

BSc in DATA SCIENCE

Study Plan



GENERAL INFORMATION			
DURATION	LANGUAGES	ECTS	SCHEDULE
3 YEARS	PORTUGUESE	180	DAYTIME

1st Year

CURRICULAR COURSES

1st Year – 1st Semester	CREDITS	
> Calculus Topics I	Mandatory Course	6.0
> Data in Science, Business and Society	Mandatory Course	6.0
> Exploratory Data Analysis	Mandatory Course	6.0
> Linear Algebra Fundamentals	Mandatory Course	6.0
> Programming (first cycle)	Mandatory Course	6.0
Total		30.0*

1st Year – 2nd Semester	CREDITS	
> Calculus Topics II	Mandatory Course	6.0
> Data Structures and Algorithms	Mandatory Course	6.0
> Optimization for Data Science	Mandatory Course	6.0
> Probabilities and Sampling	Mandatory Course	6.0
> Free Elective**	Elective Course	2.0
> Transversal Skills:		
> 00665 Writing Scientific and Technical Texts (2.0)	Mandatory Course	4.0
> 04540 Critical Thinking (2.0)		

** Optional courses will only be held if they achieve a minimum number of enrolments.

2nd Year

CURRICULAR COURSES

2 nd Year – 1 st Semester		CREDITS
> Big Data Storage	Mandatory Course	6.0
> Computational Statistics	Mandatory Course	6.0
> Fundamentals of Database Management	Mandatory Course	6.0
> Network Analysis (first cycle)	Mandatory Course	6.0
> Unsupervised Learning Methods	Mandatory Course	6.0
Total		30.0*

2 nd Year – 2 nd Semester		CREDITS
> Big Data Processing	Mandatory Course	6.0
> Heuristic Optimization	Mandatory Course	6.0
> Regression Models	Mandatory Course	6.0
> Security, Ethics and Privacy	Mandatory Course	6.0
> Supervised Learning Methods	Mandatory Course	6.0
Total		30.0*

3rd Year

CURRICULAR COURSES

3 rd Year – 1 st Semester		CREDITS
> Applied Project in Data Science	Mandatory Course	3.0
> Introduction to Deep Learning	Mandatory Course	3.0
> Longitudinal Models	Mandatory Course	6.0
> Stochastic Modelling	Mandatory Course	6.0
> Web Interfaces for Data Management	Mandatory Course	6.0
Total		30.0*

3 rd Year – 2 nd Semester		CREDITS
> Applied Final Project in Data Science	Mandatory Course	12.0
> Symbolic Artificial Intelligence for Data Science	Mandatory Course	6.0
> Free Elective**	Elective Course	6.0
> Free Elective**	Elective Course	6.0
Total		30.0*

** Optional courses will only be held if they achieve a minimum number of enrolments.

*180.0 Credits for Approval = 150.0 mandatory courses credits + 18.0 optional course credits + 12.0 Applied Final Project in Data Science	Total	180.0
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