

Faculty of Engineering & Technology
Design of Massive Irrigation Structures

Information :

Course Code : SCM 533

Level : Undergraduate

Course Hours : 3.00- Hours

Department : Department of Structural Engineering & Construction Management

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
- Regarding locks retaining walls elements of dams operation of reservoir concrete dams spillways basins

Description :

Locks: types; planning, filling and emptying systems, design of foundation and retaining walls; dams: purpose, types, annual and long-semester storage, reservoir design and operation, design of concrete dams, earthquake loads, design of embankment dams, seepage control- spillways: types, hydraulic design, stilling basins: types, effects and design.

Course outcomes :

a. Knowledge and Understanding: :

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| 1 - | Define the main terms of retaining walls |
| 2 - | List the main items of elements of dams |
| 3 - | Explain the principals of operation of reservoir |
| 4 - | Define the main terms of basins |

b. Intellectual Skills: :

- | | |
|-----|--|
| 1 - | Calculate the values of locks |
| 2 - | Design the elements of retaining walls |
| 3 - | Analyze the system of elements of dams |
| 4 - | Calculate the values of spillways |

c. Professional and Practical Skills: :

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| 1 - | Prepare technical reports for retaining walls |
| 2 - | Draw neat details of concrete dams |
| 3 - | Draw neat details of spillways |

d. General and Transferable Skills: :

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| 1 - | Search for information and self-learning discipline |
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Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
locks	8	6	2
retaining walls	8	6	2
elements of dams	8	6	2
operation of reservoir	8	6	2
concrete dams	8	6	2
spillways	8	6	2
basins	8	6	2
Revision	4	3	1

Teaching And Learning Methodologies :

Interactive Lec.
Discussion
Problem Solving
Report / Present.

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Final Exam	40.00		
First Mid-term Exam	15.00		
Quizzes / Assig.	15.00		
Report / Present.	15.00		
Second Mid-term Exam	15.00		

Course Notes :

Handout notes on MOODLE

Recommended books :

"Irrigation and Drainage Engineering", EISaie Moh. Yasser, Fattoh Ehab, 2004