

NETWORKS AND DISTRIBUTED SYSTEMS LAB

Advanced Topics in Networking

"Advanced Topics in Networking" is a course for **M.Sc.** students of Computer Science (and related study programs). It is held as a combination of a › lecture (<https://lsf.ovgu.de/qislsf/rds?state=verpublish&status=init&vmfile=no&publishid=178067&moduleCall=webInfo&publishConfFile=webInfo&publishSubDir=veranstaltung>) and

› exercises (<https://lsf.ovgu.de/qislsf/rds?state=verpublish&status=init&vmfile=no&publishid=178061&moduleCall=webInfo&publishConfFile=webInfo&publishSubDir=veranstaltung>).

Instructor:	Prof. Dr. David Hausheer
Assistants:	Thorben Krüger, Lars-Christian Schulz, Tony John
Hours per week:	2 + 2
Credits:	6
Lecture:	Wednesday, 09:30 - 11:00, Location: G22A-211 (Until 20.10.2021: online, Please check the › Moodle for further information)
Exercises:	Monday, 13:15 - 14:45, Location: G29-334 Friday, 09:15 - 10:45, Location: G29-334
Exam:	Written Exam (In case of few registrations, an oral exam will be held.)
Languages:	English

The course deals with advanced topics in the area of networking, a.o.:

- ▶ Overlay Networks for Content Delivery, e.g. P2P, BitTorrent, CDNs, Caching, Overlay Video Streaming
- ▶ Distributed Hash Tables (DHT), e.g. Kademlia
- ▶ Blockchains
- ▶ Cryptocurrencies and Bitcoin
- ▶ Ethereum and Smart Contracts
- ▶ Secure Network Architectures, e.g. SCION
- ▶ Congestion Control, e.g. QUIC and Multipath-QUIC

Students will get a deep insight into various advanced topics in the area of networking.

Textbooks as indicated.

Slides and paper copies as necessary.

Basic courses of the first 4 semesters are required. Knowledge of lectures Communication and Networks are recommended.

The course material will be made available using the **Moodle platform**:

› <https://elearning.ovgu.de/course/view.php?id=11400> (<https://elearning.ovgu.de/course/view.php?id=11400>)