



Jordan University of Science and Technology
Faculty of Engineering
Civil Engineering Department

CE552 Water Resources - JNQF Level: 7

Second Semester 2023-2024

Course Catalog

3 Credit Hours. Water laws. Reservoirs, dams, and reservoir basins. Hydro- power generation. Flood estimation, routing and control. Engineering economy in water resources planning. Introduction to system engineering in water resources. Topics in arid and semi-arid region water resources. Desertification water conservation techniques, reuse of water, remote sensing and arid water resources. Linear programming and its applications in water resources.

Teaching Method: Electronic Course

Text Book

Title	Water Resources - An Integrated Approach
Author(s)	Joseph Holden
Edition	1st Edition
Short Name	Text book
Other Information	Routledge Taylor and Francis Group

Instructor

Name	Dr. Samer Talози
Office Location	C5 L1
Office Hours	
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Class Schedule & Room

Section 2:
Lecture Time: Sun, Tue : 18:00 - 19:00
Room: متزامن الحضور منصة الكترونية

Prerequisites		
Line Number	Course Name	Prerequisite Type
233520	CE352 Hydraulics	Prerequisite / Study

Tentative List of Topics Covered		
Weeks	Topic	References
Weeks 1, 2	Study Water demand and Hydroelectric Power generation	
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Week 3	Study Reservoirs: Physical characteristics. Reservoir yields calculation Reservoir Reliability. Reservoir sedimentation	
Weeks 4, 5	Apply Engineering Economy and Microeconomics in Water resources planning	
Weeks 6, 7	Apply Linear Programming to water resources problems	
Weeks 8, 9	Apply System engineering to water resources planning and development	
Week 10	Flood estimation, control, and damage mitigation	
Weeks 11, 12, 13, 14	Understand topics related to water resources in arid and semi-arid regions: Water law, Water Reuse and water harvesting, Drought Desertification	
Weeks 15, 16	Microeconomics application in water resources engineering	

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Civil engineering students will be able to describe the impacts of climate change on water resources with focus on surface and groundwater [1PI-4b] [1L7K1]	25%	Final Exam, First Exam Online, Second Exam, Attendance and Participation
Civil engineering students will be able to predict water demand by using the top-down and bottom-up approaches [1PI-6a] [1L7S1]	25%	Final Exam, First Exam Online, Second Exam, Attendance and Participation
Civil engineering students will be able to outline the role of economy in water resources management within the various sectors [1PI-4b] [1L7S2]	25%	Final Exam, First Exam Online, Second Exam, Attendance and Participation
Civil engineering students will be able to describe the impact of conflict, law and governance on the future of water resources [1PI-6b] [1L7S3]	25%	Final Exam, First Exam Online, Second Exam, Attendance and Participation

Relationship to Program Student Outcomes (Out of 100%)											
PI-1a	PI-2a	PI-2b	PI-2c	PI-2d	PI-3a	PI-4a	PI-4b	PI-5a	PI-6a	PI-6b	PI-7a
							50		25	25	

Relationship to NQF Outcomes (Out of 100%)			
L7K1	L7S1	L7S2	L7S3
25	25	25	25

Evaluation	
Assessment Tool	Weight
Final Exam	40%
First Exam Online	25%
Second Exam	25%
Attendance and Participation	10%

Policy	
Attendance	The regulations of the Jordan University of Science and Technology will be adhered to.

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