

Syllabus

Course description

Course title	Introduction to Blockchain
Course code	27519
Scientific sector	SECS-P/07
Degree	Master in Data Analytics for Economics and Management LM-Data (curriculum Business Analytics)
Semester and academic year	2 nd semester
Year	2 nd a.y. 2024/2025
Credits	6
Modular	No

Total lecturing hours	36
Total lab hours	0
Total exercise hours	0
Attendance	<p>Attendance is highly recommended.</p> <p>A continuous and regular attendance is suggested, but not required. Intermittent attendance is strongly discouraged: for non-attending students additional video material which covers the entire course is available. Student not attending course must register through UNIBZ TEAMS platform as not attending student in order to be able to download teaching material required to study for final exam preparation.</p>
Prerequisites	No prior experience or prerequisite academic background is necessary to do well in the course. Undergraduate introductory courses in accounting, finance and statistics will be beneficial.
Course page	See lecturer's unibz website or Reserve Collection Master in Data Analytics for Economics and Management / Free University of Bozen-Bolzano (unibz.it)

Specific educational objectives	The goal of this course is to introduce the students to the general overview of the concepts and tools to understand the potential of blockchain technology in real world applications. It has two basic objectives: to ground students in the basic technical concepts, terminology, procedures and relevant theories; and to develop in them the skills and attitudes necessary to further develop blockchain acumen and critically assess its potential and applications.
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Lecturer	<p>18 hours – TBD 18 hours - Olga Bogachek Olga Stanislavovna Bogachek / Libera Università di Bolzano (unibz.it) Office I206 (Palazzo Dogana – contact professor via email) Olga.bogachek@unibz.it</p>
Scientific sector of the lecturer	SECS-P/07
Teaching language	English
Office hours	please refer to the lecturer’s timetable
Lecturing assistant	-
Teaching assistant	-
Office hours	Please refer to the lecturer’s unibz web page or timetable
List of topics covered	<p>What is Blockchain (BC) and how it works. Concepts of centralized and distributed systems, integrity, trust, ownership, anonymity. Introduction to cryptography and hashing protocols. Smart contracts. Potential applications of BC in supply chain, finance and accounting, limits and issues.</p>
Teaching format	<p>This course will use a combination of lectures, practical assignments, scientific articles, case discussions, assignments, professional expert presentations and online reading. Class participation and active discussion is both expected and encouraged to apply theoretical concepts to realistic business-related situations. Students are expected to have thoroughly read all the assigned material in advance of the class to ensure a meaningful class participation. Homework may be assigned.</p>
Learning outcomes	<ol style="list-style-type: none"> 1) Knowledge and understanding <ul style="list-style-type: none"> • what a blockchain system is and its working principles, its core concepts and terminology, practices, challenges • basic concepts of distributed ledger, cryptography, working principles of a Smart Contract • a transaction on BC and their regulation • potential uses /issues of BC in finance & accounting 2) Applying knowledge and understanding <ul style="list-style-type: none"> • understand a BC system in its fundamental components and apply BC knowledge to evaluate its potential application in real-life applications

	<p>3) Making judgments</p> <ul style="list-style-type: none"> • ability to evaluate the advantages and disadvantages of BC technology • ability to critically assess its transformative potential <p>4) Communication skills</p> <ul style="list-style-type: none"> • ability to communicate efficiently the results of data analyses through graphical representations with appropriate technical language <p>5) Learning skills</p> <ul style="list-style-type: none"> • Students learn how to interpret and evaluate information to address with independence their continuing education. Ability to use online help systems to further expand program usage
Assessment	<p>For attending students: final grade will be a mixture of participation in case study discussions/presentations and mid-term assignments, practical assessments and exam(s). For non-attending students: written final exam (100%).</p> <p><u>Detailed point breakdown for individual assignments etc will be provided in the first lecture.</u></p> <p>NOTE: <i>final exams for attending and non-attending students may vary. The modality of the final exam (e.g. written/oral/take-home/open book) will be communicated in the due course.</i></p>
Assessment language	English
Evaluation criteria and criteria for awarding marks	Detailed grading rubric will be provided during the course prior to the assignments.
Required readings	Drescher, D., Blockchain Basics: A Non-Technical Introduction in 25 Steps (available online; <i>please confirm with instructor before purchasing</i>)
Supplementary readings	Course materials will consist of three areas: (i) a textbook; (ii) lecture slides, to be provided by your instructor; and (iii) readings from weblinks and scientific articles, will be provided by instructor during the course.