
Bachelor of Science in

Civil Engineering Technology

The goals of the civil engineering technology program are to provide quality undergraduate studies, prepare students to enter professional careers and graduate study, and find employment in their field after graduation. This program values and encourages academic and intellectual achievement of the highest quality and the technical competencies inherent to the field of civil engineering technology. The faculty is committed to the integration of these elements in a coherent program of higher education.

Civil engineering technology students may choose one or more emphases in transportation, structural, or construction. Students study a diversity of topics including structural analysis and design, water and waste water systems, highway planning and design, and construction administration. Other courses include hydrology and hydraulics, construction estimating and scheduling, finite element analysis, advanced steel design, and advanced concrete structures.

Civil Engineering Technology is accredited by the Technology Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012 - telephone: (410) 347-7700. In January 2005, the American Society for Engineering Educators (ASEE) ranked SUNYIT tenth in the nation based on the number of engineering technology bachelor's degrees awarded.

Areas of Emphasis

Graduates of the program earn six years of education/experience credit towards licensure in New York State as a Professional Engineer. After graduation, they are eligible to register for the next offering of Part A of the Professional Engineering examination, Fundamentals of Engineering. Structural, transportation and construction are the primary areas of emphasis.

Structural

Students choosing the structural emphasis are most often employed by engineering design firms, by design/build construction firms, or by local, state and federal governments. Coursework is provided in areas of structural analysis, building/ structural design, conceptual to final design projects, and finite element analysis.

Transportation

Students choosing the transportation emphasis are most often employed by county or city highway departments, by state or federal departments of transportation or by road/bridge construction contractors. Coursework is provided in structural analysis, transportation planning, design of roadways, and drainage design.

Construction

Students choosing the construction emphasis are most often employed by design/build firms, construction contractors, and by local, state and federal agencies. Course work is provided in project scheduling and estimating, project administration, construction methods and structural analysis.

CAD Proficiency

Success in the Engineering Technology field is strongly dependent on a proficiency in computer aided drafting (CAD). Many of our graduating students will be actively involved with CAD or will work directly with those who are. To ensure a minimum level of proficiency, all students are required to pass a CAD Test to graduate. CAD proficiency may be in either AutoCAD or Microstation.

Civil Laboratories

Civil laboratories are heavily computerized. Students entering the program are expected to have basic skills in word processing, spreadsheets, computer aided drafting, and the use of the internet. Labs encompass all aspects of civil engineering technology and the computer applications which represent industry standards. Laboratories are PC-based networks running applications in AutoCAD, Microstation, RAM Structural System, InRoads, Haestad Methods, Microsoft Project and Primavera Project Planner.

Admission

Transfer of Semester Hours

1. Students must submit to the director of admissions official transcripts of any college courses they wish to have evaluated for transfer of semester hours.
2. A cumulative GPA of 2.75 is required for admission. Prospective students with a lower GPA may be considered on an individual basis.
3. Only courses with a minimum grade of "C" are considered for transfer.



B.S. Degree Requirements

To earn a bachelor of science (B.S.) degree in civil engineering technology, a student must complete a minimum of 128 credit hours and fulfill the following requirements:

I. Arts and Science (60 credits)

A. Mathematics and Science (24 credits)

Calculus I
 Calculus II
 Calculus-Based Math Elective
 Physics I (Lab)
 Physics II (Lab)
 Chemistry (Lab)
 Math/Science Electives (Balance of 24 credits)

B. Liberal Arts and Communications (24 credits)

Oral Communication
 Basic Communication
 Upper Division Written Communication
 Social Science*
 American History*
 Western Civilization*
 Other World Civilizations*
 Humanities*
 Arts*
 Foreign Language*
 Liberal Arts Elective (Balance of 24 credits)
 *Complete at least five out of the above seven categories.

C. Computer Programming Language (3 credits)

D. Arts and Science Electives
 (Balance to bring the total of A, B, C, and D to 60 credits)

II. Technical Courses (54 credits)

A. Required Core

Introduction to Engineering Technology (CTC 101)	2
Statics (CTC 218)	2
Strength of Materials (CTC 222)	2
Engineering Graphics (CTC 212,213, MTC 162)	2
Elementary Surveying (CTC 250)*	3
Soils and Foundations (CTC 255)*	3
Steel or Concrete Design (CTC 422 or 424)	3
Hydrology (CTC 260)	2
Hydraulics (CTC 261)	2
Transportation (CTC 340 or 440)	3
Professionalism in the Workplace (CTC 301)	2
Structural Analysis (CTC 320)	4
Water and Wastewater Systems (CTC 450)	4
Economic Analysis in Technology (CTC 475)	4
Capstone Design (CTC 490)	3

*Offered at Mohawk Valley Community College through the "Mohawk Valley College Consortium Agreement"



Select One Emphasis

Structural (12 credits minimum)

Core Courses (8 credits)
 Design of Steel Structures (CTC 422)
 Design of Concrete Structures (CTC 424)

Required Elective (Minimum 4 credits)
 Upper Level Civil Engineering (CTC XXX)
 Technology Elective

Transportation (12 credits minimum)

Core Courses (8 credits)
 Transportation Analysis (CTC 340)
 Highway Design (CTC 440)

Required Elective (Minimum 4 credits)
 Upper Level Civil Engineering (CTC XXX)
 Technology Elective

Construction (12 credits minimum)

Core Courses (8 credits)
 Construction Estimating and Scheduling (CTC 415)
 Construction Administration (CTC 470)

Required Elective (Minimum 4 credits)
 Upper Level Civil Engineering (CTC XXX)
 Technology Elective

Civil Tech Electives (Balance of 54 credits)

III. Open Electives (Balance of 128 credits)

128 Total Credits