# INFORMATION TECHNOLOGY

### **Admission to Program**

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

## **Program Mission**

The mission of the Bachelor of Information Technology is to develop graduates with Information technology skills and knowledge, and work competencies required to create cutting-edge IT solutions to meet the work environment. The program aims to prepare graduates to be able to work as IT specialist in one of the 4 currently offered concentration. The concentrations are Application Development, Security and Forensics, Interactive Multimedia Technologies and Networking.

In addition to theoretical and technical skills, the program prepares students to adapt to complex and evolving technological environments such as those observed in the workplace, apply ethical standards, and use various communication approaches in their interactions with others.

### **Program Description**

The Bachelor of Information Technology 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 concentration courses. In the core courses, students will acquire the core knowledge, skills, and competencies needed for IT. Through the concentration courses, students will develop up-to-date knowledge and skills, in this fast-growing field to meet the industry requirement. The program offers four concentrations:

- Applications Development
- Interactive Multimedia Technologies
- Networking
- Security and Forensics

Students have the option to exit the program with a Higher Diploma degree after completion of the third year (see Completion Requirements below).

# **Program Goals**

### **Applications Development Concentration - Goals**

- Produce graduates with the development skills required to create cutting-edge software applications and apps on multiple platforms.
- Offer graduates with the required knowledge and skills in current software development methodologies using state-of-the-art tools and facilities.
- Prepare graduates to be able to work in technical leadership roles as software engineers, enterprise system developers, system architects, project managers, and mobile application developers.

- Prepare graduates who exhibit an entrepreneurial spirit and can adapt and evolve in complex technological environments such as those found in the workplace.
- Produce graduates who contribute to and observe ethical standards, accept social responsibility and use various communication approaches in their interactions with others.

# Interactive Multimedia Technologies Concentration - Goals

- Produce graduates with professional skills built on a sound foundation in the fields of interactivity and multimedia powered by information technology.
- Prepare graduates to become leaders and innovators in a new and interactive society based on interactive arts, multimedia, web and interface design, game design, and development.
- Prepare graduates to work in technical leadership roles as 2d and 3d graphic artists, animation experts, interactive multimedia developers, game designers and developers, and simulation specialists.
- Prepare graduates who exhibit an entrepreneurial spirit and can adapt and evolve in complex technological environments such as those found in the workplace.
- Produce graduates who contribute to and observe ethical standards, accept social responsibility and use various communication approaches in their interactions with others.

### **Networking Concentration - Goals**

- Produce graduates who can design, configure, implement, analyze, monitor and troubleshoot converged campus and enterprise networks to meet career goals.
- Provide graduates with the required knowledge and skills to work at multiple levels of local and enterprise networks.
- Produce graduates who will be able to work in technical leadership roles as network engineers, network architects, infrastructure designers, project managers, and consultants.
- Prepare graduates who exhibit an entrepreneurial spirit and can adapt and evolve in complex technological environments such as those found in the workplace.
- Produce graduates who contribute to and observe ethical standards, accept social responsibility and use various communication approaches in their interactions with others.

### **Security and Forensics Concentration - Goals**

- Produce graduates with skills and a strong foundation in the field of information security.
- Provide graduates with technical and managerial skills for assessing risk, securing information assets, identifying and responding to attacks, conducting a forensic investigation, and recovering from incidents and disasters.
- Prepare graduates to work in technical leadership roles as requirement security specialists; security practitioners, managers, and consultants; forensic investigators; and IT auditors
- Prepare graduates who exhibit an entrepreneurial spirit and can adapt and evolve in complex technological environments such as those found in the workplace.
- Produce graduates who contribute to and observe ethical standards, accept social responsibility and use various communication approaches in their interactions with others.

## **Program Learning Outcomes**

#### **Bachelor of Information Technology**

Graduates will be able to:

- Apply knowledge of computing and mathematics appropriate to the discipline
- Analyze a problem and identify and define the computing requirements appropriate to its solution.
- Design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs and drive innovation.
- Function effectively as a member and leader in a technical team to accomplish a common goal
- Understand professional, ethical, legal, security and social issues and responsibilities
- · Communicate effectively with a range of audiences
- Analyze the local and global impact of computing on individuals, organizations, and society
- Recognize the need for and engage in continuing professional development
- Use current techniques, skills, and tools necessary for computing practice and entrepreneurship.

In addition, each concentration has its specific program learning outcomes.

### **Applications Development Concentration**

Graduates will be able to:

- Demonstrate a critical awareness of a range of analysis, design and programming methods to solve complex business problems
- Develop secure desktop, web and mobile applications for multiple platforms using client-side and server side coding, and advanced database techniques
- Deploy applications for mobile devices using industry standard tools and practices for design, development and testing.

#### Interactive Multimedia Technologies Concentration

Graduates will be able to:

- Demonstrate a solid understanding of Interactive Multimedia Design principles.
- Employ technical skills proficiency with industry-standard tools to produce interactive multimedia products
- Apply industry best practices and techniques for planning, designing and producing interactive multimedia products

### **Networking Concentration**

Graduates will be able to:

- Explain concepts and theories of networking and apply them to various situations, classifying networks, analyzing performance, troubleshooting and implementing new technologies.
- Design network infrastructure by selecting appropriate devices, topologies, protocols, systems software, network services and security.
- Develop solutions for networking and security problems, balancing business concerns, technical issues and security

### **Security and Forensics Concentration**

Graduates will be able to:

- Critically consider relevant principles and theoretical knowledge to assess risk and develop policies and procedures to secure an organizational information system.
- Demonstrate the ability to identify security weaknesses using intrusion detection techniques and take corrective actions to secure information assets.
- Employ advanced skills to conduct forensic investigations n line with local and international law and standards.
- · Deploy and manage secured client and server operating systems.

# Requirements Completion Requirements

### **Bachelor of Information Technology**

Students must successfully complete a minimum of 135 credits, including:

| Code           | Title                   | Credit<br>Hours |
|----------------|-------------------------|-----------------|
| Information    | Technology Core Courses | 60              |
| Concentration  | on Courses              | 36              |
| 4000 Elective  | e Courses               | 6               |
| General Stud   | dies                    | 33              |
| Total Credit I | Hours                   | 135             |

### **Higher Diploma in Information Technology Exit Option**

Students must successfully complete a minimum of 105 credits, including:

| Code          | Title                   | Credit<br>Hours |
|---------------|-------------------------|-----------------|
| Information   | Technology Core Courses | 51              |
| Concentration | on Courses              | 24              |
| General Stud  | dies                    | 30              |
| Total Credit  | Hours                   | 105             |

# Code Title Credit Hours

### **Information Technology Core Courses**

|                   | ••  |   |
|-------------------|---|---|
| Required Credits: | : 60  |   |
| CIS 1003          | Information Systems in Organisations and Society          | 3 |
| CIS 1103          | Hardware and Networking                                   | 3 |
| CIS 1203          | Web Technologies  | 3 |
| CIS 1303          | Data and Information Management                           | 3 |
| CIS 1403          | Fundamentals of Programming                               | 3 |
| CIS 2003          | Statistics and Probability                                | 3 |
| CIS 2103          | Principles of Information Assurance, Security and Privacy | 3 |
| CIS 2203          | Applied Discrete Maths                                    | 3 |
| CIS 2303          | Systems Analysis and Design                               | 3 |
| CIS 2403          | Object Oriented Programming                               | 3 |
| CIS 2806          | Work Related Experience I                                 | 6 |
| CIS 2903          | Operating Systems   | 3 |
| CIS 3003          | Human Computer Interaction                                | 3 |

| CIS 3303      | System Architecture and Integration | 3 |
|---------------|-------------------------------------|---|
| CIS 3806      | Work Related Experience II          | 6 |
| CIS 4603      | Project Management                  | 3 |
| CIS 4913      | Capstone Project I                  | 3 |
| CIS 4923      | Capstone Project II                 | 3 |
| General Studi | ies                                 |   |
| Required Cred | dits:33                             |   |
| English, Arab | ic or other Languages :12           |   |
| Humanities o  | r Arts: 3                           |   |
| Information T | echnology or Mathematics: 6         |   |
| The Natural S | Sciences: 3                         |   |
| The Social or | Behavioral Sciences: 9              |   |

### **Concentration Name: Applications Development Concentration**

Total Credit Hours: 36 Concentration Curriculum:

| Code     | Title   | Credit<br>Hours |
|----------|---|-----------------|
| CIA 2503 | Web Applications Development                              | 3               |
| CIA 2513 | Key Components of IoT Architecture for Smart Applications | 3               |
| CIA 3003 | Introduction to Mobile Applications                       | 3               |
| CIA 3103 | Database Design and Administration                        | 3               |
| CIA 3113 | IoT and Security  | 3               |
| CIA 3123 | Mobile Game Development                                   | 3               |
| CIA 3133 | Advanced Application Development                          | 3               |
| CIA 4003 | Advanced Mobile Applications                              | 3               |
| CIA 4103 | Data Driven Web Technologies                              | 3               |
| CIA 4203 | Enterprise Database Applications                          | 3               |
| CIA 4503 | Advanced Object Oriented Programming                      | 3               |
| CIB 3103 | Object Oriented Analysis & Design                         | 3               |

### Concentration Electives:

| Code     | Title  | Credit<br>Hours |
|----------|--|-----------------|
| CIA 4613 | Mobile Application Administration              | 3               |
| CIB 4203 | Customer Relationship Management Systems       | 3               |
| CIB 4603 | Enterprise Resource Planning                   | 3               |
| CIM 4103 | Web Authoring and Administration               | 3               |
| CIS 4103 | Research Methods for Emerging Technologies     | 3               |
| CIS 4203 | Information Technology Strategy and Governance | ce 3            |
| CIS 4403 | Cloud Computing                                | 3               |
| CIS 4703 | Blockchain Applications and Coding             | 3               |
| CIS 4713 | Virtual Reality and 3D Virtual Environments    | 3               |
| CIS 4863 | Special Topics In Computer Information Science | 3               |
| CSF 4003 | Security and Risk Management                   | 3               |
| CSF 4613 | Security Intelligence                          | 3               |

### Concentration Name: Interactive Multimedia Technologies Concentration

Total Credit Hours: 36 Concentration Curriculum:

| Code     | Title                         | Credit |
|----------|-------------------------------|--------|
|          |                               | Hours  |
| CIA 2503 | Web Applications Development  | 3      |
| CIM 2003 | Graphic Design for Multimedia | 3      |

| CIM 2103 | Storyboarding for Multimedia         | 3 |
|----------|--------------------------------------|---|
| CIM 3003 | 2D Animation                         | 3 |
| CIM 3113 | Motion Graphics                      | 3 |
| CIM 3203 | Programming for Multimedia           | 3 |
| CIM 3403 | 3D Modelling and Animation           | 3 |
| CIM 3503 | Computer Game Design and Development | 3 |
| CIM 4003 | Multimedia Scripting                 | 3 |
| CIM 4103 | Web Authoring and Administration     | 3 |
| CIM 4203 | Virtual Reality and Simulation       | 3 |
| CIM 4303 | VFX, Audio, Editing and Composition  | 3 |

### Concentration Electives:

| Code     | Title  | Credit<br>Hours |
|----------|--|-----------------|
| CIA 4103 | Data Driven Web Technologies                   | 3               |
| CIA 4503 | Advanced Object Oriented Programming           | 3               |
| CIA 4613 | Mobile Application Administration              | 3               |
| CIB 4203 | Customer Relationship Management Systems       | 3               |
| CIB 4603 | Enterprise Resource Planning                   | 3               |
| CIS 4103 | Research Methods for Emerging Technologies     | 3               |
| CIS 4203 | Information Technology Strategy and Governance | ce 3            |
| CIS 4403 | Cloud Computing                                | 3               |
| CIS 4703 | Blockchain Applications and Coding             | 3               |
| CIS 4713 | Virtual Reality and 3D Virtual Environments    | 3               |
| CIS 4863 | Special Topics In Computer Information Science | e 3             |
| CSF 4613 | Security Intelligence                          | 3               |

### Concentration Name: Networking Concentration

Total Credit Hours: 36 Concentration Curriculum:

| Code     | Title  | Credit<br>Hours |
|----------|--|-----------------|
| CIN 2003 | Enterprise Network Services                    | 3               |
| CIN 2103 | Networking Fundamentals                        | 3               |
| CIN 2203 | Routing Protocols                              | 3               |
| CIN 3003 | LAN Switching                                  | 3               |
| CIN 3103 | Wireless Networks                              | 3               |
| CIN 3203 | WAN Technologies                               | 3               |
| CIN 3303 | Network Security                               | 3               |
| CIN 3503 | Virtualisation Technologies                    | 3               |
| CIN 4003 | Routing Solutions for the Enterprise           | 3               |
| CIN 4103 | Network Management                             | 3               |
| CIN 4113 | Scalable Computer Network                      | 3               |
| CIN 4203 | Voice over Internet Protocol (VoIP) Fundamenta | ls 3            |

### Concentration Electives:

| Code     | Title                                      | Credit<br>Hours |
|----------|--|-----------------|
| CIA 4103 | Data Driven Web Technologies               | 3               |
| CIA 4503 | Advanced Object Oriented Programming       | 3               |
| CIA 4613 | Mobile Application Administration          | 3               |
| CIB 4203 | Customer Relationship Management Systems   | 3               |
| CIB 4603 | Enterprise Resource Planning               | 3               |
| CIM 4103 | Web Authoring and Administration           | 3               |
| CIS 4103 | Research Methods for Emerging Technologies | 3               |

| CIS 4203 | Information Technology Strategy and Governance | 3 |
|----------|--|---|
| CIS 4403 | Cloud Computing                                | 3 |
| CIS 4703 | Blockchain Applications and Coding             | 3 |
| CIS 4713 | Virtual Reality and 3D Virtual Environments    | 3 |
| CIS 4863 | Special Topics In Computer Information Science | 3 |
| CSF 4613 | Security Intelligence                          | 3 |

### Concentration Name: Security and Forensics Concentration

Total Credit Hours: 36 Concentration Curriculum:

| Code     | Title                                    | Credit<br>Hours |
|----------|--|-----------------|
| CIN 2003 | Enterprise Network Services              | 3               |
| CIN 2103 | Networking Fundamentals                  | 3               |
| CSF 2113 | Programming for Information Security     | 3               |
| CSF 3003 | Cyber Law and Ethics                     | 3               |
| CSF 3103 | Incidence Response and Disaster Recovery | 3               |
| CSF 3203 | Intrusion Detection and Ethical Hacking  | 3               |
| CSF 3403 | Computer Forensics and Investigation     | 3               |
| CSF 3603 | Cryptography and Network Security        | 3               |
| CSF 4003 | Security and Risk Management             | 3               |
| CSF 4103 | Web Application and E-Commerce Security  | 3               |
| CSF 4203 | Telecommunications and WAN Security      | 3               |
| CSF 4613 | Security Intelligence                    | 3               |

### Concentration Electives:

| Code     | Title  | Credit<br>Hours |
|----------|--|-----------------|
| CIA 4103 | Data Driven Web Technologies                   | 3               |
| CIA 4503 | Advanced Object Oriented Programming           | 3               |
| CIA 4613 | Mobile Application Administration              | 3               |
| CIB 4203 | Customer Relationship Management Systems       | 3               |
| CIB 4603 | Enterprise Resource Planning                   | 3               |
| CIM 4103 | Web Authoring and Administration               | 3               |
| CIS 4103 | Research Methods for Emerging Technologies     | 3               |
| CIS 4203 | Information Technology Strategy and Governance | ce 3            |
| CIS 4403 | Cloud Computing                                | 3               |
| CIS 4703 | Blockchain Applications and Coding             | 3               |
| CIS 4713 | Virtual Reality and 3D Virtual Environments    | 3               |
| CIS 4863 | Special Topics In Computer Information Science | 9 3             |

| Description               | Data               |
|---------------------------|--------------------|
| Total Required Credits    | 135                |
| Maximum Duration of Study | 6 years            |
| Minimum Duration of Study | 4 years            |
| Cost Recovery Program     | No                 |
| Program Code              | BCSIT              |
| Major Code                | ITA, ITM, ITN, SFS |

# Ideal Study Plan Recommended Sequence of Study

**Bachelor of Information Technology (Applications Development)** 

| Year 1     |  |                 |
|------------|--|-----------------|
| Semester 1 |  | Credit<br>Hours |
| CIS 1003   | Information Systems in Organisations and Society             | Hours<br>3      |
| CIS 1203   | Web Technologies   | 3               |
| ICT 2013   | Computational Thinking and Coding                            | 3               |
| LSC 1103   | Professional Communication and Reporting                     | 3               |
| LSS 1003   | Life and Future Skills                                       | 3               |
|            | Credit Hours   | 15              |
| Semester 2 | orealt mound   |                 |
| AES 1013   | Arabic Communications I                                      | 3               |
| CIS 1103   | Hardware and Networking                                      | 3               |
| CIS 1303   | Data and Information Management                              | 3               |
| CIS 1403   | Fundamentals of Programming                                  | 3               |
| LSM 1003   | Applied Mathematics  | 3               |
|            | Credit Hours   | 15              |
| Year 2     | orealt Hours   | 10              |
| Semester 3 |  |                 |
| CIS 2103   | Principles of Information Assurance, Security and Privacy    | 3               |
| CIS 2203   | Applied Discrete Maths                                       | 3               |
| CIS 2403   | Object Oriented Programming                                  | 3               |
| CIS 2903   | Operating Systems  | 3               |
| LSS 1123   | Basic Research Methods                                       | 3               |
| L55 1123   |  |                 |
|            | Credit Hours   | 15              |
| Semester 4 | WIA E C D  |                 |
| CIA 2503   | Web Applications Development                                 | 3               |
| CIA 2513   | Key Components of IoT Architecture for Smart<br>Applications | 3               |
| CIS 2003   | Statistics and Probability                                   | 3               |
| CIS 2303   | Systems Analysis and Design                                  | 3               |
| LSC 2193   | Applied Skills Capstone                                      | 3               |
|            | Credit Hours   | 15              |
| Summer     |  |                 |
| CIS 2806   | Work Related Experience I                                    | 6               |
|            | Credit Hours   | 6               |
| Year 3     |  |                 |
| Semester 5 |  |                 |
| AES 1003   | Emirati Studies  | 3               |
| AES 1033   | Islamic Culture  | 3               |
| CIA 3123   | Mobile Game Development                                      | 3               |
| CIS 3003   | Human Computer Interaction                                   | 3               |
| CIS 3303   | System Architecture and Integration                          | 3               |
|            | Credit Hours   | 15              |
| Semester 6 |  |                 |
| CIA 3003   | Introduction to Mobile Applications                          | 3               |
| CIA 3103   | Database Design and Administration                           | 3               |
| CIA 3113   | IoT and Security   | 3               |
| CIA 3133   | Advanced Application Development                             | 3               |
| CIB 3103   | Object Oriented Analysis & Design                            | 3               |
| BUS 2403   | Innovation and Entrepreneurship                              | 3               |
|            | Credit Hours   | 18              |
| Summer     |  |                 |
| CIS 3806   | Work Related Experience II                                   | 6               |
|            | ation Technology Exit Option                                 |                 |
|            | Credit Hours   | 6               |
| Year 4     |  | 0               |
| Semester 7 |  |                 |
| CIA 4103   | Data Driven Web Technologies                                 | 3               |
| CIA 4203   | Enterprise Database Applications                             | 3               |
| CIS 4603   | Project Management   | 3               |
| CIS 4913   | Capstone Project I   | 3               |
| 010 4313   | Capatolic Floject i  | 3               |

| 4000 Level Elective |                                      | 3   |
|---------------------|--------------------------------------|-----|
|                     | Credit Hours                         | 15  |
| Semester 8          |                                      |     |
| CIA 4003            | Advanced Mobile Applications         | 3   |
| CIA 4503            | Advanced Object Oriented Programming | 3   |
| CIS 4923            | Capstone Project II                  | 3   |
| LSN 1113            | Introduction to Sustainability       | 3   |
| 4000 Level Elective |                                      | 3   |
|                     | Credit Hours                         | 15  |
|                     | Total Credit Hours                   | 135 |

# Bachelor of Information Technology (Interactive Multimedia Technologies)

| Technologies) |   |                 |
|---------------|---|-----------------|
| Year 1        |   |                 |
| Semester 1    |   | Credit<br>Hours |
| CIS 1003      | Information Systems in Organisations and Society          | 3               |
| CIS 1203      | Web Technologies  | 3               |
| ICT 2013      | Computational Thinking and Coding                         | 3               |
| LSC 1103      | Professional Communication and Reporting                  | 3               |
| LSS 1003      | Life and Future Skills                                    | 3               |
|               | Credit Hours  | 15              |
| Semester 2    |   |                 |
| AES 1013      | Arabic Communications I                                   | 3               |
| CIS 1103      | Hardware and Networking                                   | 3               |
| CIS 1303      | Data and Information Management                           | 3               |
| CIS 1403      | Fundamentals of Programming                               | 3               |
| LSM 1003      | Applied Mathematics                                       | 3               |
|               | Credit Hours  | 15              |
| Year 2        |   |                 |
| Semester 3    |   |                 |
| CIS 2103      | Principles of Information Assurance, Security and Privacy | 3               |
| CIS 2203      | Applied Discrete Maths                                    | 3               |
| CIS 2403      | Object Oriented Programming                               | 3               |
| CIS 2903      | Operating Systems   | 3               |
| LSS 1123      | Basic Research Methods                                    | 3               |
|               | Credit Hours  | 15              |
| Semester 4    |   |                 |
| CIM 2003      | Graphic Design for Multimedia                             | 3               |
| CIM 2103      | Storyboarding for Multimedia                              | 3               |
| CIS 2003      | Statistics and Probability                                | 3               |
| CIS 2303      | Systems Analysis and Design                               | 3               |
| LSC 2193      | Applied Skills Capstone                                   | 3               |
|               | Credit Hours  | 15              |
| Summer        |   |                 |
| CIS 2806      | Work Related Experience I                                 | 6               |
|               | Credit Hours  | 6               |
| Year 3        |   |                 |
| Semester 5    |   |                 |
| AES 1003      | Emirati Studies   | 3               |
| AES 1033      | Islamic Culture   | 3               |
| CIM 3003      | 2D Animation  | 3               |
| CIM 3503      | Computer Game Design and Development                      | 3               |
| CIS 3003      | Human Computer Interaction                                | 3               |
| CIS 3303      | System Architecture and Integration                       | 3               |
|               | Credit Hours  | 18              |
| Semester 6    |   |                 |
| CIA 2503      | Web Applications Development                              | 3               |
| CIM 3113      | Motion Graphics   | 3               |
| CIM 3203      | Programming for Multimedia                                | 3               |
| CIM 3403      | 3D Modelling and Animation                                | 3               |
|               |   |                 |

| BUS 2403               | Innovation and Entrepreneurship     | 3   |
|------------------------|-------------------------------------|-----|
|                        | Credit Hours                        | 15  |
| Summer                 |                                     |     |
| CIS 3806               | Work Related Experience II          | 6   |
| Higher Diploma in Info | rmation Technology Exit Option      |     |
|                        | Credit Hours                        | 6   |
| Year 4                 |                                     |     |
| Semester 7             |                                     |     |
| CIM 4003               | Multimedia Scripting                | 3   |
| CIM 4103               | Web Authoring and Administration    | 3   |
| CIS 4603               | Project Management                  | 3   |
| CIS 4913               | Capstone Project I                  | 3   |
| 4000 Level Elective    |                                     | 3   |
|                        | Credit Hours                        | 15  |
| Semester 8             |                                     |     |
| CIM 4203               | Virtual Reality and Simulation      | 3   |
| CIM 4303               | VFX, Audio, Editing and Composition | 3   |
| CIS 4923               | Capstone Project II                 | 3   |
| LSN 1113               | Introduction to Sustainability      | 3   |
| 4000 Level Elective    |                                     | 3   |
|                        | Credit Hours                        | 15  |
|                        | Total Credit Hours                  | 135 |

### **Bachelor of Information Technology (Networking)**

| Year 1     |   |                 |
|------------|---|-----------------|
| Semester 1 |   | Credit<br>Hours |
| CIS 1003   | Information Systems in Organisations and Society          | 3               |
| CIS 1203   | Web Technologies  | 3               |
| ICT 2013   | Computational Thinking and Coding                         | 3               |
| LSC 1103   | Professional Communication and Reporting                  | 3               |
| LSS 1003   | Life and Future Skills                                    | 3               |
|            | Credit Hours  | 15              |
| Semester 2 |   |                 |
| AES 1013   | Arabic Communications I                                   | 3               |
| CIS 1103   | Hardware and Networking                                   | 3               |
| CIS 1303   | Data and Information Management                           | 3               |
| CIS 1403   | Fundamentals of Programming                               | 3               |
| LSM 1003   | Applied Mathematics                                       | 3               |
|            | Credit Hours  | 15              |
| Year 2     |   |                 |
| Semester 3 |   |                 |
| CIS 2103   | Principles of Information Assurance, Security and Privacy | 3               |
| CIS 2203   | Applied Discrete Maths                                    | 3               |
| CIS 2403   | Object Oriented Programming                               | 3               |
| CIS 2903   | Operating Systems   | 3               |
| LSS 1123   | Basic Research Methods                                    | 3               |
|            | Credit Hours  | 15              |
| Semester 4 |   |                 |
| CIN 2003   | Enterprise Network Services                               | 3               |
| CIN 2103   | Networking Fundamentals                                   | 3               |
| CIS 2003   | Statistics and Probability                                | 3               |
| CIS 2303   | Systems Analysis and Design                               | 3               |
| LSC 2193   | Applied Skills Capstone                                   | 3               |
|            | Credit Hours  | 15              |
| Summer     |   |                 |
| CIS 2806   | Work Related Experience I                                 | 6               |
|            | Credit Hours  | 6               |
| Year 3     |   |                 |
| Semester 5 |   |                 |
| AES 1003   | Emirati Studies   | 3               |

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| AES 1033                 | Islamic Culture                                  | 3   |
|--------------------------|--|-----|
| CIN 2203                 | Routing Protocols                                | 3   |
| CIN 3003                 | LAN Switching                                    | 3   |
| CIS 3003                 | Human Computer Interaction                       | 3   |
| CIS 3303                 | System Architecture and Integration              | 3   |
|                          | Credit Hours                                     | 18  |
| Semester 6               |  |     |
| CIN 3103                 | Wireless Networks                                | 3   |
| CIN 3203                 | WAN Technologies                                 | 3   |
| CIN 3303                 | Network Security                                 | 3   |
| CIN 3503                 | Virtualisation Technologies                      | 3   |
| BUS 2403                 | Innovation and Entrepreneurship                  | 3   |
|                          | Credit Hours                                     | 15  |
| Summer                   |  |     |
| CIS 3806                 | Work Related Experience II                       | 6   |
| Higher Diploma in Inform | mation Technology Exit Option                    |     |
|                          | Credit Hours                                     | 6   |
| Year 4                   |  |     |
| Semester 7               |  |     |
| CIN 4003                 | Routing Solutions for the Enterprise             | 3   |
| CIN 4103                 | Network Management                               | 3   |
| CIS 4603                 | Project Management                               | 3   |
| CIS 4913                 | Capstone Project I                               | 3   |
| 4000 level elective      |  | 3   |
|                          | Credit Hours                                     | 15  |
| Semester 8               |  |     |
| CIN 4113                 | Scalable Computer Network                        | 3   |
| CIN 4203                 | Voice over Internet Protocol (VoIP) Fundamentals | 3   |
| CIS 4923                 | Capstone Project II                              | 3   |
| LSN 1113                 | Introduction to Sustainability                   | 3   |
| 4000 level elective      |  | 3   |
|                          | Credit Hours                                     | 15  |
|                          | Total Credit Hours                               | 135 |
|                          |  |     |

### **Bachelor of Information Technology (Security and Forensics)**

| Year 1     |   |                 |
|------------|---|-----------------|
| Semester 1 |   | Credit<br>Hours |
| CIS 1003   | Information Systems in Organisations and Society          | 3               |
| CIS 1203   | Web Technologies  | 3               |
| ICT 2013   | Computational Thinking and Coding                         | 3               |
| LSC 1103   | Professional Communication and Reporting                  | 3               |
| LSS 1003   | Life and Future Skills                                    | 3               |
|            | Credit Hours  | 15              |
| Semester 2 |   |                 |
| AES 1013   | Arabic Communications I                                   | 3               |
| CIS 1103   | Hardware and Networking                                   | 3               |
| CIS 1303   | Data and Information Management                           | 3               |
| CIS 1403   | Fundamentals of Programming                               | 3               |
| LSM 1003   | Applied Mathematics                                       | 3               |
|            | Credit Hours  | 15              |
| Year 2     |   |                 |
| Semester 3 |   |                 |
| CIS 2103   | Principles of Information Assurance, Security and Privacy | 3               |
| CIS 2203   | Applied Discrete Maths                                    | 3               |
| CIS 2403   | Object Oriented Programming                               | 3               |
| CIS 2903   | Operating Systems   | 3               |
| LSS 1123   | Basic Research Methods                                    | 3               |
|            | Credit Hours  | 15              |
| Semester 4 |   |                 |
| CIN 2103   | Networking Fundamentals                                   | 3               |

| CIS 2003                 | Statistics and Probability               | 3   |
|--------------------------|--|-----|
| CIS 2303                 | Systems Analysis and Design              | 3   |
| CSF 2113                 | Programming for Information Security     | 3   |
| LSC 2193                 | Applied Skills Capstone                  | 3   |
|                          | Credit Hours                             | 15  |
| Summer                   |  |     |
| CIS 2806                 | Work Related Experience I                | 6   |
|                          | Credit Hours                             | 6   |
| Year 3                   |  |     |
| Semester 5               |  |     |
| AES 1003                 | Emirati Studies                          | 3   |
| AES 1033                 | Islamic Culture                          | 3   |
| CIN 2003                 | Enterprise Network Services              | 3   |
| CIS 3003                 | Human Computer Interaction               | 3   |
| CIS 3303                 | System Architecture and Integration      | 3   |
| CSF 3003                 | Cyber Law and Ethics                     | 3   |
|                          | Credit Hours                             | 18  |
| Semester 6               |  |     |
| CSF 3103                 | Incidence Response and Disaster Recovery | 3   |
| CSF 3203                 | Intrusion Detection and Ethical Hacking  | 3   |
| CSF 3403                 | Computer Forensics and Investigation     | 3   |
| CSF 3603                 | Cryptography and Network Security        | 3   |
| BUS 2403                 | Innovation and Entrepreneurship          | 3   |
|                          | Credit Hours                             | 15  |
| Summer                   |  |     |
| CIS 3806                 | Work Related Experience II               | 6   |
| Higher Diploma in Inform | nation Technology Exit Option            |     |
|                          | Credit Hours                             | 6   |
| Year 4                   |  |     |
| Semester 7               |  |     |
| CIS 4603                 | Project Management                       | 3   |
| CSF 4003                 | Security and Risk Management             | 3   |
| CSF 4103                 | Web Application and E-Commerce Security  | 3   |
| CIS 4913                 | Capstone Project I                       | 3   |
| 4000 Level Elective      |  | 3   |
|                          | Credit Hours                             | 15  |
| Semester 8               |  |     |
| CSF 4203                 | Telecommunications and WAN Security      | 3   |
| CSF 4613                 | Security Intelligence                    | 3   |
| CIS 4923                 | Capstone Project II                      | 3   |
| LSN 1113                 | Introduction to Sustainability           | 3   |
| 4000 Level Elective      |  | 3   |
|                          | Credit Hours                             | 15  |
|                          | Total Credit Hours                       | 135 |
|                          |  | 100 |

Additional courses may be offered in each Summer Semester at the discretion of the academic faculty

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