

TECHNOLOGY 379: Electric Machines and Transformers

2007-08 Catalog Data: TECH 379 Electric Machines and Transformers (3 Credits)

Catalog Description: Theory, operation, and applications of generators, dc motors, alternators, synchronous motors, induction motors, servo-mechanisms, and transformers.

Prerequisites: MATH 229 with a grade of C or better and TECH 271

Co-requisites: TECH 379A

Textbooks:

- Motors, Generators, Transformers and Energy by Pericles Emanuel

Instructor: Ed Miguel

Learning Objectives	Relational ABET Learning Outcomes
Mastery of English and International System Units.	A. An appropriate mastery of the knowledge, techniques, skills and modern tools of their disciplines.
Understanding of magnetics and magnetic circuits.	B. An ability to apply current knowledge and adapt to emerging applications of mathematics, science, engineering, and technology.
Understanding of DC generator and motor construction and characteristics.	C. An ability to conduct, analyze and interpret experiments and apply experimental results to improve processes. E. An ability to function effectively on teams. M. An ability to program computers and/or utilize computer applications effectively. N. An ability to use modern laboratory techniques, skills, and/or equipment effectively.
Understanding of power transformation.	C. An ability to conduct, analyze and interpret experiments and apply experimental results to improve processes. E. An ability to function effectively on teams. M. An ability to program computers and/or utilize computer applications effectively. N. An ability to use modern laboratory techniques, skills, and/or equipment effectively.
Understanding of AC power, and machines.	C. An ability to conduct, analyze and interpret experiments and apply experimental results to improve processes. E. An ability to function effectively on teams. M. An ability to program computers and/or utilize computer applications effectively. N. An ability to use modern laboratory techniques, skills, and/or equipment effectively.
Understanding of alternative power generation.	B. An ability to apply current knowledge and adapt to emerging applications of mathematics, science, engineering, and technology.