Military Institute of Science and Technology (MIST)

Department of Environmental, Water Resources, and Coastal Engineering (EWCE)

Course No: **EWCE 331**
Course Title: **Water Supply Engineering**
Credit Hour: **1.5 (out of 3.00)**
Name of Instructor: **Lt Col Kazi Shamima Akter, PhD, Engrs**

Tentative Lecture Plan

Lecture	Topics	Sub-Topics
1 - 2	Surface water supply scheme	• Surface water collection units (Intake Structures) • Water treatment units
3		• Water distribution system • Distribution methods
4	Water distribution system equipment	• Distribution main • Water meter
5 - 8	Water distribution system design	• Single pipe design • Serial and branched networks • Looped networks • Hardy Cross Method
9	Water quality requirements	• Water impurities • Water quality requirements/ standards – Bangladesh and International Standards
10 - 11	Water treatment methods – Preliminary treatment	• Plain sedimentation • Coagulation, Flocculation
12 -13		• Filtration • Disinfection
14	Advanced treatment	• Iron and Manganese removal
15		• Arsenic removal
16		• Taste and odor control • Water softening • Membrane technologies – reverse osmosis
17 - 18	Low Cost Water Treatment Methods	• Pond Sand Filtration (PSF) technique • Arsenic/ Iron removal plant (ARP/ IRP)
19 - 21	Climate Resilient Water Safety Plan (CRWSF)	• Water safety through safety plans • Climate resilience of water safety plans • Developing a CRWSP • Steps of CRWSP

References:

1. A Text Book of Water Supply Engineering
Authors: M. A. Aziz
1st ed., Hafiz Book Center

2. Water Supply and Sanitation
Authors: M. Feroz Ahmed, Md. Mujibur Rahman
1st ed., ITN-BUET

3. Environmental Engineering
Authors: Howard S. Peavy, Donald R. Rowe and George Tchobanoglous
International Edition, McGraw Hill Companies

4. Water and Environmental Engineering
Authors: M. Habibur Rahman, Abdullah Al-Muyeed
1st ed., ITN-BUET

Grading Policy:

Class Performance	10%
Class Assessment	10%
Mid Term Exam	20%
Final Exam	60%
Total	**100%**