

University of Pretoria Yearbook 2022

Data mining 481 (COS 481)

Qualification Undergraduate

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

Module credits 15.00

NQF Level 08

Prerequisites COS 301 and at least two COS modules at third-year level.

Contact time 2 lectures per week

Language of tuition Module is presented in English

Department Computer Science

Period of presentation Semester 1 or Semester 2

Module content

Data mining is the extraction of novel knowledge, or hidden patterns, from large data bases. The focus of this course is on how the computational intelligence techniques (such as evolutionary algorithms, swarm algorithms and neural networks) can be used for knowledge extraction. In addition, traditional machine learning techniques (such as decision trees and rule induction) will be covered. The pre-processing of data in preparation for data mining algorithms, as well as the post-processing of results after data mining, will be discussed. Exploratory data analysis and statistical data mining methods are also investigated. Finally, some attention will be given to more modern problems, such as the extraction of hidden knowledge from unstructured data, such as text and images. It is highly recommended that students do COS 410 and COS 411, as knowledge of these modules are assumed.

The regulations and rules for the degrees published here are subject to change and may be amended after the publication of this information.

The [General Academic Regulations \(G Regulations\)](#) and [General Student Rules](#) apply to all faculties and registered students of the University, as well as all prospective students who have accepted an offer of a place at the University of Pretoria. On registering for a programme, the student bears the responsibility of ensuring that they familiarise themselves with the General Academic Regulations applicable to their registration, as well as the relevant faculty-specific and programme-specific regulations and information as stipulated in the relevant yearbook. Ignorance concerning these regulations will not be accepted as an excuse for any transgression, or basis for an exception to any of the aforementioned regulations.