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

COURSE DESCRIPTION – ACADEMIC YEAR 2018/2019

Course title	**Enterprise Architectures**
Course code	73013
Scientific sector	INF/01
Degree	Master in Computational Data Science (LM-18)
Semester	1
Year	1
Credits	6
Modular	No

Total lecturing hours	40
Total lab hours	20
Attendance	Mandatory
Prerequisites	--
Course page	https://ole.unibz.it/

Specific educational objectives	The course belongs to the type "caratterizzanti – discipline informatiche" in the curriculum "Data Management".
	This course is designed for acquiring contemporary professional skills and knowledge.
	After successful completion the student should have a well-founded, basic understanding of what is involved to successfully model and analyze complex aspects of organization that provide a context for the structuring and interpretation of Enterprise Data. The course will not teach mastery of specific tools, but educate on best practices and processes.
	The course will be taught from a perspective that is strongly based on modeling. For that, the students will learn to produce, read and reason with architecture models ranging from Strategy Models (Business Models and Goal Models), passing by Service and Business Process Models, as well as models of IT services and infrastructures that support the business layer.

Lecturer	Giancarlo Guizzardi
Contact	Office 3.06, gguizzardi@unibz.it, 3662896895
Scientific sector of lecturer	
Teaching language	English
Office hours	To be arranged beforehand by email.
Lecturing Assistant (if any)	--
Contact LA	--
Office hours LA	--
List of topics	• Business strategy and goal modelling • Enterprise ontologies • Relating data modelling and process modelling in organizational contexts • Service modelling, management and governance • Problem-solving with enterprise models

	• Modelling of business applications and computational infrastructure to support business operations
Teaching format	Frontal lectures, modeling exercises, projects in groups.

Learning outcomes	Knowledge and understanding: • D1.1 - Knowledge of the key concepts and technologies of data science disciplines • D1.5 - Knowledge of principles and models for the representation, management and processing of complex and heterogeneous data • D1.10 - Knowledge of languages, methodologies and architectures for modelling data, processes and organisations Applying knowledge and understanding: • D2.1 - Practical application and evaluation of tools and techniques in the field of data science • D2.10 - Application of languages, tools, and methods for the design of information systems and their corresponding software applications for data, process, and organization management Making judgments • D3.2 - Ability to autonomously select the documentation (in the form of books, web, magazines, etc.) needed to keep up to date in a given sector Communication skills • D4.1 - Ability to use English at an advanced level with particular reference to disciplinary terminology • D4.3 - Ability to structure and draft scientific and technical documentation Learning skills • D5.1 - Ability to autonomously extend the knowledge acquired during the study course • D5.3 - Ability to deal with problems in a systematic and creative way and to appropriate problem solving techniques

Assessment	The assessment of the course consists of two parts: • A project assignment: for the project assignment, a written project report including the produced models must be handed in on the pre-announced date and time. • An oral exam with verification and comprehension questions.
Assessment language	English
Assessment Typology	Monocratic
Evaluation criteria and criteria for awarding marks	70% collective project assignment, 30% individual oral exam; ALL parts must be positive! Oral exam: creativity, skills in critical thinking; ability to summarize in own words and concisely present (intermediate and final) results; clarity of answers, mastery of language, ability to clearly explain, summarize, evaluate, and establish relationships between topics;

	demonstrate a deep understanding of the subjects covered during the course and be able to describe them precisely and clearly. Relevant for collective project assignment: ability to work in a team, creativity, introduce oneself into new topics and research literature on your own to create a deep understanding; demonstrate a deep understanding of the subjects covered during the course and be able to describe them precisely and clearly. The overall, final mark is computed as the average of the marks obtained in the two modules.

Required readings	There are a number of supplementary readings for the course. One which is used throughout the course very consistently is the following: • Marc Lankhorst et al., Enterprise Architecture at Work: Modeling, Communication and Analysis, The Enterprise Engineering Series, Springer, 4th Edition, 2017, ISBN: 3-662-53932-2
Supplementary readings	• Archimate Specifications, The Open Group, available online a • Maria-Eugenia Iacob, Henk Jonkers, Dick Quartel, Henry Franken, Harmen van den Berg, Delivering Business outcome with TOGAF and Archimate • Articles on Specific Topics of the Course
Software used	Archimate Modeling Tool. Examples include ARCHI or the Draw.IO Archimate Templace. The tool is available online and can be used free of charge by the students.