

Multimedia Techniques (E019130)

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

Credits 6.0 **Study time 180 h**

Course offerings and teaching methods in academic year 2023-2024

A (semester 2)	Dutch	Gent	lecture seminar
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Lecturers in academic year 2023-2024

Lambert, Peter	TW06	lecturer-in-charge
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Offered in the following programmes in 2023-2024

	crdts	offering
Bachelor of Science in Engineering(main subject Computer Science Engineering)	6	A
Master of Science in Electrical Engineering (main subject Communication and Information Technology)	6	A

Teaching languages

Dutch

Keywords

multimedia, video, images, audio, coding, compression

Position of the course

The main purpose of this course is to let the students familiarize with the principles of modern multimedia applications. Moreover, the students will gain some experience with setting up multimedia applications.

Contents

- 1 Basic concepts of multimedia
- 2 Representation of visual data
- 3 Color models for images and video
- 4 Basic principles of image and video processing
- 5 Basic principles of audio processing
- 6 Lossless and lossy compression algorithms
- 7 Multimedia formats and codecs
- 8 Multimedia standards

Initial competences

Programming in a high-level programming language

Final competences

- 1 To know and apply basic principles of image, video and audio processing.
- 2 To know and apply basic methods for the compression of still images and video.
- 3 To know and being able to apply basic sampling and quantization methods, especially in the context of digital-audio applications.
- 4 To know multimedia platforms and standards, and being able to compare them.
- 5 Being able to set up simple multimedia applications.

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

- Syllabus: electronic PDF version is provided free of charge. Optionally, a printed version can be ordered via the student association (ca. 10 euro).
- PowerPoint slides: electronic PDF versions are provided free of charge

References

Course content-related study coaching

Coaching during computer-assisted problem solving
Contact with lecturer and coaches of exercises/project work (via e-mail and personally)

Assessment moments

end-of-term and continuous assessment

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

Written assessment with open-ended questions

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

Written assessment with open-ended questions

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

Periodical evaluation (during examination period): oral closed-book exam
Non-periodical evaluation (during semester): graded lab sessions + project work

Calculation of the examination mark

General: students who eschew one or more parts of the evaluation can no longer pass the course as a whole. Total scores will be reduced to the highest non-deliberative quotation (7/20) in case the total score is higher.

First examination period: total score = 50% non-periodical evaluation + 50% periodical evaluation (exam). When students obtains less than 8/20 for at least one of the components, they can no longer pass the course as a whole. If the total score does turn out to be a mark of ten or more out of twenty, this is reduced to the highest fail mark (9/20).

Second examination period: total score = 50% exam + 50% non-periodical evaluation (as obtained during the first examination period). If the score of the non-periodical evaluation during the first examination period is less than 8/20, an additional (individual) task will be defined in the second examination period. In this case, the total score = 50% exam + 50% additional task. When students obtains less than 8/20 for at least one of the components, they can no longer pass the course as a whole; if the total score does turn out to be a mark of ten or more out of twenty, this is reduced to the highest fail mark (9/20).