

<b>COURSE</b>	Name	: Telecommunication System Engineering and Project
	Code	: EE184935
	Credits	: 3
	Semester	: Elective

### Description of Course

The subject of System Engineering and Telecommunications Project Management addresses two interconnected topics. First, students learn about systems engineering methods and telecommunications networks in connection with real problems, with the mastery of the knowledge that has been gained from the courses in telecommunications that have been taken before. After that, students learn about the methods of planning and managing projects in the field of telecommunications, related to the implementation of the results of system engineering and telecommunications networks studied in the first topic of discussion.

### Learning Outcomes

#### Knowledge

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

(P04) Mastering the concepts, principles, and procedures which considers economical, social, and environment aspects 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.

(KK03) Able to describe system design for problem solving in power systems, control systems, multimedia telecommunications, or electronics by concerning technical standards, performance aspect, reliability, ease of application, and assurance of sustainability.

#### 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.

(KU07) Able to take responsibility for the achievement of group work and supervise and evaluate the work completion assigned to the worker under his/her responsibility.

#### Attitude

(S11) Trying his/her best to achieve perfect results.

(S12) Working together to be able to make the most of his/her potential.

### Course Learning Outcomes

#### Knowledge

Mastering the concepts, principles and procedures of engineering and optimization of telecommunication systems and networks.

Mastering project management concepts, principles and procedures in the telecommunications sector.

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**Specific Skill**

Able to do engineering and optimization of telecommunication systems and networks in solving problems related to the telecommunications sector.

Able to apply project management in implementing projects in the telecommunications sector.

**General Skill**

Able to make decisions regarding telecommunication systems and networks which are the optimal solutions in solving telecommunication problems.

Able to work together and carry out joint responsibility for the results of group work in telecommunications engineering and optimization and in project management.

**Attitude**

Work professionally in achieving optimal telecommunication systems and networks and in implementing project management.

Cooperate in groups to engineer and optimize telecommunications systems and networks and carry out project management.

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**Main Subjects**

1. Telecommunications Technology as a Solution
2. Optimization Method
3. Rekyasa and Optimization of Communication Systems and Networks
4. Project and Project Management
5. Work Breakdown Structure
6. Scheduling and Cash Flow
7. Risk Management
8. Project Organization
9. Project Proposal

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**Reference(s)**

- [1] Hamdy A. Taha, "Operations Research An Introduction", ed. 8, Prentice Hall, 2007.
- [2] Bernard Sklar, "Digital Communications Fundamentals and Applications", ed. 2, Prentice Hall, 2001.
- [3] Sharon Evans, "Telecommunications Network Modeling, Planning and Design", IEE, 2003
- [4] Mostafa H. Sherif, "Managing Projects in Telecommunication Services", John Wiley and Sons, 2007.
- [5] Celia L. Desmond, "Project Management for Telecommunications Managers", Kluwer Academic Publishers, 2004.

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**Prerequisite(s)**

EE184531 Communication Systems I  
EE184532 Electromagnetic Wave Transmission and Antennas  
EE184533 Networks and Traffic Engineering

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