Supplementary Module of School of Engineering

Title: Ethical Hacking

Shortcut: EVA_CTF

Number of credits	3 ECTS
Organizer	InIT Institute of Computer Science
Performance record	• Participation in at least 6 online Capture the Flag (CTF) Challenges during the semester. • Participation in one on-site CTF. • Submission of write-ups detailing the challenges solved and methodologies used. • Oral presentation of the solutions of one challenge in front of the other students.
Start date	Start of semester
Implementation mode	• Regular meetings for knowledge transfer between the students • Individual participation in CTF Challenges (online and on-site in Switzerland. The train ticket must be paid by the student.)
Language	English/German
Abstract (max. 300 Chars)	This course offers you the opportunity to enhance your cybersecurity skills by participating in Capture the Flag (CTF) competitions as a solo player or with a team. CTFs are cybersecurity challenges designed to test and develop practical skills in areas such as cryptography, reverse engineering, web security, forensics, and binary exploitation.
Module content and learning objectives	Learning objectives: By completing this course, you will: • Develop hands-on expertise in cybersecurity techniques. • Gain experience in ethical hacking, vulnerability exploitation, and digital forensics. • Improve your problem-solving and teamwork skills in real-world cybersecurity scenarios. • Enhance your ability to analyze and secure software, hardware, networks, and web applications. Module Content: Participation in Capture the Flag Challenges to get a practical understanding of • cryptography, • reverse engineering, • web security,

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	• forensics, • binary exploitation.
Preconditions	The module is intended for students of the Information and Cybersecurity Profile and therefore basic cyber security and software development knowledge is required. Interested students from the computer science, data science or electrical engineering profile are also welcome.
Literature	-
Specific regulations	-
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