

## SYLLABUS COURSE DESCRIPTION

<b>COURSE TITLE</b>	<b>Maker Lab</b>
<b>COURSE CODE</b>	76205
<b>SCIENTIFIC SECTOR</b>	ING-INF/05
<b>DEGREE</b>	Bachelor in Computer Science
<b>SEMESTER</b>	2nd
<b>YEAR</b>	1st
<b>CREDITS</b>	3
<b>TOTAL LECTURING HOURS</b>	20
<b>TOTAL LAB HOURS</b>	40
<b>PREREQUISITES</b>	none
<b>COURSE PAGE</b>	<a href="http://www.inf.unibz.it/~gennari/makerlab">http://www.inf.unibz.it/~gennari/makerlab</a> (may change)
<b>SPECIFIC EDUCATIONAL OBJECTIVES</b>	<ul style="list-style-type: none"> <li>• Type of course: "caratterizzanti" for L-31</li> <li>• Scientific area: "Discipline informatiche" for L-31</li> </ul> <p>The course is designed for acquiring professional skills and knowledge. The course gives general practical knowledge and skills necessary for designing interactive IoT solutions. The course is organised into 2 main blocks:</p> <ul style="list-style-type: none"> <li>- (20 hours) Principles and patterns for the design of interactive IoT solutions</li> <li>- (40 hours) Projects for realising IoT prototypes of different complexity</li> </ul>
<b>LECTURER</b>	Alessandra Melonio <a href="http://www.inf.unibz.it/~melonio">www.inf.unibz.it/~melonio</a> Rosella Gennari <a href="http://www.inf.unibz.it/~gennari">www.inf.unibz.it/~gennari</a>
<b>SCIENTIFIC SECTOR OF THE LECTURER</b>	INF/01
<b>TEACHING LANGUAGE</b>	English
<b>OFFICE HOURS</b>	By prior appointment via mail (mandatory).
<b>TEACHING ASSISTANT</b>	None
<b>OFFICE HOURS</b>	

<b>LIST OF TOPICS COVERED</b>	<ul style="list-style-type: none"> <li>○ Introduction to the basics of Interaction Design</li> <li>○ Principles of electronics and programming for the IoT</li> <li>○ Introduction to Python and high-level programming languages for IoT</li> <li>○ Plan, design and prototype IoT artifacts</li> <li>○ Use of available machines for the constructions of IoT artifacts</li> </ul>
<b>TEACHING FORMAT</b>	Laboratory
<b>LEARNING OUTCOMES</b>	<p><b>Knowledge and understanding:</b></p> <ul style="list-style-type: none"> <li>• Know the main methods for the design of interactive IoT products.</li> </ul> <p><b>Applying knowledge and understanding:</b></p> <ul style="list-style-type: none"> <li>• Be able to apply interactive design principles and patters.</li> <li>• Be able to develop IoT solutions.</li> </ul> <p><b>Making judgments</b></p> <ul style="list-style-type: none"> <li>• Be able to plan and re-plan a technical project activity aimed at building an interactive IoT solution and to bring it to completion by meeting the defined deadlines and objectives.</li> </ul> <p><b>Communication skills</b></p> <ul style="list-style-type: none"> <li>• Be able to coordinate the work of a project team and to interact positively with members of the group.</li> <li>• Be able to interact and collaborate with peers and experts in the realization of a project or research.</li> </ul> <p><b>Learning skills</b></p> <ul style="list-style-type: none"> <li>• Be able to autonomously extend the knowledge acquired during the study course by reading and understanding scientific and technical documentation in Italian, German and English.</li> <li>• Be able, in the context of a problem-solving activity, to extend even incomplete knowledge taking into account the objective of the project.</li> </ul>
<b>ASSESSMENT</b>	<ul style="list-style-type: none"> <li>• Projects</li> <li>• Final exam: oral exam with verification questions concerning projects</li> </ul>
<b>ASSESSMENT LANGUAGE</b>	English
<b>EVALUATION CRITERIA AND CRITERIA FOR AWARDING MARKS</b>	<p>The final oral exam has a presentation with questions. It counts for 50% of the mark.</p> <p>During labs, students work on small-size projects. They are evaluated and count for 50% of the mark.</p>
<b>REQUIRED READINGS</b>	Slide and web-based material.
<b>SUPPLEMENTARY READINGS</b>	-
<b>SOFTWARE USED</b>	-