

California State University Channel Islands

New Course Proposal

Program Areas: Biological and Physical Sciences, Math and Computer Science

1. Catalog Description of the Course.

COMP 569 ARTIFICIAL INTELLIGENCE (3)

Three hours of lecture in the lab per week.

Prerequisite: Admission to the Computer Science or Mathematics Graduate Program

The course covers the many aspects of how human intelligence might be encoded in computer programs and mechanisms such as robots. This includes topics in Natural Language Processing, Computer Vision, Expert Systems, and Automated Problem Solving.

2. Mode of Instruction.

	Units	Hours per Unit	Benchmark Enrollment
Lecture 3	1	25	
Seminar 0	0	0	
Laboratory	0	0	0
Activity 0	0	0	

3. Justification and Learning Objectives.

Justification:

This course is an elective for graduate students in MS in Mathematics and MS in Computer Science programs.

Learning Objectives:

1. Be able to analyze the components of a computer vision system.
2. Be able to use an Expert System Shell such as Clips to build a basic forward chaining system.
3. Demonstrate the difference between deductive and inductive reasoning with examples.
4. Be able to demonstrate the difference between deductive and abductive reasoning with examples.
5. Be able to implement a basic NLP program such as ELIZA.
6. Be able to design the top level components of a robotic system.

4. Is this a General Education Course?

No.

5. Course Content in Outline Form.

Topics:

1. Natural Language Processing
2. Expert Systems
3. A* Heuristic
4. Computer Vision
5. Automated Problem Solving
6. Deductive, Inductive and Abductive Reasoning
7. Robotics

6. References.

	Title	Author	Publisher	Year	ISBN
1.	Artificial Intelligence: A Modern Approach	Russel, Norvig	Prentice Hall	2002	0137903952

7. Faculty Qualified to Teach This Course.

Qualified Faculty: Bieszczad, Wolfe**8. Frequency.**

Projected semesters to be offered: Fall

9. New Resources Required.

- a. New Equipment needs: Use of existing computer lab.
- b. New Library needs: none
- c. New Space/Facilities needs: none

10. Consultation.

Attach consultation sheet from all program areas, Library, and others (if necessary).

11. Program Modification.

If this new course will alter any degree, credential, certificate, or minor in your program, attach a program modification.

12. Proposer of Course.

ProposerS : W, Wolfe, AJ. Bieszczad Date: 10/28/2003