

## Bachelor of Science in Data Science

### Programme details:

The programme consists of core (required) and elective modules as indicated below. Some modules may have pre-requisites (i.e., may require students to pass another module or set of modules first). Some modules may be co-requisite (such modules are required to be taken together). The number at the end of the module in parenthesis indicates the credit load of the module. 1 credit is equal to 10 hours of learning (guided, in-class and independent combined); therefore a 10-credit module requires an average of 100 hours of learning from the student.

### Core modules:

- E5-PHY-22: Physics (12)
- E5-PCA-22: Pre-Calculus (24)
- C6-CSA-22: Computer Architecture (12)
- D5-WCO-22: Writing and Communication (12)
- C5-PS1-22: Programming Skill 1 (6)
- B5-BEN-22: Business and Entrepreneurship (30)
- C6-OPS-22: Operating Systems (12)
- E6-CAL-22: Calculus (12)
- C6-PS2-22: Programming Skill 2 (12)
- C6-COM-22: Computer Networks (12)
- C7-DBS-22: Databases (12)
- E6-DMC-22: Discrete Mathematics for Computer Science (12)
- C6-DSA-22: Data Structures and Algorithms (12)
- C7-DMI-22: Data Mining (12)
- C7-REM-22: Research Methodology (12)
- E7-PAS-22: Probability and Statistics (12)
- C7-PS3-22: Programming Skill 3 (12)
- C7-DVI-22: Data Visualization (12)
- C7-PMA-22: Project Management (12)
- E7-LAL-22: Linear Algebra (12)
- C7-MLE-22: Machine Learning (24)
- C7-ARI-22: Artificial Intelligence (12)
- C7-DAN-22: Data Analytics (12)
- C7-PPR-22: Industrial Attachment (60)
- E7-MUS-22: Multivariate Statistics (12)
- C7-IPD-22: Individual Project in Data Science (24)
- C7-PIE-22: Professional Issues and Ethics (12)

### Elective Modules:

- D5-BIO-22: Biology 1 (12)
- E5-CHE-22: Chemistry 1 (12)
- C6-CLC-22: Cloud Computing (9)
- C6-EM1-22: Emerging Technologies 1 (9)
- C6-CRG-20: Cryptography (9)
- C6-MOS-22: Mobile Operating Systems (9)
- C6-CRG-20: Cryptography (9)
- C6-MOS-22: Mobile Operating Systems (9)
- C6-ACN-22: Advanced Computer Networks (9)
- C6-OPT-22: Optimization (9)
- D7-CBI-22: Computational Biology (9)
- B7-CFI-22: Computational Finance (9)
- E7-COS-22: Computational Statistics (9)
- C7-EM2-22: Emerging Technologies (9)
- C7-NLP-22: Nature Language Processing (9)
- C7-BDD-22: Big Data Databases (9)
- C7-AAN-22: Algorithm Analysis (9)
- C7-BDT-22: Big Data Technologies (9)
- C7-AAI-22: Advanced Artificial Intelligence (9)

### Recommended full-time study path (4 years):

#### Semester 1

- E5-PHY-22, E5-PCA-22, C6-CSA-22, D5-WCO-22

#### Semester 2

- C5-PS1-22, B5-BEN-22, C6-OPS-22 **Select one** (D5-BIO-22, E5-CHE-22)

#### Semester 3

- E6-CAL-22, C6-PS2-22, C6-COM-22, C7-DBS-22 **Select one** (C6-CLC-22, C6-EM1-22)

#### Semester 4

- E6-DMC-22, C6-DSA-22, C7-DMI-22, C7-REM-22 **Select one** (C6-CRG-20, C6-MOS-22) **Select one** (C6-ACN-22, C6-OPT-22)

#### Semester 5

- E7-PAS-22, C7-PS3-22, C7-DVI-22, C7-PMA-22, E7-LAL-22

**Semester 6**

- C7-MLE-22, C7-ARI-22, C7-DAN-22  
**Select one** (C7-EM2-22, C7-NLP-22)  
**Select one** (C7-CBI-22, B7-CFI-22,  
E7- COS-22)

**Semester 7**

- C7-PPR-22

**Semester 8**

- E7-MUS-22, C7-IPD-22, C7-PIE-22 **Select one** (C7-BDD-22,C7-AAN-22)**Select one** (C7-BDT-22,C7-AAI-2)

**Admissions Criteria**

**1)** BCCSE/equivalent with 5 Passes including including English and Mathematics.

**2)** Applicants in possession of a Diploma or Higher Diploma in related field may be given exemptions based on the credit point equivalency.

**3)** For enquiries and more information please visit our website: [www.bothouniversity.com](http://www.bothouniversity.com)

