FUTURE UNIVERSITY IN EGYPT جامعة المستقبل

Faculty of Engineering & Technology

Environmental and Sanitary Engineering

Information :

Course Code : SCM 521 **Level :** Undergraduate **Course Hours :** 3.00- Hours

Department : Department of Structural Engineering & Construction Management

Instructor Information :

Title	Name	Office hours
Lecturer	Dina Yehia Zakaria Ewais	1
Lecturer	Dina Yehia Zakaria Ewais	1
Assistant Lecturer	SARAH SALAH SAYED HUSSIEN ALI ELSHISHTAWY	
Assistant Lecturer	Nada Mohamed Abd El Hamid Ali Mohamed	

Area Of Study :

By the end of this course the student should be able to:
Design modern systems for water purification: Methods of water disinfection: Sedimentation, filtration, clarification, storage, water distribution system using method of circle and wastewater pump stations
Design biological treatment works using activated sludge system: Aerobic and anaerobic stabilization processes, Types and growth kinetics of microorganisms, Fundamentals of microbiology, Design criteria, Determination of aeration volume and air flow, Control methods, Process technologies of activated sludge.
Design waste stabilization ponds. Design of sludge treatment and disposal systems: Determination of sludge volume, Sludge thickeners, Sludge digestion, Different methods of sludge dewatering.

Description :

Definitions, Fields of environmental and sanitary engineering, Biosphere and environmental cycles, Issues of environmental pollution, Water supply engineering: Water demands, sources of water supply, collection works, purification works, distribution works, Sanitary drainage: sources of wastewaters, sewerage systems, hydraulic design, network accessories, sewage treatment systems.

Course outcomes :

a.Knowledge and Understanding: :	
1 -	Identify Water treatment objectives
2 -	Define predesign studies
3 -	Outline surface water collection works
4 -	Identify the stages of water treatment and waste water network
b.Intellectual Skills: :	
1 -	Analyze water treatment procedures
2 -	-Analyze wastewater treatment objectives
3 -	Design WWTP
4 -	Design surface water collection works

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Primary studies.	10	6	4
Collection works	5	3	2
Processes of water purification	20	12	8
Principles wastewater treatment	10	6	4
Stages of wastewater treatment	15	9	6
Analysis and design of WWTP	15	9	6

Teaching And Learning Methodologies :

Lecture
Class Work

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
1st Mid-term exam	15.00		
Quizzes	10.00		
2nd Mid-term exam	15.00		
Assignments	10.00		
Final exam	40.00		
Performance	10.00		

Course Notes :

Handouts by the lecturer