

# *Civil Engineering Technology*

## **Surveying & Materials Testing**

www.dtcc.edu • Delaware Technical & Community College

*The Civil Engineering Technology is one of the broadest fields in the overall practice of engineering. Civil engineering technicians help to design and construct highways, bridges, pipelines, dams, tunnels, structural systems, and a lot more. You will find this program valuable if you want to be involved in the surveying, layout, construction, material testing, inspecting, scheduling, coordinating, and supervising of engineering projects.*

### **What You'll Learn...**

- Solving problems in a logical, systematic way
- Drafting and how to use computer-aided drafting
- Reading and interpreting engineering drawings
- Performing surveys to gather data or layout for a construction project
- Performing standard tests and inspections on various materials
- Interpreting and applying reference and technical information
- Preparing estimates and specifications

### **What You'll Earn...**

- A competitive salary with excellent opportunities for advancement
- A wide array of employment opportunities in departments of natural resources or transportation; material testing laboratories; or civil, surveying, or consulting engineering firms
- The opportunity to broaden and advance your skills in new areas
- The opportunity to practice your profession and, in time, qualify to take a licensing examination to become a registered surveyor or engineer

### **Why You'll Succeed...**

- Many of the higher paying jobs, now and in the future, will be in a technical career field requiring an education beyond high school
- Employees with degrees tend to be more eligible for promotion\*
- Associate degree holders generally earn more than high school graduates\*
- College credit may be awarded for relevant work experience
- Many credits from an Associate Degree may be applied toward a Bachelor Degree

*\*Statistics from U.S. Department of Commerce, Bureau of Census*

# Civil Engineering

You can enroll in the Civil Engineering Technology on either a full-time or part-time basis. The length of time required to complete an Associate Degree depends on the number of courses you take each semester. Some students may need refresher courses at the basic or pre-tech level; others may receive transfer credit or credit for work experience. Delaware Tech operates on a semester system with new terms beginning in late August and mid-January, plus summer terms beginning at the end of May and in mid-June. You can start taking courses any semester or summer term; however, all technical courses may not be offered every term. A diploma program is also available in this technology.

## Required Technical Courses

**Surveying Theory & Practice** emphasizes use of equipment and its practical applications.

**Route Surveying & Design** studies the fundamental principles of highway design and layout.

**Boundary Surveying and Law** emphasizes the legal principles and field procedures associated with land surveying.

**Topographic Drafting & Mapping** covers the skills needed to draw plots, profiles, contours, site plans, cut and fill, subdivisions and more.

**Soils** introduces the basic principles of soil engineering with emphasis on lab and field testing.

**Concrete & Asphalt** presents the practical knowledge of portland cement, concrete, and bituminous materials; emphasis is placed on lab and field testing.

**Hydraulics & Hydrology** covers the basic principles of hydrology to include rainfall runoff and drainage.

**Statics & Strength of Materials** presents the fundamental principles dealing with the analysis of forces acting on rigid bodies in static equilibrium.

**Cost Estimating & Planning** includes the preparation of material lists and take-off quantities from plans and working drawings.

**Contracts and Specifications** studies the interpretation and preparation of specification and other construction documents, along with the legal implications.

**CAD** presents a comprehensive hands-on knowledge of computer-aided drafting as it applies to the civil engineering field.

**Construction Materials & Methods** covers construction materials and methods as they relate to the overall building industry.

## Related Courses

Algebra & Trigonometry I & II

Social Science Electives

Science Electives

Technical Electives

Oral Communications or

Technical Writing & Communication

Composition

## Getting Started

1. Obtain an application by calling (302)857-1020. Complete and return to Terry Campus with a \$10 application fee.
2. Take the College Placement Test (CPT) *unless college-level math, reading, and English courses have been completed with a "C" grade or better*. The CPT will determine appropriate placement and is scheduled by the Admissions Office.
3. Request that high school and/or college transcripts be sent to the Admissions Office.
4. Meet with a Delaware Tech counselor to discuss CPT results.
5. Meet with advisor to plan schedule.
6. Apply and register early for the best selection of courses.

## Standards of Excellence

❖ Over 90% of technology graduates are working in their career field