Course Title-Course Code: CE 610 NUMERICAL METHODS IN FLUID DYNAMICS							Name of the Programme:CIVIL ENGINEERING		

Semester	Teaching Methods							Credits	
	Lecture	Recite	Lab.	Field Study	H W	Other	Total	Credit	ECTS Credit
1-2	42	0	0	0	70	76	188	3	7.5

Language	Turkish
Compulsory / Elective	Elective
Prerequisites	-
Course Contents	Finite Differences, Stability Criteria and Errors, Applied Solutions of Wave, Heat, Laplace and Burger Equations, Numerical Methods for the Navier-Stokes Equations, Numerical Models for Boundary Layers, Finite Elements, Temperature and Concentration Solutions, Grid Generations, Computation of Turbulent Flows.
Course Objectives	Solution of complex fluid dynamics problems by numerical techniques.
Learning Outcomes and Competences	Application of finite difference approximations to fluid dynamics problems, Numerical modelling
Textbook and /or References	1. Computational Fluid Dynamics, Klaus Hoffmann and Steve Chiang, Engineering Education System, 1998. 2. Numerical Methods for Engineers, S.C.Chapra and R.P. Canale, McGraw-Hill Edition,1994.

Assessment Criteria		*If any,mark as (X)*	**Percent (%)**
	Midterm Exams	X	30
	Quizzes		-
	Homeworks	X	10
	Projects		-
	Term Paper		-
	Laboratory Work		-
	Other		-
	Final Exam	X	60
Instructors	Assoc.Prof.Dr. Lale BALAS		