**NETWORKS AND
DISTRIBUTED SYSTEMS LAB**

Software Defined Networking

"Software Defined Networking" is a course for **M.Sc.** students of Computer Science (and related study programs). It is held as combination of a › lecture (https://lsf.ovgu.de/qislsf/rds?
state=verpublish&status=init&vmfile=no&moduleCall=webInfo&publishConfFile=webInfo&publishSubDir=veranstaltung&veranstaltung.veranstid=115106)

and › exercises (https://lsf.ovgu.de/qislsf/rds?
state=verpublish&status=init&vmfile=no&moduleCall=webInfo&publishConfFile=webInfo&publishSubDir=veranstaltung&veranstaltung.veranstid=114436)

Instructor:	Prof. Dr. David Hausheer
Assistants:	Leon Wehmeier
Hours per week:	2 + 2
Credits:	6
Lecture:	Thursday, 11:15 - 12:45, Location: G10-111
Exercises:	Friday, 13:15 - 14:45, Location: G29-334
Exam:	In case of few registrations, an oral exam will be held.
Languages:	English/German

Course Description

The course deals with cutting edge topics in the area of software defined networking (SDN):

- SDN Architecture (Application, Control, Infrastructure Layer)
- SDN Interfaces (North/South-bound vs. East/West-bound interface)
- SDN Applications and Use Cases (e.g. Multicasting)
- Network Virtualization and Slicing (e.g. FlowVisor)
- Network Function Virtualization (NFV) and Network Service Chaining
- SDN Security
- Network Operating Systems and Languages
- OpenFlow Controller (e.g. NOX, Beacon, etc.)
- Hardware Switches (e.g. NEC IP8800, Pronto) vs. Software Switches (e.g. NetFPGA, OpenVSwitch)
- SDN in Wireless Networks (e.g. OpenWRT)

Students will get a deep insight into Software Defined Networking and its applications.

Literature

Textbooks as indicated.

Slides and paper copies as necessary.

Requirements

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

Resources

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

› https://elearning.ovgu.de/course/view.php?id=3345 (https://elearning.ovgu.de/course/view.php?id=3345)