San José State University
School/Department
CS 156-03, Introduction to Artificial Intelligence, Spring, 2022

Course and Contact Information

Instructor: Dr. Alpha Luk

Email: alpha.luk@sjsu.edu

Class Days/Time: Mondays & Wednesday: 18:00-19:15 PDT/PST

Classroom: Zoom: https://sjsu.zoom.us/j/87179666376?pwd=a3grSlZmL1JHc2taWU5ZZFBJZ25DZz09

Office Hours: Thursdays 16:00-17:00 PDT/PST

Office Location: Zoom: https://sjsu.zoom.us/j/83454235702?pwd=TVM5SGFRWUZoNklrZXI5MnQ5bnRHQT09

Prerequisites: CS 146 and either CS 151 or CMPE 135 with a grade of C- or better in each

Course Format

This course will be taught online over Zoom. Course materials such as syllabus & assignments can be found on the Canvas Learning Management System course website at http://sjsu.instructure.com.

Course Description

Basic concepts and techniques of artificial intelligence: intelligent agents, problem solving, search, logic, knowledge representation, machine learning and natural language.

Course Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Understand philosophical groundwork, history and trends in AI.

2. Understand the common AI techniques, their theoretical basis and how they are used in real world applications.

3. Apply the AI techniques and theories learnt to solve real world problems e.g. Building a classifier to determine how likely an email is spam.

Textbook

Artificial Intelligence: A Modern Approach. 3rd Edition. Stuart Russell and Peter Norvig ISBN: 9780136042594

Software

Python 3.7 or later available at https://www.python.org/downloads/release/python-374/
PyCharm Professional or Community Edition - recommended IDE

Course Requirements and Assignments

Homework Assignments:

Homework assignments will be posted and submitted on Canvas. For full credit, they must be submitted by the posted due date.

Exams:

We'll have 3 online exams in the semester, the last being the final exam.
The first two exams are scheduled during our regular class time:
Exam 1: Wednesday, Mar 2 2022
Exam 2: Monday, Apr 11 2022
Final exam: Wednesday, May 18 2022 5:15-7:15 PM

Grading Information

The final grade in the course will be calculated based on the following percentages:

Homework Assignments: 40%

Exam 1: 20%

Exam 2: 20%

Final Exam: 20%

Late Work:

Late assignments will not be accepted except in special circumstances.

Grade Scale:

The letter grade will be determined based on the following scale:

A+ = 94% - 100% A = 87% - 93% A- = 81% - 86% B+ = 76% - 80% B = 71% - 75% B- = 66% - 70% C+ = 61% - 65% C = 56% - 60% C- = 50% - 55%
F = below 50

Classroom Protocol

Regular attendance is an integral part of the learning process. Please arrive on time for the classes.

Students are not allowed to record without instructor permission

Students are prohibited from recording class activities, distributing class recordings, or posting class recordings. Materials created by the instructor for the course (syllabi, lectures and lecture notes, presentations, etc.) are copyrighted by the instructor. This university policy (S12-7) is in place to protect the privacy of students in the course, as well as to maintain academic integrity through reducing the instances of cheating. Students who record, distribute, or post these materials will be referred to the Student Conduct and Ethical Development office. Unauthorized recording may violate university and state law. It is the responsibility of students that require special accommodations or assistive technology due to a disability to notify the instructor.

University Policies

Per University Policy S16-9 *(http://www.sjsu.edu/senate/docs/S16-9.pdf)*, relevant information to all courses, such as academic integrity, accommodations, dropping and adding, consent for recording of class, etc. is available on Office of Graduate and Undergraduate Programs' Syllabus Information web page at http://www.sjsu.edu/gup/syllabusinfo/". Make sure to visit this page, review and be familiar with these university policies and resources.

CS156-03 Introduction to Artificial Intelligence, Spring 2022, Course Schedule

Please note that this schedule is subject to change with fair notice. Any changes will be announced in class and posted on the Canvas course site.

Course Schedule

Week	Date	Class	Topic	Readings	Assignments
0	Jan 26	0	Welcome & Logistic		
1	Jan 31	1	What is AI?	1	1A, due 2/12
1	Feb 2	2	Rational Agents	2	
2	Feb 7	3	Problem Solving and Search	3.1, 3.2 & 3.3	
2	Feb 9	4	Uninformed Search Strategies	3.4	
3	Feb 14	5	Informed Search Strategies	3.5 & 3.6	1B, due 2/26
3	Feb 16	6	Local Search & Search in Non-Deterministic and Partially Observable Environments	4	
4	Feb 21	7	Adversarial Search	5	
4	Feb 23	8	Constraint Satisfaction Problems	6	
5	Feb 28	9	Module 1 Review		
5	Mar 2		Exam 1		
6	Mar 7	10	Modeling Uncertainty	13	2A, due 3/19
6	Mar 9	11	Machine Learning and Decision Trees	18.1-18.4	2B, due 4/2
7	Mar 14	12	Statistical Learning & Bayesian Classification	20	
7	Mar 16	13	Building a Naive Bayesian Classifier		
8	Mar 21	14	Bayesian Network	14.1, 14.2 & 14.3	
8	Mar 23	15	Regression, Linear Models and Neural Networks	18.6 & 18.7	
9	Mar 28		Spring Break - No Class		
9	Mar 30		Spring Break - No Class		
10	Apr 4	16	Nonparametric Models and Ensemble Learning	18.8 & 18.10	
10	Apr 6	17	Module 2 Review		

11	Apr 11		Exam 2		
11	Apr 13	18	Logical Agents	7	
12	Apr 18	19	First Order Logic	8	3A. Due 4/30
12	Apr 20	20	Inference in Propositional and First Order Logic	9	
13	Apr 25	21	Planning	10	
13	Apr 27	22	Knowledge Representation	12	
14	May 2	23	Rational Decision	16	3B, Due 5/14
14	May 4	24	Natural Language Processing	23	
15	May 9	25	Ethics of AI	26	
15	May 11	26	Semester Review		
16	May 16	27	Discussion + Q & A		
Final Exam	**May 18**		**Final Exam (5:15-7:15pm)**		