

University of Puerto Rico
 Mayagüez Campus
 College of Engineering
 Department of Electrical and Computer Engineering
 Bachelor of Science in Computer Engineering

Course Syllabus

1. General Information:	
Alpha-numeric codification: ICOM5015 Course Title: Artificial Intelligence Number of credits: 3 Contact Period: 3 hours of lecture per week Elective in ICOM	
2. Course Description:	
English: An Introduction to The Field of Artificial Intelligence: LISP Language, search Techniques, Games, Vision, Representation of Knowledge, Inference and Process of Proving Theorems, Natural Language Understanding.	
Spanish: Introducción al Campo de la Inteligencia Artificial: Lenguaje Lisp, Técnicas de Búsqueda, Juegos, Visión, Representacion del Conocimiento, inferencia y Proceso de Prueba de Teoremas, Entendimiento de Lenguaje Natural.	
3. Pre/Co-requisites and other requirements:	
Prerequisite ICOM4036	
4. Course Objectives:	
Introduce the students to the fundamental concepts of artificial intelligence and provide them the ability to analyze and design intelligent systems.	
5. Instructional Strategies:	
<input checked="" type="checkbox"/> conference <input type="checkbox"/> discussion <input checked="" type="checkbox"/> computation <input type="checkbox"/> laboratory <input type="checkbox"/> seminar with formal presentation <input type="checkbox"/> seminar without formal presentation <input type="checkbox"/> workshop <input type="checkbox"/> art workshop <input type="checkbox"/> practice <input type="checkbox"/> trip <input type="checkbox"/> thesis <input type="checkbox"/> special problems <input type="checkbox"/> tutoring <input type="checkbox"/> research <input type="checkbox"/> other, please specify:	
6. Minimum or Required Resources Available:	
7. Course time frame and thematic outline	
Outline	Contact Hours
Introduction to AI	2
Programming in LISP language	6
Problem representation and search techniques	6
Search in game trees	2
Vision: scene analysis and the blocks world	7
Knowledge representation techniques including logic and semantic networks	7
Natural language understanding: grammars, parsing and natural language processing systems	7

Application of AI in various fields	6
Exams and discussions	2
Total hours: (equivalent to contact period)	45

8. Grading System

Quantifiable (letters) Not Quantifiable

9. Evaluation Strategies (Suggested): The faculty member teaching the course will provide the student with the evaluation strategy he/she will be using throughout the semester. This will be done within the first week of classes.

	Quantity	Percent
<input checked="" type="checkbox"/> Exams	1	25%
<input checked="" type="checkbox"/> Final Exam	1	35%
<input checked="" type="checkbox"/> Short Quizzes	variable	10%
<input checked="" type="checkbox"/> Oral Reports	1	5%
<input type="checkbox"/> Monographies		
<input type="checkbox"/> Portfolio		
<input checked="" type="checkbox"/> Projects		25%
<input type="checkbox"/> Journals		
<input type="checkbox"/> Other, specify:		
TOTAL:		100%

10. Bibliography:

S. Russell and P. Norvig, Artificial Intelligence: A Modern Approach, Prentice Hall, 2003.
 Nilsson, N. J. Artificial Intelligence: A new Synthesis. Morgan Kauffman, San Francisco, 1998.

11. According to Law 51

Students will identify themselves with the Institution and the instructor of the course for purposes of assessment (exams) accommodations. For more information please call the Student with Disabilities Office which is part of the Dean of Students office (Chemistry Building, room 019) at (787)265-3862 or (787)832-4040 extensions 3250 or 3258.

12. Contribution of Course to meeting the requirements of Criterion 5:

Math	Basic Science	General	Engineering Topic
			√

13. Course Outcomes

Map to Program Outcomes

- Analyze and apply different search techniques (a)
- Describe, analyze and apply techniques for constraint satisfaction problems (a)
- Describe, analyze and apply knowledge representation techniques including semantic networks, propositional and first-order logic (a)
- Describe, analyze and apply techniques for planning (a)

5. Describe, analyze and apply uncertain reasoning techniques (a)
6. Describe and explain learning algorithms (a)
7. Design an application of Artificial Intelligence (c)
8. Review and discuss current AI literature (i)
9. Write and present a demonstration of and a technical paper (g)
about the AI system designed

Person (s) who prepared this description and date of preparation: José F. Vega.

Submitted by: Manuel Rodríguez, June 07