附件2

**武汉大学全英文授课课程信息表（英文版）**

**Wuhan University Course Outline**

**School/Department: International School of Software**

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| **Course Name (Chinese)\*** | 人工智能 |
| **Course Name (English)\*** | Introduction to Artificial Intelligence |
| **Course Code\*** | 0801131 |
| **Availability\*** | √□Semester 1 □Semester 2 |
| **Course Hours\*** | 54 |
| **Credits\*** | 3 |
| **Course Description\*** | Artificial intelligence (AI) mainly focuses on key techniques of intelligent information processing and various intelligent application systems. Students will be introduced to the overview of AI techniques and their applications. The course will provide approaches to knowledge representation and techniques of search and reasoning, computational intelligence (including neural computation, fuzzy computation, evolutionary programming), applications of artificial intelligence (including knowledge and data mining, robot planning and natural language understanding). It will also provide trend and research directions of artificial intelligence. The theoretical discussion of techniques and algorithms will be underpinned by practical exercises, thus providing students with an appreciation of the applicability in the establishment and development of various intelligent systems like intelligent information analysis, expert systems and decision support systems etc. |
| **Course Objectives/Content\*** | 1. Artificial intelligence and intelligent system, and research and applications in artificial intelligence.2. Approaches to knowledge representation and techniques of search and reasoning, including state space, problem reduction, predicate logic, semantic network, uninformed search, heuristically search, rule-based deduction systems and production systems3. Advanced knowledge reasoning, including uncertainty reasoning and non-monotony reasoning.4. Basis knowledge of computational intelligence, including neural computation, fuzzy computation, evolutionary programming and artificial life.5. Applications and cutting-edge technology of artificial intelligence, including expert system, machine learning, automatic planning, Agent, natural language understanding.6. Debates in artificial intelligence, impacts of artificial intelligence on humankind and expectation for artificial intelligence |
| **Teaching Methods** | 1. A "1+1" full-English dual-class teaching mode is adopted.The aim of AI is to train students to acquire professional knowledge and practical ability and improve English communication. The course is held by both domestic lecturers and foreign professors, and teaching hours are divided into two parts in the teaching process. The domestic teacher first teaches the principles, models and approaches of artificial intelligence so that students can learn the general knowledge of the course. Teaching methods include class teaching, case teaching and practice. On this basis, internationally teachers are then invited to teach students the international forefront of artificial intelligence techniques, including intensive classes and focus discussion.2. Way to full-English teachingConsidering English proficiency of domestic students, transitional-English teaching is adopted. In the early stage of the course, it is taught and wrote on the blackboard by Chinese and English with full-English PPT, so that students can better understand the knowledge taught at the class and can read the original English text combining to English PPT. The course is then transited to English teaching, English writing on the blackboard and English PPT. |
| **Assessment\*** | Close Examination + Practice Report |
| **Textbook(s)** | Artificial Intelligence: A Modern Approach (3rd Edition) by Stuart Russell and Peter Norvig, 2009 |
| **Reading** | (1) Artificial Intelligence: A Systems Approach (Computer Science) by M. Tim Jones, 2008(2) Introducing Artificial Intelligence by Henry Brighton and Howard Selina, 2003 |
| **Prerequisites** | Data Structure, Algorithm Analysis and Design |
| **Lecturer(s)** | Rong Xie |

注：\*为必填。

**武汉大学全英文授课课程信息表（中文版）**

**学院: 国际软件学院**

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| **课程名称（中文）\*** | 人工智能 |
| **课程名称（英文）\*** | Introduction to Artificial Intelligence |
| **课程代码\*** | 0801131 |
| **授课学期\*** | 第一学期 |
| **学时\*** | 54 |
| **学分\*** | 3 |
| **课程简介\*** | 人工智能是一门前沿性的学科，主要研究如何用计算机模拟和实现人类智能、智能行为及其规律的一门学科，是计算机科学的一个重要分支。本课程是软件工程专业的专业课程。通过本课程的学习，使学生对人工智能的发展概况、研究内容、应用领域和发展趋势有初步的了解，掌握人工智能的基本概念、基本原理和实现算法，培养学生运用经典的人工智能的技术和方法解决实际应用中一些简单实际问题的能力。 |
| **课程目标、内容\*** | 1、叙述人工智能和智能系统的概况，列举人工智能的研究与应用领域。2、研究传统人工智能的知识表示方法和搜索推理技术，包括状态空间法、问题归约法、谓词逻辑法、语义网络法、盲目搜索、启发式搜索、规则演绎算法和产生式系统等。3、讨论高级知识推理，涉及非单调推理和各种不确定推理方法。4、探讨人工智能的新研究领域，初步阐述计算智能的基本知识，包含神经计算、模糊计算、进化计算和人工生命等内容。5、比较详细地讨论人工智能的主要应用及前沿技术，包括机器学习、自动规划、Agent、自然语言理解等。对于应用内容，根据学时，有选择地进行讲授。6、评述近年来人工智能的争论，讨论人工智能对人类经济、社会和文化的影响，展望人工智能的发展。 |
| **教学方法** | 1、双课堂教学体系采用“1+1”全英文双课堂教学的教学模式。人工智能课程教学以培养学生掌握专业知识、培养实践动手能力以及提高英语交流水平三者结合为主要目标。教学过程中，教学课时分两个部分展开，由国内教师与国外教授共同授课。先由国内主讲教师讲授人工智能课程的基础原理、模型和方法，使学生能掌握人工智能的一般基础。教学方法由集中授课、案例教学和课堂实践组成。在此基础上，再邀请国际知名外籍教师为学生讲授人工智能国际前沿技术，包括集中授课和重点研讨。2、课堂教学的全英语教学形式基于国内学生的英语水平，采用“过渡式全英语教学”形式。课程前期使用中英文授课，中英文板书，全英文的PPT，使学生能够理解课堂所授知识，并结合英文课件进一步理解原版英文教材。等学生适应后，再逐渐过渡到英文授课，英文板书，英文PPT。采用“循序渐进”的教学规则，平稳过渡，梯度推进。 |
| **考核方式\*** | **闭卷考试+实习报告** |
| **教材** | Artificial Intelligence: A Modern Approach (3rd Edition) by Stuart Russell and Peter Norvig, 2009 |
| **推荐阅读** | 1、Artificial Intelligence: A Systems Approach (Computer Science) by M. Tim Jones, 20082、Introducing Artificial Intelligence by Henry Brighton and Howard Selina, 2003 |
| **先导课程** | 数据结构、算法分析与设计 |
| **授课教师** | 谢榕 |

注：\*为必填。