Course Number & Name	**EECS 3480 – Energy Conversion Laboratory**
Credits & Contact Hours	1 credit hour & 150 minutes of lab contact hours per week.
Instructor's Name	Dr. Mansoor Alam
Textbook	Adel A. Ghandakly and Khalid S. Al-Olimat, "Energy Conversion laboratory Manual," The University of Toledo.
Course Information	The overall purpose of this lab is to study the interaction between electrical and mechanical systems. The primary emphasis is on electrical machinery and power devices. This requires a general mix of experiments at both high and low power levels. Prerequisite EECS 3460 Electrical Energy Conversion Required lab course
Specific Goals-Student Learning Objectives (SLOs)	Students will be able to 1. perform transformer connections and measure parameters (could not be done due safety concerns with the existing lab equipment/platforms but will be feasible with the complete lab infrastructure update starting Fall of 2017). 2. measure synchronous machine parameters and understand operation. 3. understand synchronous machine operating principles and characteristics. 4. understand operating principles of different types of dc motors and applications. 5. understand operating principles of different types of dc generators and applications. 6. understand operating principles of different types of induction motors and applications.
Topics	Students are required to perform one experiment for each lab section and there 12 experiments in total on the following topics: 1. Synchronous Machines generator, motor, and characteristics. 2. DC motor types, operation and characteristics. 3. DC generator operation and characteristics 4. Efficiency and losses of DC machines 5. Three phase induction motor 6. Single phase induction motor