




YEAR 3	
Courses	Number of credits
Calculus III	6
Introduction to programming with C++	4
Data Structures and Algorithms	4
Lab for R	4
Matrix Computations	6
Statistics for Data Science	6
Advanced Programming with C++	6
Artificial Intelligence	6
Data Visualization	6
Internship I	3
Professional English	3
Statistical Analysis of Data	6

YEAR 4	
Courses	Number of credits
Data Mining	6
Inferential Statistics	6
Introduction to Big Data	6
Matlab for Data Science	6
Web Application	6
Cloud and Digital Transformation	6
Graph Theory	6
Internship II	3
Marketing Data Science	5
Natural Language Processing	6
Regression Models	4


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Saint Joseph University Dubai
 جامعة سان جوزف دبي
 School of Sciences – Dubai branch
 كلية العلوم – فرع دبي






BACHELOR IN DATA SCIENCE

Introduction

The Bachelor in Data Science is designed at the interface between mathematics and computer science. The program covers all these areas: programming and data analysis for managing and engineering big data and mathematical tools such as probability and statistics to analyze and interpret data. Moreover, it provides courses on artificial intelligence and machine learning to extract insights from data and support decision-makers.

By offering a comprehensive curriculum that combines cutting-edge technology, data-driven decision-making, and ethical practices, the program prepares the students to become industry leaders who drive innovation, efficiency, and sustainability.

What does a data scientist do?

The work of a data scientist combines statistical analysis, mathematical calculations and computer algorithms to process data and to extract meaningful insights out of them. A Data Scientist can give advice and establish strategies for companies to meet the needs of the customers.

Since its creation, the job of a Data Scientist has always been ranked among the top 3 jobs around the globe. The demand on Data Scientists is growing fast and the job offers great opportunities.

Objectives

- Apply various mathematical techniques for processing problems related to massive quantities of data.
- Write computer programs in languages suitable for data science to collect, clean, and analyze data.
- Communicate the results of data analysis in oral, written, and visual form to both technical and non-technical audiences.
- Advocate for ethical decisions in the use of data.

Admission Requirements

- Completion of secondary education with a final grade of 70% in Mathematics (or equivalent) and 80% in English (or equivalent).
- American, British, and International curriculum students are exempted from the English language requirement.
- Interview with the Head of program.
- Candidates who do not satisfy the above-mentioned requirements can be admitted on a conditional basis.



Programme Structure

YEAR 1	
Courses	Number of credits
English Language	5
Arabic Language	5
Elementary Mathematics I	6
General Physics I	5
General Chemistry	5
Computer Programming I	4
Emirati Studies	6
Elementary Mathematics II	6
Descriptive Statistics	4
Introduction to French Language	3
Computer Programming II	6
General Physics II	5

YEAR 2	
Courses	Number of credits
Calculus I	6
High Impact Communication Skills	3
Internet Programming	4
Discrete Mathematics	5
Foundation of Data Science	4
Data Protection	2
Ethics for Data Science	2
History of the Arabian Gulf	4
Applied Linear Algebra	6
Relational Databases	6
Probability for Data Science	6
Principles of Economics	6
Calculus II	6