CS 331 – Introduction to Artificial Intelligence

Catalog Description: Intelligent behavior as rational decision making. Agent architectures. Search, representation and inference. Propositional logic and belief networks.

Credits: 4

Prerequisites: CS325

Courses that require this as a prerequisite: None

Structure: Three 50-minute lectures per week

Instructors: Weng-Keen Wong

Course Content:
- Intelligent agents
- Uninformed search, informed search, local search
- Adversarial search and game theory
- Propositional and first-order logic
- Representation and inference in Bayesian networks

Learning Resources:
- *Artificial Intelligence: A Modern Approach*, by Stuart Russell and Peter Norvig (required)

Measurable Student Learning Outcomes:
At the completion of the course, students will be able to…
1. **Analyze** the dimensions along which agents and environments vary, along with key functions that must be implemented in a general agent (ABET Outcomes: B)
2. **Implement** agents using search algorithms such as uninformed search, informed search or local search (ABET Outcomes: C)
3. **Develop** strategies for agents in games of perfect and imperfect information (ABET Outcomes: A, B)
4. **Represent** knowledge of the world using logic and **infer** new facts from that knowledge (ABET Outcomes: A)
5. **Use** a Bayesian network to make quantitative (probabilistic) and qualitative inferences (ABET Outcomes: A)
6. **Implement** a Bayesian network that solves a simple version of a problem such as text categorization or object recognition (ABET Outcomes: C, d)

Students with Disabilities:
Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 737-4098.

Link to Statement of Expectations for Student Conduct, i.e., cheating policies
http://oregonstate.edu/admin/stucon/achon.htm