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.

Lecturers in academic year 2019-2020

Tavernier, Wouter  
TW05  lecturer-in-charge

Demeester, Piet  
TW05  co-lecturer

Offered in the following programmes in 2019-2020

Bachelor of Science in Engineering (main subject Computer Science Engineering)  6  A
Bachelor of Science in Engineering (main subject Electrical Engineering)  6  A
Bachelor of Science in Computer Science  6  A
Bachelor of Science in Computer Science Engineering  6  A
Bachelor of Science in Electrical Engineering  6  A
Master of Science in Geomatics and Surveying  6  A

Teaching languages

Dutch

Keywords

computer networks, telecommunication networks, Internet

Position of the course

This is a basic course with as major goal to teach students the basic concepts and operational aspects of communication networks, with emphasis on internet technology.

Contents

The Internet: Top-down Model, Application Layer, Transport Layer, Network Layer, Data Link Layer, Network Security

Initial competences

Use of Linux operating system.

Final competences

1. Being able to work with the following concepts: protocol reference model; application layer protocols HTTP, SMTP, POP, ...; state diagram, message sequence chart, retransmission protocols, routing protocols (IGP and EGP), sub networks, addressing, MAC protocols, hub versus switch, security protocols.
2. Understand how to build a network, applications versus application layer protocols, reliability, flow and congestion control, routing and switching, network hierarchy, medium access control, public versus symmetric encryption, authentication, encryption, integrity, architecture.
3. Use and development of application layer protocols
4. Set-up of IP networks
5. Configuration of ethernet local area networks
6. Design and set-up of a secure network (layer 2 up to layer 5)
7. Have critical attitude during the design and evaluation of communication networks.

(Approved)
based on a thorough understanding of the technical issues.

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, practicum, lecture: plenary exercises

Learning materials and price

References

Course content-related study coaching
Support using e-mail and by appointment, use of the electronic learning environment and feedback about the practical exercises

Evaluation methods
end-of-term evaluation and continuous assessment

Examination methods in case of periodic evaluation during the first examination period
Written examination, open book examination

Examination methods in case of periodic evaluation during the second examination period
Written examination, open book examination

Examination methods in case of permanent evaluation
Skills test, report

Possibilities of retake in case of permanent evaluation
examination during the second examination period is not possible

Extra information on the examination methods
During examination period: written closed-book exam; written open-book exam - problems
During semester: graded lab sessions. Second chance: Not possible
Frequency: 4 practical exercises in the weeks 5 to 11.

Calculation of the examination mark
25% evaluation during semester, 75% evaluation during examination period