

COURSE DESCRIPTION FORM	
Course Code and Title	CHE370 Water Pollution and Sources
Course Semester	6
Catalog Description (Content) of the Course	Hydraulic cycle. Determinants of water quality. Saprobic system. Suspended, floating, colloidal materials.. Thermal pollution. Inorganic pollution. Toxic, radioactive pollutants. Organic Pollution. Microbial pollution. Effect of phosphorus, nitrogenous substances in water pollution. Surface water quality parameters and models.
Main Textbook	Wastewater Engineering, Treatment, Disposal and Reuse, Tchobanoglous G. & Burton F.L., ,Third Edition, Mc. Graw Hill, 1991.
Supporting Textbooks	• Su Kirliliği ve Kontrolü, Uslu O., Türkman A.,TC Başbakanlık Çevre Genel Müdürlüğü, Ankara, 1987. • Wastewater Engineering, Treatment, Disposal and Reuse, Tchobanoglous G. & Burton F.L., ,Third Edition, Mc. Graw Hill, 1991. • The Nalco Water Handbook, Mc Graw Hill,1988.
Course Credit (ECTS)	3
Prerequisites of the Course (Compulsory attendance should be indicated here.)	-
Type of the Course	Elective
Instruction Language of the Course	English
Object and Target of the Course	To learn the economic and social effects of pollution of air, water and soil and to be conscious about environmental pollution prevention issues.
Learning Outcomes of the Course	Water quality and sources of water pollution, removal of quality models in surface water.
Mode of Delivery	Face to face education
Weekly Schedule of the Course	1. Week Introduction, Hydraulic cycle, Determinants of water quality; The properties of water, water in the world and in Turkey, the economic and political effects of water 2. Week Introduction, Hydraulic cycle, Determinants of water quality; The properties of water, water in the world and in Turkey, the economic and political effects of water 3. Week Introduction, Hydraulic cycle, Determinants of water quality; The properties of water, water in the world and in Turkey, the economic and political effects of water 4. Week Saprobic system; algae, microorganisms, bacteria, viruses. 5. Week Water Pollution Sources: Suspended, floating, colloidal materials, Thermal pollution. Inorganic pollution. 6. Week Water Pollution Sources: Suspended, floating, colloidal materials, Thermal pollution. Inorganic pollution. 7. Week Water Pollution Sources: Suspended, floating, colloidal materials, Thermal pollution. Inorganic pollution. 8. Week Toxic, radioactive pollutants, Organic pollution. Microbial pollution, Effect of phosphorus, nitrogenous substances in water pollution. 9. Week Toxic, radioactive pollutants, Organic pollution. Microbial pollution, Effect of phosphorus, nitrogenous substances in water pollution. 10. Week Quality parameters and models in ground water: Identification and modeling quality parameters of river and lakes 11. Week Quality parameters and models in ground water: Identification and modeling quality parameters of river and lakes

	12. Week Quality parameters and models in ground water: Identification and modeling quality parameters of river and lakes 13. Week Project presentations. 14. Week Project presentations.			
Educative Activities <i>(Credit will be determined based on the time given for these activities. Should be filled carefully.)</i>	Theoretical Study Hours of Course Per Week Reading Searching in Internet and Library Preparing Reports Preparing Presentation Presentation Mid-Term and Studying for Mid-Term Final and Studying for Final			
Assessment Criteria		Quantity	Total Contribution (%)	
	Midterm	2	20	
	Homework	0	0	
	Assignment	0	0	
	Projects	1	20	
	Practice	0	0	
	Quiz	0	0	
	Contribution of In-term Studies to Overall Grade		60	
	Contribution of Final Examination to Overall Grade		40	
	Attendance		70	
Workload of the Course	Activity	Total Week Count	Weekly Duration (in hour)	Total Workload in Semester
	Theoretical Study Hours of Course Per Week	14	3	42
	Practicing Hours of Course Per Week	0	0	0
	Reading	4	1	4
	Searching in Internet and Library	4	1	4
	Designing and Applying Materials	0	0	0
	Preparing Reports	2	2	4
	Preparing Presentation	1	3	3
	Presentation	1	1	1
	Mid-Term and Studying for Mid-Term	2	3	6
	Final and Studying for Final	1	3	3
	Other	0	0	0
	Total work load			67
	Total work load/25			2.68
	ECTS of the course			3

Course's Contribution To Program	No	Program Outcomes	1	2	3	4	5
	1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied information in these areas to model and solve engineering problems.			X		
	2	Ability to identify, formulate, and solve complex engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.			X		
	3	Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose. (Realistic constraints and conditions may include factors such as economic and environmental issues, sustainability, manufacturability, ethics, health, safety issues, and social and political issues, according to the nature of the design.)			X		
	4	Ability to devise, select, and use modern techniques and tools needed for engineering practice; ability to employ information technologies effectively.			X		
	5	Ability to design and conduct experiments, gather data, analyze and interpret results for investigating engineering problems.					
	6	Ability to work efficiently in intra-disciplinary teams.		X			
	7	Ability to work efficiently in multi-disciplinary teams.	X				
	8	Ability to work individually.			X		
	9	Ability to communicate effectively in Turkish, both orally and in writing; knowledge of a minimum of one foreign language.				X	
	10	Prepare design and production reports, give and receive clear and intelligible instructions.	X				
	11	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.			X		
	12	Awareness of professional and ethical responsibility.	X				
	13	Information about business life practices such as project management, risk management, and change management.	X				
	14	Information about awareness of entrepreneurship, innovation, and sustainable development.		X			
	15	Knowledge about contemporary issues and the global and societal effects of engineering practices on health, environment, and safety.		X			
	16	Knowledge about awareness of the legal consequences of engineering solutions.	X				
	17	Knowledge on standards used in engineering practice.	X				
Name of Lecturer(s) and Contact Information	1. Assoc. Prof. Dr. S. Ferda MUTLU, sfmutlu@gmail.com						