

## COURSE DESCRIPTION – ACADEMIC YEAR 2020/2021

<b>Course title</b>	<b>Management of System Security and Networks</b>
<b>Course code</b>	76412
<b>Scientific sector</b>	INF/01
<b>Degree</b>	Bachelor in Informatics and Management of Digital Business (L-31)
<b>Semester</b>	2
<b>Year</b>	1
<b>Credits</b>	6
<b>Modular</b>	No

<b>Total lecturing hours</b>	40
<b>Total lab hours</b>	20
<b>Attendance</b>	Attendance is not compulsory but recommended. Non-attending students have to contact the lecturer at the start of the course to agree on the modalities of the independent study. Exam modalities for non-attending students are the same as for attending students.
<b>Prerequisites</b>	Students should be familiar with basic programming concepts, data structures and algorithms. These prerequisites are covered in any Bachelor degree in Informatics and Management of Digital Business.
<b>Course page</b>	<a href="https://ole.unibz.it/">https://ole.unibz.it/</a>

<b>Specific educational objectives</b>	The course belongs to the type "caratterizzante - informatica". 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.
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<b>Lecturer</b>	Fabrizio Maria Maggi
<b>Contact</b>	<a href="mailto:maggi@inf.unibz.it">maggi@inf.unibz.it</a>
<b>Scientific sector of lecturer</b>	ING-INF/05
<b>Teaching language</b>	Italian
<b>Office hours</b>	previous appointment by email <a href="mailto:maggi@inf.unibz.it">maggi@inf.unibz.it</a> , Office POS 3.08, 3rd floor, Faculty of Computer Science, piazza Domenicani 3
<b>Lecturing assistant (if any)</b>	--
<b>Contact LA</b>	--
<b>Office hours LA</b>	--
<b>List of topics</b>	<ul style="list-style-type: none"> <li>• Basic definitions: CIA, threat, attack, vulnerability, access control</li> <li>• Risk assessment</li> <li>• Basics of computational cryptography</li> <li>• Network attack and defense</li> <li>• Usability</li> <li>• Security policies</li> </ul>
<b>Teaching format</b>	Frontal classroom lecture and lab sessions

<b>Learning outcomes</b>	Knowledge and understanding: <ul style="list-style-type: none"> <li>• D1.7 - Know the main concepts of computer networks and security in distributed systems.</li> </ul>
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	<p>Applying knowledge and understanding:</p> <ul style="list-style-type: none"> <li>• D2.3 - Ability to analyse business problems and to develop proposals for solutions with the help of IT tools.</li> <li>• D2.4 - Ability to formalise and to analyse procedures and operational processes, to recognise and use optimisation potentials.</li> <li>• D2.10 - IT infrastructure and project management capabilities.</li> </ul> <p>Making judgments</p> <ul style="list-style-type: none"> <li>• D3.2 - Be able to work independently according to your level of knowledge and understanding, also taking responsibility for development projects or IT consulting.</li> </ul> <p>Learning skills</p> <ul style="list-style-type: none"> <li>• D5.3 - Ability to follow rapid technological developments and to learn about innovative aspects of the latest generation of information technology and systems.</li> </ul>
<b>Assessment</b>	<ul style="list-style-type: none"> <li>• Project work to test knowledge application skills and communication skills</li> <li>• Oral exam with verification questions and questions to test knowledge application skills</li> </ul>
<b>Assessment language</b>	Italian
<b>Assessment Typology</b>	Monocratic
<b>Evaluation criteria and criteria for awarding marks</b>	<p>Assessment 1: project work (30%)          Assessment 2: oral exam (70%)</p> <p>Relevant for assessment 1: ability to work in teams, skill in applying knowledge in a practical setting, ability to summarize in your own words.</p> <p>Relevant for assessment 2: clarity of answers, ability to recall principles and methods used in system security, skill in applying knowledge about information security.</p>
<b>Required readings</b>	<p>CompTIA Security+ Guide to Network Security Fundamentals 6th Edition, Mark Ciampa ISBN 978-1337288781</p> <p>Material provided in the form of slides and scientific papers provided by the teacher.</p>
<b>Supplementary readings</b>	Principles of information security 6th edition, Michael E. Whitman, Herbert J. Mattord, ISBN 978-1337102063
<b>Software used</b>	Provided by teacher and tutor during lectures/lab sessions