

Data Communication (C001249)

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

Credits 3.0 **Study time** 90 h **Contact hrs** 30.0 h

Course offerings and teaching methods in academic year 2017-2018

A (semester 1)	lecture	15.0 h
	seminar: coached exercises	15.0 h

Lecturers in academic year 2017-2018

Eeckhout, Lieven	TW06	lecturer-in-charge
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Offered in the following programmes in 2017-2018

	crdts	offering
Bachelor of Science in Computer Science	3	A

Teaching languages

Dutch

Keywords

Telecommunication, datacommunication, source and channel coding

Position of the course

To provide knowledge and insight with respect to basic principles, the operation and performance of coding techniques for (digital) communication

Contents

- Introduction
- Source coding: Entropy, Coding of discrete and continuous sources, Lossless and lossy compression, Compression ratio
- Channel coding: Discrete channel, Error correction and detection, Linear block codes, Polynomial block codes, Syndrome computation, Error probability, Error control with feedback, Efficiency of retransmission protocols

Initial competences

Knowledge and experience regarding probability and statistics

Final competences

- 1 Explain source coding theorem.
- 2 Ability to use algorithms for source and channel coding.
- 3 Understand and apply fundamental aspects of digital data communication systems.

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

Lecture, seminar: coached exercises

Learning materials and price

Lecture notes and slides

References

Course content-related study coaching

The lecturers and assistants are available during contact hours, on appointment and via e-mail.

Evaluation methods

end-of-term evaluation

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

Written examination

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

Written examination

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

not applicable

Extra information on the examination methods

Periodical evaluation: written exam.

Calculation of the examination mark

100% periodical evaluation