

COURSE	Name	: Electric Motor Drives
	Code	: EE185511
	Credit(s)	: 2
	Semester	: (Elective Course)

Description of Course

The electric drives course discuss the basic concepts of electrical driving, electrical driving analysis which includes the electric motor along with its characteristics, how it controls, and understands the power converter as power supply for electric motor.

Learning Outcomes

Knowledge

(P02) Mastering engineering concepts and principles to develop the necessary procedures and strategies for systems analysis and design in the areas of power systems, control systems, multimedia telecommunications, electronics, intelligent multimedia network, or telematics.

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

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

Attitude

(S06) Working together, having social sensitivity and caring for community and environment.

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

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

Course Learning Outcomes

Knowledge

Mastering the concept, principles and analyze electric drives for motor application and design in the field of power system engineering.

Specific Skill

- Knowing the basic concepts of electric drives.
- Knowing how to analyze electric drives which includes electric motors and their characteristics, how to control, and understand the power converter as an electric motor power supply.

General Skill

- Able to design control techniques in electric drives.
- Able to calculate and analyze the electric motor supplied from the power converter and how to control it.

Attitude

- Working together, having social sensitivity and caring for community and environment.
- Demonstrating attitude of responsibility on work in his/her field of expertise independently.

Main Subjects

1. Electric motor drives concept
2. Characteristics of electric motor: braking (electric motor braking), Starting electric motor.
3. Dynamics electric motors as driving in controlling electric motors:
4. Converter as power supply for electric motor.
5. Motor control
6. Modeling electric motors
7. Rating and heating electric motor
8. Control techniques in controlling electric motors

Reference(s)

- [1]. G. K. Dubey, "Power Semiconductor Control Drives", Prentice Hall Int. & Co., London, Sidney, Toronto, Mexico, New Delhi, Tokyo, Singapore, Rio Publising Co.de Jenairo, New Jersey, 1989.
- [2]. V. Subrahmayam, "Electric Drives", Tata Mc Graw Hill Publishing Co. & Ltd., New Delhi, 1994.

Prerequisite(s)

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