



Purpose: It is the intention of this Administrative-Master Syllabus to provide a general description of the course, outline the required elements of the course and to lay the foundation for course assessment for the improvement of student learning, as specified by the faculty of Wharton County Junior College, regardless of who teaches the course, the timeframe by which it is instructed, or the instructional method by which the course is delivered. It is not intended to restrict the manner by which an individual faculty member teaches the course but to be an administrative tool to aid in the improvement of instruction.

Course Title - GAME 2303

Course Prefix and Number - Artificial Intelligence Programming I

Department – Computer Science

Division – Technology & Business

Course Type: (check one)

- Academic General Education Course (from ACGM – but not in WCJC Core)
- Academic WCJC Core Course
- WECM course (This course is a Special Topics or Unique Needs Course: Y or N)

Semester Credit Hours #: Lecture Hours #: Lab/Other Hours #: 3:2:2

Equated Pay hours for course - 3

Course Catalog Description - Basic techniques in artificial intelligence related to game and simulation programming. Includes knowledge representation and inference techniques, expert systems, pathfinding algorithms, and search techniques for problem solving.

Prerequisites/Co-requisites - ITSE 1307

List Lab/ Other Hours
Lab Hours 2
Clinical Hours 0
Practicum Hours 0
Other (list) 0

Prepared by: Donna Schilling

Date 7-8-2015

Reviewed by Department Head: Donna Schilling

Date 7-8-2015

Accuracy verified by Division Chair: David Kucera

Date 8/12/15

Approved by Dean or Vice President of Instruction Leigh Ann Collins

Date: 12-18-15



I. Topical Outline – Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, clinical or other non-lecture instruction):

- | | |
|----------------------|---------------------------|
| Introduction to AI | Tactical and Strategic AI |
| AI Based Game Genres | Learning AI |
| Movement AI | Board Games |
| Pathfinding | Execution Management |
| Decision Making | Designing Game AI |

II. Course Learning Outcomes

Learning Outcomes	Methods of Assessment
<p>Upon successful completion of this course, students will:</p> <p>Describe the theory of probabilistic and logical reasoning; use search, logic, and probability skills in analysis; explain the principles and practice of artificial intelligence; and utilize artificial intelligence techniques in a game and/or simulation program.</p>	<p>All outcomes will be assessed by one or more of the following:</p> <p>Labs Programming Projects Tests and Quizzes Final Exam</p>

III. Required Text(s), Optional Text(s) and/or Materials to be Supplied by Student.

- Artificial Intelligence for Games, 2nd Edition by Ian Millington , John Funge ISBN: 978-0-12-374731-0
- USB Flash Drive
- High-speed Internet Connection

IV. Suggested Course Maximum - 16

V. List any specific spatial or physical requirements beyond a typical classroom required to teach the course.

- Computer for each student
- Eclipse C++ compiler installed for each student

VI. Course Requirements/Grading System – Describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course

Course Requirements	Grading System –																				
<table border="1" data-bbox="297 1654 740 1812"> <tr><td>Labs</td><td>20-40%</td></tr> <tr><td>Tests and Quizzes</td><td>20-40%</td></tr> <tr><td>Projects</td><td>20-40%</td></tr> <tr><td>Final Exam</td><td>20-40%</td></tr> <tr><td>Attendance & Participation</td><td>0-20%</td></tr> </table>	Labs	20-40%	Tests and Quizzes	20-40%	Projects	20-40%	Final Exam	20-40%	Attendance & Participation	0-20%	<table border="1" data-bbox="979 1654 1224 1812"> <tr><td>100 -90</td><td>= A</td></tr> <tr><td>89 - 80</td><td>= B</td></tr> <tr><td>79 - 70</td><td>= C</td></tr> <tr><td>69 - 60</td><td>= D</td></tr> <tr><td>and below</td><td>= F</td></tr> </table>	100 -90	= A	89 - 80	= B	79 - 70	= C	69 - 60	= D	and below	= F
Labs	20-40%																				
Tests and Quizzes	20-40%																				
Projects	20-40%																				
Final Exam	20-40%																				
Attendance & Participation	0-20%																				
100 -90	= A																				
89 - 80	= B																				
79 - 70	= C																				
69 - 60	= D																				
and below	= F																				

VII. Curriculum Checklist

- **Academic General Education Course** (from ACGM – but not in WCJC Core)
No additional documentation needed

- **Academic WCJC Core Course**
Attach the Core Curriculum Checklist, including the following:

- Basic Intellectual Competencies
- Perspectives
- Exemplary Educational Objectives

- **WECM Courses**
If needed, revise the Program SCANS Matrix & Competencies Checklist.