



**I. COURSE DESCRIPTION:**

CICE students will gain basic knowledge about plumbing. CICE students, with the assistance of a Learning Specialist, will have the opportunity to practice safe handling and proper use of hand and power tools. They will practice performing various basic plumbing skills.

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

Upon successful completion of this course, the CICE student with the assistance of a Learning Specialist, 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 have basic understand of 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:**

Handouts 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.

**Addendum:**

Further modifications may be required as needed as the semester progresses based on individual student(s) abilities and must be discussed with and agreed upon by the instructor.

**VII. COURSE OUTLINE ADDENDUM:**

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

**CICE Modifications:****Preparation and Participation**

1. A Learning Specialist will attend class with the student(s) to assist with inclusion in the class and to take notes.
2. Students will receive support in and outside of the classroom (i.e. tutoring, assistance with homework and assignments, preparation for exams, tests and quizzes.)
3. Study notes will be geared to test content and style which will match with modified learning outcomes.
4. Although the Learning Specialist may not attend all classes with the student(s), support will always be available. When the Learning Specialist does attend classes he/she will remain as inconspicuous as possible.

**A. Tests may be modified in the following ways:**

1. Tests, which require essay answers, may be modified to short answers.
2. Short answer questions may be changed to multiple choice or the question may be simplified so the answer will reflect a basic understanding.
3. Tests, which use fill in the blank format, may be modified to include a few choices for each question, or a list of choices for all questions. This will allow the student to match or use visual clues.
4. Tests in the T/F or multiple choice format may be modified by rewording or clarifying statements into layman's or simplified terms. Multiple choice questions may have a reduced number of choices.

**B. Tests will be written in CICE office with assistance from a Learning Specialist.*****The Learning Specialist may:***

1. Read the test question to the student.
2. Paraphrase the test question without revealing any key words or definitions.
3. Transcribe the student's verbal answer.
4. Test length may be reduced and time allowed to complete test may be increased.

**C. Assignments may be modified in the following ways:**

1. Assignments may be modified by reducing the amount of information required while maintaining general concepts.
2. Some assignments may be eliminated depending on the number of assignments required in the particular course.

***The Learning Specialist may:***

1. Use a question/answer format instead of essay/research format
2. Propose a reduction in the number of references required for an assignment
3. Assist with groups to ensure that student comprehends his/her role within the group
4. Require an extension on due dates due to the fact that some students may require additional time to process information
5. Formally summarize articles and assigned readings to isolate main points for the student
6. Use questioning techniques and paraphrasing to assist in student comprehension of an assignment

**D. Evaluation:**

Is reflective of modified learning outcomes.