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,C7-CBI-22, B7-CFI-22)

*The programmes offered in this document are accredited by BQA and offered at Botho University at the time of print. Please refer to your offer letter from the admissions department for any changes in programme name or duration that may occur due to regulatory requirements.

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) Applicants are expected to have successfully completed secondary schooling. The typical entry requirement is BGCSE or IGCSE (in Botswana), LGCSE (in Lesotho) or other equivalent secondary school qualification.

2) BGCSE/equivalent with minimum Pass (D) in 5 subjects including English and Mathematics.

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

4) For enquiries and more information please visit our website: **www.bothouniversity.com**

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