

Topics in Artificial Intelligence Section 01

CS 256

Spring 2025 In Person 3 Unit(s) 01/23/2025 to 05/12/2025 Modified 01/28/2025

Contact Information

Instructor: Dr. Sayma Akther

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Office: MH 213

Office Hours:

TuTh 1:15PM - 2:15PM (MH 213)

Course Description and Requisites

Introduction to topics in artificial intelligence such as problem solving methods, game playing, understanding natural languages, pattern recognition, computer vision and the general problem of representing knowledge. Students will be expected to use LISP.

Prerequisite(s): CS 156 and Graduate standing. Allowed Declared Major: Computer Science, Bioinformatics, Data Science. Or instructor consent.

Letter Graded

Classroom Protocols

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.

Plagiarism and Cheating

If a student is found engaging in academic dishonesty on a homework assignment, they will receive a **zero** for that assignment. If a student is caught cheating on an exam, they will receive a **failing grade (F)** for the course. In accordance with **University Policy F15-7**, the instructor is required to report all instances of cheating or plagiarism to the university.

Program Information

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)

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

1. **Advanced Theoretical Knowledge:** Demonstrate a comprehensive understanding of core AI concepts, including machine learning, deep learning, neural networks, reinforcement learning, and natural language processing.
2. **Critical Analysis and Problem Solving:** Critically analyze complex problems and develop AI-based solutions. This includes the ability to identify appropriate AI methodologies and tools for specific problems.
3. **Research Skills:** Conduct independent research in AI, demonstrating the ability to review, critique, and synthesize AI literature and current research findings.
4. **Practical Application and Implementation:** Apply AI theories and techniques to real-world scenarios, including the development of AI models and systems using programming languages like Python, R, or Java.
5. **Ethical and Social Implications:** Understand and articulate the ethical, legal, and social implications of AI technologies, including issues like bias, privacy, and the impact on employment.
6. **Innovation and Creativity:** Show the ability to innovate in the field of AI, including designing new algorithms, models, or approaches to solve novel problems.

7. Interdisciplinary Knowledge: Integrate knowledge from other disciplines such as psychology, neuroscience, mathematics, and computer science to enhance AI applications.
8. Communication Skills: Effectively communicate complex AI concepts and research findings to both technical and non-technical audiences.
9. Project Management and Teamwork: Demonstrate the ability to manage AI projects, including working effectively in teams, and coordinating interdisciplinary efforts.
10. Continual Learning and Adaptation: Show an ability to engage in lifelong learning in the field of AI, adapting to its rapid advancements and changing technologies.
- These Course Learning Outcomes reflect the knowledge and skills a student is expected to gain from studying Introduction to Artificial Intelligence

Course Materials

Artificial Intelligence: A Modern Approach" by Stuart Russell and Peter Norvig

This is a comprehensive text that covers a wide range of AI topics and is often considered a standard in university courses.

Deep Learning" by Ian Goodfellow, Yoshua Bengio, and Aaron Courville

This book is essential for understanding the fundamentals of deep learning, a key subset of AI.

Grading Information

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

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.