



**Part-Time Pathway to Success**

School of Manufacturing, Engineering, and Information Technology

**Civil Engineering Technology-Highway Technology (10-607-4)**

Associate of Applied Science

**Effective 2020/2021**

*The course sequence shown on this sheet is the recommended path to completion. Courses will be scheduled in the terms indicated here. All courses should be taken in the order shown to help you stay on track and graduate according to your academic plan.*

**I-E = iMET Center/evenings, E-E = Elkhorn Campus/evenings, F=Fall, S=Spring, SU=Summer**

Term	Course #	Cr.	Course Title	Requisites (prereq- before/ coreq-with)	I-E	E-E
1	890-155	1	📍 Gateway to Success (G2S)		F+	F
1	*607-141	2	📍 Construction Basics <sup>3,6</sup>		F	F
	<b>OR</b>	<b>2</b>	<b>OR</b>			
	*607-103		📍 Introduction to Civil Engineering & Architecture <sup>3,6</sup>			
1	*607-104	3	📍 Building Material & Construction Method <sup>3</sup>		F	F
1	804-135	3	📍 Quantitative Reasoning <sup>1</sup>	Prereq: 834-109	F+	F
	<b>OR</b>	<b>5</b>	<b>OR</b>			
	804-115		📍 College Technical Math 1 <sup>1</sup>	Prereq: 834-110		
1	*607-169	2	📍 Surveying Basics <sup>3</sup>		F	F
2	*607-102	2	📍 Conflict Resolution in CET <sup>3,6</sup>		S	S
2	607-129	2	📍 Future Trends in Construction Science <sup>3</sup>	Prereq: 607-104; 607-141; 607-169	S	S
2	*607-139	4	📍 Material Testing and Inspection <sup>3</sup>	Prereq: 607-104	S	S
3	*607-132	3	📍 Structural Mechanics <sup>3</sup>	Prereq: 804-135	SU	SU
3	*607-187	2	📍 3D CAD: Digital Terrain Modeling <sup>3</sup>		SU	SU
3	801-136	3	📍 English Composition 1 <sup>1,6</sup>	Prereq: 831-103 OR 831-107	SU+	SU
4	*607-127	3	📍 Civil Engineering Drafting <sup>3</sup>	Prereq: 607-187; 801-136	F	F
4	*607-173	3	📍 Surveying Fundamentals <sup>3</sup>	Prereq: 607-169; 607-187; 804-135	F	F
4	607-189	2	📍 Geospatial Data Processing <sup>3</sup>	Prereq: 607-169	F	F
5	*607-128	3	📍 Construction Estimating <sup>3</sup>	Prereq: 804-135; Coreq: 801-136	S	S
5	*607-154	2	📍 Sewer and Water Systems <sup>3</sup>	Prereq: 607-104; 804-135	S	S
5	801-197	3	📍 Technical Reporting	Prereq: 801-136	S+	S
6	*614-150	2	📍 3D CAD: Building Information Modeling <sup>3</sup>		SU	SU
6	809-195	3	📍 Economics	Prereq: 838-105 OR 831-107	SU+	SU
6	809-198	3	📍 Psychology, Introduction to <sup>1,5,6</sup>	Prereq: 838-105 OR 831-107	S+	S
7	*607-117	2	📍 Geographical Information Systems I <sup>3</sup>		F	F
7	*607-136	2	📍 Construction Project Management <sup>3</sup>		F	F
7	*607-170	2	📍 AutoCAD for Construction Science <sup>3,6</sup>		F	F
8	*607-150	4	📍 Survey Construction/ Route/ Highway <sup>3</sup>	Prereq: 607-173; 801-136	S	S
8	*607-166	1	📍 Capstone: CET-Highway Technology <sup>3</sup>	Prereq: Instructor Consent Coreq: 607-150; 607-154	S	S
8	614-102	2	📍 Construction Project Management 2 <sup>3</sup>	Prereq: 607-136	S	S
8	*614-138	1	📍 3D Modeling and Virtualization <sup>3</sup>	Prereq: 614-150; 607-187	S	S

**Minimum Program Total Credits Required: 65**

Notes associated with courses (identified by a superscript number at the end of the course title) are located on the back of the sheet.

📍 Mastery of this course will put students on a path to achieve successful degree completion, on-time graduation, and enrich the college experience. Students are required to take this course in their first semester of enrollment. Please see an advisor for details

📍 = Milestone Course. Faculty have identified this course as providing a strong foundation for success throughout the program.

(\*) indicates students must achieve a combined average of 2.0 ("C") or above for these major courses to meet graduation requirements.

(+) indicates students may take these courses at any one of the three main campuses; Kenosha, Racine, or Elkhorn.

## **Civil Engineering Technology – Highway Technology (10-607-4)**

*Civil Engineering Technology – Highway Technology* focuses on a wide variety of aspects within the profession of Civil Engineering – beginning with surveying, transitioning into design, and resulting in construction. The first year classes are mostly the same for programs in the Construction Sciences Group (see Note 6). Basic skills are developed and students are exposed to all areas of the various professions. This allows the student to be able to understand and communicate across the professions, plus it allows the student to discover what area they really enjoy working in. The 2nd year focuses on aspects specific to Highway and Public Works. The program is designed as a fusion of education and application; hence all the core classes are tied to real world experiences with a significant influx of participation from potential future employers. Some students use this program as a place to prepare themselves to transfer to a four-year university. Most, however, use this program as a means to develop the skills that allow them to obtain a productive career in various aspects of Highway Technology.

### **Program Learning Outcomes**

Graduates will be able to:

1. Utilize graphic techniques to produce engineering drawings.
2. Conduct standardized field and laboratory testing on civil engineering materials.
3. Utilize modern surveying methods for land measurements and/or construction layout.
4. Estimate material quantities and costs for civil engineering projects.
5. Utilize geometric elements to develop corridors.
6. Design storm systems to meet given design requirements.
7. Determine forces and stresses in elementary structural systems.
8. Employ productivity software to solve technical problems.

### **Essential Career Competencies**

Gateway's six essential career competencies are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will develop skills in:

- Communication
- Professionalism and Career Management
- Cultural Competence
- Critical Thinking and Problem Solving
- Teamwork and Collaboration
- Technology Competence

### **Admission Requirements**

1. Students must submit an application and pay \$30 fee.
2. Students must meet one of the following: minimum high school GPA of 2.6, minimum college GPA of 2.0, or complete valid reading, writing, and math placement assessments.

### **Graduation Requirements**

1. Minimum 65 credits with an average of 2.0 or above.
2. \*Average of 2.0 ("C") or above for these major courses.
3. Complete 890-155 Gateway to Success (G2S) in the first semester.

For a complete list of Graduation Requirements, check the Student Handbook or [Graduation Requirements](#).

### **Notes**

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See an advisor for details.
2. This is a very intense and challenging program. Poor existing skills, especially poor math skills, can always be improved. As long as you have the heart and desire to succeed, the instructors will work with you.
3. Classes offered at Elkhorn Campus via NODAL delivery. Please see an advisor for details.
4. The programs in the Construction Science Group include: Civil Engineering Tech: Highway Technology, Architectural-Structural Engineering Technician, and Civil Engineering Technology: Fresh Water Resources.
5. Transfer credits in Social Science may substitute for this course. See an advisor for details.
6. A credit for prior learning assessment is available for this course. For more information, please contact [cfpl@gtc.edu](mailto:cfpl@gtc.edu).
7. Students wishing to pursue Calculus courses at Gateway should take 804-115 College Technical Math 1. Please see an advisor for details.
8. Safety glasses may be required in various classes after the first semester. If prescription safety glasses are required, please allow sufficient time to obtain your glasses prior to the start of the 2<sup>nd</sup> semester.

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for a period of two years or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.