COLLEGE OF ENGINEERING, INFORMATION & COMMUNICATION (CEIC)

BSc in Data Analytics

120 credits · 6 semesters · 3 years

Proposed curriculum framework for the CEIC website. The final syllabus, credit structure and course codes should be aligned with the program's approved university/academic regulations before publication.

Semester 1

Course	Credits
Programming Fundamentals	4
Discrete Mathematics	3
Statistics I	3
Computer & Information Systems	3
Academic English & Communication	3
Introduction to Data Analytics	4

Semester 2

Course	Credits
Object-Oriented Programming	4
Database Systems	3
Statistics II	3
Linear Algebra for Data Science	3
Data Structures & Algorithms	3
Web Technologies	4

Semester 3

Course	Credits
Python for Data Science	4
Data Visualization	3
Probability & Statistical Inference	3
Data Warehousing	3
Operating Systems	3
Research Methods	4

Semester 4

Course	Credits
Machine Learning Fundamentals	4

Course	Credits
Business Intelligence	3
Big Data Analytics	3
Predictive Analytics	3
Cloud Computing Fundamentals	3
Data Ethics & Privacy	4

Semester 5

Course	Credits
Advanced Machine Learning	3
Deep Learning Fundamentals	3
Natural Language Processing	3
Data Mining	3
Applied Analytics Lab	4
Industry Internship / Practicum	4

Semester 6

Course	Credits
Time Series & Forecasting	3
MLOps & Model Deployment	3
Advanced Data Visualization	3
Analytics for Business & Decision Science	3
Capstone Project I	4
Capstone Project II	4

Curriculum note: This document is a website-ready academic planning framework. Final course codes, credits, prerequisites, electives and graduation requirements must follow the officially approved syllabus and affiliation/regulatory requirements.