طرح دوره و جدول برنامه درسی- درس طراحی تصفیه خانه فاضلاب دوره کارشناسی ارشد
مهندسی بهداشت محیط

Course Plan- Wastewater Treatment plant Design - MSc Level

Coordinating Unit:	Department of Environmental Health Engineering, School of Public Health	
Degree	MSc	
Course Title:	Wastewater Treatment plant Design	
Compulsory/Elective	Compulsory	
Course Prerequisites:	None	
Prerequisite knowledge	Wastewater Treatment Engineering	
Duration	One semester	Credit Units: 2
Course Description	This course nourishes students with engineering knowledge of the comprehensive management of the design and operation of wastewater treatment facilities	
Course Objectives	**Main Objectives:** To promote the ability for recognition, selection and Design wastewater treatment plant units **Specific Objectives:** To focus on the wastewater treatment system and the theory and design technique for the wastewater treatment process design. To help students develop the ability to apply basic understandings of physical, chemical, and biological phenomena for the successful design and operation of wastewater treatment plants.	
Learning Outcomes (LO)	Upon completion of this course, students should be able to: 1. Learn the physical/chemical/biological characteristics of and the evaluation technique for sewage. 2. Learn the theory, engineering application, and design technique for the wastewater Treatment unit process. 3- learn to select the best technologies due to economic, social and cultural community 4. Learn to design wastewater treatment plant units 5. Learn to design the other alternative technology such as attached growth and Lagoons systems	
Texts & References: ***(* recommended textbook(s))***	1. Metcalf & Eddy, Inc. (1981) *, Wastewater Engineering: Collection and Pumping of Wastewater, McGraw-Hill. 2. Metcalf & Eddy, Inc. (2002), Wastewater Engineering: Treatment, Disposal, and Reuse, McGraw-Hill. 3. Peavy, H.S., Rowe, D.R., and Tchobanoglous, G. (1985), Environmental Engineering, McGraw-Hill. 4. United States Environmental Protection Agency, Wastewater Technology Fact Sheet. 5- Syed R. Qasim, Wastewater Treatment Plants: Planning, Design, And Operation, Second Edition, CRC Press, 1998.	
Student Assessment:	1-Three tests (midterm exam and two homework assignments): 55%; 2– One final examination (student's presentation and report on project): 45%	
Learning Outcome Assessment	1-Tests and final examination. **2-** Course evaluation	
Pedagogical Methods	* Lecture * Student presentation ☐ e-learning * Project * Independent study * Exercises and problems	

طرح دوره درس طراحی تصفیه خانه فاضلاب- دروه کارشناسی ارشد

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Day(S) Sunday(S)	Date (yy-mm-dd)	Course Leader	Time	Context
Week1		Dr.Farzadkia		Wastewater quantity
Week2		Dr.Farzadkia		Wastewater quantity
Week3		Dr.Gholami		Wastewater quality
Week4		Dr.Gholami		Decision making in wastewater treatment plant selection
Week5		Dr.Gholami		Project management
Week6		Dr.Farzadkia		Wastewater treatment plant- concepts
Week7 (Saturday)		Dr.Farzadkia		Preliminary treatment- screening design
Week8 (Saturday)		Dr.Farzadkia		Preliminary treatment- grit chamber design
Week 9		Dr.Gholami		Primary treatment- Sedimentation design
Week10		Dr.Gholami		Biological treatment- introduction
Week11		Dr.Farzadkia		Activated sludge treatment design
Week12		Dr.Farzadkia		Activated sludge treatment
Week13		Dr.Gholami		Trickling filter design
Week14		Dr.Gholami		RBC design
Week15		Dr.Gholami		Lagoons design
Week16		Dr.Farzadkia		Sludge Processing & Disposal
Week17		Dr.Gholami Dr.Farzadkia		Student Project correction