Course Syllabus - Spring 2015

Course Title/Number: Game Development III:AI / IST460
Location: Prichard Hall 200
Times: TR, 12:30pm – 1:45pm
Instructor: Dr. Alice Lin
Office: 346 Old Main
Phone: (304) 696-6418
E-Mail: lina@marshall.edu

Office hours: MW 12:00 - 1:00, 2:15 - 2:45, PH 200
                       T 3:15 - 3:45, PH 200
                       MW 2:45 – 3:45, My Office
                       T 3:45 – 4:15, My Office
                       Other times by appointment

University Policies:
By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to www.marshall.edu/academic-affairs and clicking on "Marshall University Policies." Or, you can access the policies directly by going to www.marshall.edu/academic-affairs/policies/. Academic Dishonesty/Excused Absence Policy for Undergraduates/Computing Services Acceptable Use/Inclement Weather/Dead Week/Students with Disabilities/Academic Forgiveness/Academic Probation and Suspension/Academic Rights and Responsibilities of Students/Affirmative Action/Sexual Harassment

Course Description: From Catalog
Advanced concepts of game development with a focus on artificial intelligence. AI techniques covered include A* path finding algorithm, rule-based reasoning, reinforcement learning, neural networks, genetic algorithm, knowledge representation.

Textbook:
There will be no required textbooks for the course. Some material will be posted on blackboard and some will be handed out in class.

Credit:
The course is three (3) credit hours. It includes classroom lectures, exams, homework assignments and a project.

Course Student Learning Outcomes and Assessment Measures:

Course student learning outcomes	How students will practice each outcome in this course	How student achievement of each outcome will be assessed in this course
The student will be able to describe the fundamentals of artificial intelligence including knowledge representation, reasoning, neural networks and genetic algorithms.	In-class lectures, in-class examples and in-class exercises.	Project and exams.
The student will be able to analyze problems that can be solved by using AI	In-class lectures, in-class examples and in-class exercises.	Project and exams.
The student will be able to identify the boundaries of the capabilities of current AI systems	In-class lectures, in-class examples and in-class exercises.	Project and exams.
Students will have acquired a sufficient understanding of the basic concepts and methods of artificial intelligence to make use of some elementary artificial intelligence techniques in the design of computer games.	In-class lectures, in-class examples and in-class exercises.	Project and exams.
The student will be able to create code that incorporates elementary artificial intelligence into game coding.	In-class lectures, in-class examples and in-class exercises.	Project and exams.

Grading Policy:
Project - 35%
Midterm Exam - 20%
Final Exam - 45%

Final letter grades are determined based on the following grading scale:
90-100%   A
80-89%   B
70-79%   C
60-69%   D
Below 60   F

The instructor reserves the right to change these values depending on the overall class performance and/or extenuating circumstances.

Attendance Policy:
Attendance is strongly encouraged. Lecture material will not be reiterated for persons failing to attend a previous session. It is the student's responsibility to meet with instructor to discuss absences due to illness or other reasons. The university attendance policy will apply for excused absences.

Withdrawal Policy:
The University withdrawal policy is followed in this course. The last day to drop an individual course for the Spring Semester is March 27, 2015.

Course Schedule:
Please note this is a _**tentative**_ schedule. The instructor reserves the right to make changes as appropriate based on the progress of the class.

Week	Start date	Topics, Due dates
1	1/12	Syllabus, Introduction
2	1/19	Martin Luther King, Jr. Holiday, Rational Agents
3	1/26	Reasoning
4	2/2	Reasoning
5	2/9	Search
6	2/16	Search
7	2/23	Knowledge Representation
8	3/2	Midterm Exam
9	3/9	Genetic Algorithm
10	3/16	Spring Break, Classes dismissed
11	3/23	Neural networks
12	3/30	Probabilistic Reasoning
13	4/6	Perception
14	4/13	Reinforcement Learning
15	4/20	Present your projects
16	4/27	Dead Week (Project due)
17	5/4	Final Exam