

<b>Course Description Form</b>	
<b>Course Code and Name</b>	BM207 PROBABILITY AND STATISTICS
<b>Course Semester</b>	3
<b>Catalog Content</b>	Definition of probability, axioms of probability, some simple propositions, Estimation and Hypothesis testing
<b>Textbook</b>	Probability and Statistics for Engineers and Scientists (9th Edition), Ronald E. Walpole, Pearson, 2011.
<b>Supplementary Textbooks</b>	- Probability and Statistics for Computer Scientists, Michael Baron, Chapman and Hall, 2006.  - Probability and Statistics for Computer Science, David Forsyth, Springer, 2017.
<b>Credit</b>	4
<b>Prerequisites of the Course</b> ( Attendance Requirements)	There is no prerequisite or co-requisite for this course.
<b>Type of the Course</b>	Compulsory
<b>Instruction Language</b>	Turkish
<b>Course Objectives</b>	Providing students with the ability to apply mathematical knowledge to engineering problems  Providing students with the ability to design and conduct experiments  Teaching probability computation, distributions and their properties
<b>Course Learning Outcomes</b>	1.To learn basic concepts of probability and statistics 2.To learn probability distributions and their features 3.To learn central tendency and dispersion measures 4.To learn sampling and hypothesis testing 5.To learn regression analysis
<b>Instruction Methods</b>	The mode of delivery of this course is Face to face
<b>Weekly Schedule</b>	1. Week: Sample space, sample points, events, the basic principle of counting, permutation, combination 2. Week: Definition of probability, axioms of probability, some simple propositions 3. Week: Conditional probability, independent events, Bayes' Formula 4. Week: Random variable, distribution of discrete random variable, distribution of continuous random variable 5. Week: Distribution functions, expected value and variance of a random variable, moments 6. Week: Some discrete probability distributions 7. Week: Some continuous probability distributions 8. Week: Statistics, data, variable, frequency distributions, graphics 9. Week: Central Tendency and Dispersion measures 10. Week: Central Tendency and Dispersion measures 11. Week: Sampling and sampling distributions 12. Week: Estimation and Hypothesis testing 13. Week: Estimation and Hypothesis testing 14. Week: Regression and correlation

<p><b>Teaching and Learning Methods</b></p> <p><i>(These are examples. Please fill which activities you use in the course)</i></p>	<p>Weekly theoretical course hours: 3  Reading Activities  Internet browsing, library work  Preparation of Midterm and Midterm Exam  Final Exam and Preparation for Final Exam</p>																																
<p><b>Assessment Criteria</b></p>	<table border="1"> <thead> <tr> <th></th> <th><b>Numbers</b></th> <th><b>Total Weighting (%)</b></th> </tr> </thead> <tbody> <tr> <td>Midterm Exams</td> <td>1</td> <td>30</td> </tr> <tr> <td>Assignment</td> <td>5</td> <td>30</td> </tr> <tr> <td>Application</td> <td></td> <td></td> </tr> <tr> <td>Projects</td> <td></td> <td></td> </tr> <tr> <td>Practice</td> <td></td> <td></td> </tr> <tr> <td>Quiz</td> <td></td> <td></td> </tr> <tr> <td>Percent of In-term Studies (%)</td> <td></td> <td>60</td> </tr> <tr> <td>Percentage of Final Exam to Total Score (%)</td> <td></td> <td>40</td> </tr> <tr> <td>Attendance</td> <td></td> <td></td> </tr> </tbody> </table>		<b>Numbers</b>	<b>Total Weighting (%)</b>	Midterm Exams	1	30	Assignment	5	30	Application			Projects			Practice			Quiz			Percent of In-term Studies (%)		60	Percentage of Final Exam to Total Score (%)		40	Attendance				
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<b>Workload</b>	<b>Activity</b>	<b>Total Number of Weeks</b>	<b>Duration (weekly hour)</b>	<b>Total Period Work Load</b>			
	Weekly Theoretical Course Hours	14	3	42			
	Weekly Tutorial Hours						
	Reading Tasks	10	2	20			
	Studies	10	1	10			
	Material Design and Implementation						
	Report Preparing						
	Preparing a Presentation						
	Presentations						
	Midterm Exam and Preparation for Midterm Exam	1	13	13			
	Final Exam and Preparation for Final Exam	1	15	15			
	Other ( should be emphasized)						
	Total Workload			100			
	Total Workload / 25			4			
	Course Credit (ECTS)			4			
<b>Contribution Level Between Course Learning Outcomes and Program Outcomes</b>	No	Program Outcomes	1	2	3	4	5
	1	Sufficient knowledge on mathematics, science and computer engineering; ability to apply theoretical and practical knowledge in these areas to model and solve engineering problems				X	
	2	Ability to identify, define, formulate and solve complex engineering problems; ability to choose and apply appropriate analysis and modelling methods for these purposes				X	
	3	Ability to design a complex system, process, device, software, algorithm, or product under realistic constraints and circumstances to meet certain requirements; ability to apply modern design techniques for this purpose				X	
	4	Ability to choose, develop and use modern techniques and tools necessary for engineering applications; ability to effectively use computing technologies				X	
	5	Ability to design and implement systems or experiments to solve engineering problems, collect and interpret data to evaluate and analyze the results of solutions				X	
	6	Ability to work effectively in intradisciplinary and interdisciplinary teams or individually			X		
	7	Ability to efficiently prepare, evaluate and interpret reports	X				
	8	Ability to make presentations and conduct effective verbal and written communication in Turkish and English	X				
	9	Awareness of the necessity of lifelong learning; ability to access information, follow scientific and technological developments; ability to perpetually renew oneself			X		
	10	Awareness of professional and ethical responsibility, ability to act in accordance with ethical principles	X				

	11	Ability to apply knowledge on project management, risk management and change management	X					
	12	Awareness of entrepreneurship and innovation, ability to design and build sustainable systems	X					
	13	Ability to devise local and global solutions to contemporary issues considering the effects of engineering applications on health, environment and security				X		
	14	Awareness of the legal consequences of engineering solutions	X					
	15	Ability to apply knowledge on software development process and documentation rules	X					
	16	Knowledge on standards used in engineering applications			X			
	17	Awareness of occupational health and security, information security and privacy	X					
<b>The Course's Lecturer(s) and Contact Information</b>		Assoc. Prof. Dr. Filiz KARDİYEN - fyuva@gazi.edu.tr						