

**KARADENİZ TECHNICAL UNIVERSITY OF TECHNOLOGY FACULTY OF
ELECTRONICS AND COMMUNICATION ENGINEERING DEPARTMENT COURSE
PLAN**

FALL SEMESTER (1ST SEMESTER) 1-1									
CODE	COURSE NAME	ECTS	T	U	L	K	Z/S	LANG UAGE	PRE REQUI SITE
	Mathematics-I	5	4	0	0	4,0	Z	T	
	Physics-I	5	3	0	1	3,5	Z	T	
	Introduction to Computer and Information Systems	5	3	0	1	3,5	Z	T	
	Turkish Language-I	2	2	0	0	2,0	Z	T	
	Ataturk First. and Revolution. History-I	2	2	0	0	2,0	Z	T	
	English-I	2	2	0	0	2,0	Z	T	
	Introduction to Electronics and Communication Engineering	3	2	0	0	2,0	Z	T	
	Electric Circuit Basics	6	3	0	1	3,5	Z	T	
	TOTAL	30	21	0	3	22,5			

SPRING SEMESTER (2ND SEMESTER) 1-2									
CODE	COURSE NAME	ECTS	T	U	L	K	Z/S	LANG UAGE	PRE REQUI SITE
	Mathematics-II	5	4	0	0	4,0	Z	T	
	Physics-II	5	3	0	1	3,5	Z	T	
	Turkish Language-II	2	2	0	0	2,0	Z	T	
	Ataturk First. And Rev. History-II	2	2	0	0	2,0	Z	T	
	English-II	2	2	0	0	2,0	Z	T	
	Linear Algebra and Applications	5	3	0	0	3,0	Z	T	
	Computer Programming and Algorithm Analysis	5	3	1	0	3,5	Z	T	
	Material Science	4	3	0	0	3,0	Z	T	
	TOTAL	30	22	1	1	23,0			

FALL SEMESTER (3RD SEMESTER) 2-1									
CODE	COURSE NAME	ECTS	T	U	L	K	Z/S	LANG UAGE	PRE REQUI SITE
	Differential Equations	4	3	0	0	3,0	Z	T	
	Electronic Circuits-I	4	3	0	0	3,0	Z	T	
	Circuit and System Analysis	4	3	0	0	3,0	Z	T	VAR ¹
	Probability and Statistics in Engineering	3	3	0	0	3,0	Z	T	
	Basic Electricity Laboratory	3	0	0	2	1,0	Z	T	
	Technical Elective-I	4	2	0	0	2,0	S	T	
	Technical Elective-II	4	2	0	0	2,0	S	T	
	Social Elective-I	4	2	0	0	2,0	S	T	



	TOTAL	30	18	0	2	19,0			
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1) To be successful in Electrical Circuit Basics course.



Technical Elective-I Pool									
CODE	COURSE NAME	ECTS	T	U	L	K	Z/S	LANG UAGE	PRE REQUI SITE
	English in Business	4	2	0	0	2,0	S	T	
	Reading and Writing in English	4	2	0	0	2,0	S	T	
	Vocational English	4	2	0	0	2,0	S	T	

Technical Elective-II Pool									
CODE	COURSE NAME	ECTS	T	U	L	K	Z/S	LANG UAGE	PRE REQUI SITE
	Electronic Measurement and Instrumentation	4	2	0	0	2	S	T	
	Sensors and Transducers	4	2	0	0	2	S	T	
	Electromechanical Energy Conversion	4	2	0	0	2	S	T	
	Alternating Current Circuit Analysis	4	2	0	0	2	S	T	

Social Elective-I Pool									
CODE	COURSE NAME	ECTS	T	U	L	K	Z/S	LANG UAGE	PRE REQUI SITE
	Use of Basic Information Technologies	4	2	0	0	2	S	T	
	Personal Development	4	2	0	0	2	S	T	
	Philosophical Thought	4	2	0	0	2	S	T	
	Scientific Research Methods	4	2	0	0	2	S	T	
	University Elective-I	4	2	0	0	2	S	T	

SPRING SEMESTER (4TH SEMESTER) 2-2									
CODE	COURSE NAME	ECTS	T	U	L	K	Z/S	LANG UAGE	PRE REQUI SITE
	Electromagnetic Fields	4	3	0	0	3,0	Z	T	
	Electronic Circuits-II	4	3	0	0	3,0	Z	T	VAR ²
	Signals and Systems	4	3	1	0	3,5	Z	T	
	Numerical Methods in Engineering	3	3	1	0	3,5	Z	T	
	Electronics Laboratory-I	3	0	0	2	1,0	Z	T	VAR ²
	Technical Elective-III	4	2	0	0	2,0	S	T	
	Technical Elective-IV	4	2	0	0	2,0	S	T	
	Social Elective-II	4	2	0	0	2,0	S	T	
	TOTAL	30	18	2	2	20			

2) To be successful in Electronic Circuits-I course.



Technical Elective-III Pool									
CODE	COURSE NAME	ECTS	T	U	L	K	Z/S	LANG UAGE	PRE REQUI SITE
	Engineering Mathematics	4	2	0	0	2,0	S	T	
	Theory of Complex Functions	4	2	0	0	2,0	S	T	
	Object Oriented Programming	4	2	0	0	2,0	S	T	

Technical Elective-IV Pool									
CODE	COURSE NAME	ECTS	T	U	L	K	Z/S	LANG UAGE	PRE REQUI SITE
	Optimization Theory and Applications	4	2	0	0	2,0	S	T	
	Analysis of Engineering Systems with MATLAB	4	2	0	0	2,0	S	T	
	Data Structures	4	2	0	0	2,0	S	T	

Social Elective-II Pool									
CODE	COURSE NAME	ECTS	T	U	L	K	Z/S	LANG UAGE	PRE REQUI SITE
	Human Resources Management	4	2	0	0	2,0	S	T	
	Engineering Economics	4	2	0	0	2,0	S	T	
	Entrepreneurship	4	2	0	0	2,0	S	T	
	Presentation and Presentation Techniques	4	2	0	0	2,0	S	T	
	University Elective-II	4	2	0	0	2	S	T	

FALL SEMESTER (5TH SEMESTER) 3-1									
CODE	COURSE NAME	ECTS	T	U	L	K	Z/S	LANG UAGE	PRE REQUI SITE
	Digital Design	5	3	0	0	3,0	Z	T	
	Electromagnetic Waves	6	3	0	0	3,0	Z	T	
	Electronics Laboratory-II	3	0	0	2	1,0	Z	T	VAR ³
	Analog Communication	4	3	0	0	3,0	Z	T	VAR ⁴
	Digital Signal Processing	4	3	0	0	3,0	Z	T	VAR ⁴
	Technical Elective-V	4	2	0	0	2,0	S	T	
	Social Elective-III	4	2	0	0	2,0	S	T	
	TOTAL	30	16	0	2	17,0			

- 3) To be successful in Electronic Circuits-II and Electronics Laboratory-I courses.
4) To be successful in Signals and Systems course.



Technical Elective-V Pool									
CODE	COURSE NAME	ECTS	T	U	L	K	Z/S	LANG UAGE	PRE REQUI SITE
	Medical Electronics	4	2	0	0	2	S	T	
	Industrial Electronics	4	2	0	0	2	S	T	
	Analog Electronics	4	2	0	0	2	S	T	
	Power Electronics	4	2	0	0	2	S	T	
	Solid State Electronics	4	2	0	0	2	S	T	
	Circuit Synthesis	4	2	0	0	2	S	T	
	Superconductor Electronics	4	2	0	0	2	S	T	

Social Elective-III Pool									
CODE	COURSE NAME	ECTS	T	U	L	K	Z/S	LANG UAGE	PRE REQUI SITE
	Engineering Ethics	4	2	0	0	2,0	S	T	
	Management and Organization	4	2	0	0	2	S	T	
	Project Management Analysis and Consulting	4	2	0	0	2	S	T	
	History of Science	4	2	0	0	2	S	T	
	Research Methods and Techniques	4	2	0	0	2	S	T	
	University Elective-III	4	2	0	0	2	S	T	

SPRING SEMESTER (6TH SEMESTER) 3-2									
CODE	COURSE NAME	ECTS	T	U	L	K	Z/S	LANG UAGE	PRE REQUI SITE
	Digital Communication	4	3	0	0	3,0	Z	T	VAR ⁵
	Microprocessors	3	2	2	0	3,0	Z	T	VAR ⁶
	Analog Communication Laboratory	3	0	0	2	1,0	Z	T	VAR ⁵
	Microwave Technique	4	3	0	0	3,0	Z	T	
	Technical Elective-VI	4	2	0	0	2,0	S	T	
	Technical Elective-VII	4	2	0	0	2,0	S	T	
	Technical Elective-VIII	4	2	0	0	2,0	S	T	
	Social Elective-IV	4	2	0	0	2,0	S	T	
	TOTAL	30	16	2	2	18,0			

5) To be successful in Analog Communication course.

6) To be successful in Digital Design course.



Technical Elective-VI Pool									
CODE	COURSE NAME	ECTS	T	U	L	K	Z/S	LANG UAGE	PRE REQUI SITE
	Artificial Neural Networks	4	2	0	0	2,0	S	T	
	Random Processes	4	2	0	0	2,0	S	T	VAR ⁷
	Programmable Logic Controllers	4	2	0	0	2,0	S	T	
	Electronic Circuit Drawing	4	2	0	0	2,0	S	T	
	Optoelectronics	4	2	0	0	2	S	T	
	Ship Electronics	4	2	0	0	2	S	T	
	Drive Systems	4	2	0	0	2	S	T	

7) To be successful in Probability and Statistics in Engineering course.

Technical Elective-VII Pool									
CODE	COURSE NAME	ECTS	T	U	L	K	Z/S	LANG UAGE	PRE REQUI SITE
	Artificial Intelligence and Applications	4	2	0	0	2,0	S	T	
	Embedded Systems	4	2	0	0	2,0	S	T	
	Digital System Design with VHDL	4	2	0	0	2,0	S	T	VAR ⁶
	Data Mining	4	2	0	0	2,0	S	T	
	Computer Communication Networks	4	2	0	0	2,0	S	T	
	Unmanned Aerial Vehicles	4	2	0	0	2,0	S	T	
	Material Magnetism	4	2	0	0	2,0	S	T	
	Next Generation Wireless Communication Technology	4	2	0	0	2,0	S	T	

Technical Elective-VIII Pool									
CODE	COURSE NAME	ECTS	T	U	L	K	Z/S	LANG UAGE	PRE REQUI SITE
	Introduction to Control Systems	4	2	0	0	2,0	S	T	
	Numerical Control Systems	4	2	0	0	2,0	S	T	
	Biological Systems Modeling and Control	4	2	0	0	2,0	S	T	
	Fuzzy Logic and Applications	4	2	0	0	2,0	S	T	
	Heuristic Optimization	4	2	0	0	2,0	S	T	

Social Elective-IV Pool									
CODE	COURSE NAME	ECTS	T	U	L	K	Z/S	LANG UAGE	PRE REQUI



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	General and Technical Communication	4	2	0	0	2,0	S	T	
	Public Relations	4	2	0	0	2,0	S	T	
	Profession Law	4	2	0	0	2,0	S	T	
	Philosophical Thought	4	2	0	0	2,0	S	T	
	Physics and Philosophy	4	2	0	0	2,0	S	T	
	Research and Development in Engineering	4	2	0	0	2,0	S	T	
	Labor Law	4	2	0	0	2,0	S	T	
	Occupational Health and Safety	4	2	0	0	2,0	S	T	
	University Elective-IV	4	2	0	0	2	S	T	

FALL SEMESTER (7TH SEMESTER) 4-1									
CODE	COURSE NAME	ECTS	T	U	L	K	Z/S	LANG UAGE	PRE REQUI SITE
	Design Project	4	0	3	0	1,5	Z	T	
	Antennas and Propagation	6	3	0	0	3,0	Z	T	
	Microwave and Antennas Lab.	3	0	0	2	1,0	Z	T	VAR ⁸
	Digital Communication Lab.	3	0	0	2	1,0	Z	T	VAR ⁹
	Professional Experience-I	3	0	2	0	1,0	Z	T	
	Technical Elective IX	4	2	0	0	2,0	S	T	
	Technical Elective X	4	2	0	0	2,0	S	T	
	Technical Elective XI	4	2	0	0	2,0	S	T	
	TOTAL	31	9	5	4	13,5			

- 8) To be successful in Microwave Technique course.
9) To be successful in Digital Communication course.

Technical Elective-IX Pool									
CODE	COURSE NAME	ECTS	T	U	L	K	Z/S	LANG UAGE	PRE REQUI SITE
	Digital Filters	4	2	0	0	2,0	S	T	VAR ¹⁰
	Image Processing	4	2	0	0	2,0	S	T	
	Biomedical Signal Processing	4	2	0	0	2,0	S	T	VAR ¹⁰
	Signal Processing Systems Design with FPGA	4	2	0	0	2,0	S	T	VAR ^{10,11}
	Discrete Time Systems	4	2	0	0	2,0	S	T	VAR ¹⁰
	Digital Audio Processing	4	2	0	0	2,0	S	T	VAR ¹⁰
	Nonlinear Control Systems	4	2	0	0	2,0	S	T	VAR ¹²
	Data Communication	4	2	0	0	2,0	S	T	

- 10) To be successful in Digital Signal Processing course.
11) To be successful in Digital Design course.



12) To be successful in Introduction to Control Systems course.



Technical Elective-X Pool									
CODE	COURSE NAME	ECTS	T	U	L	K	Z/S	LANG UAGE	PRE REQUI SITE
	Microwave Engineering	4	2	0	0	2,0	S	T	
	Electromagnetic Compatibility and Applications	4	2	0	0	2,0	S	T	
	Microwave Circuit Design	4	2	0	0	2,0	S	T	
	Radar Systems	4	2	0	0	2,0	S	T	
	Medical Instrumentation, Design and Applications	4	2	0	0	2,0	S	T	
	Smart Grids	4	2	0	0	2,0	S	T	
	High Frequency Electronics	4	2	0	0	2,0	S	T	
	RF Electronics Applications	4	2	0	0	2,0	S	T	
	Signal Processing Applications	4	2	0	0	2,0	S	T	VAR ¹⁰

Technical Elective-XI Pool									
CODE	COURSE NAME	ECTS	T	U	L	K	Z/S	LANG UAGE	PRE REQUI SITE
	Satellite Communication	4	2	0	0	2,0	S	T	
	Digital Communication Systems	4	2	0	0	2,0	S	T	
	Optical Communication Systems	4	2	0	0	2,0	S	T	
	Communication Electronics	4	2	0	0	2,0	S	T	
	Mobile Communication Systems	4	2	0	0	2,0	S	T	
	Biomedical Systems	4	2	0	0	2,0	S	T	
	Basic Communication Design and Applications of Systems	4	2	0	0	2,0	S	T	

SPRING SEMESTER (8TH SEMESTER) 4-2									
CODE	COURSE NAME	ECTS	T	U	L	K	Z/S	LANG UAGE	PRE REQUI SITE
	Workplace Application	20	1	4	0	3,0	Z	T	VAR ¹³⁻¹⁴
	Graduation Study	6	0	2	0	1,0	Z	T	
	Professional Experience-II	3	0	2	0	1,0	Z	T	
	TOTAL	29	1	8	0	5			

13) The GPA must be at least 1.80.

14) They must not have any courses that require attendance.



DISTRIBUTION OF COURSES ACCORDING TO SEMESTERS					
	ECTS	T	U	L	K
Semester 1	30	21	0	3	22,5
2nd semester	30	22	1	1	23,0
Semester 3	30	18	0	2	19,0
Semester 4	30	18	2	2	20,0
Semester 5	30	16	0	2	17,0
Semester 6	30	16	2	2	18,0
Semester 7	31	9	5	4	13,5
Semester 8	29	1	8	0	5
TOTAL	240	121	18	16	138

DISTRIBUTION OF COURSES ACCORDING TO ELECTIVE STATUS						
	ECTS	K	T	U	L	Clock
Technical Elective Courses	44	22	22	0	0	22
Social Elective Courses	16	8	8	0	0	8
Compulsory Courses	180	108	91	18	16	125
TOTAL	240	138	121	18	16	155

Assoc. Prof. Dr. Canan
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Department

