

I. COURSE DESCRIPTION:

Theory element for level one of the in-school portion of apprenticeship training for plumbers.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. *Identify various types of piping materials and their use.***Potential Elements of the Performance:**

- know the difference between different types of copper tube and their correct use as required by the applicable regulatory authorities
- know the different types plastics and their correct use as required by the applicable regulatory authorities
- select steel pipe for application as dictated by its manufacturing method
- know various types of piping material and their application as required by code requirement or piping system component.

2. *Properly design and size drain plans and elevation drawings.***Potential Elements of the Performance:**

- select the proper pencils and set squares to clearly and neatly complete drain plans and stack elevations correctly.
- follow oral and written instructions when completing drawings.
- correctly size drains and vents as required by Part Seven of the Ontario Building Code.

3. *Solve various trade related calculations using the required formulas and tables.***Potential Elements of the Performance:**

- select and apply the correct formula to calculate center to center measurements for 45° offsets and 45° rolling offsets.
- select and apply the correct formula to calculate the center to center measurements for 22.5° angles.
- select and apply the correct formula to calculate allowances required for bending of pipe or tubing.
- apply the correct tables or charts to obtain the end to end measurement which apply to various types of piping materials.

4. Identify and use the requirements of Part Seven of the Ontario Building Code pertaining to drainage systems.

Potential Elements of the Performance:

- select and apply the correct section, sub-section, clause, sentence or table as required to properly design and size plumbing drainage systems.

5. Identify and use the requirements of Part Seven of the Ontario Building Code pertaining to venting systems.

Potential Elements of the Performance:

- select and apply the correct section, sub-section, clause, sentence or table as required to properly design and size plumbing venting systems.

III. TOPICS:

1. Pipe materials
2. Drain plans and stack elevations
3. 45 degree offsets, latent and sensible heat, btu. calculations and temperature scale conversion
4. Combined drains, semi combined drains, sizing drains
5. Back vent, continuous waste and vent, dual vent, stack vent, wet vent, and vent stacks

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Basic plumbing workbook
Part seven of the Ontario Building Code
IPT's Pipe Trades Handbook

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	Definition	<i>Grade Point Equivalent</i>
A+	90 – 100%	
A	80 – 89%	4.00
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:

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.

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.

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. Please refer to the Student Academic Calendar of Events for the deadline date by which application must be made for advance standing.

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

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

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.

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*. A professor/instructor may assign a sanction as defined below, or make recommendations to the Academic Chair for disposition of the matter. The professor/instructor may (i) issue a verbal reprimand, (ii) make an assignment of a lower grade with explanation, (iii) require additional academic assignments and issue a lower grade upon completion to the maximum grade “C”, (iv) make an automatic assignment of a failing grade, (v) recommend to the Chair dismissal from the course with the assignment of a failing grade. 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.

Student Portal:

The Sault College portal allows you to view all your student information in one place. **mysaultcollege** gives you personalized access to online resources seven days a week from your home or school computer. Single log-in access allows you to see your personal and financial information, timetable, grades, records of achievement, unofficial transcript, and outstanding obligations, in addition to announcements, news, academic calendar of events, class cancellations, your learning management system (LMS), and much more. Go to <https://my.saultcollege.ca>.

Electronic Devices in the Classroom:

Students who wish to use electronic devices in the classroom will seek permission of the faculty member before proceeding to record instruction. With the exception of issues related to accommodations of disability, the decision to approve or refuse the request is the responsibility of the faculty member. Recorded classroom instruction will be used only for personal use and will not be used for any other purpose. Recorded classroom instruction will be destroyed at the end of the course. To ensure this, the student is required to return all copies of recorded material to the faculty member by the last day of class in the semester. Where the use of an electronic device has been approved, the student agrees that materials recorded are for his/her use only, are not for distribution, and are the sole property of the College.

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.