



# University of Pretoria Yearbook 2022

## 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.

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