

	Course name: EE207 Probability and Random Variables		Department: Electrical and Electronics Engineering		Semester
					3
	Methods of Education				Credit (ECTS)
	Lecture	Study Time	Exam (incl. Prep.)	Total	5
	36	55	40	131	
Language	English				
Compulsory/Elective	Compulsory				
Prerequisites	None				
Course Contents	Sets, probabilities, conditional probability, Bayes' formula, independent events, discrete random variables, continuous random variables, expectation, variance, covariance, jointly distributed random variables, central limit theorem.				
Course Objective	To gain the ability to apply the concepts of probability and random variables to engineering problems.				
Learning Outcomes and Competences	Students who pass the course will be able to understand: <ul style="list-style-type: none"> - Probability axioms, computing set probabilities - Random variables, probability mass functions and probability density functions - Cumulative distribution functions, expectation, variance. - Joint random variables, covariance. - Central Limit Theorem 				
Textbook and /or References	"Probability and Stochastic Processes: A Friendly Introduction for Electrical and Computer Engineers", by Yates and Goodman, 2nd Edition, Wiley.				
Assessment Criteria		If any, mark as (X)	Percentage (%)		
	Midterm Exams	X	35		
	Quizzes	X	15		
	Homework				
	Projects				
	Term Paper				
	Laboratory work				
	Other				
Final Exam	X	50			
Instructors	Assist. Prof. Serdar Özyurt				
Weekly Schedule					
Week	Subject				
1	Introduction to probability theory				
2	Introduction to probability theory				
3	Conditional probability, Bayes' Theorem				
4	Combinatorics				
5	Discrete random variables				
6	Discrete random variables, Expectation, Variance				
7	Discrete random variables, Joint Distributions, Covariance				
8	Discrete random variables, Joint Distributions, Covariance				
9	Mid-term Exam				
10	Continuous random variables				
11	Continuous random variables, Expectation, Variance				
12	Continuous random variables, Joint Distributions, Covariance				
13	Continuous random variables, Joint Distributions, Covariance				
14	Central limit theorem, Inequalities on Probability				
15	Review (if time permits)				

