

CS 404: Artificial Intelligence

Fall 2021

Lectures: Thursday: 14:40–15:30 (FENS G077), Friday: 10:40–12:30 (FMAN 1099)

Instructor: Esra Erdem (by appointment)

TAs: Aysu Boğatarkan (Thursday 18:40–19:30), Selin Eyüpoğlu (Wednesday 16:40–17:30), Müge Fidan (Monday 18:40–19:30)

Course description. This course provides an introduction to Artificial Intelligence (AI). In this course we will study a number of theories, mathematical formalisms, and algorithms, that capture some of the core elements of computational intelligence. We will cover some of the following topics: search, logical representations and reasoning, automated planning, representing and reasoning with uncertainty, decision making under uncertainty, learning, and machine ethics.

Course objective. To give an understanding of some of the fundamental ideas in AI.

Prerequisites. An introductory course to computing (like CS201).

Recommended textbook. *Artificial Intelligence: A Modern Approach* by Stuart Russell and Peter Norvig. 3rd/4th Edition. (<http://aima.cs.berkeley.edu/>.)

Assignments. There will be four assignments, each involving a programming component and/or a written component. Each student should write up the solutions on her/his own and should be able to explain the solutions to the instructor and/or the teaching assistants during the demo sessions. Late submissions will not be accepted.

Quizzes. Quizzes will be given almost every week during the lectures.

Exams. There will be two exams: one midterm exam and one final exam. There will be only one make-up exam (to be considered instead of one missed exam): it will be given on the next business day after the final exam, and only if requested with an official report before the final exam. In the exams, students are responsible for the material presented in the lectures and covered in the assignments.

Grading. Grades will be determined by the assignments (30%), the quizzes (5%), the midterm exam (30%), and the final exam (35%). Assignments will contribute equally. There will not be a make-up quiz.