

Course Description Form	
Course Code and Name	BM211 ELECTRICAL AND ELECTRONIC CIRCUITS
Course Semester	3
Catalog Content	Current, voltage, load, flux, power and energy concepts, Kirchoff laws, Physical circuit element modeling, Circuit graphs and analysis, Mesh analysis and node analysis, Thevenin and Norton theorems, State variables method, Introduction to logic circuits, Timing circuits, Counters, Registers, Memory and data storage, Interfacing
Textbook	Digital Fundamentals, Thomas L. Floyd, Prentice Hall International, Inc., Seventh Edition
Supplementary Textbooks	Digital Systems, Principles And Applications, Ronald .J. Tocci, Prentice –Hall International , Inc. , Fourth Edition. Principles and Applications of Electrical Engineering, Rizzoni, G., Mc Graw Hill
Credit	5
Prerequisites of the Course (Attendance Requirements)	There is no prerequisite or co-requisite for this course
Type of the Course	Compulsory
Instruction Language	Turkish
Course Objectives	The objective of this course is to teach theoretical and practical basis for designing and analyzing electrical and electronic circuits
Course Learning Outcomes	Students learn the fundamentals of electrical circuit analysis and design, the design of complex digital devices starting from simple digital circuit blocks with the accompanying design concepts
Instruction Methods	The mode of delivery of this course is Face to face
Weekly Schedule	<ol style="list-style-type: none"> 1. Current, voltage, load, flux, power and energy concepts 2. Kirchoff laws 3. Physical circuit element modeling 4. Circuit graphs and analysis 5. Mesh analysis and nodal voltage analysis 6. Thevenin and Norton theorems 7. State variables method 8. Introduction to logic circuits 9. Basic logic circuits 10. Timing circuits 11. Counters 12. Registers 13. Memory and data storage 14. Interfacing

Teaching and Learning Methods <i>(These are examples. Please fill which activities you use in the course)</i>	Weekly theoretical course hours: 3 Reading Activities Internet browsing, library work Designing and implementing materials Preparation of Midterm and Midterm Exam Final Exam and Preparation for Final Exam			
Assessment Criteria		Numbers	Total Weighting (%)	
	Midterm Exams	1	30	
	Assignment	4	20	
	Application	1	10	
	Projects			
	Practice			
	Quiz			
	Percent of In-term Studies (%)		60	
	Percentage of Final Exam to Total Score (%)		40	
	Attendance			

Workload	Activity	Total Number of Weeks	Duration (weekly hour)	Total Period Work Load				
	Weekly Theoretical Course Hours	14	3	42				
	Weekly Tutorial Hours			0				
	Reading Tasks	14	1	14				
	Studies	14	2	28				
	Material Design and Implementation	2	6	12				
	Report Preparing			0				
	Preparing a Presentation			0				
	Presentations			0				
	Midterm Exam and Preparation for Midterm Exam	1	15	15				
	Final Exam and Preparation for Final Exam	1	15	15				
	Other (should be emphasized)							
	Total Workload			126				
	Total Workload / 25			5.04				
	Course Credit (ECTS)			5				

Contribution Level Between Course Learning Outcomes and Program Outcomes	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		
The Course's Lecturer(s) and Contact Information		Computer Engineering Department Chair bmabb@gazi.edu.tr				