



8981  
SANITARY VENTING  
SYSTEMS (12A)

40S/40E/40M

A Plumbing and Pipe Trades Course



# 8981 SANITARY VENTING SYSTEMS 40S/40E/40M

## Course Description

A student wanting to develop skills in sanitary venting must have knowledge of the basic principles of grade, siphons, and venturis. The student will understand the principles of venting and how venting relates to plumbing and piping systems. The student will be able to draw a usable blueprint to assist in the installation of a sanitary venting system. The student will be able to install, support, and test a sanitary venting system. The student will have a working knowledge of all codes and regulations as they apply to sanitary venting.

---

**Goal 1:** Describe and apply **health and safety** practices.

**GLO 1.1:** Describe and apply health and safety practices.

SLO 12A.1.1.1 Demonstrate an understanding of, and adherence to, health and safety practices.

---

**GLO 1.2:** Demonstrate an understanding of the ***Trade Safety Awareness Curriculum for Level 1 Apprentices***.

No applicable SLOs.

---

**Goal 2:** Demonstrate the **use and management of equipment, tools, and materials**, including those used in **fuel brazing and cutting**.

**GLO 2.1:** Demonstrate the **use and management of equipment and tools**.

SLO 12A.2.1.1 Apply knowledge and skills related to the safe and appropriate cleaning, maintenance, and management of plumbing tools and equipment.

---

**GLO 2.2:** Demonstrate the use and management of **fuel brazing and cutting equipment and tools**.

No applicable SLOs.

---

---

**Goal 3:** Demonstrate an understanding of the **properties and applications** of various types of **pipng and tubing**.

**GLO 3.1:** Demonstrate an understanding of the **properties and applications** of **pipng and tubing**.

No applicable SLOs.

---

**GLO 3.2:** Demonstrate an understanding of the **properties and applications** of **plastic pipng**.

No applicable SLOs.

---

**GLO 3.3:** Demonstrate an understanding of the **properties and applications** of **copper tubes and tubing**.

No applicable SLOs.

---

**GLO 3.4:** Demonstrate an understanding of the **properties and applications** of **steel pipng**.

No applicable SLOs.

---

**GLO 3.5:** Demonstrate an understanding of the **properties and applications** of **cast iron pipng**.

No applicable SLOs.

---

**GLO 3.6:** Demonstrate an understanding of the **properties and applications** of **glass pipng**.

No applicable SLOs.

---

**GLO 3.7:** Demonstrate an understanding of the **properties and applications** of **asbestos-cement pipng**.

No applicable SLOs.

---

**Goal 4:** Demonstrate an understanding of the **properties and applications of various materials (other than pipng and tubing)** used in plumbing and the pipe trades.

**GLO 4.1:** Demonstrate an understanding the **properties and applications of various materials (other than pipng and tubing)** used in plumbing and the pipe trades.

No applicable SLOs.

---

---

**Goal 5:** Demonstrate an understanding of the **design and layout of piping systems.**

**GLO 5.1:** Demonstrate an understanding of the **design and layout of piping systems.**

SLO 12A.5.1.1 Perform piping system layout. (A3a.1)

---

**Goal 6:** Demonstrate an understanding of the **joining, fabrication, and installation** of piping systems, including **hoisting, lifting, and rigging, and access equipment.**

**GLO 6.1:** Demonstrate an understanding of the **joining and fabrication** of piping systems.

No applicable SLOs.

---

**GLO 6.2:** Demonstrate an understanding of the **installation** of piping systems.

SLO 12A.6.2.1 Install piping supports. (A3a.4)

SLO 12A.6.2.2 Coordinate excavation and backfilling of trenches. (A3a.5)

---

**GLO 6.3:** Demonstrate an understanding of **hoisting, lifting, and rigging.**

No applicable SLOs.

---

**GLO 6.4:** Demonstrate an understanding of **access equipment.**

No applicable SLOs.

---

**Goal 7:** Demonstrate an understanding of the **documentation and testing** of piping systems.

No applicable SLOs.

---

**Goal 8:** Describe and demonstrate the transferable **cross-curricular** knowledge and skills as they pertain to plumbing and the pipe trades.

**GLO 8.1:** Read, interpret, and communicate **information.**

No applicable SLOs.

---

**GLO 8.2:** Apply knowledge and skills from **mathematics.**

SLO 12A.8.2.1 Calculate pipe lengths. (A3a.2)

SLO 12A.8.2.2 Calculate piping offsets. (A3a.3)

---

**GLO 8.3:** Apply knowledge and skills from the **sciences**.

No applicable SLOs.

---

**GLO 8.4:** Apply knowledge and skills from **information and communication technology**.

No applicable SLOs.

---

**Goal 9:** Demonstrate an understanding of the **structure and scope** of plumbing and the pipe trades.

**GLO 9.1:** **Demonstrate an understanding of the structure and scope of plumbing and the pipe trades, as well as associated occupations.**

No applicable SLOs.

---

**GLO 9.2:** Demonstrate an understanding of **training and employment opportunities** in plumbing and the pipe trades, as well as in associated occupations.

SLO 12A.9.2.1 Demonstrate an understanding of training and its relationship to opportunities in various careers.

---

**Goal 10:** Demonstrate an awareness of **sustainability** as it pertains to plumbing and the pipe trades.

**GLO 10.1:** Describe the impact of **human sustainability** on the health and well-being of plumbers, tradespersons working in the pipe trades, and those who use the systems they construct.

SLO 12A.10.1.1 Demonstrate an understanding of the sustainable factors that influence human health and well-being for plumbers and pipe trade workers.

SLO 12A.10.1.2 Demonstrate an understanding of sustainability as it relates to human health and well-being.

---

**GLO 10.2:** Describe plumbing and the pipe trades' **sustainability practices** and **impact on the environment**.

SLO 12A.10.2.1 Demonstrate an understanding of sustainability practices and of the environmental impact of sanitary drainage systems with regard to their design, fabrication, and use.

SLO 12A.10.2.2 Demonstrate an understanding of where sanitary venting systems are required.

---

**GLO 10.3:** Describe **sustainable business practices** within plumbing and the pipe trades.

SLO 12A.10.3.1 Demonstrate an awareness of the influence of plumbing and the pipe trades on local economies.

---

**Goal 11:** Demonstrate an awareness of the **ethical and legal standards, including codes**, as they pertain to plumbing and the pipe trades.

**GLO 11.1:** Demonstrate an understanding of **ethical and legal standards**.

SLO 12A.11.1.1 Demonstrate ethics by practising quality workmanship.

SLO 12A.11.1.2 Demonstrate ethics by creating and maintaining safe working conditions for all concerned.

SLO 12A.11.1.3 Discuss the relationship between ethics and employability skills, such as creating a respectful workplace.

SLO 12A.11.1.4 Demonstrate an understanding of codes and regulations related to sanitary venting systems.

SLO 12A.11.1.5 Perform hydrostatic and pneumatic testing and inspections.

SLO 12A.11.1.6 Demonstrate an awareness of the legal requirements related to specialized procedures and testing of sanitary venting systems.

---

**Goal 12:** Demonstrate **employability skills**.

**GLO 12.1:** Demonstrate fundamental **employability skills**.

SLO 12A.12.1.1 Demonstrate regular and punctual attendance.

SLO 12A.12.1.2 Demonstrate critical-thinking and problem-solving skills.

SLO 12A.12.1.3 Demonstrate accountability by taking responsibility for their actions.

SLO 12A.12.1.4 Demonstrate adaptability, initiative, and effort.

SLO 12A.12.1.5 Demonstrate the ability to accept and follow direction and feedback.

SLO 12A.12.1.6 Demonstrate teamwork skills.

SLO 12A.12.1.7 Demonstrate the ability to stay on task and use time effectively.

SLO 12A.12.1.8 Demonstrate the ability to communicate respectfully and effectively with teachers, supervisors, coworkers, and students.

---

**GLO 12.2:** Demonstrate an understanding of the **business operations** of a plumbing and pipe trades organization.

SLO 12A.12.2.1 Identify business activities that affect profit and loss.

---

**GLO 12.3:** Demonstrate critical thinking skills.

SLO 12A.12.3.1 Demonstrate an awareness of critical thinking.

---

**GLO 12.4:** Demonstrate an understanding of **culture** and its influence in the workplace.

SLO 12A.12.4.1 Demonstrate an awareness of culture.

---

**Goal 13:** Demonstrate an awareness of the **history, technological progression, and emerging trends** in plumbing and the pipe trades.

**GLO 13.1:** Demonstrate an awareness of the **history, technological progression, and emerging trends** in plumbing and the pipe trades.

SLO 12A.13.1.1 Demonstrate an awareness of the history of sanitary venting.

SLO 12A.13.1.2 Demonstrate an awareness of the increasing use of geothermal in new construction.

---