



LESSON PLAN

COURSE TITLE: Hydrology	COURSE CODE: CE362	CREDIT HOURS: 03	MINIMUM CONTACT HOURS: 48
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COURSE INSTRUCTOR: **Prof. Dr. Ashfaque A. Memon (A+B) / Hafiz Usama Imad (B+C)**

Batch: 22CE	Semester: 5th	Semester Starting Date: 09-12-2024	Semester Suspension Date: 18-04-2025
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COURSE LEARNING OUTCOMES:



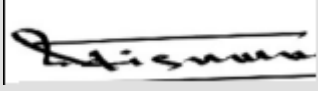
CLO	Description	Taxonomy Level	PLO
1	EXPLAIN hydrologic processes, their measurements and computations.	C2	1
2	ANALYZE the occurrence, movement and distribution of water in the atmosphere, at the ground surface and within subsurface.	C4	4

Contents	CLO No.	Marks Assigned	Delivery Methods	Assessment Methods (Marks)
<p>➤ Introduction Hydrology, The world’s freshwater resources, Hydrologic cycle, Hydrologic equation, Importance and Scope of hydrology.</p> <p>➤ Hydrologic Measurements and Data Sources Hydrologic measurements, Data networks, Telemetry systems and Remote sensing.</p> <p>➤ Hydrologic Processes and their Computation Precipitation, Evaporation, Transpiration, Evapotranspiration and Runoff, their measurement / estimation. Hydrograph and Unit hydrograph their analysis and application.</p> <p>➤ Floods- Estimation, Routing and Control Size of floods, Estimation of peak flood, Flood frequency studies, Introduction to Reservoir routing and Channel routing, Methods of flood control, Flood forecasting and warning.</p> <p>➤ Water Resource Management Water resources of Pakistan, Indus Basin Irrigation System (IBIS), Indus Water Treaty (IWT) 1960 and Water Accord (WA) 1991, Indus River System Authority (IRSA).</p> <p>➤ Sea water intrusion</p> <p>No of Lectures: 29</p>	1	60	<ul style="list-style-type: none"> • Class Lectures • Discussion • Example practice 	<ul style="list-style-type: none"> • Class Test-I (5) • Class Test-II (5) • Assignment-I (5) • Presentation (5) • Mid semester Exam (30) • Final Exam (10)

<p>➤ Groundwater, Well Hydraulics and Tube Wells</p> <p>Basic terminology, Types of aquifers, Yield of a well, Well losses, Specific capacity of well, Interference among wells. Types and Parts of tube well, Tube well construction, Design of tube well for irrigation purposes, Comparison of Tube well irrigation and Canal irrigation.</p> <p>No of Lectures: 19</p>	2	40	<ul style="list-style-type: none"> • Class Lectures • Discussion • Example practice 	<ul style="list-style-type: none"> • Class test-III (05) • Case study (05) • Final Exam (30)
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ASSESSMENT DETAILS

S. No.	Assessment Activities	Marks	Activities		CLO(s) to be assessed
1	Class Test/Assignment/Project Design/Presentation/Quiz/Field Report	30	Class test(s)	3	1,2
			Assignment	1	1
			Presentation	1	1
			Case study	1	2
2	Mid Semester Exam	30	1		1
3	Final Semester Exam	40	1		1, 2

<p>Prepared by: Dr. Ashfaq A. Memon</p> <p>Signature: </p> <p>Dated: 02-12-2024</p>	<p>Reviewed by: Curriculum Review Committee</p> <p>Signature: </p> <p>Dated: 20-12-2024</p>	<p>Approved by: Chairman, CED</p> <p></p> <p>Signature:</p> <p>Dated: 20-12-2024</p>
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