

# University of Pretoria Yearbook 2021

## Artificial intelligence 314 (COS 314)

**Qualification** Undergraduate

**Faculty** [Faculty of Engineering, Built Environment and Information Technology](#)

**Module credits** 18.00

**NQF Level** 07

**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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