CSC/CPE 580 Artificial Intelligence

1. CSC/CPE 580 Artificial Intelligence

2. 

credit units  

4 

contact hours  

6

3. **Course Coordinator:** Franz J. Kurfess

4. **Textbook:** (and/or other required material)  


5. a. **Course Description:** Current research in the field of artificial intelligence with emphasis on cooperative agents, distributed agents, and decision making in complex, concurrent environments. AI programming in a distributed environment. 3 lectures, 1 laboratory.

   b. **Prerequisite:** CSC/CPE 481 and graduate standing, or consent of instructor.

   c. **Required/Elective/Selective Elective for CPE, CSC, EE, SE**

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6. a. **Course Goals/Outcomes**

   The student will be able to:

   - Describe problems and architectures for intelligent agents and distributed multi-expert systems.
   - Discuss common architectures for intelligent agents and distributed algorithms.
   - Use development tools for intelligent agents in a distributed environment to provide efficient execution of a computationally intensive problem.
   - Explain how multi-agent architectures can simplify the architecture for solving a complex problem.
   - Integrate separate modules or systems to provide a framework for multiple expert systems in a distributed environment.
   - Present critical reviews of approaches to coordinated and/or cooperative problem solving systems through a taxonomy of evaluation criteria.

   b. **How Student Outcomes addressed**

   (“B” = Basic level, “I” = Intermediate level, “A” = Advanced level)
### 7. Major Topics Covered: (number of lecture hours each)

- Intelligent Agents and Distributed Algorithms (5)
- Knowledge-Based Systems (3)
- Agent Systems (3)
- Distributed Knowledge-Based Systems (3)
- Knowledge Acquisition in Agents (3)
- Knowledge Representation and Reasoning (3)
- Cooperative and Coordinated Systems (6)
- Design and Implementation of a Multi-expert system (4)