FUTURE UNIVERSITY IN EGYPT جامعة المستقبل

Faculty of Engineering & Technology

Irrigation and Drainage Engineering

Information :

Course Code :	SCM 462	**Level :**	Undergraduate	**Course Hours :**	3.00- Hours

Department : Department of Structural Engineering & Construction Management

Instructor Information :

Title	Name	Office hours
Associate Professor	Yasser Mohamed Sadek Abdel Aziz El Saie	15
Associate Professor	Yasser Mohamed Sadek Abdel Aziz El Saie	15
Teaching Assistant	Ahmed Taher Abdelhamed Mohamed Yousef	
Teaching Assistant	Ahmed Taher Abdelhamed Mohamed Yousef	
Teaching Assistant	Mohamed Fathy Salem Mohamed	

Area Of Study :

Upon successful completion of this course, the student should be able to:
- Understand the basic concepts and main principles
- Calculate the values of the essential terms
- Apply Codes provisions

Regarding water cycle & water resources hydrologic cycle, rainfall & surface runoff water flow, storage and infiltration irrigation systems irrigation structures drainage water reuse well design

Description :

Definitions of irrigation and drainage, Different sources of water for irrigation and its quality, Soil water plant relationship, Estimation of crop consumptive use, Introduction to the design of different irrigation systems: surface irrigation, sprinkler irrigation, drip irrigation, Introduction to the design of agricultural drainage system: tile drainage, surface drainage, and vertical drainage.

Course outcomes :

a.Knowledge and Understanding: :	
1 -	a1- Describe the main concept of water cycle & water resources
2 -	a2- Explain the principals of hydrologic cycle, rainfall & surface runof
3 -	a3- Define the main terms of water flow, storage and infiltration
4 -	a4- List the main items of irrigation systems
b.Intellectual Skills: :	
1 -	b1- Calculate the values of water flow, storage and infiltration
2 -	b2- Analyze the system of irrigation systems
3 -	b3- Design the elements of irrigation structure
4 -	b4- Design the elements of drainage water reuse
5 -	b5- Solve problems regarding well design

c.Professional and Practical Skills: :	
1 -	c1- Prepare technical reports for irrigation systems
2 -	c2- Apply Code provisions regarding irrigation structures
3 -	c3- Apply Code provisions regarding drainage water reuse
d.General and Transferable Skills: :	
1 -	d1- Work under stress

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
water cycle & water resources	10	6	4
hydrologic cycle, rainfall & surface runoff	10	6	4
water flow, storage and infiltration	10	6	4
irrigation systems	10	6	4
irrigation structures	10	6	4
drainage water reuse	10	6	4
well design	10	6	4
Revision	5	3	2

Teaching And Learning Methodologies :

Interactive Lecture
Discussion
Problem Solving
Lab Expermetns
Project
Report / Presentation

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Final Exam	40.00		
Mid- Exam I, II	30.00		
Quizzes / Assignments	15.00		
Report / Presentation	15.00		

Recommended books :

- "Irrigation and Drainage Engineering", ElSaie Moh. Yasser, Fattoh Ehab, 2004
- Handout notes on MOODLE