

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



Sault College

COURSE OUTLINE

COURSE TITLE:	Plumbing Systems - Level III		
CODE NO. :	PLM 860	SEMESTER:	Winter 2009
PROGRAM:	Plumber Level III 6242		
AUTHOR:	Brian Mick		
DATE:	January 2009	PREVIOUS OUTLINE DATED:	May 2007
APPROVED:	“Corey Meunier” CHAIR		<hr/> DATE
TOTAL CREDITS:	18		
PREREQUISITE(S):	Plumber Level I 6240 Plumber Level II 6241		
HOURS/WEEK:	18		

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School of Technology & Skilled Trades
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I. COURSE DESCRIPTION:

Theory element for Level III of the in – school portion of training for plumber apprentices.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. Identify equipment requiring specific waste pipe and venting systems.Potential Elements of the Performance:

- know the equipment which require acid waste systems.
- provide information on the venting and waste requirements as stated in Part 7 of the 2006 Ontario Building Code. (O.B.C.)
- know the equipment which requires indirect waste systems.
- provide information for vent and waste pipe sizing as required by Part 7 of O.B.C.

2. Identify various components of a water distribution system, their associated terminology and perform calculations required for a particular system.Potential Elements of the Performance:

- explain the term water service.
- explain the difference between private and municipal water supplies.
- provide a detailed explanation of private water pump selection using the required information and calculations.
- explain what type of water treatment equipment is required to maintain water quality.
- define cross connection and backflow prevention.
- design and size a water distribution piping system using charts and/or tables.
- explain the requirements for hot water storage tanks and heaters.

3. Identify various piping designs for high rise buildings.Potential Elements of the Performance:

- explain when booster pumps are required for water distribution systems.
- explain the difference between up fed systems and down fed piping systems.
- detail the requirements pertaining to pressure reducing valves.

4. *Identify a standpipe system and a sprinkler system.*

Potential Elements of the Performance:

- define the different types of standpipe systems.
- define the different classifications of standpipe systems.
- define a combined system.
- list the components which are required in a standpipe or sprinkler system.
- sketch a standpipe or sprinkler system connected to a potable water supply.
- state who is responsible for regulation of standpipe and sprinkler systems.

5. *Identify the different types of roof drainage systems.*

Potential Elements of the Performance:

- define an open flow roof drainage system.
- define a metered flow roof drainage system.
- design a metered flow roof drainage system using the applicable codes and recognized procedures.

6. *Identify piping systems a plumber may install which fall beyond the scope of a "plumbing system".*

Potential Elements of the Performance:

- define Hydronic Heating.
- perform calculations required to select heating components.
- explain the requirements for the installation of medical gas systems.
- define process piping systems
- give examples of industrial piping systems.
- define the classifications of sewage systems
- explain the process which takes place in a class four sewage system.
- perform the required calculations to size components in a class four sewage system.
- indicate where the regulations pertaining to sewage systems may be found.

III. TOPICS:

1. Waste pipe and sewage systems
2. Water distribution systems
3. Hydronic systems
4. Medical gas systems
5. Storm drainage systems
6. Process piping systems

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Ontario Building Code Part 7
 Ontario Building Code Part 8
 NFPA 13
 NFPA 14
 CAN/CSA – Z305.1 – 92 Nonflammable Medical Gas Piping Systems
 Plumber Level 3 Workbook

V. EVALUATION PROCESS/GRADING SYSTEM:

The final grade for the course will be established from the average of seven possible weekly tests.

The following semester grades will be assigned to students:

Grade	<u>Definition</u>	<i>Grade Point Equivalent</i>
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:Disability Services:

If you are a student with a disability (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Disability Services office. Visit Room E1101 or call Extension 2703 so that support services can be arranged for you.

Retention of Course Outlines:

It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

Communication:

The College considers **WebCT/LMS** as the primary channel of communication for each course. Regularly checking this software platform is critical as it will keep you directly connected with faculty and current course information. Success in this course may be directly related to your willingness to take advantage of the **Learning Management System** communication tool.

Plagiarism:

Students should refer to the definition of “academic dishonesty” in *Student Code of Conduct*. Students who engage in academic dishonesty will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course/program, as may be decided by the professor/dean. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Course Outline Amendments:

The professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Substitute course information is available in the Registrar's office.

VII. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advance credit transfer (advanced standing) should obtain an Application for Advance Credit from the program coordinator (or the course coordinator regarding a general education transfer request) or academic assistant. Students will be required to provide an unofficial transcript and course outline related to the course in question.

Credit for prior learning will also be given upon successful completion of a challenge exam or portfolio.