

## Course Descriptions Bachelor 2022-2023

Course Title Artificial Intelligence  
Course Code BENC2020  
ECTS Credits 5,0  
Assessment Whole/Half Grades

Period	Period	Start	End	Mon	Tue	Wed	Thu	Fri
2		31-10-2022	16-12-2022		X		X	L

Level no level

Coordinator Stelios Asteriadis For more information:stelios.asteriadis@maastrichtuniversity.nl

Language of instruction English

Goals

- \* To convey the ideas that have emerged over the past fifty years of Artificial Intelligence research, and about two millennia of related work.
- \* To discuss the possibility of machines that think.
- \* To show how algorithms can be used to enable systems to think or act intelligently and to discuss state-of-the-art advances in the Artificial Intelligence community.

Description

PLEASE NOTE THAT THE INFORMATION ABOUT THE TEACHING AND ASSESSMENT METHOD(S) USED IN THIS COURSE IS WITH RESERVATION. A RE-EMERGENCE OF THE CORONAVIRUS AND NEW COUNTERMEASURES BY THE DUTCH GOVERNMENT MIGHT FORCE COORDINATORS TO CHANGE THE TEACHING AND ASSESSMENT METHODS USED. THE MOST UP-TO-DATE INFORMATION ABOUT THE TEACHING/ASSESSMENT METHOD(S) WILL BE AVAILABLE IN THE COURSE SYLLABUS.

The course starts with an introduction to artificial intelligence and an explanation of algorithms that allow agents to search for optimal solutions in complicated environments. Also, algorithms and problems related to artificial intelligence and games, neural networks basics, but also the emerging field of computer vision are introduced and discussed. Towards the end of the course, a lecture regarding artificial intelligence and related ethics takes place, allowing students to see how computational techniques relate to handling biases and misconceptions.

The main part of the course explores the metaphor of an intelligent agent by introducing a number of state-of-the-art concepts, algorithms, and methods which enable computers (i.e., software and robots) to solve problems in a way which deserves to be called intelligent. Covered topics are explored and applied in exercises and tasks (mainly in-class, but also as homework).

Literature Russell, S., & Norvig, P. (2009, Third Edition). Artificial Intelligence. A modern approach. Prentice-Hall.

Prerequisites

BENC1002 Calculus  
BENC2001 Multivariable Calculus  
BENC1004 Linear Algebra

Keywords

Teaching methods Lecture

Assessment methods Attendance / Assignment

Evaluation in previous academic year For the complete evaluation of this course please click <http://iwio-sbe.maastrichtuniversity.nl/rapporten.asp?referrer=codeUM>

This course belongs to the following programme / specialisation