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 1130

NUMBER OF CREDITS: 5 (2 lecture; 3 lab)

COURSE TITLE: Plumbing Installation and Fixtures II

CATALOG DESCRIPTION: Expand on PLBT 1105 for more complex construction systems for residential and light commercial structures. Installation, service and repair of common fixtures, faucets, water treatment, water heaters installation will be included in lab activities. Students will be provided more complex projects and develop solutions to complete system installations, various piping installations applying code requirements.

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:

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:
   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:
1. Proper assembly techniques for PVC and PEX piping.
2. Proper use of hand tools and assembly specialty tools.
3. Application of Minnesota State Code for design and installation of DWV.
4. Proper use of measuring tools and techniques.
5. Water quality testing, water system analysis.
6. Proper tool maintenance, appearance, clean work space, customer service.

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
   a. Demonstrate safety practices in shop and job site and personal protective equipment
   b. Practical mathematical calculations.

STUDENT LEARNING OUTCOMES (SPECIFIC):
Students will:
1. Construct PVC project
2. Construct PEX project
3. Draw and assemble DWV project
4. Explain and complete proper fixture installation
5. Perform system tests
6. Install proper piping and valve supports
7. Perform service on valves, faucets, drains, etc.
8. Install softener system
9. Install RO system
10. Perform accessory system service
11. Explain water quality testing
12. Install water heater
13. Service water heater
14. Demonstrate customer service, maintain clean work area, proper tool maintenance and cleaning.

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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