



Effective 2012/2013

Career Cluster ►



Career Pathway ►

Construction

AIR CONDITIONING, HEATING & REFRIGERATION TECHNOLOGY
 (10-601-1B) – Geothermal Technician
 Associate of Applied Science Degree
 Offered at: Kenosha Campus

△ Suggested Sequence	✓ Course Number	Course Title	Requisites	Credits	Hrs/Wk Lec - Lab
Semester 1	483-174	Intro to Groundloop Methods		2	2-0
	483-175	GeoExchange Site Safety		1	0-2
	601-110	* Air Condition Fundamentals		3	3-0
	601-111	* Workplace Fundamentals		1	0-2
	601-116	* Mechanical Fundamentals		3	1-4
	605-107	Fundamentals of Electricity/Electronics		3	1-4
	804-107	College Mathematics	Prereq: 834-109 (See Note 1)	3	3-0
Semester 2	483-178	Geological Formations for Drillers		3	3-0
	483-180	Rig Transport, Set-up, and Safety	Prereq: 483-175	2	2-0
	601-128	* Electrical Controls & Systems	Prereq: 605-107	3	1-4
	801-136	English Composition 1	Prereq: 831-103 (See Note 1)	3	3-0
	801-196	Oral/Interpersonal Communication		3	3-0
	809-196	Sociology, Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Semester 3	483-170	Rotary Rig Operations	Prereq: 483-174; 483-175	3	2-2
	483-173	Plastic Fusion Applications		2	1-2
	601-129	* HVAC Systems	Prereq: 601-110; 601-116	3	1-4
	601-133	* Refrigeration Fundamentals		3	2-2
	601-147	* Control Circuit Applications	Prereq: 601-128	3	1-4
	801-197	Technical Reporting	Prereq: 801-136	3	3-0
Semester 4	442-101	Welding Basics		1	0-2
	483-172	Grouting and Sanitation		2	1-2
	483-177	Trenching/Header Fundamentals	Prereq: 483-173; 483-174; 483-175	2	1-2
	612-102	Intro to Mobile Hydraulics/Pneumatics	Prereq: 605-107	3	2-2
	809-195	Economics	Prereq: 838-105 (See Note 1)	3	3-0
	809-198	Psychology; Introduction to	Prereq: 838-105 (See Note 1)	3	3-0
Electives	Take 6 elective credits. Any associate degree level course may be taken as an elective.			6	
	Suggested Electives:				
	483-181	Geo Site & Record Management (2 Cr.)			
	483-104	DX Geo Applications (2 Cr.)	483-182	Geo Safety Lead (2 Cr.)	
	483-171	Rotary: Mud Boring Applications (3 Cr.)	483-183	Rotary: Air Boring Applications	
601-149	Heat Load Applications (2 Cr.)	601-157	Radiant Floor Heating (2 Cr.)		

Program Total Required

70

△ Courses may be taken out of suggested sequence as long as requisites have been met.



Effective 2012/2013

Career Cluster ▶



Career Pathway ▶

Construction

AIR CONDITIONING, HEATING & REFRIGERATION TECHNOLOGY
(10-601-1B) – Geothermal Technician
Associate of Applied Science Degree
Offered at: Kenosha Campus

PROGRAM DESCRIPTION

The Geothermal Technician program develops the skills and practical knowledge necessary for the student to seek employment in the installation, sales and service of the loopfield components used throughout the Geo industry. Topics are covered in a lecture/lab format with extensive work done during field exercises on active drill sites. The safe and proper operation of drilling equipment, the fabrication/installation of ground heat exchange loops, Federal and State regulatory compliance are covered in depth. Basic HVACR skill training needed by any industry professional such as the principles of airflow, piping, ductwork construction, heat flow, electrical circuits and the refrigeration process are also covered. While similar to conventional heating/cooling equipment this field of study emphasizes the unique components and installation techniques required by someone wishing to concentrate in Geothermal technology

PROGRAM LEARNING OUTCOMES

Graduates of the Geothermal Technician Associate Degree Program should be able to:

1. Operate Geothermal drilling equipment.
2. Fabricate earthloops from copper and HDPE pipe.
3. Understand and comply with current regulations.
4. Flush, purge and pressurize loopfields.
5. Design, construct and install basic duct work.
6. Perform soldering and brazing on refrigeration piping.
7. Interpret common industry blueprints for Code compliance and installation guidance.
8. Explain the operation, economic and environmental advantages of Geothermal equipment.

CORE ABILITIES

Gateway believes students need both technical knowledge and skills and core abilities in order to succeed in a career and in life. The following nine core abilities are the general attitudes and skills promoted and assessed by all Gateway programs. All Gateway graduates should be able to:

- | | |
|--|---|
| 1. Act responsibly | 6. Respect themselves and others as a member of a diverse community |
| 2. Communicate clearly and effectively | 7. Think critically and creatively |
| 3. Demonstrate essential comp. skills | 8. Work cooperatively |
| 4. Demonstrate essential math skills | 9. Value learning |
| 5. Develop job seeking skills | |

ADMISSION REQUIREMENTS

1. Students must submit an application & \$30 fee.
2. Students must complete reading, writing, and math placement testing.
3. Students must submit official high school, GED, or HSED transcript.

GRADUATION REQUIREMENTS

1. 70 credits with an average of 2.0 or above.
2. *Average of 2.0 ("C") or above for these Major courses.

For a complete list of Graduation Requirements check the Student Handbook.

NOTES

1. A satisfactory placement test score (or successful remediation) is required prior to enrollment. See counselor for details.
2. Safety glasses are required in labs. If prescription safety glasses are required, allow a minimum of 90 days.
3. During field drilling exercises steel toed shoes are required.
4. Any course may be taken prior to entry in the program, assuming prerequisites and corequisites have been satisfied (or waived with departmental approval).

OTHER INFORMATION

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 the Master Class Schedule 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.

**EQUAL OPPORTUNITY/ACCESS EDUCATOR / EMPLOYER
IGUALDAD DE OPORTUNIDADES**

You may call Student Services at (262) 767-5300 (Burlington), (262) 741-8300 (Elkhorn), (262) 564-2300 (Kenosha), or (262) 619-6300 (Racine) for additional information. For a complete list of course descriptions (and possible online courses) for this program, please consult our web page at www.gtc.edu.

My counselor is _____.

My counselor's contact information is _____.