1. Course Description

COURSE DESCRIPTION FORM	
Course Code and Title	CHE482 CHEMICAL ENGINEERING LABORATORY III
Course Semester	8
Catalog Description (Content) of the Course	Laboratory applications of Physical chemistry, fluid mechanics and heat transfer principles. Evaluation of experimental data and results. Written presentation.
Main Textbook	Handouts prepared by the instructor.
Supporting Textbooks	Related text books Library and internet
Course Credit (ECTS)	4
Prerequisites of the Course (Compulsory attendance should be indicated here.)	There is no prerequisite or co-requisite for this course.
Type of the Course	Compulsory
Instruction Language of the Course	English
Object and Target of the Course	1. Refreshment of knowledge of especially mass transfer and process control before graduation. 2. Gain experience on subjects mentioned above by performingrelated experiments. 3. Determination and planning of experiments by defining operational parameters and doing and experiment and evaluation of experimental results in the light of all learned things as a team. 4. Improving of ability to operate experimental devices and laboratory tools safely as a team. 5. Expression of knowledge and skillon experiment performedby means of poster presentation as a team.
Learning Outcomes of the Course	1. Designing and performing experiments in order to solve engineering problems, obtaining results and finally improving ability to analyze and interpret results. 2. Improving ability to prepare, understand and interpretexperimental reports. 3. Improving team work in the same dicipline group members. 4. Verbal expression of engineering knowledge.
Mode of Delivery	The mode of delivery of this course is face to face.
Weekly Schedule of the Course	**1.Week** General information about laboratory. **2. Week** Process control (the control of pressure or temperature) **3. Week** Process control (the control of pressure or temperature) **4. Week** Distillation (batch or continue distillation) **5. Week** Distillation (batch or continue distillation) **6. Week** Gas absobtion or ion changing **7. Week** Gas absobtion or ion changing **8. Week** Rotary dryer or spray dryer **9. Week** Rotary dryer or spray dryer **10. Week** Downscaling and sieve analysis **11. Week** Term special experimental work **12. Week** Term special experimental work **13. Week** Make up **14. Week** Make up

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
Practising Hours of Course Per Week
Searching in Internet and Library
Preparing Reports
Preparing Presentation
Presentation
Final and Studying for Final

Assessment Criteria

	Quantity	Total Contribution (%)
Midterm	0	0
Report	5	35
Interm experiment	1	20
Final exam	1	30
Practice	0	0
Quiz + performance	1	15
Contribution of In-term Studies to Overall Grade		60
Contribution of Final Examination to Overall Grade		40
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	2	10
Designing and Applying Materials	0	0	0
Preparing Reports	6	3	18
Preparing Presentation	1	3	3
Presentation	1	3	3
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			100
Total work load/25			4
ECTS of the course			4

Course's Contribution To Program

No	Program Learning Outcomes	1	2	3	4	5
1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied information in these areas to model and solve engineering problems.			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 entrepreneurship, innovation, and sustainable development.	X					
	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					

Name of Lecturer(s) and Contact Iınformation	Prof. Dr. Ö. Murat Doğan (Coordinator), mdogan@gazi.edu.tr Prof. Dr. Sebahat Erdoğan, sebaer@gazi.edu.tr Prof. Dr. Kırali Mürtezaoğlu, kirali@gazi.edu.tr Prof. Dr. Nuray Oktar, nurayoktar@gazi.edu.tr Prof. Dr. Muzaffer Balbaşı, balbasi@gazi.edu.tr Prof. Dr. İrfan Ar, irfanar@gazi.edu.tr Prof. Dr. Göksel Özkan, gozkan@gazi.edu.tr Assoc. Prof. Dr. Ferda Mutlu, sfmutlu@gmail.com Asst. Prof. Dr. Hüseyin Arbağ harbag@gazi.edu.tr Asst. Prof. Dr. Ceren Haktanır, ceren.oktar@gazi.edu.tr