

College of Information Technology
Bachelor of Science in Information Technology – Major in Cybersecurity



| COURSE NO. | UNIVERSITY REQUIREMENTS (30 CREDIT HOURS) | PREREQUISITE | CH |
|------------------|--|-----------------------|----|
| COMM 103 | Language and Communication | None | 3 |
| HIST 103 | History of Qatar | None | 3 |
| LAWC 305 | Governance | None | 3 |
| SOCI 102 | Islamic and World Cultures | None | 3 |
| UNIV 101 | University Success | None | 3 |
| UNIV 201 | Leadership, Entrepreneurship, and Innovation | None | 3 |
| ENGL 114 | English Composition I | None | 3 |
| ENGL 115 | English Composition II | ENGL 114 | 3 |
| STDE 201 | Sustainable Development | None | 3 |
| Foreign Language | Foreign Language Requirement | None | 3 |
| COURSE NO. | MAJOR REQUIREMENTS (33 CREDIT HOURS) | PREREQUISITE | CH |
| ITCS 203 | Cybersecurity Programming | ITCC 204 | 3 |
| ITCS 311 | Cryptography | ITCC 101, ITCC 102 | 3 |
| ITCC 301 | Operating Systems | ITCC 104 ITCC 201 | 3 |
| ITCS 316 | Web Development | ITCS 203 | 3 |
| ITCS 317 | Principles of Cybersecurity | ITCS 303 | 3 |
| ITCS 310 | Network Security | ITCS 303 | 3 |
| ITCS 312 | Malware Analysis | ITCC 301 ITCC 307 | 3 |
| ITCS 416 | Information Assurance Compliance, Audit, and Risk Management | None | 3 |
| ITCS 407 | Ethical Hacking and Penetration Testing | ITCS 310, ITCS 316 | 3 |
| ITCS 417 | Digital Forensics | ITCC 301, ITCS 303 | 3 |
| ITCS 401 | Cyber-Physical Systems Security | ITCS 310 | 3 |
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| COURSE NO. | COLLEGE REQUIREMENTS (48 CREDIT HOURS) | PREREQUISITE | CH |
|------------|--|--|----|
| ITCC 102 | Discrete Mathematics | None | 3 |
| ITCC 204 | Computer Programming | None | 3 |
| ITCC 105 | Calculus | None | 3 |
| ITCC 101 | Linear Algebra | ITCC 105 | 3 |
| ITCC 250 | Object Oriented Programming | ITCC 204 | 3 |
| ITCC 201 | Data Structures | ITCC 250 | 3 |
| STAT 201 | Probability and Statistics | ITCC 105 | 3 |
| ITCC 104 | Fundamentals of Information Technology | None | 3 |
| ITCC 103 | Algorithms and Problem Solving | ITCC 201 | 3 |
| ITCC 106 | Ethics and Professional Responsibilities | None | 3 |
| ITCC 306 | Database Systems | ITCC 250 | 3 |
| ITCC 307 | Software Engineering | ITCC 250 | 3 |
| ITCS 303 | Networks | ITCC 104 | 3 |
| ITAI 201 | Introduction to Artificial Intelligence | ITCC 204 | 3 |
| ITCC 400 | Practical Training | ITCC 307, and should pass at least 75 CH | 3 |
| ITCC 403 | Graduation Project | ITCC 307, and should pass at least 81 CH | 3 |
| COURSE NO. | MAJOR ELECTIVE COURSES (9 CREDIT HOURS) | PREREQUISITE | CH |
| ITCS 315 | Special Topics in Cybersecurity | None | 3 |
| ITCS 415 | Blockchain Technology | ITCC 201, ITCS 311 | 3 |
| ITCS 411 | Risk Management | ITCS 317, ITCS 416 | 3 |
| ITCS 412 | Multimedia Security | ITCS 201, ITCS 310 ITCS 311 | 3 |
| ITCS 413 | Secure Systems Analysis and Design | ITCC 306, ITCC 307 | 3 |
| ITCS 414 | Wireless Networks and Security | ITCS 310 | 3 |
| ITEC 304 | Cloud Computing | ITCS 303 | 3 |
| ITEC 305 | IT Project Management and Entrepreneurship | None | 3 |
| ITEC 403 | Mobile Applications Development | ITCC 250 | 3 |
| ITEC 303 | Data Analytics | ITAI 201 | 3 |

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| Academic Year 1 (30) | | | | | |
|----------------------------|-----------------------|----|------------------------------|--|----|
| Semester 1 - Fall Semester | | | Semester 2 - Spring Semester | | |
| Course no | Course Title | CH | Course no | Course Title | CH |
| ITCC 105 | Calculus | 3 | ITCC 250 | Object Oriented Programming | 3 |
| ITCC 204 | Computer Programming | 3 | ITCC 101 | Linear Algebra | 3 |
| ITCC 102 | Discrete Mathematics | 3 | ITCC 104 | Fundamentals of Information Technology | 3 |
| HIST 103 | History of Qatar | 3 | UNIV 101 | University Success | 3 |
| ENGL 114 | English Composition I | 3 | ENGL 115 | English Composition II | 3 |
| Total Credit Hours = 15 | | | Total Credit Hours = 15 | | |

| Academic Year 2 (30) | | | | | |
|----------------------------|--|----|------------------------------|--|----|
| Semester 1 - Fall Semester | | | Semester 2 - Spring Semester | | |
| Course no | Course Title | CH | Course no | Course Title | CH |
| ITCC 201 | Data Structures | 3 | ITCC 103 | Algorithms and Problem Solving | 3 |
| ITCS 203 | Cybersecurity Programming | 3 | ITCC 306 | Database Systems | 3 |
| STAT 201 | Probability and Statistics | 3 | ITAI 201 | Introduction to Artificial Intelligence | 3 |
| ITCC 106 | Ethics and Professional Responsibilities | 3 | UNIV 201 | Leadership, Entrepreneurship, and Innovation | 3 |
| COMM 103 | Language and Communication | 3 | STDE 201 | Sustainable Development | 3 |
| Total Credit Hours = 15 | | | Total Credit Hours = 15 | | |

| Academic Year 3 (30) | | | | | |
|----------------------------|----------------------|----|------------------------------|------------------------------|----|
| Semester 1 - Fall Semester | | | Semester 2 - Spring Semester | | |
| Course no | Course Title | CH | Course no | Course Title | CH |
| ITCS 303 | Networks | 3 | ITCS 317 | Principles of Cybersecurity | 3 |
| ITCC 307 | Software Engineering | 3 | ITCS 310 | Network Security | 3 |
| ITCS 311 | Cryptography | 3 | ITCS 312 | Malware Analysis | 3 |
| ITCC 301 | Operating Systems | 3 | Major Elec | Major Elective | 3 |
| ITCS 316 | Web Development | 3 | Foreign Language | Foreign Language Requirement | 3 |
| Total Credit Hours = 15 | | | Total Credit Hours = 15 | | |

| ITCC 400 Practical Training Total Credit Hours =3 | | | | | |
|---|--|----|------------------------------|---------------------------------|----|
| Academic Year 4 (30) | | | | | |
| Semester 1 - Fall Semester | | | Semester 2 - Spring Semester | | |
| Course no | Course Title | CH | Course no | Course Title | CH |
| ITCC 403 | Graduation Project | 3 | ITCS 417 | Digital Forensics | 3 |
| ITCS 407 | Ethical Hacking and Penetration Testing | 3 | ITCS 401 | Cyber-Physical Systems Security | 3 |
| ITCS 416 | Information Assurance Compliance, Audit, and Risk Management | 3 | Major Elec | Major Elective | 3 |
| Major Elec | Major Elective | 3 | SOCI 102 | Islamic and World Culture | 3 |
| LAWC 305 | Governance | 3 | | | |
| Total Credit Hours = 15 | | | Total Credit Hours = 12 | | |