COURSE PLAN

FIRST: BASIC INFORMATION

College	
College	: Karak collage
Department	: Mechanical Engineering
Course	
Course Title	: Engineering of Plumbing System
Course Code	: 020209114
Credit Hours	: 3 (3 Theoretical, 0 Practical)
Prerequisite	: 020209113
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 design and practice (S. G. Deolalikar)

References

1. Plumbing design and practice (S. G. Deolalikar)
2. Plumbing engineering design handbook

SECOND: PROFESSIONAL INFORMATION

COURSE DESCRIPTION

This course deals with the general principles of the layout of public and domestic water supply system, principles of constant and intermittent system of public and domestic supply, principles of domestic hot and cold water, principles of sanitation in buildings, traps, identify the various types of soil and waste appliances, basic principles of good drainage system, septic tank and soak-away drainage system design.

COURSE OBJECTIVES

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

- Explain the general principles of the layout of public and domestic water supply system.
- Explain drainage and wastewater disposal including plumbing fixtures and traps
- Identify the various types of soil and waste appliances, and understand septic tank and soak-away drainage system design.
- Explain the corrosions and types of corrosion generated in plumbing system, their protections.

COURSE LEARNING OUTCOMES

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

CLO1. Explain with and without diagram the general principles underlying the layout of public and domestic water supply system
CLO2. Explain the principle of drainage and wastewater disposal including traps and plumbing fixtures
CLO3. Explain the sanitation in building and plumbing system
CLO4. Explain soil and waste appliances such as pipe system above ground, piping installation and special appliances
CLO5. Design a rainwater outlet and good drainage system
CLO6. Explain types of corrosion, causes of corrosions and protections of corrosion

COURSE SYLLABUS

Week	Topic	Topic details	Related L.O. and Reference (chapter)	Proposed assignments
1	Introduction. Water supply system	• Usage • Requirements • Population projection	CLO1	
2	Water supply system	• Source of water supply • Recycled water • Water storage	CLO1	
3	Water supply system	• Distribution system • Simultaneous demand • Design of piping system	CLO1	
4	Plumbing fixtures	• Definition • Basic requirements • Materials • Fixtures	CLO2	
5	Drainage and wastewater disposal	• Introduction • Characteristics of wastes • Wastewater	CLO2	
6	Drainage and wastewater disposal	• Types of drainage system • Planning toilet layout • Pipes and fittings	CLO2	
7	Traps	• Trapes • Role of atmospheric air • Design principles	CLO2	
8	**Midterm Exam**			
9	Sanitation in buildings	• Principles of Sanitation in buildings • Classify and differentiate various types of sanitary fittings. soil (W.C. Bidet Slop	CLO3	

Week	Topic	Topic details	Related L.O. and Reference (chapter)	Proposed assignments
		Sink) • Waste appliances (Wash Hand Basin, Bath, Sink). • sanitary appliances in different types of building		
10	Soil and waste appliances.	• Soil and waste pipe systems above the ground • Special applications • Piping installation • Building drainage materials	CLO4	
11	Rainwater disposal	• General • Planning • Design considerations	CLO5	
12	Rainwater disposal	• Design of rainwater outlet • Design of gutters	CLO5	
13	Good drainage system	• Drainage and sewerage system • System design • Achievement of objectives	CLO5	
14	Corrosion	• Corrosion phenomenon • Types of corrosion	CLO6	
15	Corrosion	• Factors affecting corrosion • Protection against corrosion	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

ASSESSMANT 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	**Department Head:**
Signature:	**Signature:**
Date:	**Date:**