

COURSE DESCRIPTION FORM		
Course Code and Title	KM388 EVOLUTION OF TECHNOLOGY	
Course Semester	4	
Catalog Description (Content) of the Course	What is Technology? Relationships among science, technology and engineering. Technological developments in the prehistorical era, the antiquity and medieval. Contributions of different civilizations to the technological developments. Contributions of the Central Asian and the Middle East civilizations to science, technology and engineering processes. Contemporary technologies.	
Main Textbook	B. Bunch and A. Hellemans, "The History of Science and Technology", Houghton Mifflin Company, Boston, NEW YORK, 2004.	
Supporting Textbooks	Toby E. Huff, "The rise of early modern science: Islam, China, and the West", Cambridge University Press, 2nd ed, 2003. "An Introduction to the History of Science in Non-Western Traditions", Editors: R. DeKosky and D. Allchin, History of Science Society Seattle, 2008. M. Iqbal, "Science and Islam", Greenwood Press, Westport, Connecticut, London, 2007 "Bilim Teknoloji ve Sosyal Değişme", Editör: B. Ata, Pegem Akademi, 2008.	
Course Credit (ECTS)	3	
Prerequisites of the Course (Compulsory attendance should be indicated here.)	There is no prerequisite or co-requisite for this course. Attendance of the course must be 70%.	
Type of the Course	Elective	
Instruction Language of the Course	Turkish	
Object and Target of the Course	Relate the science, technology and engineering to discuss their contributions to the civilizations by designing their applications, with students, to understand evolution of science, technological and engineering processes. Preparation of projects for the course purposes.	
Learning Outcomes of the Course	To understand idea behind the science and the technological developments.	
Mode of Delivery	Courses are given only face to face.	
Weekly Schedule of the Course	1. Week	Conceptual approach to science, technology and engineering
	2. Week	The prehistoric era and the antiquity of technology
	3. Week	Technological processes in the medieval and the modern age
	4. Week	Technological developments of far east Asia civilizations
	5. Week	Technological developments of Central Asia and the Middle East civilizations
	6. Week	Technological developments of Central Asia and the Middle East civilizations
	7. Week	Technological developments of Central Asia and the Middle East civilizations
	8. Week	Technological developments of Central Asia and the Middle East civilizations
	9. Week	Technological development and evaluation of engineering

		applications in modern age		
	10. Week	.Technological development and evaluation of engineering applications in modern age		
	11. Week	Technological development and evaluation of engineering applications in modern age		
	12. Week	Discussion of selected topics with student groups		
	13. Week	Discussion of selected topics with student groups		
	14. Week	Discussion of selected topics with student groups		
Educative Activities <i>(Credit will be determined based on the time given for these activities. Should be filled carefully.)</i>		Theoretical Study Hours of Course Per Week Reading Searching in Internet and Library Preparing Reports Preparing Presentation Presentation Mid-Term and Studying for Mid-Term Final and Studying for Final		
Assessment Criteria		Quantity	Total Contribution (%)	
	Midterm	2	30	
	Homework	2(at least)	5	
	Assignment	0	0	
	Projects	1	20	
	Practice	0	0	
	Quiz	1 (at least)	5	
	Contribution of In-term Studies to Overall Grade		60	
	Contribution of Final Examination and Term Project to Overall Grade		40	
		Attendance	70	
Workload of the Course	Activity	Total Week Count	Weekly Duration (in hour)	Total Workload in Semester
	Theoretical Study Hours of Course Per Week	14	3	42
	Practicing Hours of Course Per Week	0	0	0
	Reading	6	1	6
	Searching in Internet and Library	5	1	5
	Designing and Applying Materials	0	0	0
	Preparing Reports	2	2	4
	Preparing Presentation	1	2	2
	Presentation	1	2	2
	Mid-Term and Studying for Mid-Term	4	2	8
	Final and Studying for Final	1	3	3

	Other						
	Total work load					72	
	Total work load/25					2,88	
	ECTS of the course					3	
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	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				
	4	Ability to identify, formulate, and solve complex engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.				X	
	5	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				
	6	Ability to devise, select, and use modern techniques and tools needed for engineering practice; ability to employ information technologies effectively.		X			
	7	Ability to design and conduct experiments, gather data, analyze and interpret results for investigating engineering problems.		X			
	8	Ability to work efficiently in intra-disciplinary teams.			X		
	9	Ability to work efficiently in multi-disciplinary teams;				X	
	10	Ability to work individually.	X				
	11	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
	12	prepare design and production reports, give and receive clear and intelligible instructions.	X				

	13	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				
	14	Awareness of professional and ethical responsibility.			X		
	15	Information about business life practices such as project management, risk management, and change management.	X				
	16	Information about awareness of entrepreneurship, innovation, and sustainable development.	X				
	17	Knowledge about contemporary issues and the global and societal effects of engineering practices on health, environment, and safety.	X				
Name of Lecturer(s) and Contact Information		1. Prof.Dr. Kırallı Mürtezaoglu					