COURSE DESCRIPTION

<table>
<thead>
<tr>
<th>Course No. Course Type</th>
<th>CSC 529 Sel. Elect.</th>
<th>Course Title</th>
<th>Artificial Intelligence</th>
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</thead>
<tbody>
<tr>
<td>Sem. Hours</td>
<td>3</td>
<td>Coordinator</td>
<td>Nancy Green</td>
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</tbody>
</table>

Current Catalog Description:

Logical foundations, knowledge representation and reasoning, search, and selected topics such as natural language processing and reasoning under uncertainty.

Textbook:


References:


Course Outcomes:

Upon successful completion of the course students should be able to
1. Demonstrate knowledge of some of basic concepts, methods, and algorithms of AI (CO1)
2. Demonstrate ability to design and implement simple AI programs in the Prolog logic programming language (CO2)
3. (graduate students): Summarize and present peer-reviewed articles on theory and practice of AI (CO3)
Prerequisites by Topic:

Students must have
Grade of at least C in CSC330 and CSC350 or consent of instructor.

Major Topics Covered in the Course:

TOPICS: (chapters refer to Poole & Mackworth textbook unless otherwise noted)

- Introduction (ch. 1); Agent architecture (ch. 2.5)
- Logic Programming in Prolog (mainly covered in my lecture notes and Bratko)
- Search and Constraint Satisfaction (ch. 3-4)
- Logical Foundations of AI (ch. 5, ch. 12-13)
- Knowledge-based Systems (KBS) (Coppin ch. 9 – get from Blackboard)
- Reasoning and Decision-making under Uncertainty (ch. 6, 9)
- Planning (ch. 8, 14.1) – as time allows
- Other topics as time allows, e.g. Natural Language Processing (NLP), Machine Learning (ML), AI & Education (AIEd), AI & Argumentation

Estimated Curriculum Category Content (Semester hours):

<table>
<thead>
<tr>
<th>Area</th>
<th>Core</th>
<th>Advanced</th>
<th>Area</th>
<th>Core</th>
<th>Advanced</th>
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<tbody>
<tr>
<td>Algorithms</td>
<td>2</td>
<td>0</td>
<td>Software design</td>
<td>0.5</td>
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<td>Data structures</td>
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<td>0</td>
<td>Prog. Languages</td>
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<tr>
<td>Comp Org &amp; Arch</td>
<td>0</td>
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