

# Introduction to Artificial Intelligence Section 61

## CS 156

Summer 2024 3 Unit(s) 06/03/2024 to 08/09/2024 Modified 06/07/2024

### Contact Information

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Instructor: Dr. Sayma Akther

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Office: MH 213

Phone: (408) 924-2511

#### Office Hours

Tuesday, Thursday, 3:00 PM to 4:00 PM

If the office hours don't work for you, don't worry. Feel free to email me, and we can schedule a Zoom meeting at a more convenient time for you.

### Course Description and Requisites

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Basic concepts and techniques of artificial intelligence: problem solving, search, deduction, intelligent agents, knowledge representation. Topics chosen from logic programming, game playing, planning, machine learning, natural language, neural nets, robotics.

Prerequisite(s): CS 146 (with a grade of "C-" or better); Allowed Majors: Computer Science, Data Science, Applied and Computational Mathematics or Software Engineering; or instructor consent.

Letter Graded

### \* Classroom Protocols

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To ensure a positive and productive learning environment, here are some important points to keep in mind:

# Materials and Updates

- Find course materials on Canvas at <http://sjsu.instructure.com>.
- Regularly check MySJSU and your email for updates.

# Recording and Privacy

- Recording any class activities, including lectures, is only allowed with the instructor's permission.
- You are not permitted to share or distribute class recordings. Instructor-generated materials (like syllabi, lectures, and presentations) are protected by copyright.
- Violation may result in referral to Student Conduct and Ethical Development office.

# Respectful Behavior

- Treat your fellow classmates with respect and kindness.
- Avoid interruptive or disruptive behavior during class.
- Limit electronic device usage to relevant learning activities.
- The full code of conduct is available on Canvas.

## Program Information

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Diversity Statement - At SJSU, it is important to create a safe learning environment where we can explore, learn, and grow together. We strive to build a diverse, equitable, inclusive culture that values, encourages, and supports students from all backgrounds and experiences.

## Course Learning Outcomes (CLOs)

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After studying "Introduction to Artificial Intelligence," a student should be able to demonstrate the following Course Learning Outcomes:

1. Understand AI Concepts: Gain a solid understanding of the fundamental concepts, principles, and methodologies related to Artificial Intelligence.
2. Problem Solving: Apply AI techniques to analyze and solve complex problems by designing algorithms and models.
3. Machine Learning: Comprehend the basics of machine learning, including supervised and unsupervised learning, and be able to apply them to real-world scenarios.
4. Knowledge Representation: Learn techniques for representing knowledge and reasoning, including logical frameworks and semantic networks.
5. Natural Language Processing: Grasp the fundamentals of natural language processing and its applications in tasks like sentiment analysis and language generation.
6. Search and Optimization: Develop skills in designing search algorithms and optimization techniques to find solutions efficiently.
7. Ethical Considerations: Understand the ethical implications and societal impacts of AI technologies, considering biases, privacy, and responsible AI development.
8. AI Applications: Explore various practical applications of AI, such as robotics, expert systems, and

computer vision.

9. Critical Thinking: Develop the ability to critically evaluate AI solutions, algorithms, and their limitations.

10. Teamwork and Communication: Collaborate effectively with peers to solve AI-related problems and communicate findings clearly through presentations and reports.

These Course Learning Outcomes reflect the knowledge and skills a student is expected to gain from studying Introduction to Artificial Intelligence

## Course Materials

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### Artificial Intelligence: A Modern Approach

**Author:** Stuart J. Russell and Peter Norvig

**Edition:** 4th

### Deep Learning

**Author:** Ian Goodfellow, Yoshua Bengio, and Aaron Courville

### Library Liaison

Yuqi He, Ph.D., MLIS

Engineering & Data Services Librarian

University Library

San Jose State University

(408) 808-2044

## Course Requirements and Assignments

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Meeting the Course Requirements and completing the Assignments are essential for successfully progressing in the course.

### Quizzes and Participation Exercise (10%)

Assessing theoretical understanding (in-class). This credit is for those who present in the class. If you are absent in the class, you will not get the credit.

### Assignments/Homework (10%)

Expected to be submitted by due date. Late submission marks will be reduced over time.

### Exam (50%)

Two in-class exams.

### Project (30%)

A long project where students can delve deep into an AI area of interest.

## ✓ Grading Information

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Grade	Range (%)
A+	97 and above
A	93-96
A	90-92
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62
F	Below 60

## University Policies

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Per [University Policy S16-9 \(PDF\)](http://www.sjsu.edu/senate/docs/S16-9.pdf) (<http://www.sjsu.edu/senate/docs/S16-9.pdf>), relevant university policy concerning all courses, such as student responsibilities, academic integrity, accommodations, dropping and adding, consent for recording of class, etc. and available student services (e.g. learning assistance, counseling, and other resources) are listed on the [Syllabus Information](https://www.sjsu.edu/curriculum/courses/syllabus-info.php) (<https://www.sjsu.edu/curriculum/courses/syllabus-info.php>) web page. Make sure to visit this page to review and be aware of these university policies and resources.