Fall 2018

CSC 480 Artificial Intelligence

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Course Syllabus for Computer Science College of Staten Island – CUNY

1. Course number and name: **CSC 480** Artificial Intelligence
2. Credits and contact hours: 4 credits, 4 hours
3. Course Info:

Instructor: Ernest Battifarano
Office Hours: By appointment
E-mail**:** ernest.battifarano@csi.cuny.edu
Course schedule: MW 2:30-4:25 5N 106

4. Text: *Artificial Intelligence A Modern Approach. Russell & Norvig. Third Edition. 2010. Prentice Hall. ISBN 978-0-13-604259-4*

Supplemental References:
- *Pattern Recognition and Machine Learning. Bishop. 2006. Springer.*
- *Machine Learning A Probabilistic Perspective. Murphy. 2012. The MIT Press.*

5. Course Description: General introduction to artificial intelligence. Topics include search algorithms, gradient descent, stochastic gradient descent, supervised learning, regression, classification, reinforcement learning. Probability (Bayes' Theorem, Markov Decision Processes), Python, linear algebra, multivariate calculus will be discussed as needed. Discussion of AI in the real world will occur regularly. Ethical questions will be discussed. Prerequisites: CSC 326

6. By the end of the course you will:
- Have some familiarity with Python and its libraries
- Understand Bayes' Theorem and Markov Decision Processes
- Understand search algorithms
- Understand gradient descent and stochastic gradient descent
- Understand regression
- Understand classification
- Understand what a neural network is and how choice of nonlinear activation functions affects performance
- Use free software illustrating neural networks

How course objectives assessed:

6 Quizzes: 15% + 15% + 15% + 15% + 15% + 15% = 90%
Programming assignments, projects: 10%

Academic Integrity: CSI's academic integrity policy:
Integrity is fundamental to the academic enterprise. It is violated by such acts as borrowing or purchasing term papers, essays, reports, and other written assignments; using concealed notes

or crib sheets during examinations; copying the work of others and submitting it as one's own; and misappropriating the knowledge of others. The source from which one derives one's ideas, statements, terms, and data must be fully and specifically acknowledged in the appropriate form; failure to do so, intentionally or unintentionally, constitutes plagiarism. Violations of academic integrity may result in failure in a course and in disciplinary actions with penalties such as suspension or dismissal from the college.

Supplemental Academic Integrity Policy – To the extent we have group projects, the workload should be shared by all members of a team, not shared with other teams. All cheating is rewarded with a 0 on the assignment or exam whether you are the copier or the person copied from.