

University of Pretoria Yearbook 2016

Artificial Intelligence (II) 711 (COS 711)

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| Qualification | Postgraduate |
| Faculty | Faculty of Engineering, Built Environment and Information Technology |
| Module credits | 15.00 |
| Programmes | BScHons Computer Science |
| Prerequisites | No prerequisites. |
| Contact time | 2 lectures per week |
| Language of tuition | English |
| Academic organisation | Computer Science |
| Period of presentation | Semester 1 or Semester 2 |

Module content

This module focuses on three Computational Intelligence paradigms, namely Artificial Neural Networks, Artificial Immune Systems, and Fuzzy Systems. Within the Artificial Neural Networks paradigm algorithmic models of neural learning will be studied, including supervised, unsupervised, and reinforcement learning. Aspects that influence the performance of artificial neural networks will be studied in depth. Within the Artificial Immune Systems paradigm algorithm models of different views of the human biological immune system will be studied, including negative selection, clonal selection, network theory and danger theory models. The Fuzzy Systems paradigm include models of reasoning with uncertainty, specifically fuzzy logic and rough sets. Prior knowledge assumed include good programming skills and an undergraduate module in calculus.

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