1. Course Description

COURSE DESCRIPTION FORM	
Course Code and Title	CHE481 CHEMICAL ENGINEERING LABORATORY II
Course Semester	7
Catalog Description (Content) of the Course	Experiments related with heat transfer, mass transfer and chemical reaction engineering principles. Instrumental analysis and technology applied experiments. Evaluation of experimental data and results, and reporting.Special Evaluation.
Main Textbook	Handouts prepared by the instructor. Library and internet sources.
Supporting Textbooks	Textbooks on heat transfer, mass transfer and chemical reaction engineering.
Course Credit (ECTS)	4
Prerequisites of the Course (Compulsory attendance should be indicated here.)	There is no prerequisite or co-requisite for this course. There is no prerequisite or co-requisite for this course. Mass Transfer I, Heat Transfer, Chemical Engineering Kinetics are suggested. 80 % attendance is expected.
Type of the Course	The mode of delivery of this course is Face to face
Instruction Language of the Course	English
Object and Target of the Course	Learning physicochemical analyzes, heat and mass transfer and kinetic concepts with experimental studies; group work, designing experiments, making experiments, getting results and interpreting and developing scientific report writing skills.
Learning Outcomes of the Course	1) To learn laboratory applications of concepts taught in basic chemical engineering courses. 2) Gaining the use of laboratory devices. 3) Evaluating the experimental findings, examining the results and presenting them in a report, getting the skills to work in disciplinary groups.
Mode of Delivery	The mode of delivery of this course is face to face
Weekly Schedule of the Course	**1.Week** General information about the laboratory **2.Week** Water Technology or Oil Analysis Experiments **3.Week** Water Technology or Oil Analysis Experiments **4.Week** Solid Fuel or Liquid Fuel Analysis **5.Week** Solid Fuel or Liquid Fuel Analysis **6.Week** Leather Technology Experiments or Fertilizer Analysis **7.Week** Leather Technology Experiments or Fertilizer Analysis **8.Week** Pressure Drop in Packed Beds or Double Pipe Heat Exchanger Experiments

	9.Week Pressure Drop in Packed Beds or Double Pipe Heat Exchanger Experiments **10.Week** Continious Stirring Tank Reactor or Diffusion Experiments **11.Week** Continious Stirring Tank Reactor or Diffusion Experiments **12.Week** Compensation Experiments **13.Week** Compensation Experiments **14.Week** Compensation Experiments
Educative Activities *(Credit will be determined based on the time given for these activities. Should be filled carefully.)*	Theoretical Study Hours of Course Per Week Practicing Hours of Course Per Week Searching in Internet and Library Preparing Reports Final and Studying for Final

Assessment Criteria

	Quantity	**Total Contribution (%)**
Midterm		
Homework		
Assignment		
Projects		
Practice	5	50
Quiz	5	20
Contribution of In-term Studies to Overall Grade		70
Contribution of Final Examination to Overall Grade		30
Attendance		

Workload of the Course

Activity	**Total Week Count**	**Weekly Duration (in hour)**	**Total Workload in Semester**
Theoretical Study Hours of Course Per Week	14	1	14
Practicing Hours of Course Per Week	14	3	42
Reading	0	0	0
Searching in Internet and Library	5	3	15
Designing and Applying Materials	0	0	0
Preparing Reports	5	4	20
Preparing Presentation	0	0	0
Presentation	0	0	0
Mid-Term and Studying for Mid-Term	0	0	0
Final and Studying for Final	1	10	10
Other	0	0	0

Total work load			101	
Total work load/25			4.04	
ECTS of the course			4	

Course's Contribution To Program

Number	Program Outcomes	1	2	3	4	5
1	Adequate knowledge in mathemati ertaining to the relevant discipline; nformation in these areas to model			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.	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.					X
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/English, both orally and in writing; Ability to write effective reports and comprehend written reports, make effective presentations,			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	X				

		entrepreneurship, innovation, and sustainable development.					
	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	

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