Engineering Faculty Document No. 20-07
May 16, 2007

TO: The Faculty of the College of Engineering
FROM: The Faculty of the School of Electrical and Computer Engineering
RE: ECE 610 Changes in Description and Requisites

The faculty of the School of Electrical and Computer Engineering has approved the following changes in ECE 610. This action is now submitted to the Engineering Faculty with a recommendation for approval.

From: **ECE 610 – Energy Conversion**
Sem. 1. Class 3, cr. 3.
Prerequisite: Masters Student Standing or higher. Authorized equivalent courses or consent of instructor may be used in satisfying course pre- and co-requisites.

Basic principles of static and electromechanical energy conversion. Control of static power converters. Reference frame theory applied to the analysis of rotating devices. Analysis and dynamic characteristics of induction and synchronous machines. State variable analysis of electromechanical devices and converter supplied electromechanical drive systems.

To: **ECE 610 – Energy Conversion**
Sem. 1. Class 3, cr. 3
Prerequisite: ECE 321.

Electromechanical energy conversion, reference frame theory, induction machines, wound-rotor synchronous machines, permanent magnet synchronous machines, dc-to-ac conversion, brushless dc motor drives, induction motor drives.

Reason: The course description and requisites have been changed to reflect the updated content of the course.

M. J. T. Smith, Head
School of Electrical and Computer Engineering

ECE 610 – Energy Conversion

Required Text: "Analysis of Electric Machinery and Drive Systems," P.C. Krause, O. Wasynczuk, S.D. Sudhoff

Week No.	***Principal Topics***
1-3	Magnetic Circuits and Electromechanical Energy Conversion Principles
3-4	Reference Frame Theory
5-7	Induction Machines
7-9	Wound-Rotor Synchronous Machines
9-10	Inverters
11-12	Permanent Magnet Synchronous Machines
13	Brushless DC Motor Drives
14-15	Induction Motor Drives