Program Viewbook

Bachelor of Science in Cloud Computing (BScCC)

Program Description

The Bachelor of Science in Cloud Computing (BScCC) program prepares graduates with the knowledge and practical skills needed to design, implement, manage, and secure modern computing systems, with a focus on cloud computing technologies. The program emphasizes a systematic approach to analyzing computing problems and developing secure, scalable, and efficient solutions.

Students build a strong foundation in core computing areas, including programming, data structures, database systems, computer architecture, operating systems, computer networks, and software engineering. This foundation is supported by mathematics and statistics, which strengthen analytical thinking and problem-solving abilities.

Building on this, the program develops students' expertise in cloud computing, covering areas such as cloud service and delivery models, cloud architecture, cloud security, cost management, and automation. The curriculum also includes key supporting areas such as artificial intelligence, big data analytics, web and mobile application development, and management information systems, enabling students to work effectively in modern computing environments.

Through laboratory work, team-based assignments, internship training, and a graduation project, students gain hands-on experience using contemporary tools and technologies in cloud-based environments.

Graduates of the program are well prepared to analyze complex computing problems and deliver secure, scalable, and efficient cloud-based solutions that meet industry needs.

Program Learning Outcomes (PLOs)

PLO 1: Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.

PLO 2: Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.

PLO 3: Communicate effectively in a variety of professional contexts.

PLO 4: Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.

PLO 5: Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline

PLO 6: Use systematic approaches to design, deploy, integrate, and manage secure, scalable cloud-based systems to meet organizational requirements.

Program Completion Requirements

The BScCC degree shall be awarded to a student upon completing the following requirements:

- The student enrolled in the program must have passed 123 credit hours.
- The student must achieve a CGPA of not less than 2.0 on a scale of 4.0 points.
- The student must have earned at least 50% of credits at CUD.
- Internship and Graduation Project work must be completed at CUD.

Program Structure

Core Courses	**84 Cr. Hrs.**
Electives	**06 Cr. Hrs.**
Practical Experience and Projects	**09 Cr. Hrs.**
University Requirements	**24 Cr. Hrs.**
Total	**123 Cr. Hrs.**

List of Courses

I. Core Courses

Course			Prerequisite	Cr. Hrs.
Mathematics and Statistics				**09**
MTH	112	Calculus I	None	3
MTH	120	Discrete Mathematics	None	3
MTH	130	Probability and Statistics	MTH 112	3
Information Technology Core				**50**
SWS	110	Programming I	None	3
SWS	111	Programming II	SWS 110	3
BCS	206	Information Structures	SWS 111	3
BCC	211	Software Engineering	SWS 111	3
BCS	306	Database Management Systems	SWS 111	3
ENG	210	Computer Architecture	SWS 110	4
BCS	301	Operating Systems	ENG 210	4
BCS	407	Artificial Intelligence	SWS 111, MTH 130	3
BCC	311	Management Information Systems	BCS 206, BCS 306	3
SWS	215	Web Development	BCS 306	3
BCC	321	Big Data Analytics	SWS 111 and MTH 130	3
SWS	315	Mobile Application Development	SWS 215	3
BCS	401	Ethics for Computing Professionals	None	3
BCC	313	UI/UX Design	BCS 206	3
BCS	221	Communication Networks	SWS 110	3
BUS	310	Project Management	Completion of 60 Cr. Hrs.	3
Cloud Computing Courses				**25**
BCS	303	Security Principles and Practices	BCS 221	4
BCC	221	Introduction to Cloud Computing	BCS 301	3

Course			Prerequisite	Cr. Hrs.
BCC	312	Cloud Services and Delivery Models	BCC 221	3
BCC	322	Cloud Security	BCC 312 and BCS 303	3
BCC	323	Cloud Architecture and DevOps	BCC 312	3
BCC	411	Cloud Cost Management and FinOps	BCC 323	3
BCC	421	AIOps and Cloud Automation	BCC 323	3
BCC	422	IoT and Edge Computing	BCC 221	3

II. Elective Courses

Course			Prerequisite	06 Cr. Hrs.
Elective Courses (06 Credits): Students are required to select two courses from the following courses.				
BCC	423	Enterprise Cloud Solutions & Certification Practicum	BCC 323	3
BCC	424	Blockchain and Distributed IT	BCC 322	3
BCC	425	IT Service Management	Completion of 90 Cr. Hrs.	3
BCC	426	Multi-Cloud and Cloud-Native Systems	BCC 312	3
BCC	427	Cloud SysOps Administration	BCC 323	3

III. Practical Experience & Projects

Course			Pre/Co-requisite	Cr. Hrs.
Practical Experience and Project				**09**
BCC	380	Internship in Cloud Computing	Completion of 60 Cr. Hrs. and CGPA ≥ 2.0	3
BCC	417	Graduation Project in Cloud Computing	Completion of 90 Cr. Hrs.	6

IV- University Requirements

University Requirements Courses				**24**
Course			**Pre/Co-requisite**	**Cr. Hrs.**
Compulsory Courses				**18**
LNG	181	English I for Engineering and Computing	None	3
LNG	182	English II for Engineering and Computing	LNG 181	3
GED	190	Emirati Studies	None	3
GED	255	Critical Thinking and Problem Solving	LNG 182	3
ENT	141	Fundamentals of Innovation and Entrepreneurship 1	None	2
ENT	142	Fundamentals of Innovation and Entrepreneurship 2	ENT 141	1
ENT	241	Entrepreneurship 1	ENT 142	2
ENT	242	Entrepreneurship 2	ENT 241	1
Science Elective Courses (03 Credits): Students are required to select one course from the following courses				**03**
BIO	102	Biology I	None	3
SHS	103	Chemistry	None	3
SCI	210	Modern Physics	None	3
Humanity Elective Courses (03 Credits): Students are required to select one course from the following courses				**3**
GED	103	Head Anatomy Sculpture	None	3
GED	106	Smart Decisions: Data Literacy and Visualization	None	3

GED	110	Modern Art Appreciation	None	3
GED	111	Music Appreciation and Communication	None	3
GED	191	Islamic Studies	None	3
GED	196	Communication Skills in Arabic	None	3
GED	205	Psychology in Everyday Life	LNG 182	3
GED	324	Ethical Reasoning for Today's World	LNG 182	3
GED	330	Introduction to Canadian Studies	None	3

Eight Semesters Study Plan

Semester	Course Code		Course Title	Prerequisite	Cr. Hrs.
1	LNG	181	English I for Engineering and Computing	None	3
	SWS	110	Programming I	None	3
	MTH	112	Calculus I	None	3
	ENT	141	Fundamentals of Innovation and Entrepreneurship 1	None	2
	GED	190	Emirati Studies	None	3
	Total				**14**
2	LNG	182	English II for Engineering and Computing	LNG 181	3
	SWS	111	Programming II	SWS 110	3
	MTH	120	Discrete Mathematics	None	3
	ENT	142	Fundamentals of Innovation and Entrepreneurship 2	ENT 141	1
	ENG	210	Computer Architecture	SWS 110	4
	XXX	XXX	Science Elective	None	3
	Total				**17**
3	MTH	130	Probability and Statistics	MTH 112	3
	BCC	211	Software Engineering	SWS 111	3
	BCS	301	Operating Systems	ENG 210	4
	ENT	241	Entrepreneurship 1	ENT 142	2
	BCS	306	Database Management Systems	SWS 111	3
	BCS	401	Ethics for Computing Professionals	None	3
	Total				**18**
4	BCC	221	Introduction to Cloud Computing	BCS 301	3
	BCS	206	Information Structures	SWS 111	3
	BCS	221	Communication Networks	SWS 110	3
	SWS	215	Web Development	BCS 306	3
	ENT	242	Entrepreneurship 2	ENT 241	1
	Total				**13**
5	XXX	XXX	Humanities Elective (1)		3
	BCC	311	Management Information Systems	BCS 206 and BCS 306	3
	BCS	303	Security Principles and Practices	BCS 221	4
	BCC	312	Cloud Services and Delivery Models	BCC 221	3
	BCC	313	UI/UX Design	BCS 206	3
	Total				**16**
6	BUS	310	Project Management	Completion of 60 Cr. Hrs.	3
	BCC	321	Big Data Analytics	SWS 111 and MTH 130	3
	BCC	322	Cloud Security	BCC 312 and BCS 303	3
	BCC	323	Cloud Architecture and DevOps	BCC 312	3
	GED	255	Critical Thinking and Problem Solving	LNG 182	3
	Total				**15**
7	SWS	315	Mobile Application Development	SWS 215	3
	XXX	XXX	Program Elective (1)		3
	BCC	411	Cloud Cost Management and FinOps	BCC 323	3
	BCC	417	Graduation Project in Cloud Computing	Completion of 90 Cr. Hrs.	6
	Total				**15**
	BCC	421	AIOps and Cloud Automation	BCC 323	3
	BCC	422	IoT and Edge Computing	BCC 221	3
	BCS	407	Artificial Intelligence	SWS 111 and MTH 130	3
	XXX	XXX	Program Elective (2)		3
	Total				**12**
BCC 380 (Internship in Cloud Computing). The internship must be completed during the summer after completing 60 credit hours and achieving a CGPA of 2.0 or higher.					3
Total Credit Hours					**123**