1. Course Description

COURSE DESCRIPTION FORM	
Course Code and Title	KM466 PETROCHEMICAL TECHNOLOGY
Course Semester	8
Catalog Description (Content) of the Course	Development of petrochemical technology. Raw materials. Production methods of various petrochemicals. Petrochemical industry in Turkey and employed technologies.
Main Textbook	1) Kimyasal proses endüstrileri, A.İ. Çataltaş (Çev.), İnkılap, İstanbul, 1985 2) Petrochemicals, A.M. Brownstein, Petroleum Pub., New York, 1972 3) Industrial chemicals, W.L. Faith, D.B. Keyes and R.L. Clark, John Wiley & Sons, New York, 1966 4) Petrokimya, DPT-ÖİK Raporu, Ankara, 1994
Supporting Textbooks	1) Kimyasal proses endüstrileri, A.İ. Çataltaş (Çev.), İnkılap, İstanbul, 1985 2) Petrochemicals, A.M. Brownstein, Petroleum Pub., New York, 1972 3) Industrial chemicals, W.L. Faith, D.B. Keyes and R.L. Clark, John Wiley & Sons, New York, 1966 4) Petrokimya, DPT-ÖİK Raporu, Ankara, 1994
Course Credit (ECTS)	4
Prerequisites of the Course (Compulsory attendance should be indicated here.)	-
Type of the Course	Elective
Instruction Language of the Course	Turkish
Object and Target of the Course	To be informed about petrochemical technology. To study production techniques and state of industry.
Learning Outcomes of the Course	1. Knowledge access to any research 2. Individual ability to work
Mode of Delivery	Face to face
Weekly Schedule of the Course	1. Week : Introduction, definition of petrochemical industry, its state in the world and Turkey 2-3. Week: Basic and intermediate petrochemical raw materials; ethylene-propylene, aromatics, styrene, caprolactam etc., definition, usage areas, production technologies 4-5. Week: Distillation of crude oil 6. Week: Distillation of crude oil 7-8. Week: Thermoplastics, low and high density polyethylene, definition, properties, production techniques, state of industry. 9 Week: Polyvinyl chloride, definition, properties, production techniques, state of industry. 10. Week: Polypropylene, definition, properties, production techniques, state of industry 11. Week: Polystyrene and the others, definition, properties, production techniques, state of industry. 12. Week: Plastic auxiliaries, plastifiers, emulsifiers, stabilizers, antioxidants etc. 13. Week: Synthetic fibers and yarn, nylon, polyester etc. 14. Week: Synthetic fibers and yarn, nylon, polyester etc.
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 Mid-Term and Studying for Mid-Term Final and Studying for Final
Assessment Criteria	

	Quantity	**Total Contribution (%)**

Midterm	2	60
Homework	0	0
Assignment	0	0
Projects	0	0
Practice	0	0
Quiz	0	0
Contribution of In-term Studies to Overall Grade		60
Contribution of Final Examination to Overall Grade	0	40
Attendance		0

Workload of the Course

Activity	Total Week Count	Weekly Duration (in hour)	Total Workload in Semester
Theoretical Study Hours of Course Per Week	12	3	36
Mid-Term and Studying for Mid-Term	2	20	40
Final and Studying for Final	1	20	20
Total work load			96
Total work load/25			3.84
ECTS of the course			4

Course's Contribution To Program

Number	Program 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			X		

			such a way as to meet the desired result; ability to apply modern design methods for this purpose. (Realistic constraints and conditions may include factors such as economic and environmental issues, sustainability, manufacturability, ethics, health, safety issues, and social and political issues, according to the nature of the design.)						
		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, both orally and in writing; knowledge of a minimum of one foreign language.			X			
		10	Prepare design and production reports, give and receive clear and intelligible			X			

			instructions.					
		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.Nuray OKTAR, oktarnuray@gmail.com							