

COURSE	Name	: Propagation and Radiation
	Code	: EE185132
	Credit(s)	: 2
	Semester	: I

Description of Course

The course of Propagation and Radiation discusses the radiation of electromagnetic waves from an antenna and its propagation.

Learning Outcomes

Knowledge

(P01) Mastering the concepts and principles of science in a comprehensive manner, and to develop procedures and strategies needed for the analysis and design of systems related to the field of power systems, control systems, multimedia telecommunications, electronics, intelligent multimedia network, or telematics as a preparation for further education or professional career.

Specific Skill

(KK01) Being able to formulate engineering problems with new ideas for the development of technology in power systems, control systems, multimedia telecommunications, electronics, intelligent multimedia network, or telematics.

General Skill

(KU05) Being able to take decisions in the context of solving problems of science and technology development that concerns and implements the humanities value based on analytical or experimental studies of information and data.

Attitude

(S09) Demonstrating attitude of responsibility on work in his/her field of expertise independently.

Course Learning Outcomes

Knowledge

Mastering the concept of radio wave propagation and electromagnetic field radiation.

Specific Skill

Be able to analyze radio wave propagation and be able to analyze electromagnetic field radiation from an antenna.

General Skill

Able to apply the concept of wave propagation and radiation to solve problems in the communication system or to design a communication system.

Attitude

Demonstrating attitude of being responsible for the work in his/her area of expertise independently.

Working together to be able to make the most of their potential.

Main Subjects

1. Integral radiation
2. Antenna Arrays
3. Antenna Synthesis
4. Pathloss and shadowing
5. Multiple trajectories

Reference(s)

- [1] W. L. Stutzman, G. A. Thiele, Antenna Theory and Design 3rd Ed., John Wiley & Sons, 2012.
- [2] C. A. Balanis, Antenna Theory, Analysis and Design 4rd Ed., John Wiley & Sons, 2005.
- [3] J. D. Parsons, Mobile radio propagation channel, John Wiley & Sons, 2000
- [4] Andrea Goldsmith, Wireless Communication, Cambridge University Press, 2005
- [5] F. P. Fontan, P. M. Espineira, Modeling the Wireless Propagation Channel, a Simulation Approach with matlab, John Wiley & Sons, 2008.

Prerequisite(s)

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