

## COURSE DESCRIPTION – ACADEMIC YEAR 2020/2021

<b>Course title</b>	<b>Application Engineering for Business Informatics</b>
<b>Course code</b>	76405
<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 non-attending students have to contact the lecturer at the start of the course to agree on the modalities of the independent study. The exam modalities for non-attending students are indicated below, in the fields "Assessment" and "Evaluation criteria and criteria for awarding marks".
<b>Prerequisites</b>	Students should be familiar with computer programming, as taught in the course "Computer Programming".
<b>Course page</b>	<a href="https://ole.unibz.it/">https://ole.unibz.it/</a>

<b>Specific educational objectives</b>	<p>The course belongs to the type "attività formative caratterizzanti – discipline informatiche".</p> <p>The course is designed to give specific professional skills. In particular, students will acquire knowledge in developing business software, i.e., software that meets the needs of a specific business, and therefore is not easily transferable to a different business environment, unless its nature and operation is identical. Therefore, application engineering will be presented in the context of developing business software, i.e., requirements engineering, a software architecture aligned with the enterprise architecture, and the achievement of specific business, technical, and qualitative requirements will be presented and discussed.</p>
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<b>Lecturer</b>	<a href="#">Andrea Janes</a>
<b>Contact</b>	Office POS 1.16, <a href="mailto:andrea.janes@unibz.it">andrea.janes@unibz.it</a> , +39 0471 016132
<b>Scientific sector of lecturer</b>	INF/01
<b>Teaching language</b>	German
<b>Office hours</b>	By appointment, office POS 1.16
<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>• Software Processes</li> <li>• Agile Project Management</li> <li>• Software Requirements and Architecture</li> <li>• Data and Software Modelling</li> <li>• Application Construction and Implementation</li> <li>• Testing and Quality Management</li> </ul>

<b>Teaching format</b>	Frontal lectures, lab exercises, and individual projects
<b>Learning outcomes</b>	<p>Knowledge and understanding:</p> <ul style="list-style-type: none"> <li>• D1.3 - Know the basic principles of programming.</li> <li>• D1.5 - Know the main foundations of relational database systems and methods of designing, developing and optimising such systems.</li> </ul> <p>Applying knowledge and understanding:</p> <ul style="list-style-type: none"> <li>• D2.2 - Ability to solve algorithmic problems using programming methods.</li> <li>• D2.3 - Ability to analyse business problems and to develop proposals for solutions with the help of IT tools.</li> <li>• D2.6 - Ability to design, describe and present IT solutions to policy makers.</li> <li>• D2.17 - Know how to manage small projects for the development of information systems and how coordinate small working groups.</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>Communication skills</p> <ul style="list-style-type: none"> <li>• D4.4 - Ability to structure and prepare technical documentation</li> <li>• D4.5 - Ability to collaborate in interdisciplinary teams to achieve IT objectives.</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>	<p>The assessment is based on the lab assessment and the final exam. The lab assessment is composed of weekly assignments and a project. The weekly assignments are optional and motivate the students to study throughout the semester. The project is mandatory and evaluates the students' abilities to integrate the learned techniques into a stand-alone software project. The final exam evaluates the students' understanding of the theoretical backgrounds and solving smaller, individual programming tasks.</p> <p>Both, attending and non-attending students will be assessed through the project and the final exam. Also, both, attending and non-attending students can download the optional weekly assignments from the course web page.</p>
<b>Assessment language</b>	German
<b>Assessment Typology</b>	Monocratic
<b>Evaluation criteria and criteria for awarding marks</b>	For both, attending and non-attending students, the assessment is based on (i) the lab assessment (up to 30 points) and (ii) the final exam (up to 30 points). The lab assessment consists of (i.i) weekly assignments (optional, up to 10 points) and (i.ii) a project (up to 20

	<p>points). The final mark is the average between the lab assessment score and the final exam score. The lab assessment is a sum of the scores from the weekly assignments and the project score. The weekly assignments scores can be obtained only during the lectures period. The project must be submitted before each written exam (deadlines to be defined depending on the exam dates).</p> <p>There is a mid-term exam. It is optional. The mid-term exam accounts for the first part (50%) of the final exam. The grade of the mid-term exam is valid for all three regular exam sessions.</p> <p>Relevant for assessment of the weekly assignments is the solution of the given task and the ability to explain the adopted strategy to reach the solution. Relevant for the assessment of the project is ability to work in a team, creativity, skills in critical thinking and the ability to explain the reasons for the taken decisions. Relevant for the assessment of the final exam: clarity of answers, mastery of language, ability to summarize, evaluate, and establish relationships between topics.</p>
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<b>Required readings</b>	Lecture notes will be handed out during the course.
<b>Supplementary readings</b>	Ian Sommerville, Software Engineering, Global Edition, 10th edition, Pearson Higher Ed, 2016
<b>Software used</b>	An IDE and language of choice of the student, Git