

# TOROS ÜNİVERSİTESİ

Faculty Of Engineering  
Electrical And Electronics Engineering (English)

## Course Information

PROBABILITY AND RANDOM VARIABLES					
Code	Semester	Theoretical	Practice	National Credit	ECTS Credit
		Hour / Week			
EEE208	Spring	3	0	3	4

<b>Prerequisites and co-requisites</b>	
<b>Language of instruction</b>	English
<b>Type</b>	Required
<b>Level of Course</b>	Bachelor's
<b>Lecturer</b>	Asst. Prof. Çağdaş Allahverdi
<b>Mode of Delivery</b>	Face to Face
<b>Suggested Subject</b>	
<b>Professional practise ( internship )</b>	None
<b>Objectives of the Course</b>	Help students learn, understand, explain, and use concepts about probability, and to prepare them for further study in engineering.
<b>Contents of the Course</b>	Counting Techniques, Addition and Multiplication Rules, Bayes Theorem, Distributions (Normal, Binom, Poisson etc.)

## Learning Outcomes of Course

#	Learning Outcomes
1	Getting knowledge about Interpretations and Axioms of Probability
2	Getting knowledge about Multiplication and Total Probability Rules, Independence and Bayes' Theorem
3	Getting knowledge about Cumulative Distribution Functions, Binomial Distribution
4	Getting knowledge about Sample Spaces and Events, Probability and Probability Models,

## Course Syllabus

#	Subjects	Teaching Methods and Technics
1	Probability and Probability Models	Lecture
2	Sample Spaces and Events	Lecture
3	Counting Techniques	Lecture
4	Interpretations and Axioms of Probability	Lecture
5	Addition Rules and Conditional Probability	Lecture
6	Multiplication and Total Probability Rules	Lecture
7	Independence and Bayes' Theorem	Lecture
8	Midterm Exam	
9	Random Variables: Discrete and Continuous	Lecture
10	Cumulative Distribution Functions	Lecture
11	Mean and Variance of a Discrete Random Variable	Lecture
12	Binomial Distribution	Lecture

13	Geometric and Negative Binomial Distributions	Lecture
14	Poisson Distribution	Lecture
15	Normal Distribution	Lecture
16	Final Exam	

## Course Syllabus

#	Material / Resources	Information About Resources	Reference / Recommended Resources
1	Douglas C. Montgomery and George C. Runger, Applied Statistics and Probability for Engineers, Sixth Edition, John Wiley & Sons, 2014, ISBN-13 9781118539712.		

## 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	Getting knowledge about Interpretations and Axioms of Probability	1	1,2
2	Getting knowledge about Multiplication and Total Probability Rules, Independence and Bayes' Theorem	1	1,2
3	Getting knowledge about Cumulative Distribution Functions, Binomial Distribution	1	1,2
4	Getting knowledge about Sample Spaces and Events, Probability and Probability Models,	1	1,2

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	0	0	0
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	0	0	0
16	Final Exam	1	1	1

