

## Computer Networks I: Basic Protocols (E761020)

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 3.0 Study time 90 h Contact hrs 24.0 h

Course offerings in academic year 2020-2021

A (semester 1) Dutch Gent

Lecturers in academic year 2020-2021

Tavernier, Wouter TW05 lecturer-in-charge

Offered in the following programmes in 2020-2021

	crdts	offering
<a href="#">Bachelor of Science in Engineering Technology (main subject Electronics and ICT Engineering Technology)</a>	3	A
<a href="#">Bachelor of Science in Engineering Technology (main subject Information Engineering Technology)</a>	3	A
<a href="#">Linking Course Master of Science in Information Engineering Technology</a>	3	A

Teaching languages

Dutch

Keywords

computer networks, Internet, protocols, TCP/IP

Position of the course

This course discusses the core technologies of the Internet, wired networks and network applications.

Contents

- Layered network structure, the OSI reference model and encapsulation
- Application Layer: HTTP, e-mail and DNS
- Transport Layer: principles of TCP and UDP
- Network Layer: IPv4 addressing, CIDR subnetting, principles of forwarding tables and ICMP
- Data Link Layer: Ethernet, ARP

Initial competences

Strict prerequisites: none

Advisory initial competences: Knowing the basic concepts of information technology, as treated in Informatica I.

Final competences

- 1 Being able to situate all necessary functions in specific layers of the reference model.
- 2 Master the principles of HTTP, DNS and e-mail application protocols.
- 3 Understand the structure of an IPv4 network and associated configuration of forwarding tables
- 4 Ability to understand and apply addressing mechanisms on the level of subnetworks and the Internet.
- 5 Insight in the principles of Ethernet technology and its interaction with IP.
- 6 Knowledge of the basic tools to analyse and configure networks.

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 discussion group, online lecture, online lecture: response lecture, online seminar: coached exercises

## Learning materials and price

Text book (same book as used for the course Computernetworks II):  
"Computernetwerken: Een top-downbenadering", 7de editie, James F. Kurose, Nov 2018, 731p, ISBN: 9789043036214, in addition to presentation material (slides) available on Ufora.  
No particular use of laptops or specific software required.

## References

- "Computer Networks", Andrew S. Tanenbaum; fourth edition; Pearson Education International, 2003, ISBN 0-13-038488-7, of Nederlandstalige versie
- "TCP/IP Illustrated, Volume 1", W. Richard Stevens, Addison Wesley, 1994, ISBN 0-201-63346-9
- "Networks and Telecommunications : Design and Operation", M. Clark, Wiley, second edition, 1997, ISBN 0 47197346 7

## Course content-related study coaching

An appointment with the lecturer can always be made.

## Evaluation methods

end-of-term evaluation

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

Written examination with open questions

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

Written examination with open questions

## Examination methods in case of permanent evaluation

## Possibilities of retake in case of permanent evaluation

not applicable

## Extra information on the examination methods

Written examination, on campus, without syllabus. The examination contains theoretical questions and exercises, about the complete content of the course.

## Calculation of the examination mark

100% written examination