COURSE	Name	: Electric Motor Drive and Application
	Code	: EE184912
	Credits	: 3
	Semester	: Elective

Description of Course

Electric Motor Drive and Applicationcourse discuss about the use of an electric motor (ac/dc) and the calculation of force, torque and power (HP) that are in accordance with the characteristics of mechanical loads. In addition, this course provides knowledge about the concepts of motor speed control, torque motors, braking and its application in the industry.

Learning Outcomes

Knowledge

(P02) Mastering the concepts and principles of engineering, and implementing them in the form of procedures for analysis and design in power systems, control systems, multimedia telecommunications, or electronics.

Specific Skill

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

General Skill

(KU02) Able to demonstrate independent performance, quality, and measurable

Attitude

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

Course Learning Outcomes

Knowledge

Mastering the concepts of use, starting methods, speed control and torque and braking methods of an electric motor as a driving force for mechanical loads.

Specific Skill

Able to analyze the selection/use, starting method, speed control and torque and braking method of the electric motor that is related to the mechanical load that is driven.

General Skill

Able to show independent, quality and measurable performance in analyzing problems in the use and driving of electric motors.

Attitude

Having responsibility in work, both individually and groups.

Main Subjects

1. Determine/calculate torque mechanical load
2. Determine/calculate motor power (HP).

3. Reducing the starting current.
4. Speed/torque control method
5. Braking method
6. Case studies on motor drives, such as; conveyors, mixers, cranes, pumps and electric cars and electric trains.

Reference(s)

[1] Austin Hughes, “Electric Motors and Drives (Fundamental, Types and Applications)” 3th edition, 2006
[2] Piotr Wach, “Dynamics and Control of Electric Drives”, 2011

Prerequisite(s)

EE184512 Electric Machines
EE184611 Power Electronics