Topics in computer networks

2025 - 2026

Is part of the next programmes:

- M0012004 Master of Computer Science: Software Engineering
- M0012005 Master of Computer Science: Data Science and Artificial Intelligence
- M0012006 Master of Computer Science: Computer Networks
- M0048004 Master of Computer Science: Software Engineering
- M0048005 Master of Computer Science: Data Science and Artificial Intelligence
- M0048006 Master of Computer Science: Computer Networks
- M0119000 Master of Digital Business Engineering
- M0119000 Master of Digital Business Engineering
- U0001008 Courses open to exchange students in Sciences

Course Code:	2001WETTDC
Study Domain:	Computer Science
Semester:	2E SEM

Contact Hours:	45
Credits:	6
Study Load (hours):	168
Contract Restrictions:	No contract restriction
Language of Instructions:	ENG
Lecturer(s):	T Miguel Camelo
Examperiod:	exam in the 2nd semester
EVEN	
Bi-annual course:	Thought in academic years starting in an even year

1. Prerequisites *

speaking and writing of:

- English

specific prerequisites for this course

This course requires knowledge of distributed systems and computer networks. For full-time Computer Sciences master students at the University of Antwerp this means they must have obtained a credit for the "Distributed Systems" course in the bachelor and "Computer Networks" in the bachelor.

2. Learning outcomes *

- You have thorough knowledge about the latest academic advances in the field of distributed computing. This can be very broad: ranging from security

management, consensus based protocols, virtualization, etc.

- You have gained product and algorithmic knowledge of different cloud offerings (e.g., IaaS, Storage as a Service) and how they are designed.
- You have insight in the most important research areas in distributed computing
- You are able to apply the studied concepts in a distributed systems project
- You are able to critically discuss and review now topics in distributed computing.

3. Course contents *

This course is a tour through various state of the art topics in the area of computer networks. We tackle this both from an academic perspective (focusing mainly on new and challenging research areas) and from an industrial perspective (focusing mainly on the algorithms behind state of the art products in industry). For a great part, the course will consist of guest lectures of both national and international experts, both from universities and companies. Attendance to the guest lectures is mandatory.
Because the course focuses on the latest advances in the area of computer networks the exact list of covered topics can changes year per year.

4. International dimension *

- This course stimulates international and intercultural competences.
- The lecturer invites international guest lecturers.
- Students compare the course contents in an international context.

5. Teaching method and planned learning activities

5.1 Used teaching methods *

Class contact teaching

- Lectures
- Laboratory sessions

Personal work

- **Directed self-study**

Project

- Individually

5.2 Planned learning activities and teaching methods

Each lecture will cover a research topic in computer networks. Attendance to the guest lectures is mandatory. At the end of the series of lectures (week 11), students are expected to choose a topic from the list of lectures. Each lecture is accompanied by a suggested reading list of 2-3 papers. Based on this initial reading list and a literature study carried out by the student, a critique paper should be written that surveys the recent state of the art in this topic and provides an overview of open research challenges and/or provides an algorithmc solution to one of the identified problems.

5.3 Facilities for working students *

6. Assessment method and criteria *

6.1 Used assessment methods *

Other assessment methods

- Written assignment

6.2 Assessment criteria *

Examination for this course is based on a written report with oral defence. You are expected to hand in a paper that investigates the chosen topic in more detail (see above). You will give a short presentation during the exam period, explaining your findings.

7. Study material

7.1 Required reading *

After each lecture handouts will be made available through the Blackboard system. Each lecture will be accompanied by 2-3 papers, which you are expected to read if you have selected this particular topic together with a literature study of your own.

7.2 Optional reading

8. Contact information *

For questions concerning the theory sessions, contact prof. dr. Steven Latré, e-mail: steven.latre@uantwerpen.be,

9. Tutoring