AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Antenna Theory								
Course Code	EEE514		Couse Level	Second Cycle (Master's Degree)					
ECTS Credit	8	Workload	200 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	To tell and explain the important knowledge and the necessary equations about the solution of antenna problems, To obtain the radiated fields and determine their properties by using these equations, To be able to explain and give information about the radiation of different antennas								
Course Content	Fundamentals of electromagnetic radiation and antennas. The plane wave spectrum representation. Properties of antenna, Role of antennas on communication system, Special types of antennas and polarizers.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Demonstration, Discussion, Case Study, Project Based Study, Individual Study, Problem Solving								
Name of Lecturer(s)	Lec. İsmail YARİÇİ								

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	50
Assignment	4	10

Recommended or Required Reading	
1	Balanis, C. A., Antenna Theory , Wiley, 1997
2	Warren L. Stutzman and Gary A. Thiele , Antenna Theory and Design, Wiley, 2012
3	Zhi Ning Chen, M. Y. W. Chia, Broadband Planar Antennas: Design and Applications, John Wiley & Sons, 2006

Week	Weekly Detailed Course Contents	
1	Theoretical	Fundamentals of electromagnetic radiation and antennas.
2	Theoretical	Fundamentals of electromagnetic radiation and antennas.
3	Theoretical	Fundamentals of electromagnetic radiation and antennas.
4	Theoretical	Radiation from current distributions
5	Theoretical	Theorems of reciprocity
6	Theoretical	The plane wave spectrum representation
7	Theoretical	Antenna parameters
8	Intermediate Exam	Midterm exam
9	Theoretical	Basic radiator elements
10	Theoretical	Various antennas with applications in various frequency bands
11	Theoretical	Various antennas with applications in various frequency bands
12	Theoretical	Various antennas with applications in various frequency bands
13	Theoretical	Array analysis and synthesis techniques.
14	Theoretical	Array analysis and synthesis techniques.
15	Theoretical	Array analysis and synthesis techniques.
16	Final Exam	Final Exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	5	3	112
Assignment	4	12	3	60
Midterm Examination	1	9	3	12

Final Examination	1	13	3	16
			Total Workload (Hours)	200
			[Total Workload (Hours) / 25*] = **ECTS**	8
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	To be able to write the antenna radiation equation
2	To determine, explain and discuss differences between the near and far fields
3	To be able to examine any given antenna and to explain its radiation properties
4	Properties of antennas
5	Factors which are affected to antennas design

Programme Outcomes *(Electrical and Electronics Engineering Master)*	
1	Developing and intensifying knowledge that requires expertise in the area of Electrical-Electronics Engineering, and gaining the skills necessary to analyze and solve problems using this knowledge
2	Grasping the inter-disciplinary interaction related to Electrical-Electronics Engineering, interpreting and forming new types of knowledge by combining the knowledge from Electrical-Electronics Engineering and the knowledge from various other disciplines
3	Developing new approaches to solve the complex problems arising in Electrical-Electronics Engineering, coming up with solutions while taking responsibility and carrying out a specific study independently
4	Assessing the knowledge and skill gained in the area of Electrical-Electronics Engineering with a critical view
5	Transferring the current developments and one’s own work in Electrical-Electronics Engineering, to other groups in written, oral and visual forms
6	The ability to control the collecting, interpreting, practicing and announcing processes of the Electrical-Electronics Engineering related to data taking into consideration scientific, cultural and ethical values and the ability to teach these values to others
7	Developing application plans concerning the subjects related to Electrical-Electronics Engineering and the ability to evaluate the end results of these plans within the frame of quality processes

Contribution of Learning Outcomes to Programme Outcomes *1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High*

	L1	L2	L3	L4	L5
P1	4	4	4	4	4
P2	4	4	4	4	4
P3	4	4	4	4	4
P4	4	4	4	4	4
P5	4	4	4	4	4
P6	4	4	4	4	4
P7	4	4	4	4	4