MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE
COURSE OUTLINE

Faculty is required to have the outline submitted to the Academic Affairs Office. The course outline is the form used for approval of new courses by the Academic Affairs and Standards Council.

DEPT. Plumbing                        COURSE NUMBER: 1100

NUMBER OF CREDITS: 4

COURSE TITLE: Plumbing Code

CATALOG DESCRIPTION: This course will provide insight into an understanding of many of the technical rules of the Minnesota Plumbing Code. Topics included are Minnesota licensing laws, plumbing industry definitions, basic plumbing principles and general regulations, requirements and calculations for plumbing installations, potable water distribution systems, Drain, Waste and Vent systems, and various requirements for plumbing fixtures.

AUDIENCE:

FULFILLS MN TRANSFER CURRICULUM AREA(S) *(Leave blank if not applicable)*
Area: by meeting the following competencies:
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PREREQUISITES OR NECESSARY ENTRY SKILLS/KNOWLEDGE:

LENGTH OF COURSE:

THIS COURSE IS USUALLY OFFERED:
Every other year ☐ fall ☑ spring ☐ summer ☐ undetermined ☐

Four goals are emphasized in course at Minnesota West Community & Technical College:

1) ACADEMIC CONTENT: The academic objectives of this course are:
   a. This course covers all the Minnesota State Plumbing Code, (Minnesota State Building Code Rule Chapter 4715)
   b. 
2) THINKING SKILLS: This course will help students improve the effectiveness of their thinking skills through:
   a. Students will perform calculations from sizing charts.
b. Students will interpret and paraphrase complex sections of the plumbing code.

c.

3) COMMUNICATIONS SKILLS: This course will help students improve their oral and written communication skills through:
   a. Students will perform group plumbing “inspections” on systems their peers installed, citing any code violations.
   b.

4) HUMAN DIVERSITY: This course will help students recognize, understand, and appreciate human diversity through:
   a. Students will work in groups and learn to function as a team.
   b.

TOPICS TO BE COVERED:
1. Recall plumbing definitions, basic principles and general regulations.
2. List acceptable piping materials for various plumbing systems.
3. Identify materials used for water supply systems.
4. Identify materials used for building sewers and storm sewers.
5. Identify materials used for soil, waste and vent piping.
6. Explain code requirements for various joints and connections.
7. Define various plumbing traps and cleanouts.
8. Explain code regulations for traps and cleanouts.
10. List various plumbing fixtures.
11. Explain spacing requirements for fixture installation.
12. List requirements for hangers and supports.
13. Define indirect waste and special waste.
14. Explain components of water supply and distribution systems.
15. State location and purpose of control valves in water supply systems.
16. Identify methods used to protect potable water systems.
17. Compute minimum required air gap for indirect for indirect wastes.
18. Choose the correct backflow device for various potential hazards.
19. Summarize installation/testing requirements for RPZ backflow preventers.
20. Explain methods used to disinfect potable water systems.
21. Illustrate proper water meter installation.
22. Interpret drainage system sizing charts.
23. Identify fixture unit values for various plumbing fixtures.
24. Identify minimum fixture trap and drain size for plumbing fixtures.
25. Interpret sizing charts for drainage piping.
26. Explain code regulations for drainage piping.
27. Explain vent piping requirements.
28. Interpret sizing charts for vent piping.
29. Explain vent piping terminology.
30. Summarize requirements for wet venting, stack venting and battery venting.
31. Define yoke vent and applicable requirements for yoke vents.
32. Illustrate proper island fixture venting methods.
33. Define storm sewers.
34. Compute sizes for storm sewers and rain leaders.
35. Compute available water pressure for sizing a supply system.
36. Perform calculations for sizing water supply distribution systems.
37. Design and size drain, waste and vent systems.
38. Calculate the developed length of vent piping.
39. Use code charts and calculations to size water distribution systems.
40. Perform drainage load calculations.

LIST OF EXPECTED COURSE OUTCOMES:

LEARNING/TEACHING TECHNIQUES used in the course are:

- Collaborative Learning
- Problem Solving
- Student Presentations
- Interactive Lectures
- Creative Projects
- Individual Coaching
- Lecture
- Films/Videos/Slides
- Demonstrations
- Other (describe below)
- Lab

ASSIGNMENTS AND ASSESSMENTS FOR THIS CLASS INCLUDE:

- Reading
- Oral Presentations
- Textbook Problems
- Group Problems
- Tests
- Worksheets
- Papers
- Term Paper
- Individual Projects
- Collaborative Projects
- Portfolio
- Other (describe below)

EXPECTED STUDENT LEARNING OUTCOMES:

Veteran Services: Minnesota West is dedicated to assisting veterans and eligible family members in achieving their educational goals efficiently. Active duty and reserve/guard military members should advise their instructor of all regularly scheduled military appointments and duties that conflict with scheduled course requirements. Instructors will make every effort to work with the student to identify adjusted timelines. If you are a veteran, please contact the Minnesota West Veterans Service Office.

The information in this course outline is subject to revision

To receive reasonable accommodations for a documented disability, please contact the campus Student Services Advisor or campus Disability Coordinator
as arrangements must be made in advance. In addition, students are encouraged to notify their instructor.

This document is available in alternative formats to individuals with disabilities by contacting the Student Services Advisor or by calling 800-658-2330 or via your preferred Telecommunications Relay Service.

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