Common Course Outline

EMET 210
Fundamentals of Piping Systems

3 Semester Hours

The Community College of Baltimore County

Description

EMET 210 – 3 Credits – Fundamentals of Piping Systems
introduces pipefitting components, as well as standard terminology used to describe piping dimensions, operation and installation. Threaded and welded piping systems are covered, as are plastic piping systems and accessories. Students will also learn about and work with tubing components, installation, maintenance and troubleshooting techniques.
3 Credits: 2 lecture hours per week; 2 laboratory hours per week
Pre-requisite: EMET 125 – Mechanics & Maintenance Fundamentals

Course Objectives

Upon successful completion of this course the student will be able to:

1. explain terminology, methods and standards for determining piping dimensions;
2. use standard threaded piping specifications to thread and seal piping system components;
3. provide an overview of welded piping systems;
4. apply knowledge of piping system materials, components, characteristics, and to install plastic piping systems;
5. describe the characteristics, components, and factors involved in the installation process for tubing and hosing systems;
6. apply appropriate selection criteria when choosing hydraulic tubing systems;
7. identify tubing system components;
8. install and maintain hydraulic tubing systems;

9. troubleshoot tubing system;
10. explain the fundamental issues impacting hose systems;
11. discuss the role and characteristics of gaskets, sealants, and adhesives in tubing and hosing systems; and
12. braze copper pipe.

Major Topics

I. Piping Dimensions and Terminology
II. Threaded, Welded, and Plastic Piping Systems
III. Pipefitting Accessories and Installation
IV. Tubing and Hose Systems Fundamentals
V. Hydraulic Tubing systems
VI. Gaskets, Sealants, and Adhesives
VII. Tubing and Hose Systems Maintenance
VIII. Soldering

Course Requirements

Grading/exams: Grading procedures will be determined by the individual faculty member and will be provided on the first day of class.

The following will be required for this course:

1. Written paper or suitable practical project
2. Midterm exam
3. Comprehensive final (including a practical exam).

In addition, students can expect grades from the following areas:

4. Quizzes
5. Lab Projects
6. Homework Assignments.

Other Course Information

EMET 210 – Fundamentals of Piping Systems is an elective course in the Mechanical Engineering Technology option of the Engineering Technology A.A.S. program. It is taught in a classroom and lab environment, and includes hands-on activities which allow students to apply the knowledge they acquire during lecture sessions.