



**I. COURSE DESCRIPTION:**

This course will provide the student with an introduction to tools, equipment, safe work practices, basic terminology and calculations used in the plumbing trade.

**II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

Upon successful completion of this course, the student will demonstrate the ability to:

**1. Use personal protective equipment.**

Potential Elements of the Performance:

Select proper:

- safety work boots
- eye protection
- clothing and gloves

**2. Use hand and power tools.**

Potential Elements of the Performance:

Safe and correct use of the following:

- hammers, chisels, tubing cutters, wrap-a-rounds, files, soldering equipment, threading equipment and oxygen/ acetylene equipment

Safe and correct use of the following:

- power threading machines, roll groover, bending machines, drills, saws

**3. Identify, select and use a variety of piping materials.**

Potential Elements of the Performance:

Identify and select as required:

- copper tube and fittings, malleable iron fittings, steel pipe, steel tube, cast iron fittings and thermoplastics

**4. Follow written or oral instructions necessary to perform the required elements to complete assigned practical tasks.**

Potential Elements of the Performance:

- Read and understand sketches provided.
- Use required formulas to calculate overall measurements.
- Read and apply charts to obtain the correct pipe lengths.
- Layout pipe for cutting with:
  - oxygen/acetylene torch
  - pipe cutters
  - tubing cutters
  - power machines
- Lay out pipe and/or tubing for bending applications

**5. Use a variety of methods required to join pipe and fittings in order to complete a specified practical assignment.**

Potential Elements of the Performance:

Join piping by one or all of the following:

- fusion welding
- flared fittings
- compression fittings
- soft solder
- hard solder
- rolled groove

**III. TOPICS:**

1. Protect Self and Others
2. **Safe** and **Proper** use of hand tools, power tools, oxygen / acetylene cutting and welding torches and soldering equipment
3. Pipe and fitting materials such as, but not limited to copper, steel, cast iron and thermo plastics.
4. Calculations required for offsets, fitting allowance, thread engagement, fitting fabrication, pipe and tube bending
5. Basic knowledge in relationship to installing basic plumbing fixtures

**IV. REQUIRED RESOURCES/TEXTS/MATERIALS:**

Hand outs as supplied by the instructor.

Scientific Calculator

**Participation in PLM100 requires the use of safety boots and safety glasses at all times during the shop class hours (2).**

Gloves and coveralls (no polyester materials) when needed. These items **are not** supplied by Sault College.

IPT hand book for piping (suggested only as a resource material available in the Campus Bookstore)

**V. EVALUATION PROCESS/GRADING SYSTEM:**

Student evaluation is based on one (1) written test at the end of the course, specific practical assignments, attendance and safety during the shop classes.

Written test – 30%

Specific practical assignment/s – 40%

Attendance – 20%

Shop safety – 10%

The following semester grades will be assigned to students:

<b>Grade</b>	<b><u>Definition</u></b>	<i>Grade Point Equivalent</i>
A+	90 – 100%	4.00
A	80 – 89%	3.00
B	70 - 79%	2.00
C	60 - 69%	1.00
D	50 – 59%	0.00
F (Fail)	49% and below	
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.	
NR	Grade not reported to Registrar's office.	
W	Student has withdrawn from the course without academic penalty.	

**VI. SPECIAL NOTES:****Attendance:**

Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.

**VII. COURSE OUTLINE ADDENDUM:**

The provisions contained in the addendum located on the portal form part of this course outline.