Elective Course: IT-security

Title	Elective Course: IT-security
Semester	E2022
Master programme in	Datalogi / Informatik / Mathematical Computer Modelling / Computer Science / Digital Transformation
Type of activity	Course
Teaching language	English
Study regulation	Read about the Master Programme and find the Study Regulations at ruc.dk

REGISTRATION AND STUDY ADMINISTRATIVE

Registration	Sign up for study activities at STADS Online Student Service within the announced registration period, as you can see on the Study administration homepage. When signing up for study activities, please be aware of potential conflicts between study activities or exam dates. The planning of activities at Roskilde University is based on the recommended study programs which do not overlap. However, if you choose optional courses and/or study plans that goes beyond the recommended study programs, an overlap of lectures or exam dates may occur depending on which courses you choose.
Number of participants	
ECTS	5
Responsible for the activity	Niels Jørgensen (nielsj@ruc.dk)
Head of study	Henrik Bulskov (bulskov@ruc.dk)
Teachers	
Study administration	IMT Studyadministration (imt-studyadministration@ruc.dk)
Exam code(s)	U60465

ACADEMIC CONTENT

Overall objective	With an elective course, the student has the opportunity to specialize in a specific subject area where the student acquires knowledge, skills and competences in order to translate theories, methods and solutions ideas into their own practice in relation to software development. Examples of elective courses: Robotics, AI, internet technologies, programming language, parallel calculation, mobile computers, etc.

Detailed description of content	Cases include the NotPetya attack, the Heart Bleed attack, attacks on the privacy of health care data in Denmark and many others. Cases are selected to support the students' understanding of: ● security and privacy goals, including confidentiality, integrity and privacy ● security and privacy attacks, including denial of service attacks, viruses, worms and social engineering ● technical means to attain the goals, including encryption and digital signatures ● organizational means to attain the goals, including implementation in a company of standards (for example GDPR and ISO 27000) ● using a high level of security and privacy of a company to attain a competitive advantage
Course material and Reading list	Stallings & Brown. Computer Security. Principles and Practice. 4/e. Global Edition. Pearson, 2018. Pleate note the year and edition.
Overall plan and expected work effort	The course will have a total workload of 135 hours with 40 hours of lectures and exercises, 70 hours of preparation over an 11 week course period and 25 hours for the exam and preparation before the course.
Format	
Evaluation and feedback	There will be feedback on exercises that students are asked to do during the course. An evaluation will take place at the end of the course.
Programme	

ASSESSMENT

Overall learning outcomes	After completing this course, students will be able to: ● know and understand a specific subject area in computer science. ● demonstrate knowledge and understanding of the area's techniques for designing and constructing software systems that meet specific requirements. ● show knowledge and understanding of the general principles behind the subject area's theory, methods, and technological solutions. ● work on computer science related issues, both independently and in teams, and proficient in new approaches to the subject area in a critical and systematic way and thereby independently take responsibility for one's own professional development.
Form of examination	Individual oral exam without time for preparation Time allowed for exam including time used for assessment: 20 minutes. Permitted support and preparation materials: All. Assessment: 7-point grading scale. Moderation: Internal co-assessor.

Form of Re-examination	Samme som ordinær eksamen / same form as ordinary exam
Type of examination in special cases	
Examination and assessment criteria	• Knowledge and understanding of a specific subject area in computer science • Knowledge and understanding of the area's techniques for designing and constructing software systems that meet specific requirements • Knowledge and understanding of the general principles behind the subject area's theory, methods and technological solutions. • Skills in electing and applying appropriate methods and techniques from the subject area in order to analyse, design and construct reliable and user-friendly software systems • Competences in being able to work on computer science-related issues, both independently and in teams • Competences in being able to become proficient in new approaches to the subject area in a critical and systematic way and thereby independently take responsibility for one's own professional development.
Exam code(s)	Exam code(s) : U60465

Course days:

Hold: 1

IT-security (COMP)

time	13-09-2022 08:15 til 13-09-2022 12:00
location	10.1-025 - teorirum (32)
Teacher	Niels Jørgensen (nielsj@ruc.dk)

IT-security (COMP)

time	20-09-2022 08:15 til 20-09-2022 12:00
location	10.1-025 - teorirum (32)
Teacher	Niels Jørgensen (nielsj@ruc.dk)

IT-security (COMP)

time	27-09-2022 08:15 til 27-09-2022 12:00
location	10.1-025 - teorirum (32)
Teacher	Niels Jørgensen (nielsj@ruc.dk)

IT-security (COMP)

time	04-10-2022 08:15 til 04-10-2022 12:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	07.2-033 - undervisningslokale (30)
Teacher	Niels Jørgensen (nielsj@ruc.dk)

IT-security (COMP)

time	11-10-2022 08:15 til 11-10-2022 12:00
location	10.1-025 - teorirum (32)
Teacher	Niels Jørgensen (nielsj@ruc.dk)

IT-security (COMP)

time	18-10-2022 08:15 til 18-10-2022 12:00
location	10.1-025 - teorirum (32)
Teacher	Niels Jørgensen (nielsj@ruc.dk)

IT-security (COMP)

time	25-10-2022 08:15 til 25-10-2022 12:00
location	10.1-025 - teorirum (32)
Teacher	Niels Jørgensen (nielsj@ruc.dk)

IT-security (COMP)

time	01-11-2022 08:15 til 01-11-2022 12:00
location	10.1-025 - teorirum (32)
Teacher	Niels Jørgensen (nielsj@ruc.dk)

IT-security (COMP)

time	08-11-2022 08:15 til 08-11-2022 12:00
location	10.1-025 - teorirum (32)
Teacher	Niels Jørgensen (nielsj@ruc.dk)

IT-security (COMP)

time	15-11-2022 08:15 til 15-11-2022 12:00
location	10.1-025 - teorirum (32)
Teacher	Niels Jørgensen (nielsj@ruc.dk)

IT-security - Oral examination (COMP)

time	25-01-2023 08:15 til 26-01-2023 18:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	10.1-025 - teorirum (32)

IT-security - Oral reexamination (COMP)

time	22-02-2023 08:15 til 22-02-2023 18:00
forberedelsesnorm	ikke valgt
forberedelsesnorm D-VIP	ikke valgt
location	09.2-063 - grupperum (12)