

## Management of Imperfect Data (E018221)

Due to Covid 19, the education and evaluation methods may vary from the information displayed in the schedules and course details. Any changes will be communicated on Ufora.

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

**Credits** 4.0      **Study time** 120 h      **Contact hrs** 30.0 h

### Course offerings and teaching methods in academic year 2021-2022

A (semester 2)	Dutch	Gent	guided self-study	8.75 h
			online group work	15.0 h

### Lecturers in academic year 2021-2022

De Tré, Guy	TW07	lecturer-in-charge
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### Offered in the following programmes in 2021-2022

<a href="#">Master of Science in Computer Science Engineering</a>	<b>crdts</b> 4	<b>offering</b> A
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### Teaching languages

Dutch

### Keywords

imperfect information, computational intelligence, flexible querying

### Position of the course

With the advent of 'Big Data', adequately managing and handling imperfect data becomes more and more important. Examples of data imperfections are imprecision, vagueness, incompleteness, uncertainty and inconsistency. The main objective of this course is to study and learn to apply the principal concepts and techniques for the management of imperfect data. Herewith we will use database technology on the one hand and fuzzy set theory on the other hand. We learn how imperfect data can be adequately modelled and managed with a database system and how the same techniques can be applied in software development.

### Contents

- Introduction: Data modelling, Preliminaries on fuzzy set theory
- Computational intelligence: Data modelling, Database modelling
- The use of databases: Flexible querying of regular databases, Flexible querying of fuzzy databases
- Decision Support Systems

### Initial competences

Basic principles of databases and data structures

### Final competences

- 1 Understand and apply basic concepts of fuzzy set theory and possibility theory.
- 2 Gain insight in the modelling of satisfaction and uncertainty.
- 3 Model, manipulate and manage imperfect information.
- 4 Understand and apply diverse aggregation techniques.
- 5 Apply techniques for flexible querying and decision support on regular and 'fuzzy' databases.

### 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

Guided self-study, online group work

**Extra information on the teaching methods**

During the online contact moments a 'flipped classroom' principle is applied. Herewith, the students have to prepare a part of the course independently, using processing questions. Because of COVID19, changed working methods can be rolled out if this proves necessary.

**Learning materials and price**

Syllabus (Nederlandstalig); is available via Ufora.

**References****Course content-related study coaching**

The teamwork is supported by assistants.

**Evaluation methods**

end-of-term evaluation and continuous assessment

**Examination methods in case of periodic evaluation during the first examination period**

Oral examination, report

**Examination methods in case of periodic evaluation during the second examination period****Examination methods in case of permanent evaluation**

Skills test

**Possibilities of retake in case of permanent evaluation**

examination during the second examination period is possible

**Extra information on the examination methods**

Periodic evaluation: oral exam, individual explanation of teamwork

Non-periodic evaluation: graded teamwork

Frequency of teamwork: 4 tasks (spread over the semester; after the corresponding part of the subject material has been studied)

**Calculation of the examination mark**

Weighted average of the scores for the 4 tasks, revised after oral explanation.