

**Name of programme:** International Semester Information Technology / System Engineering

<b>Title of Module</b>	<b>Computer networks 2</b>
Responsible person	Prof. Dr. D. Baums (campus FB) / Prof. Dr. U. Birkel (campus GI)
Teacher	Prof. Dr. D. Baums (campus FB) / Prof. Dr. U. Birkel (campus GI)
Module Code	E2G622
Type of Module	O obligatory module (Pflichtmodul), x elective module (Wahlpflichtmodul)
Level (BA / MA)	Bachelor
Language	English
Related Degree Programme/s	Electrical and Information Technology
Department	EI / IEM
Location	x Gießen, x Friedberg
Availability/frequency of module	O every semester, O annually in the Winter Semester x annually in the Summer Semester in Friedberg and in Gießen,
Hours per Week / Workload	4 HpW, contact hours per week 150 H in total
Number of CrP/ECTS	5 ECTS/CrP
Forms of instruction	O lecture x seminar O supervised training x Laboratory Practical Course
Qualifications and Goals	Learning outcomes:  Ability to characterise, explain, apply and configure basic routing and switching principles in complex IP-based networks. Theoretical and practical skills for planning, building, troubleshooting and maintaining medium to extended company and ISP networks. Students are prepared to take the Cisco ICND2 / CCNA certification.
Short Description of Contents	IPv4 and IPv6 Routing and Switching, multi area OSPF, EIGRP, WLAN, Link aggregation, Load balancing, DHCP, NAT, Access Control List, WAN technologies, Tunneling, VPN, Security, Monitoring, SNMP, netflow, NTP.
Description of Contents (Umfang, unbeschränkt)	IPv4 and IPv6 Routing and Switching, multi area OSPF, EIGRP, WLAN, Link aggregation, Load balancing, DHCP, NAT, Access Control List, WAN technologies, Tunneling, VPN, Security, Monitoring, SNMP, netflow, NTP.
Prerequisites	Knowledge and skills according to Cisco ICND1 certification or equivalent knowledge and skills according to CCENT level, in THM taught in Computer Networks 1 module
Assessment	O oral (O examination of xx minutes, O presentation), O written (O examination of xx minutes, O term paper), other: regular attendance in Labs, regular successful participation in online tests, Theoretical online and practical final exam.
Literature/Textbooks	Slides, written documentation of experiments. Tanenbaum: Computer Networks, Data Sheets of Producers written and online course material of Cisco
Other	