Syllabus

Descrizione corso

Titolo insegnamento	Cybersecurity
Codice insegnamento	46093
Titolo aggiuntivo	
Settore Scientifico-Disciplinare	INFO-01/A
Lingua	Inglese
Corso di Studio	Corso di Dottorato di ricerca in Advanced-Systems Engineering
Altri Corsi di Studio (mutuati)	
Docenti	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
Assistente	
Semestre	Primo semestre
Anno/i di corso	1
CFU	3
Ore didattica frontale	30
Ore di laboratorio	0
Ore di studio individuale	15
Ore di ricevimento previste	9
Sintesi contenuti	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.
Argomenti dell'insegnamento	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.
Parole chiave	cybersecurity, attacks, red-team
Prerequisiti	
Insegnamenti propedeutici	
Modalità di insegnamento	In person lecture and laboratory activities
Obbligo di frequenza	75% of lectures and 75% of labs
Obiettivi formativi specifici e risultati di apprendimento attesi	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.
Obiettivi formativi specifici e risultati di apprendimento attesi (ulteriori info.)	
Modalità di esame	Paper presentation and lab assignment
Criteri di valutazione	per presentation 50% lab assignment 50%
Bibliografia obbligatoria	slides, manuals and papers provided by the teacher and the lab instructor
Bibliografia facoltativa	
Altre informazioni	
Obiettivi di Sviluppo Sostenibile (SDGs)	Istruzione di qualità