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 1105

NUMBER OF CREDITS: 4 (1 lecture, 3 lab)

COURSE TITLE: Plumbing Installation and Fixtures

CATALOG DESCRIPTION:
Expands on PLBT 1100 to begin construction systems for residential and light commercial structures. Safe methods of handling and installing piping in accordance with Minnesota State Plumbing Code and general industry accepted standards will be emphasized. Both copper and plastic materials will be utilized in installations. Common fixtures, faucets, and valve selection and installation will be included in lab activities. Proper structural support will be included.

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:
Area: by meeting the following competencies:
Area: by meeting the following competencies:

PREREQUISITES OR NECESSARY ENTRY SKILLS/KNOWLEDGE:
N/A

LENGTH OF COURSE : Semester

THIS COURSE IS USUALLY OFFERED:
Every other year ☐ fall x 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. Recognize safe methods of handling and installing piping.
   b. Identify appropriate methods of installation and repair of fixtures, faucets, and valves used in plumbing trade.
   c. Identify common fixtures, faucets, valve selection and structure support for installation.
   d. Understand the Minnesota State Plumbing Code practices for installation.
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:
   a. Installation & repair fixtures, faucets, various valves.
   b. Safe methods of handling and installation.
   c. Minnesota State Plumbing code for installation.
   d. Use of hand, power cutting, measuring, and pipe assembly tools.
   e. Proper structural support.

COURSE LEARNING OUTCOMES (GENERAL):
   a. Identify and comprehend materials and methods of hanger installation
   b. Install DWV piping in structures
   c. Install water piping in structures
   d. Apply safety procedures and techniques
   e. Interpret code to assure installation compliance
   f. Utilize tools in safe and effective manner
   g. Select appropriate fixtures for customer expectations
   h. Install fixtures per manufacturers standards
   i. Test systems per code requirements

STUDENT LEARNING OUTCOMES (SPECIFIC):
Students will:
1. Install drainage enzyme maintainers
2. Install vacuum breakers
3. Install supply stops
4. Install supplies
5. Install softener bypass
6. Install and replace sink
7. Install and replace lavatory faucet
8. Install and replace lavatory carriers
9. Install and replace kitchen sink
10. Install and replace kitchen faucet
11. Troubleshoot electric water heaters
12. Install flushometer
13. Install wall hung lav
14. Install drain chemicals
15. Install and replace disposal
16. Install copper and plastic pipe
17. Install and replace urinal
18. Install and replace faucets

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

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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