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 2023-2024

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

Lecturers in academic year 2023-2024

De Tré, Guy		TWO7	lecturer-in-charge

Offered in the following programmes in 2023-2024	**crdts**	**offering**
Bachelor of Science in Engineering(main subject Computer Science Engineering)	3	A
Preparatory Course Master of Science in Bioinformatics(main subject Engineering)	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

Learning materials and price

- Handbook: G. De Tré, Principes van databanken, Pearson Education Benelux, Amsterdam, 2017 (ISBN:978-90-430-3580-4); indicative price: 50 EURO (Dutch)
- Additional course material is available on Ufora

References

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

Course content-related study coaching

All exercise courses are supported by assistants.

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, Assignment

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:
  - Open questions on theory
  - Excercises
- Permanent evaluation:
  - SQL database querying

Calculation of the examination mark

First and second exam period:
Periodic evaluation: 65%; permanent evaluation: 35%.
The end score is the weighted mean of the periodic and non-periodic evaluation. Students can only pass this course if they obtain a minimum score of 10/20 for both parts of the evaluation. If students obtain less than 10/20 for at least one of the parts, the following rules apply:

- If one obtains an 8/20 or 9/20 for at least one part of the evaluation, one cannot pass the whole of the course. If the final score would nevertheless be a mark of 10 or more out of 20, this will be reduced to the highest unsuccessful mark, namely 9/20.
- If one obtains less than 8/20 for at least one part of the evaluation, one cannot pass the whole of the course. If the final score would nevertheless be a figure of 8 or more out of 20, this will be reduced to the highest non-deliberable mark, namely 7/20.

For a score of 10/20 or more on one of the parts, there is a mark transfer to the second exam period.

Facilities for Working Students

This course has an online excercise system for SQL.