COURSE TRAINING PROGRAM FORM

Course Name	Code	Regular Semester	ECTS Credits	Credits	Lecture	3
					Application	0
SIGNALS AND SYSTEMS	*014 20 32*	*4*	*4*	*3*	Laboratory (Hour/Week)	*0*

Compulsory or Elective	*Compulsory*
Instructor	*Asst. Prof. Dr. Özlem ÜNVERDİ*
Course Contents	Properties of Signals and Systems, Linear and Time Invariant Systems, Convolution in Continuous and Discrete Time Systems, Fourier Analysis of Continuous and Discrete Time Signals, Laplace Transforms, Inverse Laplace Transform, z-Transform, Inverse z-Transform, Transfer (System) Function, Fourier Transform, Discrete Fourier Transform, Difference Equations, Eigenvalues and Eigenfunctions, Orthogonal Systems, Modulation Concept, Sampling Theorem
Course Objectives	Understanding signal and system concepts, analyzing electronics and communication systems according to the properties of signals transmitted
Course Outcomes (The knowledge and the skills that the student will gain at the end of the course)	Determining properties of the transmitted signal and the system examined.
Textbook	A.V. Oppenheim, A.S. Willsky, "Signals and Systems", Prentice Hall.
Additional References	1) R.A. Gabel, R.A. Roberts, "Signals and Linear Systems", John Wiley & Sons. 2) A.Papoulis, "Signal Analysis", McGraw Hill. 3) F.R. Connor, "Signals", Edward Arnold Ltd. 4) H.P.Hsu, "Signals and Systems", Schaum's Outline Series, McGraw Hill.

Prerequisite Courses	*NONE*
Prerequisite Subjects	*NONE*
Homework/Project	*Four homeworks are given during semester.*
Laboratory	*NONE*
Computer Applications	*NONE*
Additional Practices	*NONE*

Course Evaluation Criteria

	Number	Effective Proportion %
Midterm Exams	*2*	*50%*
Quiz		
Homework	*4*	*10%*
Term Projects		
Term Papers		
Laboratory		
Other		
Final Exam	*1*	*40%*

WEEKLY COURSE PLAN

Week	Subject
1	*Classification and Properties of Signals and Systems*
2	*Linear and Time Invariant Systems*
3	*Convolution in Continuous Time Systems*
4	*Convolution in Discrete Time Systems*
5	*Fourier Analysis of Continuous Time Signals*
6	*Fourier Analysis of Discrete Time Signals*
7	*Laplace Transform*
8	*Inverse Laplace Transform*
9	*z-Transform*
10	*Inverse z-Transform*
11	*Transfer (System) Function*
12	*Fourier Transform*
13	*Discrete Fourier Transform*
14	*Difference Equations, Eigenvalues and Eigenfunctions, Orthogonal Systems*
15	*Modulation Concept, Sampling Theorem*

Course Outcomes

	The objective knowledge and abilities earned by the student with the Electronics and Communications Engineering Department Program	**1**	**2**	**3**
1	Ability to apply knowledge of natural science and engineering			X
2	Ability to design and conduct experiments, as well as to analyze and interpret data		X	
3	Ability to design a system		X	
4	Ability to function as a team member		X	
5	Ability to identify, formulate, and solve engineering problems			X
6	Understanding of professional and ethical responsibility			X
7	Ability to communicate effectively		X	
8	Knowledge of the impact of the profession in a global and social context		X	
9	Recognition of the need for life-long learning			X
10	Knowledge of contemporary issues			X
11	Ability to use modern engineering tools and the techniques		X	
12	Providing the opportunity to the student gain more detailed knowledge of chosen research subject in electronics and communications engineering and to apply it.		X	

Contribution of the course: **1:** None, **2:** Partial, **3:** Full.