

COURSE	Name : Analysis and Design of Instrumentation Systems
	Code : EE185221
	Credit(s) : 3
	Semester : II

Description of Course

The course of Analysis and Design of Instrumentation Systems discusses the use of instrumentation or components needed in controlling a system of plant. Instrumentation system analysis is carried out in order the use of these components meets the criteria and specifications required in the control system design.

Learning Outcomes

Knowledge

(P03) Mastering the factual knowledge of information and communication technology as well as the latest technology and its utilization in the field of power systems, control systems, multimedia telecommunications, electronics, intelligent multimedia network, or telematics.

Specific Skill

(KK03) Being able to produce system design for problem solving by utilizing other fields of study and concerning technical standards, performance aspect, reliability, ease of application, and assurance of sustainability.

General Skill

(KU07) Being able to improve the capacity of learning independently.

(KU11) Being able to implement information and communication technology in the context of execution of his/her work.

Attitude

(S011) Trying his/her best to achieve perfect results.

Course Learning Outcomes

Knowledge

Mastering design instrumentation techniques and factual knowledge related to the latest technology in the field of Control System Engineering expertise.

Specific Skill

Able to produce instrumentation system designs in the design of control systems by considering technical standards, aspects of performance, reliability, ease of application, and sustainability guarantees.

General Skill

Able to improve the ability to learn and solve problems independently and able to implement ICTs in the execution of assigned tasks.

Attitude

Make every effort to get an instrumentation system design for controlling a real system.

Main Subjects

1. Introduction to instrumentation in control systems
2. Signal conditioning
3. Sensors
4. Final control operation
5. Control loop
6. Computer system

Reference(s)

- [1] Curtis D. Jonhson., "Process control instrumentation technology," 7th edition, PHI, New Jersey, 1989
- [2] Wolfgang Altmann, "Practical Process Control for Engineers and Technicians," John Elsevier, 2005
- [3] W.L. Luyben, "Process Modeling, Simulation and Control for Chemical Engineers," McGraw Hill, 2nd edition, 1990
- [4] Karl J. Astrom, and Bjorn Wittenmark, "Computer-controlled systems: theory and design," 3rd edition, PHI, New Jersey, 1997.

Prerequisite(s)

--