

## Databases (E018120)

**Course size** *(nominal values; actual values may depend on programme)*

**Credits 3.0**

**Study time 90 h**

### Course offerings and teaching methods in academic year 2025-2026

A (semester 1)	Dutch	Gent	seminar	15.0h
			lecture	15.0h

### Lecturers in academic year 2025-2026

De Tré, Guy

TW07

lecturer-in-charge

### Offered in the following programmes in 2025-2026

	crdts	offering
<a href="#">Bachelor of Science in Engineering(main subject Computer Science Engineering)</a>	3	A
<a href="#">Preparatory Course Master of Science in Bioinformatics(main subject Engineering)</a>	3	A

### Teaching languages

Dutch

### Keywords

Database systems, relational databases, SQL, OLTP

### Position of the course

This course is intended as a classic basic course, which on the one hand provides the necessary theoretical foundations for understanding databases, and on the other hand is sufficiently focused on the practical use of databases, with main emphasis on the relational model.

### Contents

- Introduction: Databases, database models, and database systems
- The relational database model
- SQL: data definition and data manipulation language
- Working with database systems: Security, recovery after failure, concurrency control
- Other database models

### Initial competences

Being familiar with data structures and having basic programming skills

### Final competences

- 1 Have insight into the basic concepts of databases and database systems.
- 2 Understand how relational databases are built.
- 3 Be able to manipulate and query relational databases.
- 4 Understand how database systems work.

### Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

### Conditions for exam contract

This course unit cannot be taken via an exam contract

### Teaching methods

Seminar, Lecture

### Study material

Type: Handbook

Name: Principles of databases, 3e edition

Indicative price: € 52

Optional: no

Language : Dutch

Author : Guy De Tré

ISBN : 978-9-04304-157-7

Number of Pages : 580

Available through Student Association : Yes

Usability and Lifetime within the Course Unit : intensive

Usability and Lifetime within the Study Programme : regularly

Usability and Lifetime after the Study Programme : occasionally

## References

R. Elmasri, S.B. Navathe, Fundamentals of Database Systems, Seventh Edition, Pearson Addison-Wesley, Boston USA, 2016 (ISBN: 9780133971330)

J. Celko, SQL for Smarties, Morgan Kaufmann, 2014 (ISBN: 978-0128007617)

S. Faroult, P. Robson, The Art of SQL, O'Reilly, 2006 (ISBN: 978-059600894-9)

A. Molinaro, SQL Cookbook, O'Reilly, 2009 (ISBN 978-059600976-2)

## Course content-related study coaching

All exercise courses are supported by assistants. The teacher and assistants are available by appointment for additional explanation or individual support.

## Assessment moments

end-of-term and continuous assessment

## Examination methods in case of periodic assessment during the first examination period

Written assessment

## Examination methods in case of periodic assessment during the second examination period

Written assessment

## Examination methods in case of permanent assessment

Skills test

## Possibilities of retake in case of permanent assessment

examination during the second examination period is possible in modified form

## Extra information on the examination methods

- Periodic evaluation:
  - Theory (closed book)
  - Exercises (open book)
- Permanent evaluation:
  - SQL database querying (1st examination period: 2 tests in PC class: 2nd exam period: 1 test in PC class)

## Calculation of the examination mark

First and second exam period:

Periodic evaluation: 75%; permanent evaluation: 25%.

The end score is the weighted mean of the periodic and non-periodic evaluation.

## Facilities for Working Students

This course uses the online practice platform Dodona for the SQL exercises.