

EE 329 – Electrical Machines

Hour: Lecture: 2 Hrs.

Tutorial: 2 Hrs.

Credit: 3.

Coordinator: Rania Sharawy

Text Book:

- B. S. Guru, "Electric Machinery and Transformers", Oxford Uni. Press

Specific course information:

- a. Three phase circuits. Magnetic circuits. Transformer principles and construction. DC generators principles and construction. Armature reaction and generation in parallel. DC motors principles and construction. Alternators principles and construction. Synchronous motor principles. Starting methods of 3-phase induction motor. General revision.
- b. Prerequisite: EE 238
- c. Designation: Required

Specific goals for the course:

- An ability to design and conduct experiments, analyze and interpret data.
- An ability to identify, formulates, and solves engineering problems.

Course instruction outcomes:

- The students will be able to understand the theory and concept of Electric Machines (AC & DC).
- The students will be able to Deriving equivalent circuit of electrical machines.
- The students will be able to learn the performance and characteristics of machines (AC & DC).

Student outcomes:

B, E

Topics Covered:

- Three phase circuits.
- Magnetic circuits.
- Transformer principles and construction.
- DC Generators principles and construction.
- Armature reaction and generation in parallel.
- DC Motors Principles and construction.
- Alternators principles and construction.
- Synchronous motor principles and method of starting.
- Three- phase induction motor.

Course / credit hours	Math & Basic Sciences	Engineering Topics	General Education
Electrical Machines /3		3	