Course Syllabus	**EECS 4740 – Artificial Intelligence**
Credits & Contact Hours	3 credit hours & 150 minutes lecture contact per week
Coordinator	Dr. Gursel Serpen
Textbook	Artificial Intelligence: A Modern Approach - The Intelligent Agent Book 3rd Ed. by S. Russell and P. Norvig, Prentice-Hall, 2010.
Course Information	This course explores the topic of intelligent software agents with an emphasis on hands-on design of adaptive problem-solving agents for environments of increasing complexity ranging from single-agent computer games to complex real-world multi-agent environments. Prerequisites: EECS 2510 Elective course
Specific Goals-Student Learning Objectives	Upon completion of this course, students will be able to 1. develop an abstract representation for a problem in a given domain which is appropriate for AI 2. learn the computational and mathematical theory, and application of fundamental AI algorithms 3. identify and apply the most appropriate AI algorithm for a given problem domain 4. develop familiarity with case studies, benchmark problems and solution methodologies in AI 5. use a software tool to empirically validate the solutions based on AI methodologies 6. understand the tradeoff between computational complexity and solution quality.
Topics	1. Introduction to AI 2. Search Methods 3. Uninformed Search 4. Informed Search 5. Path 6. Local 7. Game Playing Through Search 8. Minimax 9. Alpha-Beta 10. Inductive Learning 11. Decision Trees 12. Artificial Neural Networks 13. Constraint Satisfaction 14. Propositional Logic 15. Planning