**ABET Course Syllabus – CS4660**

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| **Code** | CS4660 | **Credits** | 3 |
| **Title** | Artificial Intelligence | **Coordinator** | Mohammad Pourhomayoun |

**Course Information**

1. **Catalog Description:** Knowledge representation; problem solving strategies and search algorithms; applications from such areas as theorem proving, expert systems, natural language processing, robotics, and pattern recognition.
2. **Prerequisites:** CS3112.
3. **Contact Hours:** Lecture 3 hours.
4. **Required/Elective:** This course is an elective course in the BS program.

**Textbook**

Russell, S, and P. Norvig. *Artificial Intelligence a Modern Approach*. Prentice-Hall, 2009.

**Course Goals**

The Student Learning Outcomes that are addressed by the course are:

* *SLO1. Students will be able to apply concepts and techniques from computing and mathematics to both theoretical and practical problems.*
* *SLO2 Students will be able to demonstrate fluency in at least one programming language and acquaintance with at least three more.*
* *SLO3.* *Students will have a strong foundation in the design, analysis, and application of many types of algorithms.*

Other outcomes of instruction:

At the end of the course, students are able to

* Understand and explain the differences between problems that require artificial intelligent techniques and those that can be solved directly.
* Understand, explain, implement, and apply a wide range of search algorithms.
* Make use of a range of knowledge representation strategies.
* Understand and use constraint processing systems.

**Topics Covered**

* Intelligent agents
* Search
  + Brute force searching algorithms, e.g., DFS and BFS
  + Heuristic searching algorithm, e.g., A\*
  + Adversarial search
  + Monte Carlo tree search
* Knowledge and Reasoning
* Planning
* Constraint programming
* Knowledge representation
* Concept of machine learning
* Decision trees
* Naïve Bayes
* Introduction to computer vision
* Histograms of Oriented Gradients
* Support Vector Machines

**ADA statement:** Reasonable accommodation will be provided to any student who is registered with the Office of Students with Disabilities and requests needed accommodation.

**Academic honesty statement:** Students are expected to do their own work and to abide by the University Policy on academic honesty, which is stated in the Schedule of Classes. See http://www.calstatela.edu/academicsenate/handbook/ch5a#cheating.

**Student responsibilities:** Students are responsible for being aware of all announcements that are made in class. Students are responsible for announcements made on days that they are absent. Students must check their CSULA email account regularly for information from the instructor and the Department. Failure to do so may result in missed deadlines or other consequences that might adversely affect students. Note that you can forward this email account to any other account of your choosing.