



SYLLABUS

Course Code	Course Name	Course Type	Weekly Course Hours			Credits	ECTS	Campus / Weekly Time & Classroom Schedule
			T	A	L			
ENVE-8033	Atmospheric Deposition Processes	Elective	3	0	0	3	8	Thursday 09:30-12:20, Online
Prerequisite		Prerequisite to						
Course Lecturer	Prof. Dr. S. Sinan Keskin				Office Hours Schedule		Wednesday 11:00-12:00, Friday 11:00-12:00	
E-mail	sinankeskin@marmara.edu.tr				Office / Room No		M4-120	
Phone	(0216) 348 0292 / 268 (office) - 610 (laboratory)				Phone			
Teaching Assistant(s)					Office / Room No			
E-mail								
Course Objectives	This course covers the atmospheric processes in relation to air pollution and climate change. Atmospheric composition, aerosol properties and distributions, dry deposition and wet deposition processes, radiative impacts, and visibility concepts are examined in detail.							
Learning outcomes	<ul style="list-style-type: none"> <li>Specify the major ingredients in forming atmospheric composition (PO1, PO10).</li> <li>Classify physical and chemical properties of atmospheric aerosols in detail (PO8, PO14).</li> <li>Explain the current dry deposition models (PO1, PO9, PO13).</li> <li>Explain the current wet deposition models (PO1, PO9, PO13).</li> <li>Specify the roles of radiative processes on climate (PO10, PO15).</li> <li>Explain the acid deposition and visibility concepts related to air pollutants (PO10, PO15).</li> </ul>							
Textbooks and/or References	<ol style="list-style-type: none"> <li>Atmospheric Chemistry and Physics-From Air Pollution to Climate Change, J. H. Seinfeld, S. N. Pandis, John-Wiley&amp;Sons., Inc., 2006.</li> <li>Fundamentals of Physics and Chemistry of the Atmosphere, G. Visconti, Springer, 2001.</li> </ol>							
Teaching methods	White board, Overhead projector.							
WEEK	Date	TOPICS					Reference No - Section	
Week 1	2/11/2013	The Atmosphere					1- 1.1, 2- 16	
Week 2	2/18/2013	Atmospheric composition- Sulfur, Nitrogen, Carbon, Halogen compounds					1- 2.1, 2.2, 2.3, 2.4, 2.5	
Week 3	2/25/2013	Atmospheric composition- Ozone, Particulate matter					1- 2.6, 2.7, 2.8, 2.9	
Week 4	3/4/2013	Properties of the atmospheric aerosol, Size distribution function					1- 7.1, 2-9	
Week 5	3/11/2013	Ambient aerosol size distribution, Aerosol chemical composition					1- 7.2, 7.3, 7.4	
Week 6	3/18/2013	Meteorology of air pollution					1- 14.1, 2-2	
Week 7	3/25/2013	Dry deposition modelling					1- 19.1, 19.2	
Week 8	4/1/2013	Midterm Week						
Week 9	4/8/2013	Dry deposition of particles and gases					1- 19.3, 19.4, 19.5	
Week 10	4/15/2013	Wet deposition processes					1- 20.1, 20.2	
Week 11	4/22/2013	Wet deposition of particles					1- 20.3, 20.4, 20.5	
Week 12	4/29/2013	Acid deposition					1- 20.6, 20.7	
Week 13	5/6/2013	Atmospheric chemistry and climate- Global warming					1- 21.1, 21.2, 21.3	
Week 14	5/13/2013	Atmospheric chemistry and climate- Radiative and chemical impacts					1- 21.4, 21.5, 21.6	
Week 15	5/20/2013	Aerosols and visibility					1- 22.1, 22.2	
Week 16	5/27/2013	Studying						
Week 17	6/3/2013	Final						
Evaluation Tools	Evaluation Tool		Quantity	Date	Weight in Total (%)	Weight in Semester Evaluation (%)		
	Final Exam		1		50	0		
	Final Make-up Exam (if exists)		1		50	0		
	Semester Evaluation				50	100		
	Midterm(s)		1		25	50.0		
	Quiz(zes)							
	Project(s)							
	Homework(s)		7		15	30.0		
	Laboratory							
Other		3		10	20.0			
*** Lifelong Learning Programme (LLP) ***					Language of Instruction:		English	
Evaluation Tool	Quantity	Student Workload Hours		Evaluation Tool	Quantity	Student Workload Hours		
Theoretical Hours	14	42.0		Applied Hours	--	0.0		
Midterm	1	18.0		Final	1	20.0		
Quiz				Project				
Laboratory				Homework	7	49.0		
Atelier				Seminar				
Field Study				Presentation	3	30.0		
Other				Self Study	14	42.0		
					TOTAL :	40	201.0	
Recommended ECTS Credit (Total Hours / 25) : 8								