

<b>COURSE</b>	Name	: Microwave, Radar and Navigation Systems
	Code	: EE184931
	Credits	: 3
	Semester	: Elective

### Description of Course

Microwave Systems, Radar and Navigation are elective courses that have learning achievements to understand the concept of microwave systems and know the components of a microwave system, understand the working principles of microwave systems, understand the concept of radar, know the types of radars and understand the principles it works, Network analysis, Noise and distortion, knowledge of navigation about LORAN C, and satellite-based navigation.

### Learning Outcomes

#### Knowledge

(P03) Mastering the concepts and principles of design procedure in power systems, control systems, multimedia telecommunications, or electronics.

#### Specific Skill

(KK01) Able to formulate engineering problems in power systems, control systems, multimedia telecommunications, or electronics.

(KK02) Able to describe the completion of engineering problems in power systems, control systems, multimedia telecommunications, or electronics.

#### General Skill

(KU05) Able to take decisions appropriately in the context of problem solving in the area of expertise based on the results of information and data analysis.

#### Attitude

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

### Course Learning Outcomes

#### Knowledge

Mastering the concept of microwave systems and knowing the components of a microwave system.

Mastering the working principles of microwave systems.

Mastering the concept of radar, knowing the types of radars and understanding their working principles.

#### Specific Skill

Able to design microwave systems and radar system applications.

#### General Skill

Able to use knowledge about microwaves, especially radar for implementation in everyday life.

#### Attitude

Demonstrate an attitude of responsibility for work in his area of expertise independently.

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

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### Main Subjects

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1. Radar
2. Network analysis
3. Microwave component
4. Noise and distortion
5. LORAN C
6. Satellite based navigation

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### Reference(s)

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- [1] David M. Pozar, "Microwave and RF wireless Systems", John Wiley & Sons, 2001.
- [2] Richards, "Principles of Modern Radar part 1: basic principles", Spitich, 2010
- [3] Skolnik, "Introduction to radar systems", edisi-3, Mc Graw Hill, 2001
- [4] R. Garg & Bahl, Microstrip Lines & Slotlines, Artech, 1979.
- [5] Laurie Tetley, David Calcutt, "Electronic Navigation Systems, ed. 3, Routledge, 2001

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### Prerequisite(s)

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EE184633 Communication Electronics  
EE184532 Electromagnetic Wave Transmission and Antennas

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