

Courses in English Course Description

Department	07 Computer Science and Mathematics
Course title	Computer Networks
Hours per week (SWS)	4
Number of ECTS credits	5
Course objective	Obtain basic knowledge of networking principles and protocols; Understanding the domain-specific terms; Ability to design and implement computer networking applications; Ability to trace and analyse network traffic and to identify typical networking problems.
Prerequisites	Software development / programming in Java (for programming assignments in exercises of the course).
Recommended reading	Mandl, P.; Bakomenko, A.; Weiß, J.: Grundkurs Datenkommunikation, Vieweg-Teubner-Verlag, 2. Auflage. Comer, Douglas, E.: Computernetzwerke und Internets, Pearson Studium (aktuelle Auflage). James F. Kurose, Keith W. Ross. Computer Networking: A Top-Down Approach. Prentice Hall International; 5th revised edition. International Version. Andrew S. Tanenbaum, Computer Networks, Prentice Hall International
Teaching methods	lecture (2 SWS) + excercises (2 SWS) Online support (Moodle), Powerpoint slides/animations Excercises: combination of theoretical questions and programming assignments
Assessment methods	Written exam (90 minutes), prerequisite: passing the exercises
Language of instruction	English
Name of lecturer	Prof. Dr. Alexandru Soceanu
Email	alexandru.soceanu@hm.edu
Link	https://w3-o.cs.hm.edu:8000/public/module/59/
Course content	Basics of computer networking, ISO/OSI and Internet layers, network topologies, typical network protocols on the application layer (e.g., HTTP, SMTP, DNS), connection-oriented and connectionless transport protocols (UDP, TCP), mechanisms for reliable data transfer, flow control and congestion control, Internet Protocol in Version 4 and 6 (IPv4, IPv6), current trends in computer networking.
Remarks	