

CIVIL TECHNOLOGY, Associate in Applied Science Degree - 4720

Engineering & Technology Department

The Civil Technology AAS program introduces students to the basics of CAD drafting and design in the following areas of civil engineering: highway, land development, drainage, erosion and sedimentation control, and surveying. In addition, students gain the skills necessary to write specifications and assist in preparing reports, permits, cost estimates, project documentation, and presentations. The complete program is only available at the Harrisburg Campus.

Career Opportunities

Graduates of this program are trained to work as technicians, engineering technicians, designers, and CAD operators in the civil engineering field. The program prepares students for positions with surveying companies or as members of surveying crews.

Competency Profile

This curriculum is designed to prepare students to:

- Use AutoCAD, CAD Civil 3D, and MicroStation CAD software in the civil engineering environment
- Function as members of a crew performing surveying operations and processing data
- Layout an engineer’s conceptual highway design and create horizontal and vertical alignment
- Design commercial and residential building sites under the supervision of an engineer
- Interpret the major laws and codes that govern the practice of civil engineering, architecture, and surveying
- Draw boundary surveys
- Draft and design horizontal curves and vertical curves and operate a CAD station efficiently
- Develop contour plans, profiles, cut and fill, and cross sections
- With supervision, prepare drainage design for storm sewers, culverts, and outfall protection
- Develop erosion and sedimentation control plans with the assistance of an engineer
- Write specifications and prepare cost estimates for highway and land development projects
- Utilize PennDOT Design Manuals for highway design and plan presentation
- Apply design basics for storm water management, utilities, parking, contours, plans, and profiles
- Write and speak effectively

PROGRAM REQUIREMENTS (TOTAL CREDITS = 60)

General Education		Major Requirements		Other Required Courses	
ENGL 101 English Composition I (or)	3	ARCH 130 Construction Materials & Methods	3	Open Elective	3
ENGL 104 Technical Writing	(3)	ARCH 214 Site Planning	3		
ENGL 110 Foundations of Professional Writing	(3)	BCT 217 Construction Project Management	3		
COMM 101 Effective Speaking	3	CAD 130 Civil Engineering Drawing	3		
Humanities & Arts Elective	3	CVTE 103 Surveying I	3		
Mathematics or Science Elective	3	CVTE 107 Civil Plan Reading	3		
Social & Behavioral Sciences Elective	3	CVTE 207 Drainage Design	3		
First Year Seminar – ENGR 102	2	CVTE 212 Intro to Transportation & Environmental Engr	3		
Wellness	1	CVTE 213 Capstone Project	3		
	18	GIS 141 Introduction to Geospatial Technology	3		
		GTEC 104 Engineering Materials & Processes	3		
		MGMT 227 Project Management	3		
		SET 201 Intro to Structural Engineering Technology	3		
			3		
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RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part-time students can complete this program by taking one or more course each semester.

Fall Semester I	Spring Semester I	Summer I	Fall Semester II	Spring Semester II
CAD 130	3 ARCH 130	3 CVTE 103	3 ARCH 214	3 CVTE 207
COMM 101	3 BCT 217	3	3 CVTE 212	3 CVTE 213
CVTE 107	3 GIS 141	3	3 MGMT 227	3 Humanities/Arts Elective
ENGL 101, 104 or 110	3 GTEC 104	3	3 Open Elective	3 Math/Science Elective
ENGR 102	2 Social/Behavioral Science Elective	3	3 SET 201	3
Wellness	1			