

University of Pretoria Yearbook 2023

Introduction to database systems 221 (COS 221)

Qualification Undergraduate

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

Module credits 16.00

NQF Level 06

Programmes [BSc \(Computer Science\)](#)

[BSc \(Information and Knowledge Systems\)](#)

[BSc \(Applied Mathematics\)](#)

[BSc \(Mathematics\)](#)

Prerequisites COS 110

Contact time 1 practical per week, 4 lectures per week

Language of tuition Module is presented in English

Department Computer Science

Period of presentation Semester 1

Module content

This module will expose students to the evolution of databases systems. They will be able to model data conceptually, in terms of models such as conceptual, relational, object oriented, graph-based and network and the mapping between models, in particular between the conceptual and relational model. Foundational concepts relating to the relational model will be considered, such as: entity and referential integrity, relational algebra and calculus, functional dependency, normal forms, Indexing of database systems and transaction processing will also form an integral part of the curriculum. The physical data representation of the databases system both in memory and within the file system of the operating system will be considered.

Regulations and rules

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.

University of Pretoria Programme Qualification Mix (PQM) verification project

The higher education sector has undergone an extensive alignment to the Higher Education Qualification Sub-Framework (HEQF) across all institutions in South Africa. In order to comply with the HEQSF, all institutions are legally required to participate in a national initiative led by regulatory bodies such as the Department of Higher Education and Training (DHET), the Council on Higher Education (CHE), and the South African Qualifications Authority (SAQA). The University of Pretoria is presently engaged in an ongoing effort to align its qualifications and programmes with the HEQSF criteria. Current and prospective students should take note that changes to UP qualification and programme names, may occur as a result of the HEQSF initiative. Students are advised to contact their faculties if they have any questions.