

课程大纲 COURSE SYLLABUS

1.	课程代码/名称 Course Code/Title	CSE5001 / 高级人工智能 Advanced Artificial Intelligence
2.	课程性质 Compulsory/Elective	Compulsory
3.	课程学分/学时 Course Credit/Hours	3/64
4.	授课语言 Teaching Language	中文/ Chinese
5.	授课教师 Instructor(s)	张宇/Yu Zhang
6.	是否面向本科生开放 Open to undergraduates or not	是/Yes
7.	先修要求 Pre-requisites	(如面向本科生开放, 请注明区分内容。 If the course is open to undergraduates, please indicate the difference.) CS303 / 人工智能 Artificial Intelligence
8.	教学目标 Course Objectives	
	<p>This course introduces recent advances in artificial intelligence. Topics covered include intelligent optimization and learning, as well as case studies in machine learning. The assessment in the course will consist of assignments, a mid-term test (or project), and a final exam.</p> <p>Upon finishing this course, students are expected to have a good understanding of challenging optimization and learning problems in AI, and different models and algorithms for tackling these problems.</p>	
9.	教学方法 Teaching Methods	
	Lectures and tutorials	
10.	教学内容 Course Contents	
	Section 1	Introduction
	Section 2	Basic Search
	Section 3	Heuristic Search
	Section 4	Meta Heuristics
	Section 5	Supervised Learning
	Section 6	Ensemble Learning
	Section 7	Multi-objective Learning
	Section 8	Unsupervised Learning
	Section 9	Feature Engineering
	Section 10	Markov Decision Process

	Section 11	Reinforcement Learning
	Section 12	Natural Language Processing
11.	课程考核 Course Assessment	
	<p>(① 考核形式 Form of examination; ②. 分数构成 grading policy; ③ 如面向本科生开放, 请注明区分内容。 If the course is open to undergraduates, please indicate the difference.)</p> <p>Assignments: 40% Mid-term test/Project: 20% Final Exam: 40%</p>	
12.	教材及其它参考资料 Textbook and Supplementary Readings	
	<p>Textbook: Stuart Russell and Peter Norvig, Artificial Intelligence: A Modern Approach (Third edition) , Cambridge University Press, 2009</p> <p>Reading materials: Relevant papers as handed out at each lecture.</p>	