

University of Pretoria Yearbook 2020

Artificial intelligence 314 (COS 314)

Qualification Undergraduate

Faculty Faculty of Engineering, Built Environment and Information Technology

Module credits 18.00

Programmes BIS Multimedia

BSc Computer Science

BSc Information and Knowledge Systems

BSc Physics

Prerequisites COS 110

Contact time 1 practical per week, 2 lectures per week

Language of tuition Module is presented in English

Department Computer Science

Period of presentation Semester 1

Module content

The main objective of this module is to introduce a selection of topics from artificial intelligence (AI), and to provide the student with the background to implement AI techniques for solving complex problems. This module will cover topics from classical AI, as well as more recent AI paradigms. These topics include: search methods, game playing, knowledge representation and reasoning, machine learning, neural networks, genetic algorithms, artificial life, planning methods, and intelligent agents. In the practical part of this module, students will get experience in implementing

- (1) game trees and evolving game-playing agents;
- (2) a neural network and applying it to solve a real-world problem; and
- (3) a genetic algorithm and applying it to solve a real-world problem.

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