Course Title-Course Code: CE630 ENVIRONMENTAL HYDRAULICS AND WATER QUALITY MODELLING								Name of the Programme: CIVIL ENGINEERING	
Semester	**Teaching Methods**							**Credits**	
	Lecture	**Recite**	**Lab.**	**Field Study**	**HW**	**Other**	**Total**	**Credit**	**ECTS Credit**
1-2	**42**	**0**	**0**	**0**	**56**	**90**	**188**	**3**	**7.5**
Language	Turkish								
Compulsory / Elective	Elective								
Prerequisites	-								
Course Contents	Hydrodynamics principles, solute conservation, molecular diffusion, advection, diffusion, dispersion and longitudinal dispersion, mixing in rivers, inland and coastal waters, water quality modelling, numerical models for hydrodynamics and water quality modelling, Environmental problems, water pollution and relevant laws in Turkey								
Course Objectives	To provide the students with the principles of hydrodynamics and solute transport modelling enabling them to understand and apply those principles for modelling of hydrodynamics and solute transport								
Learning Outcomes and Competences	To understand the principles of hydrodynamics and solute transport modelling and to provide the students with the ability to apply those principles								
Textbook and /or References	Fisher, H.B., List, E.J., Koh, R.C.Y., Imberger, J., Brooks, N.H. (1979) Mixing in Inland and Coastal Waters, Academic Press Inc., USA. Martin, J.L., McCutcheon, S.C. (1999) Hydrodynamics and Transport for Water Quality Modeling, CRC Press, Inc., Lewis Publishers, New York, USA. Przedwojski, B., Błażejewski, Pilarczyk, K.W. (1995) River Training Techniques: Fundamentals, Design and Applications, A.A. Balkema, Rotterdam, Brookfield, Netherlands. Rubin, H., Atkinson, J. (2001) Environmental Fluid Mechanics, Marcel Dekker Inc., New York, USA. Zannetti, P. (1993) Environmental Modeling- Vol. I, Computational Mechanics Publications, Southampton Boston, Elsevier Applied Science, London New York.								

Assessment Criteria		***If any,mark as (X)***	**Percent (%)**
	Midterm Exams	X	30
	Quizzes		
	Homeworks	X	20
	Projects		
	Term Paper		
	Laboratory Work		
	Other		

	Final Exam	X	50
Instructors	Assist. Prof. Dr. Müsteyde Baduna KOÇYİĞİT		
Week	**Subject**		
1	Principles of hydrodynamics and governing equations		
2	Principles of hydrodynamics and governing equations		
3	Conservation of solute and governing equations		
4	Conservation of solute and governing equations		
5	Transport and mixing processes		
6	Transport and mixing processes		
7	Mixing in rivers, inland and coastal waters		
8	I.Mid-term		
9	Water quality modelling		
10	Water quality modelling		
11	Water quality modelling		
12	Numerical models for hydrodynamics and water quality modelling		
13	Numerical models for hydrodynamics and water quality modelling		
14	Environmental problems, water pollution and relevant laws in Turkey		