

Module: Network Security

Level	Bachelor	Short Name	NetSec
Responsible Lecturers	Nils Klawitter.		
Department, Facility	Electrical Engineering and Computer Science		
Course of Studies	Information Technology, Bachelor		
Compulsory/elective	Elective	ECTS Credit Points	5
Semester of Studies	(Unspecified)	Semester Hours per Week	4
Length (semesters)	1	Workload (hours)	150
Frequency	(Flexible)	Presence Hours	60
Teaching Language	English	Self-Study Hours	90

The following section is filled only if there is **exactly one** module-concluding exam.

Exam Type	Written Exam	Exam Language	English
Exam Length (minutes)	120	Exam Grading System	One-third Grades
Learning Outcomes	Students will gain knowledge about security issues related to Computer Networks and Distributed Systems. Students can evaluate suitable measures to protect networks against attacks from the internet. Students are enabled to explain and apply protocols for encrypted communication that also ensure authenticity and data integrity.		
Participation Prerequisites	Distributed Systems, Computer Networks		

The previous section is filled only if there is **exactly one** module-concluding exam.

Consideration of Gender and Diversity Issues	<ul style="list-style-type: none"> ✓ Use of gender-neutral language (THL standard) ✓ Target group specific adjustment of didactic methods ✗ Making subject diversity visible (female researchers, cultures etc.)
Applicability	
Remarks	

Module Course: Special Topics of Electrical Engineering (Lecture)

(of Module: Network Security)

Course Type	Lecture	Form of Learning	Presence
Mandatory Attendance	no	ECTS Credit Points	3,5
Participation Limit		Semester Hours per Week	3
Group Size		Workload (hours)	105
Teaching Language	English	Presence Hours	45
Study Achievements ("Studienleistung", SL)		Self-Study Hours	60
SL Length (minutes)		SL Grading System	

The following section is filled only if there is a course-specific exam.

Exam Type		Exam Language	
Exam Length (minutes)		Exam Grading System	
Learning Outcomes			
Participation Prerequisites			

The previous section is filled only if there is a course-specific exam.

Contents	Attacks on protection of computer networks and protocols, secure communication and cryptographic protocols, security-related standards.
Literature	Stallings, W. (2003). <i>Network Security Essentials: Applications and Standards</i> , 5/E. Pearson Education. Kurose, J. F. (2005). <i>Computer networking: A top-down approach featuring the internet</i> , 2/E. Pearson Education.
Remarks	

Module Course: Special Topics of Electrical Engineering (Exercises)

(of Module: Network Security)

Course Type	Exercise	Form of Learning	Presence
Mandatory Attendance	no	ECTS Credit Points	1,5
Participation Limit		Semester Hours per Week	1
Group Size	12	Workload (hours)	45
Teaching Language	English	Presence Hours	15
Study Achievements ("Studienleistung", SL)		Self-Study Hours	30
SL Length (minutes)		SL Grading System	

The following section is filled only if there is a course-specific exam.

Exam Type		Exam Language	
Exam Length (minutes)		Exam Grading System	
Learning Outcomes			
Participation Prerequisites			

The previous section is filled only if there is a course-specific exam.

Contents	Exercises on attacks and protection of computer networks and protocols, secure communication and cryptographic protocols, security related standards.
Literature	See lecture
Remarks	