Fakultät für Informatik
Facoltà di Scienze e Tecnologie informatiche
Faculty of Computer Science

SYLLABUS
COURSE DESCRIPTION

COURSE TITLE	Information Security
COURSE CODE	75041
SCIENTIFIC SECTOR	ING-INF/05
DEGREE	Bachelor in Computer Science and Engineering
SEMESTER	2nd semester
YEAR	3rd year
CREDITS	8

TOTAL LECTURING HOURS	48
TOTAL LAB HOURS	24
PREREQUISITES	Students should have a solid mathematical foundation and be familiar with basic programming concepts, data structures and algorithms. These prerequisites are covered in any Bachelor degree in Computer Science.
COURSE PAGE	https://ole.unibz.it/

SPECIFIC EDUCATIONAL OBJECTIVES	• Type of course: "caratterizzante" for L-31 and L-8 • Scientific area: "discipline informatiche" for L-31 and "fingegneria informatica" for L-8 The main aim of this exam is to provide an introduction to the field of information security. The students learn about the technical as well as the management side of security in information systems. They acquire knowledge about fundamental principles of security and also about practical approaches to securing information systems.

LECTURER	Sven Helmer, http://www.inf.unibz.it/~shelmer/
SCIENTIFIC SECTOR OF THE LECTURER	ING-INF/05
TEACHING LANGUAGE	English
OFFICE HOURS	POS 2.16, shelmer@inf.unibz.it, 0471 016190
TEACHING ASSISTANT	Paolo Bolzoni
OFFICE HOURS	Tuesday, 14:30, POS 2.11, Faculty of Computer Science, Piazza Domenicani 3
LIST OF TOPICS COVERED	• Basic definitions (CIA, threat, attack, vulnerability, control) • Risk assessment • Basic of Cryptography

	- Cryptographic Protocols - Network Attack and Defense - Usability - Social Engineering - Security Policies
TEACHING FORMAT	Frontal classroom lecture plus lab sessions

LEARNING OUTCOMES	**Knowledge and understanding:** - know critical security aspects of information systems, the basic concepts of security and techniques for the development of secure systems; **Applying knowledge and understanding:** - be able to evaluate the quality of information systems and to identify critical aspects - be able to apply the own knowledge in different working contexts; **Making judgments** - Must have the ability to independently select the documentation required to keep abreast of the frequent technological innovations in the field by using a wide variety of documentary sources: books, web, magazines. **Communication skills** - Must be able to coordinate the work of a project team and to interact positively with members of the group. **Learning skills** - Must also be able to independently keep up to date with developments in the most important areas of Computer Science

ASSESSMENT	- Project work to test knowledge application skills and communication skills, done in small groups who present their work orally - Written exam with verification questions and questions to test knowledge application skills
ASSESSMENT LANGUAGE	English
EVALUATION CRITERIA AND CRITERIA FOR AWARDING MARKS	20% project work 80% written examples relevant for assessment 1: ability to work in teams, skill in applying knowledge in a practical setting, ability to summarize in own words relevant for assessment 2: clarity of answers, ability to recall principles and methods used in system security, skill in applying knowledge such as testing the security of systems

REQUIRED READINGS	Anderson: Security Engineering, John Wiley & Sons, 2008 also available online:

	http://www.cl.cam.ac.uk/~rja14/book.html
SUPPLEMENTARY READINGS	Schneier: Applied Cryptography, John Wiley & Sons, 2015
SOFTWARE USED	