distribution