



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Hydraulic Models							
Course Code		ZTY609		Couse Level		Third Cycle (Doctorate Degree)			
ECTS Credit	6	Workload	150 (<i>Hours</i>)	Theory	2	Practice	2	Laboratory	0
Objectives of the Course		Among the objectives of this course, students in general and physical modeling, systems design and hydraulic models to develop the ability to analyze information related to the strengthening of income, so students on issues related to the more specific problems, hydraulic modeling will find an opportunity to develop themselves.							
Course Content		Teaching hydraulic models							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Case Study, Project Based Study, Individual Study, Problem Solving					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading

1	Hydraulic Modeling: Concepts and Practice, R. Ettema, R. Arndt, P. Roberts, and T. Wahl
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Week	Weekly Detailed Course Contents	
1	Theoretical	NAVIER-STOKES equations
2	Theoretical	Determination of Reynolds ve Froude numbers from NAVIER-STOKES equations
3	Theoretical	Physical interpretation
4	Theoretical	Reynolds models
5	Theoretical	Froude models
6	Theoretical	Monitoring, measuring and evaluation of methods in hydraulic models
7	Theoretical	Streamflow models
8	Theoretical	Particle transport in streams
9	Intermediate Exam	Midterm exam
10	Theoretical	Movable bed models (Mobile models)
11	Theoretical	Hydrodynamic effects on hydraulic constructions
12	Theoretical	Hydrodynamic processes in energy dissipating structures
13	Theoretical	Spillways
14	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	3	2	70
Lecture - Practice	14	2	2	56
Midterm Examination	1	8	2	10
Final Examination	1	12	2	14
Total Workload (Hours)				150
[Total Workload (Hours) / 25*] = ECTS				6

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	To understand the basic concepts of hydraulic modeling
2	Problem description and to express in writing
3	What they have learned, to use the solution of current problems



4	To learn streamflow models
5	To learn movable bed models (Mobile models)

Programme Outcomes (Agricultural Structures and Irrigation Doctorate)

1	Ability to analyze, synthesize and evaluate different forms of scientific knowledge in the field of studies
2	Approach to information systematically, and gain skills related to their field the research methods
3	Innovative science to develop a scientific method or a method that is known to practice in their field
4	Ability to organize and manage the project and advanced scientific research
5	Advanced technologies, find solutions to engineering problems taking advantage of the software and model approaches
6	Creative, unbiased and critical thinking
7	A topic in the field of written, verbally and visually as the ability to express
8	Ability to publish in refereed journals National and international the results of studies

Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

	L1	L2	L3	L4	L5
P1	5	5	5	4	4
P2	5	4	4	4	4
P3	5	3	4	4	4
P4	4	4	4	4	4
P5	5	5	5	5	4
P6	5	5	4	4	4
P7	4	3	4	4	4
P8	1	1	1	1	1

