

# Course Syllabus

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## Course Information

CS6364.002.24F

Course Title

Artificial Intelligence

Term

Fall 2024

Meeting Days & Times

MW 10:00 – 11:15 AM

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## Professor Contact Information

*(Professor's name, phone number, email, office location, office hours, other information) (state time/day and how office hours will be held, e.g., physical office, BlackBoard Collaborate or MS Teams (add appropriate links) and/or phone call – optional; please ensure student's identity in adherence to FERPA)*

Prof. Sriraam Natarajan, [Sriraam.Natarajan@utdallas.edu](mailto:Sriraam.Natarajan@utdallas.edu), ECSS 3.402

Office hours: M 12-1 PM and by appointment

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## Course Pre-requisites, Co-requisites, and/or Other Restrictions

*(including required prior knowledge or skills)*

CS 5343

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## Course Description

Design of machines that exhibit intelligence. Particular topics include: representation of knowledge, search, logic and deduction, expert systems, planning, probabilistic models, and machine learning

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## Student Learning Objectives/Outcomes

By the end of the course, students are expected to demonstrate ability to represent domain knowledge, develop search algorithms and implement AI techniques on real problems.

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## Required Textbooks and Materials

Russell and Norvig, *Artificial Intelligence - A Modern Approach*, Third Edition, Prentice Hall.

Recommended Book - *Artificial Intelligence: Foundations of Computational Agents*, by David Poole and Alan Mackworth. This is a fantastic book for introduction to AI and I highly recommend this to any student interested in AI. In the second half of the course, I will use some materials and slides from this book. The authors have posted the complete book [online](#).

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## Assignments & Academic Calendar

(Topics, Reading Assignments, Due Dates, Exam Dates)

Date	Topic	Suggested Reading
Week 1	Introduction to AI, Agents	Chapters 1,2
Week 2	Problem Solving - Search	Chapter 3 and Section 4.1
Week 3	Adversarial Search	Chapter 5 (Sections 5.1, 5.2 and 5.3)
Week 4-6	Knowledge and Reasoning	Chapters 7, 8, 9
Week 7	First Mid-term	Chapters 3, 4.1, 5.1 through 5.3, 7,8,9
Week 8,9	First Order Logic Reasoning	Chapter 9
Week 10	Uncertainty in AI	Chapter 13
Week 11	Uncertainty in AI and Bayesian Networks	Chapters 13,14
Week 12	Bayesian Network Inference	Chapter 14
Week 13	Dynamic Probabilistic Models	Chapter 15
Week 14	Second Midterm Study Guide	Chapter 8,9,13,14
Week 14	<b>Second Midterm</b>	Chapter 8,9,13,14
Week 15	Machine Learning	

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## **Grading Policy**

*(including percentages for assignments, grade scale, etc.)*

Homeworks 10%

Programming Assignments 25%

Exams 60%

Class Participation 5%

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## **Course & Instructor Policies**

*(make-up exams, extra credit, late work, special assignments, class attendance, classroom citizenship, etc.)*

Everyone is responsible for reading the university's statement on [Academic Integrity](#) before starting the first assignment.

Homeworks, including programming projects, are to be **completed individually**. You may discuss the material with other students, but **all written work must be your own**. All forms of cheating, whether copying from another student or plagiarism from Internet sources, will result in a zero on the assignment and possible disciplinary action.

Homework assignments are due by the start of class on the due date unless otherwise specified.

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## **Class Materials**

Most of my slides are based on the resources from the AI Book's [website](#). I will edit the slides as needed. In addition, we will cover some topics on the whiteboard. As with the homework, the slides will be posted in eLearning.

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## **Class Attendance**

The University's attendance policy requirement is that individual faculty set their course attendance requirements. Regular and punctual class attendance is expected. Students who fail to attend class regularly are inviting scholastic difficulty. In some courses, instructors may have special attendance requirements; these should be made known to students during the first week of classes.

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## **Class Participation**

2 consecutive absences, no penalty. 3 consecutive absences, 1 letter grade drop; 4 consecutive absences, an F grade. Absences due to medical reasons, death in family, etc., can be excused, but proof may be required.

<http://cs.utdallas.edu/education/undergraduate/attendance-policy/>

<http://cs.utdallas.edu/education/graduate/attendance-policy/>