Syllabus

Descrizione corso

Titolo insegnamento	Capstone Project
Codice insegnamento	73019
Titolo aggiuntivo	
Settore Scientifico-Disciplinare	IINF-05/A
Lingua	Inglese
Corso di Studio	Corso di laurea magistrale in Informatica per la Data Science
Altri Corsi di Studio (mutuati)	
Docenti	prof. Davide Lanti, Davide.Lanti@unibz.it https://www.unibz.it/en/faculties/engineering/academic-staff/person/34107
Assistente	
Semestre	Primo semestre
Anno/i di corso	2
CFU	6
Ore didattica frontale	12
Ore di laboratorio	0
Ore di studio individuale	138
Ore di ricevimento previste	18
Sintesi contenuti	Individual or group project based on real data from a specific application domain in areas such as bioinformatics, internet of things, business information systems, tourism, agriculture.
Argomenti dell'insegnamento	The course belongs to the type "affini o integrative – formazione affine" in the curricula “Data Analytics” and “Data Management”. Data science cannot be taught only on a theoretical level. Students must apply and test their skills on real data, interacting with domain experts. To this end, the students carry out a project on

	real data taken from concrete application domains, such as bioinformatics, sensors, Internet of things, business information systems, tourism and agriculture. The goals is to acquire professional skills while applying the techniques studied throughout the Masters program. The project is carried out individually or in groups, autonomously under the joint supervision of a professor and one or more domain experts. Individual or group project based on real data from a specific application domain in areas such as bioinformatics, internet of things, business information systems, tourism, agriculture.
Parole chiave	Data Science, Real-World Data Projects
Prerequisiti	
Insegnamenti propedeutici	
Modalità di insegnamento	Individual or group project.
Obbligo di frequenza	Attendance of project presentations at the beginning of the course is not compulsory.
Obiettivi formativi specifici e risultati di apprendimento attesi	The course belongs to the type "affini o integrative – formazione affine" in the curricula “Data Analytics” and “Data Management”. Data science cannot be taught only on a theoretical level. Students must apply and test their skills on real data, interacting with domain experts. To this end, the students carry out a project on real data taken from concrete application domains, such as bioinformatics, sensors, Internet of things, business information systems, tourism and agriculture. The goals is to acquire professional skills while applying the techniques studied throughout the Masters program. The project is carried out individually or in groups, autonomously under the joint supervision of a professor and one or more domain experts. Applying knowledge and understanding: - D2.1 - Practical application and evaluation of tools and techniques in the field of data science - D2.2 - Ability to address and solve a problem using scientific methods - D2.3 - Ability to analyse, explore and evaluate a data set in

	specific application domains Making judgments - D3.1 - Ability to plan and, if necessary, re-plan a technical project activity for the analysis and management of data, or for the implementation of corresponding software systems or applications, and to complete it within the defined deadlines - 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 - D3.3 - Ability to identify reasonable work goals and estimate the resources needed to achieve these goals. Communication skills - D4.1 - Ability to use English at an advanced level with particular reference to disciplinary terminology - D4.2 - Ability to present one's work in a clear and comprehensible way in front of an audience, including non-specialists - D4.3 - Ability to structure and draft scientific and technical documentation - D4.4 - Ability to coordinate the work of a project team and interact positively with team members - D4.5 - Ability to interact and collaborate in the implementation of a project or research with peers and experts Learning skills - D5.1 - Ability to autonomously extend the knowledge acquired during the course of study - D5.2 - Ability to autonomously keep oneself up to date with the developments of the most important areas of data science - D5.3 - Ability to deal with problems in a systematic and creative way and to appropriate problem solving techniques
Obiettivi formativi specifici e risultati di apprendimento attesi (ulteriori info.)	
Modalità di esame	Project work, carried out individually or in groups, evaluated on the basis of the practical application of data science tools and methods (D2), project planning and judgment (D3), communication and teamwork (D4), and autonomous learning and problem-solving ability (D5). The project must be complemented by a written report and

	validated through a brief oral presentation.
Criteri di valutazione	The exam is pass/fail, and is evaluated on the following criteria: - Creativity, skills in critical thinking, ability to apply known and new techniques to real-world problems - Clarity of presentation
Bibliografia obbligatoria	- Additional readings and resources will be recommended on a project-specific basis.
Bibliografia facoltativa	
Altre informazioni	
Obiettivi di Sviluppo Sostenibile (SDGs)	Innovazione e infrastrutture, Istruzione di qualità