



MUTAH UNIVERSITY
Faculty of Engineering
Department of Chemical Engineering



Water and Wastewater Treatment Technologies
COURSE SYLLABUS

Course Code	Course Name	Credits	Contact Hours
0404588	Water and Wastewater Treatment Technologies	3	3T

INSTRUCTOR/COORDINATOR	
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TEXTBOOK	
Title	Environmental Engineering
Author/Year	Ruth F. Weiner, R.F. and Matthews, R. / 2003
Other Supplemental Materials	
Title	Handbook of Environmental Engineering Calculations
Author/Year	Lee C.C. and Lin, S.D. / 2000
Electronic Materials	

SPECIFIC COURSE INFORMATION
A. Brief Description of the Content of the Course (Catalog Description)
Characterization of Water, wastewater and industrial water, Physical treatment technologies, Biological treatment technologies, Chemical treatment technologies Sludge management.
B. Pre-requisites (P) or Co-requisites (C)
P: Unit Operation/Separation Processes (0404459)
C. Course Type (Required or Elective)
Elective

SPECIFIC GOALS

A. Specific Outcomes of Instruction

By the end of this course, the student should be able to:

CLO1- Identify the characterization of water (SLO 1).

CLO2- Distinguish between water and wastewater (SLO 1).

CLO3- Apply techniques used for determination of pollutants {(SLO 1), (SLO 6)}.

CLO4- Describe appropriate processes and equipment used for removal of specific pollutants (SLO 1).

CLO5- Understand and apply the basic design concepts for water and wastewater treatment {(SLO 1), (SLO 2), (SLO 4)}.

CLO6- Introduce the method of sludge characterization (SLO 1).

CLO7- Explain and describe sludge management and disposal techniques (SLO 1).

CLO8- Apply basic design concepts for sludge treatment processes {(SLO 1), (SLO 2), (SLO 4)}.

CLO9- Compare and analyze a new wastewater treatment technology (SLO7)

B. Student Outcomes Addressed by the Course

1	2	3	4	5	6	7				
✓	✓		✓		✓	✓				

BRIEF LIST OF TOPICS TO BE COVERED

List of Topics	No. of Weeks	Contact Hours
Measurement of Water Quality	4	12
Water Treatment	3	9
Wastewater Treatment	4	12
Sludge Treatment and Disposal	3	9
	Total	14
		42