

# TOROS ÜNİVERSİTESİ

Faculty Of Engineering  
Industrial Engineering (English)

## Course Information

RISK AND RELIABILITY ANALYSIS					
Code	Semester	Theoretical	Practice	National Credit	ECTS Credit
		Hour / Week			
INE341	Fall	3	0	3	3

<b>Prerequisites and co-requisites</b>	none
<b>Language of instruction</b>	English
<b>Type</b>	Elective
<b>Level of Course</b>	Bachelor's
<b>Lecturer</b>	
<b>Mode of Delivery</b>	Face to Face
<b>Suggested Subject</b>	none
<b>Professional practise ( internship )</b>	None
<b>Objectives of the Course</b>	The objectives of this course is to provide ability of defining and managing possible risks in business world and to present risk assessment techniques to student.
<b>Contents of the Course</b>	Definition of risk, risk perception, risk management, risk assessment, qualitative and quantitative risk assessment techniques (FMEA,FTA, ETA, HAZOP, PHA,L and X type risk matrices, Bow tie)

## Learning Outcomes of Course

#	Learning Outcomes
1	Student will be able to teach the risk management and assessment concepts
2	Student will be able to gain the ability of apply risk assessment process
3	Student will understand and apply risk evaluation methods in industrial problems
4	

## Course Syllabus

#	Subjects	Teaching Methods and Technics
1	Introduction to Risk	Lecturing
2	Risk, Uncertainty, Probability	Lecturing
3	Risk Perception	Lecturing
4	Risk Management	Lecturing
5	Risk Management and Risk Engineering	Lecturing
6	Quantitative and Qualitative Methods	Lecturing
7	Preliminary Hazards Analysis	Lecturing
8	Midterm	Exam
9	L and X Type Risk Analysis Techniques	Lecturing
10	Failure Mode and Effects Analysis	Lecturing
11	Event Tree Analysis	Lecturing
12	Fault Tree Analysis Technique	Lecturing

13	Risk Assessment Examples	Lecturing
14	Bow Tie Risk Assessment Technique	Lecturing
15	Hazard and Operability Analysis (HAZOP)	Lecturing
16	Final Exam	

## Course Syllabus

#	Material / Resources	Information About Resources	Reference / Recommended Resources
1	Thomas S. Coleman, A Practical Guide to Risk Management,CFA 2011		
2	Lee T. Ostrom, Cheryl A. Wilhelmsen, Risk Assessment: Tools, Techniques, and Their Applications, Wiley,2012		
3	Michel Crouhy, Dan Galai, Robert Mark, The Essentials of Risk Management, McGraw-Hill, 2013		

## Method of Assessment

#	Weight	Work Type	Work Title
1	40%	Mid-Term Exam	Mid-Term Exam
2	60%	Final Exam	Final Exam

## Relationship between Learning Outcomes of Course and Program Outcomes

#	Learning Outcomes	Program Outcomes	Method of Assessment
1	Student will be able to teach the risk management and assessment concepts	8	1,2
2	Student will be able to gain the ability of apply risk assessment process	8	1,2
3	Student will understand and apply risk evaluation methods in industrial problems	8	1,2
4			

PS. The numbers, which are shown in the column Method of Assessment, presents the methods shown in the previous table, titled as Method of Assessment.

## Work Load Details

#	Type of Work	Quantity	Time (Hour)	Work Load
1	Course Duration	14	3	42
2	Course Duration Except Class (Preliminary Study, Enhancement)	14	3	42
3	Presentation and Seminar Preparation	0	0	0
4	Web Research, Library and Archival Work	0	0	0
5	Document/Information Listing	0	0	0
6	Workshop	0	0	0
7	Preparation for Midterm Exam	1	3	3
8	Midterm Exam	0	0	0
9	Quiz	0	0	0
10	Homework	0	0	0
11	Midterm Project	0	0	0
12	Midterm Exercise	0	0	0
13	Final Project	0	0	0
14	Final Exercise	0	0	0
15	Preparation for Final Exam	1	3	3
16	Final Exam	0	0	0

