



Academic year 2026-2027

Bachelor in Data Science (BDS)

The study plan and course descriptions provide an overview of the programme's structure and content, and may be subject to changes. In case a study programme offers multiple specialisations or streams, these are presented consecutively within the same document.

Stream Finance & Economics

Study Plan

1st semester (SA 2026-2027)

Core courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Calculus</u>	Hormann		9
<u>Introduction to Data Science (BSc)</u>	Wit		3
<u>Principles of Finance</u>	Nam		6
<u>Programming Fundamentals for Data Science</u>	Pozzi		6
<u>Software Atelier 1: Fundamentals of Informatics</u>	Bavota		6
Elective courses (9 ECTS)	Lecturers	Tags	ECTS
<u>Seminario Alpino 1_Energy Transition</u>	Filippini		1.5
<u>Seminario Alpino 2</u>	Poletti		1.5
<u>Seminario Alpino 3</u>	Poletti		1.5
<u>Seminario Alpino 4_Social Sustainability</u>	Binswanger		1.5
<u>Seminario Alpino 5</u>	Poletti		1.5
<u>Seminario Alpino 6</u>	Poletti		1.5
Alpine Seminar - can be taken in any semester			1.5

2nd semester (SP 2027)

Core courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Algorithms & Data Structures</u>	Carzaniga		6
<u>Calculus 2</u>	Multerer		6
<u>Linear Algebra</u>	Pivkin		6
<u>Programming Fundamentals 2</u>	Hauswirth		6
<u>Statistics: Data Analysis and Probability</u>	Ravanelli		6
Elective courses (2 ECTS)	Lecturers	Tags	ECTS
<u>Programming Challenges Lab</u>	Carzaniga		2

3rd semester (SA 2027-2028)			
Core courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Artificial Intelligence (BSc)</u>	Gambardella		3
Introduction to Stochastic Methods			6
<u>Mathematics for Data Science</u>	Segala		6
<u>Numerical Programming</u>	Zulian, Elefante		9
<u>Statistics: Inference</u>	Camponovo		6
4th semester (SP 2028)			
Core courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Design, Causality and Modelling</u>	Wit		6
<u>Financial Economics</u>	Schneider		6
<u>Introduction to Econometrics</u>	Camponovo, Gagliardini		6
<u>Machine Learning (BSc)</u>	Zambon		6
<u>Microeconomics: Firms and Market</u>	Parchet		6
5th semester (SA 2028-2029)			
Core courses (18 ECTS)	Lecturers	Tags	ECTS
<u>Data Science Atelier</u>	Di Serio, Wit		6
<u>Econometrics</u>	Ortelli		6
<u>Quantitative Methods for Finance</u>	Ortelli		6
Elective courses (12 ECTS)	Lecturers	Tags	ECTS
<u>Financial Markets</u>	Cassese		3
<u>Macroeconomics: Growth</u>	Simonelli		3
<u>Microeconomics: Behavioural Economics</u>	Padula		3
<u>Numerical Computing</u>	Richter Mendoza		6
<u>Public Economics</u>	Mazzonna		6
6th semester (SP 2029)			
Core courses (12 ECTS)	Lecturers	Tags	ECTS
<u>Bachelor Project</u>	Gnecco		6
<u>Economics and Markets Design</u>	Kos		6
Elective courses (18 ECTS)	Lecturers	Tags	ECTS
<u>Data Analytics</u>	Bucur-Cosma		6
<u>Optimization Methods</u>	Sulem		6
<u>Probability & Measure</u>	Multerer		6
<u>Quantum Computing</u>	Wolf		6
<u>Theory of Computation</u>	Sharygina		6

Stream Informatics

Study Plan

1st semester (SA 2026-2027)

Core courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Calculus</u>	Hormann		9
<u>Introduction to Data Science (BSc)</u>	Wit		3
<u>Principles of Finance</u>	Nam		6
<u>Programming Fundamentals for Data Science</u>	Pozzi		6
<u>Software Atelier 1: Fundamentals of Informatics</u>	Bavota		6
Elective courses (9 ECTS)	Lecturers	Tags	ECTS
<u>Seminario Alpino 1_Energy Transition</u>	Filippini		1.5
<u>Seminario Alpino 2</u>	Poletti		1.5
<u>Seminario Alpino 3</u>	Poletti		1.5
<u>Seminario Alpino 4_Social Sustainability</u>	Binswanger		1.5
<u>Seminario Alpino 5</u>	Poletti		1.5
<u>Seminario Alpino 6</u>	Poletti		1.5
Alpine Seminar - can be taken in any semester			1.5

2nd semester (SP 2027)

Core courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Algorithms & Data Structures</u>	Carzaniga		6
<u>Calculus 2</u>	Multerer		6
<u>Linear Algebra</u>	Pivkin		6
<u>Programming Fundamentals 2</u>	Hauswirth		6
<u>Statistics: Data Analysis and Probability</u>	Ravanelli		6
Elective courses (2 ECTS)	Lecturers	Tags	ECTS
<u>Programming Challenges Lab</u>	Carzaniga		2

3rd semester (SA 2027-2028)

Core courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Artificial Intelligence (BSc)</u>	Gambardella		3
<u>Introduction to Stochastic Methods</u>			6
<u>Mathematics for Data Science</u>	Segala		6
<u>Numerical Programming</u>	Zulian, Elefante		9
<u>Statistics: Inference</u>	Camponovo		6

4th semester (SP 2028)			
Core courses (30 ECTS)	Lecturers	Tags	ECTS
Data Management	Eugster		6
Design, Causality and Modelling	Wit		6
Introduction to Econometrics	Gagliardini, Camponovo		6
Machine Learning (BSc)	Zambon		6
Probability & Measure	Multerer		6
5th semester (SA 2028-2029)			
Core courses (18 ECTS)	Lecturers	Tags	ECTS
Data Science Atelier	Wit, Di Serio		6
Econometrics	Ortelli		6
Numerical Computing	Richter Mendoza		6
Elective courses (12 ECTS)	Lecturers	Tags	ECTS
Algorithms & Data Structures 2	Papadopoulou		6
Deep Learning Lab	Vercesi		3
Graph Deep Learning	Alippi		3
Information Retrieval	Landoni		6
Introduction to Data Science (MSc)	Wit		6
Quantitative Methods for Finance	Ortelli		6
6th semester (SP 2029)			
Core courses (12 ECTS)	Lecturers	Tags	ECTS
Bachelor Project	Gnecco		6
Optimization Methods	Sulem		6
Elective courses (18 ECTS)	Lecturers	Tags	ECTS
Advanced Topics in Machine Learning	Alippi		3
Foundations of Cryptography	Backendal		6
Data Analytics	Bucur-Cosma		6
Economics and Markets Design	Kos		6
Ethics in Computing	Santini		3
Graphical Models	Wit		6
Quantum Computing	Wolf		6
Theory of Computation	Sharygina		6