

# GAS UTILITY CONSTRUCTION AND SERVICE

## DIPLOMA - 36 CREDITS

### About this program

The Gas Utility Construction and Service program prepares students to install, maintain and operate both high- and low-pressure natural gas distribution systems used to supply residential, commercial and industrial companies. Program graduates will be qualified to enter one of the most technologically intensive industries in today's economy with potential careers in gas construction mechanics, gas meter mechanics, gas service mechanics, gas clerk estimation, gas regulator maintenance mechanics, gas appliance repair and underground facilities location. \*This program is part of the MN Energy Academy and is located in the Minneapolis-St. Paul metro area.

### Program outcomes

1. Communicate technical information.
2. Operate tools and equipment.
3. Join pipe.
4. Install propane gas distribution systems.
5. Install natural gas distribution systems.
6. Operate pipeline excavation equipment.
7. Apply customer service skills.
8. Service gas appliances.
9. Maintain gas distribution systems.

### Curriculum overview

| <b>Crds</b> | <b>Requirement type</b> |
|-------------|-------------------------|
| 36          | Required courses        |
| 36          | <b>Total</b>            |

**Developmental courses note:** A student may be required to enroll in developmental courses in reading, writing and math. A student's scores on the Accuplacer assessment will determine enrollment in developmental courses. The purpose of developmental courses is to prepare students for the demands of a college-level curriculum. *Credits may vary.*

**Accreditation:** Minnesota State Community and Technical College is accredited by the Higher Learning Commission, a regional accreditation agency recognized by the U.S. Department of Education. The Higher Learning Commission 230 South LaSalle Street, Suite 7-500 Chicago, IL 60604-1411 <http://www.ncahigherlearningcommission.org> Phone: 312.263.0456 / 800.621.7440

# Curriculum requirement details

## Required courses

## Other requirements or restricted electives

| Course   | Crds |
|--|------|
| CONM2213 - Safety Management .....             | 2    |
| GAS1000 - Gas Utility Field Training I .....   | 4    |
| GAS1001 - Underground Utility Locating .....   | 2    |
| GAS1002 - Gas Service Welding I .....          | 3    |
| GAS1003 - Gas Utility Equipment Training ..... | 5    |
| GAS1004 - Gas Utility Field Training II .....  | 4    |
| GAS2001 - Forklift Certification .....         | 1    |
| GAS2002 - Gas Utility Field Training III ..... | 5    |
| GAS2003 - Gasless Leak Detection .....         | 3    |
| GAS2600 - Electric and Gas Appliances .....    | 4    |
| MATH1000 - Technical Mathematics .....         | 3    |

## Course summaries

**CONM2213 - Safety Management** ..... (2 credits)

This course includes construction management applications in the areas of safety and health. Students will have an opportunity to earn OSHA 30-hour authorization for successful course completion.

**GAS1000 - Gas Utility Field Training I** ..... (4 credits)

This is an introductory laboratory course that prepares students for basic field utility work, including safety procedures and equipment operation. This course focuses on hands-on application and is intended to help students become confident in safely operating basic gas utility equipment.

**GAS1001 - Underground Utility Locating** ..... (2 credits)

This course provides the skills and procedures necessary to locate and accurately mark underground utilities including gas, electrical, water and cable.

**GAS1002 - Gas Service Welding I** ..... (3 credits)

This course provides an opportunity for students to develop the knowledge, skills and understanding required for employment in this field. Students will learn how to weld pipe utilizing oxyacetylene and gas metal arc welding, welding safety, weld faults and causes, weld joint design and fit up.

**GAS1003 - Gas Utility Equipment Training** ..... (5 credits)

This is an Introductory course that prepares students for basic field utility work. The course includes safety procedures, equipment operations and maintenance.

**GAS1004 - Gas Utility Field Training II** ..... (4 credits)

This course provides practice in applied gas utilities tasks with a focus on installation. Students have theory and applied training with the installation of gas meters, valves, regulators and plastic pipe.

**Prerequisites:**

- GAS1000

**GAS2001 - Forklift Certification** ..... (1 credits)

This course offers an Occupational Safety and Health Administration-compliant program consisting of field training, a knowledge test and a hands-on evaluation for all forklift operations.

**GAS2002 - Gas Utility Field Training III** ..... (5 credits)

This course provides practice in gas utility tasks with a focus on gas mains. The students have theory and applied training with the installation and repair of steel gas mains and services, line testing and leak detection procedures,

**GAS2003 - Gasless Leak Detection** ..... (3 credits)

This course will provide hands-on training for responding to gas emergencies and conducting hazardous leak investigations.

**GAS2600 - Electric and Gas Appliances** ..... (4 credits)

This course provides the student with the skills necessary for the installation, maintenance and repair of residential electric/gas appliances.

**MATH1000 - Technical Mathematics** ..... (3 credits)

This course presents basic mathematical topics as they are applied in a technical program. The course includes a review of basic mathematical operations and continues with the development of algebraic and trigonometric skills in a technical setting. Most concepts will be applied through course-specific problems. This course is not an MnTC Goal Area 4 mathematics course, nor does it prepare students for taking an MnTC Goal Area 4 mathematics course.

# GAS UTILITY CONSTRUCTION AND SERVICE DIPLOMA - 36 CREDITS

Program Plan — "Gas Utility Construction and Service"  
Locations: Online

## 1st Fall Term (10 credits)

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### Courses

| Course                                       | Crds |
|--|------|
| GAS1000 - Gas Utility Field Training I ..... | 4    |
| GAS1001 - Underground Utility Locating ..... | 2    |
| GAS2600 - Electric and Gas Appliances .....  | 4    |

## 1st Spring Term (9 credits)

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### Courses

| Course   | Crds |
|--|------|
| GAS1003 - Gas Utility Equipment Training ..... | 5    |
| GAS1004 - Gas Utility Field Training II .....  | 4    |

## 2nd Fall Term (11 credits)

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### Courses

| Course   | Crds |
|--|------|
| GAS2002 - Gas Utility Field Training III ..... | 5    |
| GAS2003 - Gasless Leak Detection .....         | 3    |
| MATH1000 - Technical Mathematics .....         | 3    |

## 2nd Spring Term (6 credits)

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### Courses

| Course                                 | Crds |
|--|------|
| CONM2213 - Safety Management .....     | 2    |
| GAS1002 - Gas Service Welding I .....  | 3    |
| GAS2001 - Forklift Certification ..... | 1    |