Antenna Engineering

Course Name	Course type (credit/hours)	Elective course(3/3)	Course code	C018
	Target students Division/major/grade	Electrical and Computer Engineering/Senior	Opening semester	2017 2ND SEMESTER
	Class time and classroom	Mon D(WH539)Thu D(WH539)	English Grade	A(100%English)

Reference to this course	Prerequisite courses	전자장론		
	Related basic courses			
	Recommended concurrent courses			
	Related advanced courses	초고주파공학, 초고주파회로		

Instructor	Name (title/division)	Ikmo Park(Professor, Electrical and Computer Engineering)			
	Office Room Number	원천관310-3호	Office phone Number	2483	e-mail
	Office hours	월,수 11시-12시	Homepage address	http://mwcomm.ajou.ac.kr	
Teaching Assistant	Name (title/division)				
	Office Room Number		Office phone Number		e-mail

1. Introduction

2. Course Objectives

본 과목에서는 전자장론에서 습득한 지식을 바탕으로, 안테나의 복사원리를 이해하고 안테나의 효과적인 설계 방법의 습득을 목표로 한다.

3. Class types and activities

4. Teaching Method

- [V] lecture
- [V] team project(presentation and case studies)
- [V] designing and production
- [ ] others

- [V] discussion and debate
- [ ] experiments(role-playing,etc)
- [ ] on-site learning(on-site training)

5. Support Systems in Use

- [V] e-class / AjouBb
- [ ] cyber lecture
- [ ] class behavior analyazing system

- [ ] automatic recording system
- [ ] online content
- [ ] others

- [ ] web-based assignment

6. Teaching Tools

- [ ] PBL(Problem Based Learning)
- [ ] UR(Undergraduate Research)
- [ ] others

- [ ] CBL(Case Based Learning)
- [ ] FL(Flipped Learning)

- [ ] TBL(Team Based Learning)
- [ ] DSAL(Data Science Active Learning)

7. Knowledge and ability required for taking this course

본 과목을 성공적으로 수강하기 위해서는 전자장론에서 습득한 전자기파에 대한 기본적인 개념과 Maxwell 방정식에 대한 이해가 필요하다

8. Method of Evaluation

Evaluation Item	The Number of Times	Evaluation Proportion	Remarks
Attendance			
midterm exam	1	30	
final exam	1	50	
quiz			
presentation	1	20	
discussion			
homework			
etc			
study hours			

9. Textbook and supplementary material

Main/Sub	Title (Web-site)	Writer	Publisher	Publication year
Main	Antenna Theory	C. A. Balanis	Wiley	2005
Sub	Antenna Theory and Design	W. L. Stutzman, G. A. Thiele	Wiley	1997
Sub	Antennas for all applications	J. D Kraus,, R. J. Marhefka	McGraw Hill	2003

10. Class system and Class shedule

안테나 기본 복사 원리에 대하여 이해하고, 여러 종류의 안테나 특성에 대하여 학습한다.

< Class Schedule >

* language : K-korean, E-English

Weeks	Topics	language	Instructor	Teaching Method	Evaluation Method	Matter to be prepared
1	Introduction		Ikmo Park			
2	Maxwell's eqution		Ikmo Park			
3	EM Wave Basics		Ikmo Park			

< Class Schedule >

Weeks	Topics	language	Instructor	Teaching Method	Evaluation Method	Matter to be prepared
4	Coordinate System		Ikmo Park			
5	Antenna parameters I		Ikmo Park			
6	Antenna parameters II		Ikmo Park			
7	Radiation Integrals		Ikmo Park			
8	중간고사		Ikmo Park			
9	Vector potential functions		Ikmo Park			
10	Linear wire antennas		Ikmo Park			
11	Linear wire antennas		Ikmo Park			
12	Loop antennas		Ikmo Park			
13	Arrays I		Ikmo Park			
14	Arrays II		Ikmo Park			
15	Traveling wave and broadband antennas		Ikmo Park			
16	기말고사		Ikmo Park			

11. Other items of notification