TO: The Faculty of the College of Engineering

FROM: School of Electrical and Computer Engineering of the College of Engineering

RE: ECE 57000 Changes in Requisites, Description, Text, and Course Outline

The faculty of the School of Electrical and Computer Engineering has approved the following changes in ECE 57000. This action is now submitted to the Engineering Faculty with a recommendation for approval.

From: **ECE 57000 – Artificial Intelligence**
Sem. 1. Class 3, cr. 3.
Prerequisite: ECE 30200, 36800. Authorized equivalent courses or consent of instructor may be used in satisfying course pre- and co-requisites. Department approval required.

Introduction to the basic concepts and various approaches of artificial intelligence. The first part of the course deals with heuristic search and shows how problems involving search can be solved more efficiently by the use of heuristics and how, in some cases, it is possible to discover heuristics automatically. The next part of the course present ways to represent knowledge about the world and how to reason logically with that knowledge. The third part of the course introduces the student to advanced topics of AI drawn from machine learning, natural language understanding, computer vision, and reasoning under uncertainty. The emphasis of this part is to illustrate that representation and search are fundamental issues in all aspects of artificial intelligence.

To: **ECE 57000 – Artificial Intelligence**
Sem. 1. Class 3, cr. 3.
Prerequisite: ECE 36800

The first third of the course covers functional and symbolic programming, symbolic evaluation, and rewrite systems, and their application to tasks suchs as symbolic mathematics and simulation of digital systems. The second third of the course covers nondeterministic programming and constraint satisfaction problems and their application to tasks such as parsing, scene labeling, qualitative physics, and mutliple fault diagnosis. The last third of the course covers automated reasoning including techniques such as semantic tableaux, resolution, and congrumence closure.

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

ECE 62500 – Advanced Analysis of Electromechanical Systems

Required Text: None.

Hours	Principle Topics
3	Inductive Programming
3	Higher-Order Programming
3	Symbolic Programming
3	Evaluation
4	Rewrite Systems
3	Game-Tree Search
4	Constraint Satisfaction Problems
4	Nondeterministic Programming
1	Parsing
1	Bin Packing
3	Arc Consistency
1	Allen's Temporal Logic
1	Scence Labeling
2	Multiple Fault Diagnosis
1	Propositional Resolution
2	First-Order Logic
2	Semantic Tableaux
3	First-Order Resolution
1	Congruence Closure

Michael R. Melloch, Associate Head
School of Electrical and Computer Engineering