

COURSE PLAN

FIRST: BASIC INFORMATION

College					
College	: Karak collage				
Department	: Mechanical Engineering				
Course					
Course Title	: Plumbing 1				
Course Code	: 020209113				
Credit Hours	: 2 (1 Theoretical, 1 Practical)				
Prerequisite	:				
Instructor					
Name	: Eng. Qutaibah Tarawneh				
Office No.	:				
Tel (Ext)	:				
E-mail	: Q.tarawneh@bau.edu.jo				
Office Hours	:				
Class Times	The building	today	Start time	End time	Hall number
Text Book					
Title	: Plumbing Engineering and Design Handbook Volume 4 Plumbing Components and Equipment				

References

1. 'Plumbing Engineering and Design Handbook' Volume 4 Plumbing Components and Equipment
2. 'Piping handbook' Mohinder L. Nayyar, P.E. 7TH ed 2000

SECOND: PROFESSIONAL INFORMATION

COURSE DESCRIPTION

This course deals with the introduction to steel piping and PVC pipes cutting process, steel piping and PVC pipes cutting, steel pipe screw assembly, process PVC pipes, steel pipe inserted into the joint and 90-degree bending, steel pipe processing and bending, steel pipe 180-degree and pipe bending to pass over, steel pipe drain and pressure and leak testing for plumbing.

COURSE OBJECTIVES

The objectives of this course are to enable the student to do the following:

- Understand joining and cutting of steel pipe and PVC pipes.
- Understand bending process on steel pipe and PVC pipes.
- Explain the assembly methods of pipes for plumbing system, how to design the plumbing system using both PVC pipe and steel pipe.
- Explain how to test the pressure and leakage on the PVC and steel piping system.

COURSE LEARNING OUTCOMES

On successful completion of this course, students are expected to be able to:

- CLO1. Explain the concept of plumbing system, types of pipes for plumbing system and materials of pipes
 CLO2. Develop working competence of joining and cutting using PVC pipes and steel pipes
 CLO3. Explain bending machine and bending works of PVC and steel pipes
 CLO4. Assemble the pipe system using PVC and steel pipes
 CLO5. Design and fabricate a simple plumbing system
 CLO6. Explain the pressure and leak test on plumbing system composed of PVC and steel pipes

COURSE SYLLABUS

Week	Topic	Topic details	Reference (chapter)	Proposed assignments
1	Introduction of Plumbing 1	<ul style="list-style-type: none"> • Orientation on plumbing 1 • Introduce the plumbing system 	CLO1	
2	Pipe types	<ul style="list-style-type: none"> • Types of plastic pipes including polyethylene • Types of steel pipes • Pipes in water tube, drainage tube and gas tube 	CLO1	
3	Pipe joining and cutting	<ul style="list-style-type: none"> • Mechanical joints methods of PVC pipes • Joining practices using PVC pipes • Tee fitting using PVC pipes 	CLO2	
4	Pipe joining and cutting	<ul style="list-style-type: none"> • Introduce the cutting devices for PVC pipes • Cutting practice of PVC pipes 	CLO2	
5	Pipe joining and cutting	<ul style="list-style-type: none"> • Mechanical joint methods for steel pipes • Joining practices of steel pipes using coupling • Making up threaded pipe 	CLO2	
6	Pipe joining and cutting	<ul style="list-style-type: none"> • Introduce the cutting machine for steel pipes • Thread cutting practice • Cutting practice of steel pipes 	CLO2	
7	Bending works	<ul style="list-style-type: none"> • Introduce bending machines and their operating • Bending of PVC pipes and steel pipes • Hot bending and cold bending 	CLO3	
8	Midterm Exam			
9	Assemble of piping system	<ul style="list-style-type: none"> • PVC pipes inserted to joints. • PVC pipes processing and assembly 	CLO4	



Week	Topic	Topic details	Reference (chapter)	Proposed assignments
10	Assemble of piping system	<ul style="list-style-type: none"> • Steel pipes processing and assembly 	CLO4	
11	Fabrication and installation of piping system	<ul style="list-style-type: none"> • Design simple piping system • Fabricate the piping system using PVC pipes 	CLO5	
12	Fabrication and installation of piping system	<ul style="list-style-type: none"> • Design and fabricate the piping system using steel pipes 	CLO5	
13	Fabrication and installation of piping system	<ul style="list-style-type: none"> • Design simple drainage system combined with PVC and steel • Fabricate the drainage system 	CLO5	
14	Pressure and leak testing	<ul style="list-style-type: none"> • Leak testing procedures • Hydrostatic leak testing • Pneumatic leak testing 	CLO6	
15	Pressure and leak testing	<ul style="list-style-type: none"> • Pressure testing procedures • Preparation of test-package • Hydrostatic testing 	CLO6	
16	Final Exam			

COURSE LEARNING RESOURCES

Teaching will be achieved using available resources including lectures, data show, and materials uploaded on the e-learning system

ONLINE RESOURCES

- 1) <https://www.pmengineer.com/>
- 2) <https://www.ny-engineers.com/mep-engineering-services/plumbing-services>

**ASSESSMENT TOOLS**

Assessment Tools	%
Projects and Quizzes	20%
MID Exam	30%
Final Exam	50%
Total Marks	100%

THIRD: COURSE RULES**ATTENDANCE RULES**

Attendance and participation are extremely important, and the usual University rules will apply. Attendance will be recorded for each class. Absence of 10% will result in a first written warning. Absence of 15% of the course will result in a second warning. Absence of 20% or more will result in forfeiting the course and the student will not be permitted to attend the final examination. Should a student encounter any special circumstances (i.e. medical or personal), he/she is encouraged to discuss this with the instructor and written proof will be required to delete any absences from his/her attendance records.

GRADING SYSTEM**Example:**

Average	Maximum	Minimum
Excellent	100%	90%
Very Good	89%	80%
Good	79%	70%
Satisfactory	69%	60%
Weak	59%	50%
Failed	49%	35%

REMARKS

{ The instructor can add any comments and directives such as the attendance policy and topics related to ethics }

COURSE COORDINATOR**Course Coordinator****Signature:****Date:****Department Head:****Signature:****Date:**