Bachelor of Technology in Software Engineering

Programme details:
This programme is designed to enable the students to create high-quality software applications for complex organisational environments, with an emphasis on good engineering practices that allow for ease of maintenance and the use of existing components. Candidates enrolled in this qualification will familiarise themselves with the tools and rigorous methodologies used to develop mission-critical and safety-critical software systems. They will be equipped with skills to critically evaluate design paradigms, languages, algorithms, and techniques used to develop large-scale and complex software systems and a deep appreciation of the importance of software architecture, testing, documentation, and maintainability.

Core modules:
- C5-IC1-23 Introduction to Computing and Programming I (MS Office & Programming Basics (15.00)
- C5-MAT-23 Essentials of Mathematics (15.00)
- C5-PES-23 Professional, Ethical, and Social Issues in Computing (15.00)
- C5-PSE-23 Principles of Software Engineering (15.00)
- C6-CCO-23 Calculus for Computing (15.00)
- C6-DSE-23 Discrete Structures (15.00)
- C6-IC2-24 Introduction to Computing and Programming 2 (15.00)
- C6-INS-23 Introduction to Software Security (15.00)
- C6-LAL-23 Linear Algebra (15.00)
- C6-PC+-23 Programming using C++ (15.00)
- C6-WDD-23 Web Design Development (15.00)
- C7-CCP-24 Communication for Computing Professionals (15.00)
- C7-CNA-24 Computer Networks and Applications (15.00)
- C7-DAA-23 Data Structures and Algorithms (15.00)
- C7-IJP-23 Introduction to Java Programming (15.00)
- C7-PAS-23 Probability and Statistics (15.00)
- C7-PPR-11 Professional Practice (60.00)
- C7-PUP-23 Programming using Python (15.00)
- C7-SDP-23 Software Development Project (15.00)
- C7-SEN-23 Software Engineering (15.00)
- C7-SPA-23 Software Architecture and Patterns (15.00)
- C7-SPM-23 Software Project Management (15.00)
- C7-SRA-23 Software Requirements Analysis and Design (15.00)
- C7-STG-23 Software Testing (15.00)
- C7-UID-23 User Interface Design and Implementation (15.00)
- C8-PRO-23 Project (30.00)

Electives
- C7-PDS-23 - Parallel and Distributed Software Engineering (15.00)
- C7-SQA-23 - Software Quality Assurance (15.00)
- C7-EAI-23 - Entrepreneurship and Innovation (15.00)
- C8-SQC-23 - Software Quality Control (15.00)
- C8-STM-23 - Software Testing and Maintenance (15.00)
- C8-AIN-23 - Artificial Intelligence (15.00)

*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.

Recommended full-time study path: 4 Years

Semester 1
- C5-IC1-23, C5-PES-23, C5-MAT-23, C5-PSE-23

Semester 2
- C6-IC2-23, C6-DSE-23, C6-CCO-23, C6-LAL-23

Semester 3
- C7-SEN-23, C6-INS-23, C6-WDD-23, C6-PC+ -23

Semester 4
- C7-SDP-23, C7-IJP-23, C7-CNA-24, C7-DAA-23

Semester 5
- C7-SPA-23, C7-CCP-23, C7-PAS-23, C7-SPM-23

Semester 6
- C7-PUP-23, C7-SRA-23, C7-UID-23 **Select one** (C7-PDS-23, C7-SQA-23, C7-EAI-23)

Semester 7
- C7-PPR-11

Semester 8
- C7-STG-23, C8-PRO-23 **Select one** (C8-SQC-23, C8-STM-23, C8-AIN-23)

Admissions Criteria

1) NCQF level 4, Certificate IV (General Education or TVET).

2) Relevant industry experience will be considered through recognition of prior learning (RPL).

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

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