



CSCI 580 Introduction to ARTIFICIAL INTELLIGENCE Syllabus

Time/Location: MW 5:00pm – 6:15pm OCNL 241

Instructor: Dr. Elena Harris

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Office Hours:

MW 3:00pm-4:00pm

TR 10:00am-11:00am

TR 4:00pm-4:45pm

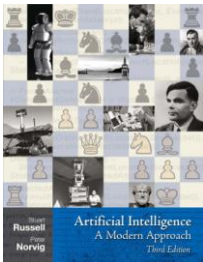
OCNL 221

Prerequisites: Grade of C- or above in CSCI 311 (*Algorithms & Data Structures*)

Recommend: Grade of C- or above in *Discrete Math* and Sr. standing; Grade C- or above in MATH 314.

Catalog Description: An introduction to the basic principles, techniques, and applications of Artificial Intelligence. Coverage includes knowledge representation, logic, inference, problem solving, search algorithms, game theory, perception, learning, planning, and agent design. Students will experience programming in AI language tools. Potential areas of further exploration include expert systems, neural networks, fuzzy logic, robotics, natural language processing, and computer vision.

Required Textbooks:



*Artificial Intelligence: A Modern Approach
Third Edition*

Stuart Russell and Peter Norvig, 2010.

Pearson Education, Inc.

ISBN: 978-0-13-604259-4

Recommended:

Access to and usage of online LISP tutorials and references

Common Lisp: The Language, 2nd Edition

Guy Steele, Digital Press

<http://www.cs.cmu.edu/Groups/AI/html/cltl/cltl2.html>

An online course *Introduction to Artificial Intelligence* at

<https://www.udacity.com/>

Resources:

Chico State Connection (CSC) Portal (see <http://portal.c-suchico.edu>)

Online Blackboard course page (includes up-to-date events, gradebook, assignments, etc.): *Fall 2013 - 138-CSCI580-01-2746*

Objectives:

The primary objective of this course is to introduce the basic principles, techniques, and applications of Artificial Intelligence. Emphasis will be placed on the teaching of these fundamentals, not on providing a mastery of specific software tools or programming environments. Assigned projects promote a 'hands-on' approach for understanding, as well as a challenging avenue for exploration and creativity.

Specifically:

1. Gain a historical perspective of AI and its foundations.
2. Become familiar with basic principles of AI toward problem solving, inference, perception, knowledge representation, and learning.
3. Investigate applications of AI techniques in intelligent agents, expert systems, artificial neural networks and other machine learning models.
4. Experience AI development tools such as an 'AI language', expert system shell, and/or data mining tool.
5. Experiment with a machine learning model for simulation and analysis.
6. Explore the current scope, potential, limitations, and implications of intelligent systems.

Course outcomes:

Upon successful completion of this course, the student shall be able to:

- 1) Demonstrate fundamental understanding of the history of artificial intelligence (AI) and its foundations.
- 2) Apply basic principles of AI in solutions that require problem solving, inference, perception, knowledge representation, and learning.
- 3) Demonstrate awareness and a fundamental understanding of various applications of AI techniques in intelligent agents, expert systems, artificial neural networks and other machine learning models.
- 4) Demonstrate proficiency developing applications in an 'AI language', expert system shell, or data mining tool.
- 5) Demonstrate proficiency in applying scientific method to models of machine learning.
- 6) Demonstrate an ability to share in discussions of AI, its current scope and limitations, and societal implications.

Grading:

Homework (eleven)	33%
Quizzes (three)	21%
Projects (two or three)	24%
Final Exam	22%

Final Grades: Final grades will be expressed as a percentage of the maximum possible score of all evaluated materials. Final grade will not be curved. Letter grades will be given according to the following:

Scale	Letter Grade	University Definition
[93,100]	A	Superior Work
[90,93)	A-	
[87,90)	B+	
[83,87)	B	Very Good Work
[80,83)	B-	
[77,80)	C+	
[73,77)	C	Adequate Work
[70,73)	C-	
[67,70)	D+	
[63,67)	D	Minimally Acceptable Work
[60,63)	D-	
[0,60)	F	Unacceptable

Attendance:

Attendance for all class meetings is expected. Students will be held responsible for all subject matter and procedural information discussed in class and covered in the text. Lecture material will not be reiterated for persons failing to attend a previous session. In the event that you are forced to miss a class it will be your responsibility to check the course web page for project information, lecture topics covered, etc.

In class group work:

Group work will be assigned to enhance your understanding of the material and to promote your team working skills. This work will be graded and used as extra credit toward your final. Maximum of 25% of the final will be offered as extra credit for group work assignments. Group work will be given as needed. You will not be allowed to make up group work, so to get credit for group work you must be present in class when it is offered.

Projects: There will be two or three individual projects on topics covered in class. Students will choose a real life or a toy problem related to the discussed topics and implement the solution using techniques and strategies discussed in class. For each project, students will submit a project report and demonstrate a project to the instructor during time outside of class. It is students' responsibility to come on time to the in advance scheduled submission time slot.

Exams: There will be three quizzes and a final. The quizzes will be administered in a regular class period (to be posted on Blackboard). The Final Exam will be administered during the Final Exam period, as posted online. You are encouraged to form study groups to prepare for exams.

Make-up exams will not be given without approval from the professor. Any unapproved absence from an exam will yield a score of zero, no exceptions.

Late submission: No late submissions for homework assignments or projects will be allowed.

Excused Absences:

Requests for excused absences will be carefully reviewed and verified before approval. Medical emergencies/crises must be officially documented and verifiable. Under normal circumstances, the following will not be grounds for approval: outpatient visits to a physician, traffic, car problems, work, etc.

Late drops and Incompletes:

University policies enforcing drop dates and criteria for incompletes will be strictly adhered to and at the professor's discretion. LATE DROPS are generally not given.

Academic Dishonesty:

You are required to turn in your own work and not the work of others. Collaboration on homework, projects and exams is prohibited, unless otherwise specified by the professor. Likewise, plagiarism of other's work or web-related sources constitutes as a serious infraction. A penalty will be enforced for any student participating in any form of academic dishonesty. The minimum penalty will be a shared grade for that assignment. For serious or repeated infractions, the Vice-President for Student Affairs may also be notified with the recommendation of permanent suspension from the University.

It is my policy to return all homework and quizzes but not the final.

Please advise me immediately (within 1 week of start of classes), if you have a disability that will require a reasonable accommodation for the successful completion of this course.