

Wireless Information and Communication Engineering

Special Subjects
Elective 2 credit

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1. Course Description

The aim of this course is to help students (majoring computer science) acquire the fundamental knowledge needed to achieve a better performance in their studies.

It also enhances the development of student's knowledge on a specific antenna with a simple experiment. Specifically, we will acquire necessary skills and knowledge on DP3.

2. Course Objectives

The goals of this course are to:

- be able to understand and explain microwave propagation modes.
- be able to understand and explain types of microwave antennas in communication systems.
- be able to understand and explain characteristics of analog and digital.
- be able to understand and explain Pulse Code Modulation.
- be able to understand and explain types of digital modulation.

3. Grading Policy

The students who submit all the assignments are eligible to take the course evaluation test.

To receive credit for this course, you must earn a grade of at least 60% on the course evaluation test.

4. Textbook and Reference

Textbook

(1) (In Japanese) ISBN-13: 978-4890192977

(2) (In Japanese) ISBN-13: 978-4274222566

5. Requirements(Assignments)

This course will be taught in Japanese.

This course will be required the fundamental knowledge on physics.

6. Note

7. Schedule

- [1] Decibel: Definition and Formula
- [2] Microwave Propagation
- [3] Fading Phenomena in Microwave Communication
- [4] Antennas and Feeders
- [5] Antenna Gain and Directivity
- [6] Linear Antennas
- [7] Aperture Antenna
- [8] Analog and Digital Signal
- [9] Pulse Code Modulation
- [10] An Overview of Modulation Methods
- [11] Digital Modulation Methods
- [12] Spread-Spectrum Communications
- [13] Multiple Access Techniques
- [14] Review 1: corrected assignments[1]
- [15] Review 2: corrected assignments[2]