

Modulbezeichnung:	eSecurity
Studiensemester:	2 <sup>nd</sup>
Modulverantwortlicher:	Professor Dr. Joachim von zur Gathen
Dozent(in):	Professor Dr. Joachim von zur Gathen, Dr. Michael Nüsken
Sprache:	English
Zuordnung zum Curriculum:	Media Informatics
Lehrform/SWS: ( <i>und Gruppengrößen</i> )	V4Ü2 or V3Ü2
Arbeitsaufwand:	240h or 180h
Kreditpunkte:	8 or 6
Voraussetzungen nach Prüfungsordnung:	
Empfohlene Voraussetzungen:	Cryptography
Angestrebte Lernergebnisse:	<p><u>Knowledge:</u> On successful completion of this module, students should be able to</p> <ul style="list-style-type: none"> <li>• define main properties of secure sessions and modern session establishment protocols like IPsec, TLS and SSH,</li> <li>• describe important attacks and countermeasures,</li> <li>• state main features of a further internet application (chosen by the teacher), as for example in ecash, epassports, ehealth, or ecommerce,</li> <li>• apply security notions.</li> </ul> <p><u>Skills:</u> Course and tutorial include oral presentation (in tutorial groups), written presentation (of exercise solutions), team collaboration in solving homework problems, critical assessment. Thus on completion of this module, students should be able to</p> <ul style="list-style-type: none"> <li>• use the standard terms,</li> <li>• apply the appropriate techniques.</li> <li>• They should have acquired soft skills like the ability to communicate problems, techniques and results, creativity, reliability, team collaboration, time management.</li> </ul> <p><u>Competences:</u> Based on the knowledge and skills acquired they should be able to</p> <ul style="list-style-type: none"> <li>• discuss up-to-date cryptographic applications or techniques,</li> <li>• to identify and fix problems in cryptographical applications,</li> <li>• and to propose and examine new solutions for security applications.</li> </ul>
Inhalt:	First focus: security on the internet and secure protocols. Furthermore: at least one real world application, for example - electronic health cards, - electronic elections, or - electronic passports.
Studien-/Prüfungsleistungen:	Written exam (oral exam in exceptional cases)
Medienformen:	None
Literatur:	Varying according to the selected topic