Syllabus

Kursbeschreibung

Titel der Lehrveranstaltung	Cybersecurity
Code der Lehrveranstaltung	46093
Zusätzlicher Titel der Lehrveranstaltung	
Wissenschaftlich-disziplinärer Bereich	INFO-01/A
Sprache	Englisch
Studiengang	Doktoratsstudium in Advanced-Systems Engineering
Andere Studiengänge (gem. Lehrveranstaltung)	
Dozenten/Dozentinnen	Prof. Barbara Russo, Barbara.Russo@unibz.it https://www.unibz.it/en/faculties/engineering/academic-staff/person/2242 Dott. Diaeddin M A Rimawi, Diaeddin.Rimawi@unibz.it https://www.unibz.it/en/faculties/engineering/academic-staff/person/46519
Wissensch. Mitarbeiter/Mitarbeiterin	
Semester	Erstes Semester
Studienjahr/e	1
KP	3
Vorlesungsstunden	30
Laboratoriumsstunden	0
Stunden für individuelles Studium	15
Vorgesehene Sprechzeiten	9
Inhaltsangabe	The course introduces fundamental cybersecurity concepts and red-team methodologies, enabling doctoral candidates to identify vulnerabilities and simulate representative attacks in controlled

	settings. Through hands-on laboratory activities, students gain practical experience in red-team exercises and learn to apply security analysis to advanced systems and their research projects. As cybersecurity is a cross-cutting concern across the ASE programme's areas of specialisation, the course supports interdisciplinary research and knowledge transfer.
Themen der Lehrveranstaltung	The course introduces the fundamental concepts of cybersecurity and the methods and tools used to perform red-team activities. Students will learn how to identify attack surfaces, discover vulnerabilities, simulate representative attacks. The laboratory will enable the students to practice on red-teams activities.
Stichwörter	cybersecurity, attacks, red-team
Empfohlene Voraussetzungen	
Propädeutische Lehrveranstaltungen	
Unterrichtsform	In person lecture and laboratory activities
Anwesenheitspflicht	75% of lectures and 75% of labs
Spezifische Bildungsziele und erwartete Lernergebnisse	The course provides doctoral candidates with the tools to integrate security requirements into the design and evaluation of advanced systems and their research projects. Since cybersecurity is a cross-cutting concern across the ASE programme's different areas of specialisation, the course promotes an interdisciplinary approach, in line with unibz's strategy to strengthen research quality and knowledge transfer to the local community.
Spezifisches Bildungsziel und erwartete Lernergebnisse (zusätzliche Informationen)	
Art der Prüfung	Paper presentation and lab assignment
Bewertungskriterien	per presentation 50% lab assignment 50%
Pflichtliteratur	slides, manuals and papers provided by the teacher and the lab instructor
Weiterführende Literatur	
Weitere Informationen	

Ziele für nachhaltige Entwicklung (SDGs)	Hochwertige Bildung