

COURSE DESCRIPTION FORM	
Course Code and Title	KMP568- SAFETY MANAGEMENT SYSTEM
Course Semester	2
Catalog Content	Management systems. Safety management system components. Evaluation of accident hazards. Organization and staff. Control of operation. Management of Change. Emergency planning. Performance monitoring. Audit.
Main Textbook	<ul style="list-style-type: none"> Guidelines for Auditing Process Safety Management Systems, CCPS, Wiley, 2nd ed., 2011.
Supplementary Textbooks	<ul style="list-style-type: none"> Einolf, D., & Menghini, L. (1999). PSM/RMP Auditing Handbook: A Checklist Approach. Government Institutes. Ed.: Waddah S. Ghanem Al Hashmi (2020). Process Safety Management and Human Factors: A Practitioner's Experiential Approach, Butterworth-Heinemann. Center for Chemical Process Safety (CCPS). (1994). Guidelines for Implementing Process Safety Management Systems. John Wiley & Sons.
Course Credit (ECTS)	6
Pre-Requisites And Co-Requisites	-
Type of the Course	Compulsory
Language of Instruction	Turkish
Object and Target of the Course	<ul style="list-style-type: none"> To teach quality and safety management systems. To provide information on the establishment of a safety management system to prevent major industrial accidents.
Course Learning Outcomes	<ul style="list-style-type: none"> Examines and implements quality and safety management systems. Evaluates industrial accident hazards. Creates safety management systems to prevent industrial accidents.
Mode of Delivery	Lecture, Question & Answer, Demonstration
Weekly Schedule	<p>1st Week Management Systems</p> <ul style="list-style-type: none"> - Quality Management Systems - Safety Management Systems <p>2nd Week Management Systems</p> <ul style="list-style-type: none"> - Quality Management Systems - Safety Management Systems <p>3rd Week Identification and Evaluation of Major Industrial Accident Hazards</p> <ul style="list-style-type: none"> - General information on methodologies used for identification and assessment of major accident hazards <p>4th Week Identification and Evaluation of Major Industrial Accident Hazards</p>

	<ul style="list-style-type: none"> - General information on methodologies used for identification and assessment of major accident hazards - Data sources (Reliability data, probability data) <p>5th Week Operation Control</p> <ul style="list-style-type: none"> - Plant Commissioning, Plant Operation, Operation control during decommissioning of process equipment - Planned and unplanned shutdowns - Loss of containment <p>6th Week Operation Control</p> <ul style="list-style-type: none"> - Work permit systems, Operating procedures - Examination of the operational control element in sample accidents <p>7th Week Management of Change</p> <ul style="list-style-type: none"> - Definition of change, management of change process <p>8th Week Management of Change</p> <ul style="list-style-type: none"> - Examining management of change element in sample accidents <p>9th Week Emergency Plans-Midterm</p> <ul style="list-style-type: none"> - Emergency plans for major industrial accidents - Emergency plans application examples after major industrial accidents <p>10th Week Monitoring Performance</p> <ul style="list-style-type: none"> - Monitoring the performance of safety management elements <p>11th Week Monitoring Performance</p> <ul style="list-style-type: none"> - Sample applications for performance monitoring <p>12th Week Audit And Review</p> <ul style="list-style-type: none"> - Audit and review process <p>13th Week Organization and Staff</p> <ul style="list-style-type: none"> - Examination of organization and personel element in sample accidents <p>14th Week Presentations</p> <p>15th Week Final Exam</p>
Educative Activities	<p>Theoretical Study Hours of Course Per Week : 3</p> <p>Practical Study Hours of Course Per Week : -</p> <p>Reading : -</p> <p>Searching in Internet and Library : 5</p> <p>Material Design and Application : -</p> <p>Preparing Reports : 3</p> <p>Preparing Presentations : 3</p> <p>Presentations : 3</p>

	Midterms and Studying for Midterms : 5			
	Final and Studying for Final : 3			
Assessment Criteria		Quantity	Total Contribution (%)	
	Midterms	1	30	
	Homework	-	-	
	Applications	-	-	
	Projects (1. Analysis of different management systems. 2. Preparing an emergency plan)	2	30	
	Practices	-	-	
	Quizzes	-	-	
	Contribution of In-term Studies to Overall Grade		60	
	Contribution of Final Examination to Overall Grade	1	40	
	Attendance	-		
Workload of the Course	Activity	Total Number of Weeks	Duration (Weekly Hour)	Total Period Workload
	Weekly Theoretical Course Hours	14	3	42
	Weekly Practical Course Hours	-	-	-
	Reading Tasks	-	-	-
	Searching in Internet and Library	14	5	70
	Material Design and Application	-	-	-
	Preparing Reports	4	3	12
	Preparing Presentations	2	3	6
	Presentations	2	3	6
	Midterms and Studying for Midterms	1	5	5

	Final and Studying for Final	2	3	6				
	Other	-	-	-				
	Total Workload			147				
	Total Workload / 25			5,88				
	Course Credits (ECTS)			6				
Course's Contribution to Program	No	Program Learning Outcomes		1	2	3	4	5
	1	Developing undergraduate level competencies and deepening their knowledge to apply in the field of process safety			X			
	2	Understanding the undergraduate competencies and the interaction between the competencies gained in this program and the disciplines related to process safety					X	
	3	Using the expert level theoretical and applied knowledge acquired in the field of process safety					X	
	4	Developing the competencies gained at the undergraduate level and integrating the information gained in the field of process safety with the information from the relevant disciplines and creating new knowledge			X			
	5	Solving process safety problems using scientific research methods			X			
	6	Independently conducting studies that require expertise in the field of process safety		X				
	7	Developing new approaches to complex problems encountered in applications in the field of process safety			X			
	8	Taking responsibility and generating solutions for complex problems encountered in applications in the field of process safety			X			
	9	Taking initiative in environments that require resolution of problems related to						X

		process safety					
	10	Critically evaluating the information acquired about process safety and directing learning		X			
	11	Ability to systematically transfer the developments and own studies in the field of process safety in written, oral and visual forms					X
	12	Developing social relations and the set of values that direct these relationships with a critical approach and transforming them when necessary	X				
	13	Establishes oral and written communication using a foreign language (European Language Portfolio B2 level)	X				
	14	Uses computer software at the level required by the process safety field					X
	15	Uses advanced information and communication technologies at the level required by the field of process safety				X	
	16	Collecting, interpreting, finalizing the data on process safety, applying and sharing them with respect to ethical values					X
	17	Developing different perspectives on process safety issues, setting policies, making plans and evaluating the results within the framework of quality					X
	18	Internalizing the knowledge gained in the field of process safety with the competencies gained at the undergraduate level, turning it into skills and using it in interdisciplinary studies				X	
Name of Lecturer(s) and Contact Information		Faculty Members of the Chemical Engineering Department					