CS 1571 Introduction to Artificial Intelligence
Department of Computer Science, SCUPI
Fall 2025

Instructor
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Office Hours: Monday & Friday 09:00-12:00 or by appointment

Teaching Assistants
- Section 1: 王登文
- Section 2: 官智钊

Lectures
- Section 1: Monday 13:50-16:25 @ S503
- Section 2: Wednesday 13:50-16:25 @ S503

Course Description
This course will provide an introduction to the fundamental concepts and techniques underlying the construction of intelligent computer systems. Topics covered in the course include: problem solving and search, logic and knowledge representation, planning, reasoning and decision-making in the presence of uncertainty, and machine learning.

Prerequisites
- CS 1501 Algorithm Implementation
- CS 1502 Formal Methods in Computer Science

Course Objectives
- To provide a broad survey of AI and of the most popular techniques that are employed for: knowledge representation, problem solving, mathematical optimization, automated planning, probabilistic prediction and inference, sequential decision-making, supervised and reinforcement learning, deep learning, decision-making in multi-agent adversarial scenarios
- To develop a thorough understanding of the algorithmic foundations of AI and acquire a strong appreciation of the big-picture aspects of designing fully autonomous intelligent agents
- To develop operational known-how about how to build/program AI agents, and analyze and improve their performance

Applicable ABET Outcomes
- Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.
- Design, implement, and evaluate a computing-based solution to meet a given set of

computing requirements in the context of the program's discipline.
- Communicate effectively in a variety of professional contexts.
- Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
- Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
- Apply computer science theory and software development fundamentals to produce computing-based solutions.

Textbook
- *Artificial Intelligence: A Modern Approach, 4th US Edition*. Stuart Russel, Peter Norvig. Pearson, 2020.

Grading
- Attendance   5%
- Assignments   20%
- Projects   20%
- Mid-Term Exam   25%
- Final Exam   30%

Communication
All lecture notes, learning materials, assignments, projects, and announcements will be published on Blackboard (https://pibb.scu.edu.cn/). It is the student's responsibility to regularly check Blackboard in a timely manner. Important announcements and notifications will be sent to QQ group.

Class Policies
Attendance
Class attendance will be checked on a bi-weekly basis and takes a share in your final grade. A student has three chances to be absent from class free of penalty without prior notification. Otherwise, please notify the instructor in advance if you have a valid reason.

Assignment
Assignments are submitted every four weeks. Late submission must be made within one week after the due date, otherwise it will not be accepted. One late submission is accepted penalty-free, after that a late penalty of 5% per day, up to 30% in total, is imposed. Any questions regarding to the grading of homework assignment must be raised to the instructor within a one-week time frame.

Project
Students must report their project progress every four weeks during the presentation sessions. Project work must be submitted at the end of week 8 and week 16. Based on the TA's supervisory advice, students can refine their project work in one week after the submission without penalty, if needed. After that, no late submission is accepted. Questions regarding to

the grading of project must be raised to the instructor within a one-week time frame.

Exam

Exams are CLOSED BOOK, CLOSED COMPUTER, and CLOSED CELLPHONE. Students are allowed to bring one page of cheat-sheet (A4 size).

Academic Integrity

The principles of academic integrity require that a student to make sure that all work submitted is the student's own and created without the aid of impermissible technologies, materials, or collaborations. Academic integrity policy will be strictly followed.

Classroom Recording

To ensure the free and open discussion of ideas, students may not record classroom lectures, discussion and/or activities without the advance written permission of the instructor, and any such recording properly approved in advance can be used solely for the student's own private use.

Copyrighted Material

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Tentative Course Schedule

Week	Date	Topics
1	Sep 8	Introduction
2	Sep 15	Intelligent Agents
3	Sep 22	Solving Problems by Searching
4	Sep 29	Project Presentation
5	Oct 6	Search in Complex Environments
6	Oct 13	Adversarial Search and Games
7	Oct 20	Constraint Satisfaction Problems
8	Oct 27	Project Presentation
9	Nov 3	Logical Agents & Midterm Exam
10	Nov 10	First-Order Logic
11	Nov 17	Inference in First-Order Logic
12	Nov 24	Project Presentation
13	Dec 1	Knowledge Representation
14	Dec 8	Automated Planning
15	Dec 15	Uncertain Knowledge and Reasoning
16	Dec 22	Project Presentation
17	Dec 29	Final Exam