

38.DATA SCIENCE AND STATISTICAL LEARNING (MD2SL)

Il livello

Florence Center for Data Science

Dipartimento di Statistica, Informatica, Applicazioni "G. Parenti"

Corso realizzato in collaborazione con

Scuola IMT Alti Studi Lucca

con rilascio di titolo congiunto

Coordinatore del corso

Chiara Bocci

PIANO DI STUDI

Insegnamento	Settore Scientifico Disciplinare	CFU
Primo blocco – Bootcamp courses		
Mathematics and Statistics for Data Science		8
Optimization	MAT/09	2
Numerical calculus and linear algebra	MAT/08	2
Probability and stochastic processes	MAT/06	2
Statistical inference and modelling	SECS-S/01	2
Algorithmic Foundations and Programming Skills		6
Algorithms and programming in Python and R for data science	INF/01	3
Machine learning	ING-INF/05	2
Optimization for machine learning	MAT/09	1
Secondo blocco – Core courses		
Statistical Learning for Data Science		6
Statistical learning	SECS-S/01	2
Geo-spatial data analysis	SECS-S/01	2
Network data analysis	SECS-S/01	2
Supervised and Unsupervised Learning		6
Advanced machine learning	MAT/09	3
Deep learning, neural networks, and reinforcement learning	ING-INF/05	3
Complex Systems		6
Text mining and NLP	ING-INF/05	2
Network and media analysis	FIS/03	2
Complex system analysis	FIS/03	2
Decision Theory for Data Science		7
Bayesian inference and causal machine learning	SECS-S/01	3
Analytics in economics and business	SECS-P/06	3
Ethics and law for data science	IUS/01	1
Terzo blocco – Elective courses <i>Due insegnamenti a scelta tra</i>		
1) Data Science for Economics		4
Experiments and real-world evidence in economics - Part A	SECS-P/02	1
Experiments and real-world evidence in economics - Part B	SECS-P/01	1
Policy evaluation and impact analysis	SECS-P/06	2
2) Data Science for Business		4
Time series analysis	SECS-S/03	2
Optimization of financial portfolios	SECS-S/06	2

Insegnamento	Settore Scientifico Disciplinare	CFU
3) Data Science for Health		4
Health analytics and data-driven medicine	SECS-P/02	2
Environmental and genomic data analysis	MED/01	2
Hands-on labs	SECS-S/01	3
Totale CFU didattica frontale		50
Seminars, real-case studies by colleagues and partners		2
Tirocinio		9
Prova finale		3
Totale		64

MODULI SINGOLI

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Statistical Learning for Data Science		6
Statistical learning	SECS-S/01	2
Geo-spatial data analysis	SECS-S/01	2
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