Fakultät für Ingenieurwesen
Facoltà di Ingegneria
Faculty of Engineering

COURSE DESCRIPTION – ACADEMIC YEAR 2023/2024

Course title	**Application Engineering for Business Informatics**
Course code	76405
Scientific sector	INF/01
Degree	Bachelor in Informatics and Management of Digital Business (L-31)
Semester	2
Year	1
Credits	6
Modular	No

Total lecturing hours	40
Total lab hours	20
Attendance	Attendance to labs and lectures is not compulsory, but non-attending students must contact the lecturer at the start of the course to agree on the modalities of the independent study.
Prerequisites	
Course page	https://ole.unibz.it/

Specific educational objectives	The course belongs to the type "attività formative caratterizzanti – discipline informatiche". The purpose of this course is to qualify the student to understand the process of developing large-scale IT systems. The student will acquire knowledge about key system development methodologies and processes. The student will learn about concepts, techniques and technologies employed in distributed systems such as scalability, communication styles, architectural patterns, etc.

Lecturer	Andrea Corradini
Contact	Office POS 1.04, first floor, Faculty of Computer Science, Piazza Domenicani 3.
Scientific sector of lecturer	--
Teaching language	German
Office hours	Thursday, from 18:00 to 19:00 (must be arranged beforehand by email)
Lecturing Assistant (if any)	Christian Hasenjäger
Contact LA	Kristian.Hasenjaeger@unibz.it
Office hours LA	--
List of topics	• Software development processes • Requirements Engineering • Software Architectures and Design Patterns • Source Code Management • Software testing
Teaching format	This course is carried out as a mix of frontal lectures, exercises, students' presentations, and students' projects.

Learning outcomes	Knowledge and understanding:

	• D1.3 - Know the basic principles of programming. • D1.5 - Know the main foundations of relational database systems and methods of designing, developing and optimising such systems. Applying knowledge and understanding: • D2.2 - Ability to solve algorithmic problems using programming methods. • D2.3 - Ability to analyse business problems and to develop proposals for solutions with the help of IT tools. • D2.6 - Ability to design, describe and present IT solutions to policy makers. • D2.17 - Know how to manage small projects for the development of information systems and how coordinate small working groups. Making judgments • D3.2 - Be able to work independently according to your level of knowledge and understanding, also taking responsibility for development projects or IT consulting. Communication skills • D4.4 - Ability to structure and prepare technical documentation • D4.5 - Ability to collaborate in interdisciplinary teams to achieve IT objectives. Learning skills • D5.3 - Ability to follow rapid technological developments and to learn about innovative aspects of the latest generation of information technology and systems.

Assessment	Type of assessment: written exam with project work. The exam is the same for both attending and non-attending students. The written exam is individual and consists of a series of verification questions over a 2-hour exam at the University. The project work requires the submission of a report on a specific project that will be assigned in class at least one month before the written exam. The project work/report can/should be done in groups of 4-5 members.
Assessment language	German
Assessment Typology	Monocratic
Evaluation criteria and criteria for awarding marks	The grade will be determined by the grades each student receives on homework assignments, on the final individual written exam, and on the final project report. These criteria are the same for both attending and non-attending students. The particulars of this policy are as follows: • There are two homework assignments for grade, which together are worth 20% of the final grade.

	• The written individual final exam has a weight of 50% on the final grade. • The project report contributes to 30% of the final grade.

Required readings	Suggested readings: • Brooks, Frederick P. Jr., The Mythical Man-Month. Addison-Wesley, 1975 • Abbott, M. L., & Fisher, M.T., Art of Scalability, The: Scalable Web Architecture, Processes, and Organizations for the Modern Enterprise, 2nd Edition, Addison-Wesley Professional, 2015 • Richards, M., Software Architecture Patterns. O'Reilly, 2015 Subject Librarian: David Gebhardi, David.Gebhardi@unibz.it
Supplementary readings	--
Software used	--