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 & Heating Technology                      COURSE NUMBER: PLHT 1135

NUMBER OF CREDITS: 2 (1 lecture, 1 lab)

COURSE TITLE: Code II

CATALOG DESCRIPTION: Build on knowledge learned in PLHT 1110 and apply this information to gain thorough understanding of Minnesota plumbing code. Course includes pipe sizing of residential homes, plumbing license requirements and practical testing to achieve the journeyman license.

AUDIENCE : Students interested in pursuing a career in plumbing and heating.

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:
N/A

LENGTH OF COURSE : Semester

THIS COURSE IS USUALLY OFFERED:
Every other year ❑ fall spring ❑ X summer ❑ undetermined ❑

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

1) ACADEMIC CONTENT: The academic objectives of this course are:
   b. Analyze technical charts to size and install drain waste & vent lines
   c. Utilize reference standards for plumbing materials and installation procedures.
   d. Explain qualifications of licensed plumbers and process for licensure attainment.
2) THINKING SKILLS: This course will help students improve the effectiveness of their thinking skills through:
   a. Completing homework (reading, reports, and worksheets)
   b. Participating in classroom discussions
   c. Taking open and closed book quizzes and tests
   d. Complete assigned lab projects

3) COMMUNICATIONS SKILLS: This course will help students improve their oral and written communication skills through:
   a. Participate in classroom discussions and reports.
   b. Participate in assignments, worksheets and reports

4) HUMAN DIVERSITY: This course will help students recognize, understand, and appreciate human diversity through:
   a. Participate in classroom discussions.
   b. Work with fellow students on projects.
   c. Working with students from other cultures.

TOPICS TO BE COVERED:
1. Minnesota licensing laws, plumbing industry definitions, advanced plumbing principles.
2. General regulations, requirements and calculations for plumbing installations, potable water distribution systems, Drain, Waste and Vent systems.
3. Requirements for design, size and selection of drain waste and vent lines.
4. Reference standards for plumbing materials and installation.
5. Qualifications of licensed plumbers to secure State licensure.

COURSE LEARNING OUTCOMES (GENERAL):
   a. Analyze basic and general plumbing principles
   b. Explain plumbing terminology related to the plumbing code
   c. Identify materials used for fixtures and fittings
   d. Identify materials used in water supply and distribution
   e. Determine needed components for selected applications
   f. Demonstrate the ability to select proper materials for selected applications

STUDENT LEARNING OUTCOMES (SPECIFIC):
Students will:
1. Explain methods used to disinfect potable water systems.
2. Illustrate proper water meter installation.
3. Interpret drainage system sizing charts.
4. Identify fixture unit values for various plumbing fixtures.
5. Identify minimum fixture trap and drain size for plumbing fixtures.
6. Interpret sizing charts for drainage piping.
7. Explain code regulations for drainage piping.
8. Explain vent piping requirements.
9. Interpret sizing charts for vent piping.
10. Explain vent piping terminology.
11. Summarize requirements for wet venting, stack venting and battery venting.
12. Define yoke vent and applicable requirements for yoke vents.
13. Illustrate proper island fixture venting methods.
15. Compute sizes for storm sewers and rain leaders.
16. Compute available water pressure for sizing a supply system.
17. Perform calculations for sizing water supply distribution systems.
18. Design and size drain, waste and vent systems.
19. Calculate the developed length of vent piping.
20. Use code charts and calculations to size water distribution systems.

**LEARNING/TEACHING TECHNIQUES** used in the course are:
- x Collaborative Learning
- □ Student Presentations
- x Creative Projects
- x Lecture
- x Demonstrations
- x Lab
- □ Interactive Lectures
- x Individual Coaching
- □ Films/Videos/Slides
- □ Other (describe below)

**ASSIGNMENTS AND ASSESSMENTS FOR THIS CLASS INCLUDE:**
- x Reading
- □ Oral Presentations
- x Textbook Problems
- □ Group Problems
- □ Other (describe below)
- x Tests
- □ Worksheets
- □ Papers
- □ Term Paper
- x Individual Projects
- □ Collaborative Projects
- □ Portfolio

**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.