JUMEIRA UNIVERSITY جامعة جميرا

B.Sc. in COMPUTER SCIENCE CYBERSECURITY

PROGRAM STRUCTURE

University Requirements (24 Credit Hours)
Core Courses (18 Credit Hours)

Course Code	Course Title	CH	Pre-Requisites
GE 101 or *GE 115	Arabic Language Communication1 or Basic Arabic Language 1	3	
GE 103	English Language Communication 1	3	
GE 104	English Language Communication 2	3	
GE 125	Fundamentals of Entrepreneurship & Innovation	3	
GE 142 / GE 144	مجتمع الإمارات /UAE Society	3	
GE 147 / GE 141	الثقافة الإسلامية / Islamic Thought	3	
	Total	**18**	**Credit Hours**

Elective Courses (6 Credit Hours)

University Requirements - Elective Courses			
Course Code	**Course Title**	**CH**	**Pre-Requisites**
GE 102 or *GE 116	Arabic Language Communication 2 or Basic Arabic Language 2	3	
GE 114	Principles of Research Skills	3	
GE 123 / GE 107	الإدارة الذاتيةPersonal Management /	3	
GE 131	Critical Thinking	3	
GE 145 / GE 140	الحضارةIslamic Civilization / الإسلامية	3	
GE 148	UAE Economy and Labour Market	3	
GE 132	Introduction to Programming	3	
GE 133	Linear Algebra	3	
	Total	**6**	**Credit Hours**

College Requirements (54 Credit Hours)
Core Courses (45 Credit Hours)

Course Code	Course Title	CH	Pre-Requisites
MA 110	Probability and Statistics	3	None
CG 200	Digital Logic Design	3	None
MA 201	Calculus	3	GE 133
MA 202	Discrete Mathematics	3	MA 201
CG 203	Fundamentals of Computer Hardware	3	CG 200
CG 204	Fundamentals of Computer Networks	3	None

CG 205	Fundamentals of Relational Database Management Systems	3	GE 132
CG 300	Advanced/Object Oriented Programming	3	CG 207
CG 206	Database Administration	3	CG 205
CG 207	Introduction to Information Security	3	CG 204
CG 208	Web Engineering	3	GE 132
CG 301	Software Engineering	3	CG 205
CG 400	Research Methodology & Project Planning	3	CG 207
CG 490	CS Internship	3	90 Credits.
CG 499	CS Project	3	96 Credits.
	Total	**45**	**Credit Hours**

College Elective Courses (9 Credit Hours)

Course Code	Course Title	CH	Pre-Requisites
CG 401	Scientific Programming	3	CG 300
CG 302	Applied Regression Analysis	3	MA 110
CG 402	Advanced Data Mining	3	CG 205
CG 403	Time Series Analysis	3	MA 110
CG 404	Data Visualization	3	CG 209
CG 405	Advanced Web Engineering	3	CG 208
CG 406	Information Audit and Assurance	3	CG 206
CG 407	Risk Management	3	CG 305
CG 408	Network Administration	3	CG 204
	Total	**9**	**Credit Hours**

Program Requirements (42 Credit Hours)

Core Courses (33 Credit Hours))

Course Code	Course Title	CH	Pre-Requisites
CG 209	Algorithms and Data Structure	3	GE 132
CG 303	Operating Systems	3	CG 203
CG 409	Block Chain Technologies	3	CG 209
CG 304	IoT Concepts and Architecture	3	CG 203, CG 204
CG 410	Software Project Management	3	CG 301
	Concentration Courses	18	
	Total	**33**	**Credit Hours**

Program Elective Courses (9 Cr)

Course Code	Course Title	CH	Pre-Requisites
CG 411	Network Security & Management	3	CG 207
CG 412	Programming with Python	3	CG 300
CG 413	Software Requirement Specification	3	CG 301
CG 305	Mobile & Cloud Computing	3	CG 204, CG 303
CG 306	Software Development Process	3	CG 301
	Total	**9**	**Credit Hours**

Concentration Courses (18 Credit Hours)

Course Category – Cybersecurity Core Courses = 18 CREDITS

Course Code	Course Title	CH	Pre-Requisites
CS 210	Introduction to Cybersecurity	3	None
CS 301	Cloud Security and Privacy	3	CG 207
CS 302	Cryptography	3	CG 207
CS 303	Digital Forensics	3	CS 302
CS 401	Cyber Crime and Law	3	CS 301
CS 402	Ethical Hacking	3	CG 207
	Total	**18**	**Credit Hours**

Completion requirements

To be awarded a Bachelor of Science in Computer Science, students will have to successfully complete 120 credit hours comprising of:

Full-Time Students: A full-time student is expected to complete the degree program in four years (8 semesters).

Program Offering: The program is offered on both a full-time and part-time basis.

Maximum Study Period: The maximum study period permitted for all students (full-time and part-time) to complete the program is 14 semesters. (7 years)

Requirements	Core	Elective	Total
University	18	6	24
College	45	9	54
Program	15	9	24
Concentration	18	0	18
Total	**96**	**24**	**120**

Study Plan

Year 1 – Semester 1

COURSE	PRE-REQUISITES	CREDITS
GE 101 Arabic Language Communication or GE 115 Basic Arabic Language 1	None	3
GE 103 English Language Communication 1	None	3
GE 142 /مجتمع الإمارات UAE Society	None	3
GE 147 / الثقافة الإسلامية Islamic Thought	None	3
GE 133 Linear Algebra	None	3

Year 1 – Semester 2

COURSE	PRE-REQUISITES	CREDITS
CG 200 Digital Logic Design	None	3
GE 104 English Language Communication 2	None	3
GE 125 Fundamentals of Entrepreneurship & Innovation	None	3
MA 110 Probability and Statistics	None	3
GE 132 Introduction to Programming	None	3

Year 2 – Semester 1

COURSE	PRE-REQUISITES	CREDITS
MA 201 Calculus	GE 133	3
CG 203 Fundamentals of Computer Hardware	CG 200	3
CG 209 Algorithms and Data Structure	GE 132	3
CG 205 Fundamentals of Relational Database Management Systems	GE 132	3
CG 204 Fundamentals of Computer Networks	None.	3

Year 2 – Semester 2

COURSE	PRE-REQUISITES	CREDITS
CG 208 Web Engineering	GE 132	3
MA 202 Discrete Mathematics	MA 201	3
CG 207 Introduction to Information Security	CG 205	3

CG 206 Database Administration	CG 205	3
Program Requirement Concentration 1- Program Core Course		

Year 3 – Semester 1

COURSE	PRE-REQUISITES	CREDITS
Program Requirement Concentration 2- Program Core Courses		3
CG 300 Advanced/Object-Oriented Programming	CG 132	3
Program Elective 1		
CG 303 Operating Systems	CG 203	3
Program Requirement Concentration 3- Program Core Courses		3

Year 3 – Semester 2

COURSE	PRE-REQUISITES	CREDITS
College Elective 1		3
CG 301 Software Engineering	CG 205	3
CG 304 IoT Concepts and Architecture	CG 203, CG 204	3
Program Elective 3		3
Program Requirement Concentration 4		3

Year 4 –Semester 1

COURSE	PRE-REQUISITES	CREDITS
CG 409 Block Chain Technologies	CG 209	3
College Elective 2		3
Program Elective 2		3
CG 400 Research Methodology & Project Planning	CG 301	3
Program Requirement Concentration 5		3

Year 4 – Semester 2

COURSE	PRE-REQUISITES	CREDITS
College Elective 3		3
CG 410 Software Project Management		3
Program Requirement Concentration 6		3
CG 499 CS Project	96 Credits	3
CG 490 CS Internship	90 Credits	3