BACHELOR OF CYBERSECURITY

Admission to Program

Admission to the program is explained in the HCT Admission Policy described in the Academic Policies section of this Catalogue.

Program Mission

Prepare graduates to be successful Information and Communication Technology (ICT) professionals in technical leadership roles, embracing innovation and discovery and striving for professional growth through life-long learning in the field of Information Technology and associated domains.

Program Description

The Bachelor of Cybersecurity program prepares students to respond to the needs of the workforce for knowledgeable and skilled IT professionals who can apply ethical values to complex and unpredictable problems and to plan, design, implement, evaluate and manage IT solutions.

The program provides students with the broad technical education necessary for employment in the public or private sector, and it enables them to develop an understanding of fundamentals and current issues important for future development. Students also develop professional work competencies to complement their technical skills and apply high-level special administrative responsibilities.

The program is structured as a set of core, elective, general studies, and specialized courses. In the core courses, students will acquire the core knowledge, skills, and competencies needed for IT. Through specialized courses, students will develop up-to-date knowledge and skills in the field of Cyber Security to meet the industry requirement. Students are eligible for one year apprenticeship during their study.

Program Goals

- Equip graduates with the technical knowledge and skills required by the industry to design, develop, and maintain secure computing systems to the highest level of industry standards, incorporating advanced cybersecurity measures.
- Prepare graduates for a successful career as effective decision makers with strong communication and teamwork skills and an understanding of global, ethical and social implications of the industry and Cybersecurity profession.
- Prepare graduates with technical and entrepreneurial leadership qualities, who support the development of innovative computing solutions in response to local, regional, or global challenges.
- Provide graduates with strong commitment to lifelong learning, continuing education, and professional growth.

Program Learning Outcomes

1. Demonstrate an understanding of critical analysis, research methods, and problem-solving techniques in computing, with an emphasis on current and emerging research sources.

2. Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.

3. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.

4. Communicate effectively in a variety of professional contexts.

5. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.

6. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.

7. Apply security principles and practices to maintain operations in the presence of risks and threats.

Requirements
Completion Requirements

Students must successfully complete a minimum of 120 credits, including:

Code	Title	Credit Hours
CIS Core Courses		36
Cybersecurity Specialisation Courses		60
Elective Courses		6
General Studies		18
Total Credits		**120**

To qualify for the bachelor's degree, a student is required to:

- Successfully complete the required number of credits and courses specific to the program with a minimum cumulative GPA of 2.0.
- Complete 100 hours of volunteering.
- Meet the residency requirement that a minimum of 50% of the program credit requirements have been completed at the HCT.

Code	Title	Credit Hours
CIS Core Courses		
Required Credits: 36		
CIS 1313	Introduction to Computer Systems and Networks	3
CIS 1203	Web Technologies	3
CIS 1603	Programming I	3
CIS 1213	Introduction to Information Security	3
CIS 1303	Database Systems	3
CIS 1613	Programming II	3
CIS 2033	User Centered Design	3
CIS 2023	Applied Discrete Mathematics	3
CIS 2213	Full-stack Web Application Development	3
CIS 2113	Introduction to Software Engineering	3
CIS 3603	Project Management	3
CIS 3503	Technopreneurship	3

Code	Title	Credit Hours
Cybersecurity Specialisation Courses		
Required Credits: 60		
CYB 2413	Advanced Networking	3
CYB 2423	Cryptography and Data Protection	3
CIS 3303	System Architecture and Integration	3
CIS 2903	Operating Systems	3
CYB 3513	Switching, Routing and Wireless Essentials	3
CYB 3523	Virtualization and Cloud Technologies	3
CYB 3533	Penetration Testing and Ethical Hacking	3
CYB 3543	Digital Forensics and Investigation	3
CYB 3613	Secure Software Architecture and Coding	3
CYB 3623	Enterprise Networking, Security and Automation	3
CYB 3633	Security Operation and Threat Intelligence	3
CYB 3643	Cloud Architecting	3
CYB 4733	Capstone Project I	3
CYB 4833	Capstone Project II	3
CYB 4723	Cyberspace Law and Ethics	3
CYB 4823	Cybersecurity Governance, Risk and Compliance	3
CYB 4716	Apprenticeship I (*)	6
CYB 4816	Apprenticeship II (*)	6

*Apprenticeship courses

Code	Title	Credit Hours
Elective Courses		
Required Credits: 6		
CIS 4703	Blockchain Technology	3
CIS 4013	Data Analytics for IT Professionals	3
CIS 4003	Green Computing	3

Code	Title	Credit Hours
General Studies		
Required Credits: 18		
LSM 1013	Mathematics for Computing	3
LSC 1103	Professional Written Communication	3
CIS 1703	Introductory Statistics and Probability	3
LSS 1133	Critical Thinking and Research Skills	3
CIS 2603	Artificial Intelligence Foundations	3
AES 1003	Emirati Studies	3

Description	Data
Total Required Credits	120
Maximum Duration of Study	6 years
Minimum Duration of Study	4 years
Cost Recovery Program	No
Program Code	BACYB
Major Code	CYB

Ideal Study Plan
Recommended Sequence of Study

Year 1

Semester 1		Credit Hours
CIS 1313	Introduction to Computer Systems and Networks	3
CIS 1203	Web Technologies	3
CIS 1603	Programming I	3
LSM 1013	Mathematics for Computing	3
LSC 1103	Professional Written Communication	3
	Credit Hours	**15**

Semester 2		
CIS 1213	Introduction to Information Security	3
CIS 1303	Database Systems	3
CIS 1613	Programming II	3
CIS 1703	Introductory Statistics and Probability	3
LSS 1133	Critical Thinking and Research Skills	3
	Credit Hours	**15**

Year 2

Semester 3		
CIS 2033	User Centered Design	3
CIS 2023	Applied Discrete Mathematics	3
CIS 2213	Full-stack Web Application Development	3
CIS 2113	Introduction to Software Engineering	3
CIS 2603	Artificial Intelligence Foundations	3
	Credit Hours	**15**

Semester 4		
CYB 2413	Advanced Networking	3
CYB 2423	Cryptography and Data Protection	3
CIS 3303	System Architecture and Integration	3
CIS 2903	Operating Systems	3
AES 1003	Emirati Studies	3
	Credit Hours	**15**

Year 3

Semester 5		
CYB 3513	Switching, Routing and Wireless Essentials	3
CYB 3523	Virtualization and Cloud Technologies	3
CYB 3533	Penetration Testing and Ethical Hacking	3
CYB 3543	Digital Forensics and Investigation	3
CIS 3603	Project Management	3
	Credit Hours	**15**

Semester 6		
CYB 3613	Secure Software Architecture and Coding	3
CYB 3623	Enterprise Networking, Security and Automation	3
CYB 3633	Security Operation and Threat Intelligence	3
CYB 3643	Cloud Architecting	3
CIS 3503	Technopreneurship	3
	Credit Hours	**15**

Year 4

Semester 7		
CYB 4716	Apprenticeship I	6
CYB 4723	Cyberspace Law and Ethics	3
CYB 4733	Capstone Project I	3
4000 Level Elective		3
	Credit Hours	**15**

Semester 8		
CYB 4816	Apprenticeship II	6
CYB 4823	Cybersecurity Governance, Risk and Compliance	3
CYB 4833	Capstone Project II	3

4000 Level Elective	3
Credit Hours	**15**
Total Credit Hours	**120**

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