Course Information

COURSE INFORMATION

Course Title	Code	Semester	L+U Hour	Credits	ECTS
Flued Physics	FZK347	5. Semester	3 + 0	3.0	7.0

Prerequisites	None

Language of Instruction	English
Course Level	Bacheclor's Degree (First Cycle)
Course Type	Elective
Mode of delivery	Face to face
Course Coordinator	Assoc. Prof. Dr. Hüseyin ÇAVUŞ
Instructors	
Assistants	
Course Objectives	The aim of this course is to give students basic physical properties of fluids, static, dynamic, viscid, inviscid, laminar and turbulent flows are analysed.
Course Content	Basic physical properties of fluids, Static Fluids , Dynamic fluids, Basic (continuity, motion and energy) equations , Applications of basic equations in cartesian, cylindrical and spherical coordinates, Lagrange ,variables , Euler variables, Viscid and inviscid flows, Mid-term exam , Laminar flows, Turbulent flows, Boundary and initial value problems, Hydrodynamic waves, Hydrodynamic shocks, Hydrodynamic shocks, Final exam
Course Learning Outcomes	1) make comment about basic physical properties of fluids. 2) identify the static and dynamic fluids. 3) investigate the fluid conservation laws. 4) identify the viscid and inviscid fluids. 5) interpret the laminar and turbulent flows.

WEEKLY COURSE CONTENT

Week	Topics	Teaching and Learning Methods and Techniques	Study Materials
1. Week	Basic physical properties of fluids	Oral lectures,Homeworks,Practise	
2. Week	Static Fluids	Oral lectures,Homeworks,Practise	
3. Week	Dynamic fluids	Oral lectures,Homeworks,Practise	
4. Week	Basic (continuity, motion and energy) equations	Oral lectures,Homeworks,Practise	

Quick Access

Physics
- Qualification Awarded
- Level of Qualification
- Qualification Requirements and Regulations
- Specific Admission Requirements
- Recognition of Prior Learning
- Profile of the Program
- Program Key Learning Outcomes
- Occupational Profile of Graduates
- Access to Further Studies
- Course Structure & Credits
- Exam Regulations & Assessment & Grading
- Graduation Requirements
- Mode of Study
- Programme Director(or Equivalent)
- Evaluation Questionnaire
- TYYÇ

Course Information
- Course Information
- Weekly Course Content
- Resources
- Course Category
- CONTRIBUTION OF COURSE LEARNING OUTCOMES TO PROGRAMME OUTCOMES
- ECTS credits and course workload

5. Week	Applications of basic equations in cartesian, cylindrical and spherical coordinates.	Oral lectures,Homeworks,Practise	
6. Week	Lagrange variables	Oral lectures,Homeworks,Practise	
7. Week	Euler variables	Oral lectures,Homeworks,Practise	
8. Week	Viscid and inviscid flows	Oral lectures,Homeworks,Practise	
9. Week	Laminar flows	Oral lectures,Homeworks,Practise	
10. Week	Turbulent flows	Oral lectures,Homeworks,Practise	
11. Week	Boundary and initial value problems	Oral lectures,Homeworks,Practise	
12. Week	Hydrodynamic waves.	Oral lectures,Homeworks,Practise	
13. Week	Hydrodynamic shocks	Oral lectures,Homeworks,Practise	
14. Week	Hydrodynamic shocks	Oral lectures,Homeworks,Practise	
15. Week	General Review	Oral Lectures	
16. Week	Final Exam	Written Exam	

RESOURCES

Recommended Sources
Robert W. Fox, Alan T. McDonald, Philip J. Pritchard , 2003, Introduction to Fluid Mechanics, John Wiley & Sons
Yalçın Yüksel , 2008, Akışkanlar Mekaniği ve Hidrolik, Beta Yayınları
Habib Umur, 1998, Akışkanlar Mekaniği, Alfa Basım Yayın

ASSESSMENT

Measurement and Evaluation Methods and Techniques
40% Mid Term Exam 60% Final Exam

COURSE CATEGORY

Course Category	Percentage
Core Courses	% 100

CONTRIBUTION OF COURSE LEARNING OUTCOMES TO PROGRAMME OUTCOMES

Programme Outcomes	Contribution Level	DK1	DK2	DK3	DK4	DK5
PY1	5	5	5	5	5	5
PY2	4	4	4	4	4	4
PY3	4	4	4	4	4	4
PY4	1	1	1	1	1	1
PY5	1	1	1	1	1	1
PY6	4	4	4	4	4	4
PY7	1	1	1	1	1	1
PY8	1	1	1	1	1	1

PY9	4	4	4	4	4	4
PY10	4	4	4	4	4	4
PY11	4	4	4	4	4	4
PY12	1	1	1	1	1	1
PY13	1	1	1	1	1	1
PY14	4	4	4	4	4	4
PY15	4	4	4	4	4	4

*DK = Course's Contrubution.

	0	1	2	3	4	5
Level of contribution	None	Very Low	Low	Fair	High	Very High

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ECTS CREDITS AND COURSE WORKLOAD

Event	Quantity	Duration (Hour)	Total Workload (Hour)
Class Hours (14 weeks)	14	3	42
Presentation/Seminar	2	2	4
Final Exam Preparation	1	22	22
Mid Term Exam Preparation	1	15	15
Research&Project	2	15	30
Assignment 1	1	10	10
Further Study	14	2	28
Mid Term Exam 1	1	2	2
Final Exam	1	2	2
Preliminary Study	14	1	14
Assignment 2	1	10	10
		Total Workload	179
		Total Workload / 25.5 (s)	7.02
		ECTS Credit of the Course	7