OTTO VON GUERICKE UNIVERSITÄT MAGDEBURG

NETWORKS AND DISTRIBUTED SYSTEMS LAB

Software Defined Networking

"Software Defined Networking" is a course for **B.Sc./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=155217&moduleCall=webInfo&publishConfFile=webInfo&publishSubDir=veranstaltung) and ›exercises (https://lsf.ovgu.de/qislsf/rds?state=verpublish&status=init&vmfile=no&publishid=155213&moduleCall=webInfo&publishConfFile=webInfo&publishSubDir=veranstaltung).

Instructor:	Prof. Dr. David Hausheer
Assistants:	Agostino Moosdorf
Hours per week:	2 + 2
Credits:	6
Lecture:	Thursday, 11:15 - 12:45, Location: G02-111 Note: Due to the current situation, the lecture will be held online as Zoom-Meeting (from 23.04.2020) until further notice. Please find more information in the ›Moodle.
Exercises:	Tuesday, 09:15 - 10:45, Location: G29-334 Thursday, 09:15 - 10:45, Location: G29-334 Note: Due to the current situation, the exercises will be held online as Zoom-Meeting (from 21.04.2020) until furthe notice. Please find more information in the ›Moodle.
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=6967 (https://elearning.ovgu.de/course/view.php?id=6967)