

## Communication Systems

Course Name	Course type (credit/hours)	Elective course(3/3)			Course code	C018
	Target students Division/major/grade	Electrical and Computer Engineering/Junior			Opening semester	2018 1ST SEMESTER
	Class time and classroom	Tue B(WH340)Thu A(WH340)			English Grade	A(100%English)
Reference to this course	Prerequisite courses	Communication Systems				
	Related basic courses					
	Recommended concurrent courses					
	Related advanced courses					
Instructor	Name (title/division)		Ran Rong(Assistant Professor, Electrical and Computer Engineering)			
	Office Room Number	중합관 603호	Office phone Number	2375	e-mail	
	Office hours			Homepage address		
Teaching Assistant	Name (title/division)					
	Office Room Number		Office phone Number		e-mail	

### 1. Introduction

This subject aims at letting students understand the fundamental principles and theorems on the modern communication system. Beginning with valuable background material on signal and system and random process, the subject tries to guide students through the core topics including amplitude, frequency and pulse modulation and noise, and enables students to develop confidence in solving problems on their own.

### 2. Course Objectives

1. Enable students to understand the fundamental principles and theorems on Communication systems;
2. Enable students to know how concepts are applied to real-life communication scenarios and devices;
3. Enable students to know how to formulate the communication problems and solve the problems.

### 3. Class types and activities

1. Leture + discussion
2. Quiz+Homework
3. Mini projects (optional)

### 4. Teaching Method

- |  |   |
|--|---|
| <input type="checkbox"/> lecture                                     | <input type="checkbox"/> discussion and debate              |
| <input type="checkbox"/> team project(presentation and case studies) | <input type="checkbox"/> experiments(role-playing,etc)      |
| <input type="checkbox"/> designing and production                    | <input type="checkbox"/> on-site learning(on-site training) |
| <input type="checkbox"/> others                                      |   |

### 5. Support Systems in Use

- |  |   |   |
|--|---|---|
| <input checked="" type="checkbox"/> AjouBb                 | <input type="checkbox"/> automatic recording system | <input type="checkbox"/> web-based assignment |
| <input type="checkbox"/> cyber lecture                     | <input type="checkbox"/> online content             |   |
| <input type="checkbox"/> class behavior analyzazing system | <input type="checkbox"/> others                     |   |

### 6. Teaching Tools

- |   |  |   |
|---|--|---|
| <input checked="" type="checkbox"/> PBL(Problem Based Learning) | <input checked="" type="checkbox"/> CBL(Case Based Learning) | <input type="checkbox"/> TBL(Team Based Learning)           |
| <input type="checkbox"/> UR(Undergraduate Research)             | <input type="checkbox"/> FL(Flipped Learning)                | <input type="checkbox"/> DSAL(Data Science Active Learning) |
| <input type="checkbox"/> others                                 |  |   |

### 7. Knowledge and ability required for taking this course

1. Probability and Random Variable
2. Signals and Systems

## 8. Method of Evaluation

Evaluation Item	The Number of Times	Evaluation Proportion	Remarks
Attendance	32	10	
midterm exam	1	35	
final exam	1	35	
quiz	2	10	
presentation			
discussion			
homework	2	10	
etc			
study hours			

## 9. Textbook and supplementary material

Main/Sub	Title (Web-site)	Writer	Publisher	Publication year
Main	Principles of modern communication systems	samuel.o.agbo		

## 10. Class system and Class shedule

--

### < Class Schedule >

\* language : K-korean, E-English

Weeks	Topics	language	Instructor	Teaching Method	Evaluation Method	Matter to be prepared
1	Introducation	E	Ran Rong			
2	Signals and Systems overview	E	Ran Rong			
3	Amplitude modulation _part 1	E	Ran Rong			
4	Amplitude modulation_part_2	E	Ran Rong			
5	Amplitude modulation_part_3	E	Ran Rong			
6	Angle modulation_part_1	E	Ran Rong			

< Class Schedule >

\* language : K-korean, E-English

Week s	Topics	lang uag e	Instructor	Teaching Method	Evaluation Method	Matter to be prepared
7	Angle modulation_part_2	E	Ran Rong			
8	Midterm	E	Ran Rong			
9	Pulse modulation_part_1	E	Ran Rong			
10	Pulse modulation_part_2	E	Ran Rong			
11	Pulse modulation_part_3	E	Ran Rong			
12	Probablity overview	E	Ran Rong			
13	Random Process overview	E	Ran Rong			
14	Noise in analog communication system	E	Ran Rong			
15	Noise in digital communication systems	E	Ran Rong			
16	Final exam	E	Ran Rong			

11. Other items of notification