SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

SAULT
COLLEGE

COURSE OUTLINE

COURSE TITLE:	Plumbing Practical		
CODE NO. :	PLM 661	**SEMESTER:**	Basic Level
PROGRAM:	Plumbing		
AUTHOR:	Karol Uchmanowicz		
DATE:	Sept 2011	**PREVIOUS OUTLINE DATED:**	Sept 2010
APPROVED:	*"Corey Meunier"*		
	CHAIR		**DATE**
TOTAL CREDITS:	6		
PREREQUISITE(S):	N/A		
HOURS/WEEK:	6		

I. COURSE DESCRIPTION:

This course provides apprentices with an introduction to tools and equipment which they may be required to use during their “on the job” portion of their apprenticeship training.

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, butt fusion equipment(thermoplastics), hot air welding (thermoplastics) pressfit tool

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 required to perform calculations necessary 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
- layout pipe and tubing for bending

5. Use a variety of methods required to join pipe and fittings for completion of specific practical assignments.

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 and oxygen / acetylene cutting and welding torches
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. Pipe threading, roll grooving, soldering (hard and soft) fusion welding, pipe and tube bending and

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Basic Plumbing Workbook
Calculator
IPT hand book for piping
Measuring tape
Welding gloves (also required for the welding shop)
Participation in PLM661 requires the use of **safety boots (high top recommended)** and **safety glasses** at all times, gloves and coveralls (no polyester materials) when needed. **These items are not supplied by Sault College.**

V. EVALUATION PROCESS/GRADING SYSTEM:

The apprentice is evaluated during the shop class and upon completion of the practical assignment/s
Specific practical assignment/s 60%
Attendance 20%
Shop safety 20%

- proper clean – up of work areas and storage of tools in their proper location is considered a integral portion of shop safety.

The following semester grades will be assigned to students:

Grade	Definition	*Grade Point Grade Point Equivalent*
A+	90 – 100%	4.00
A	80 – 89%	
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% and below	0.00

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.

Particular attention to the attendance requirements during the introduction to the apprentices by the Training Consultant for the Ministry of Training, Colleges and Universities must be adhered to for successful completion of the course.

VII. COURSE OUTLINE ADDENDUM:

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