Program Viewbook

Bachelor of Science in Artificial Intelligence (BScAI)

Program Description

The Bachelor of Science in Artificial Intelligence (BScAI) program at Canadian University Dubai is designed to address the rising global demand for intelligent technologies that are reshaping industries and everyday life. This innovative program combines computer science, and advanced AI methodologies to equip students with the knowledge and skills needed to excel in today's digital economy. Students will gain a strong foundation through a blend of theoretical learning, practical programming, and hands-on projects. Core areas of focus include machine learning, computer vision, natural language processing, and ethical dimensions of AI. With an emphasis on real-world applications, critical thinking and innovation, the program prepares graduates to become future leaders in a rapidly evolving technological landscape.

Graduates of the BScAI program will be prepared for diverse and dynamic career paths across industries, from established companies to emerging startups. They may take roles such as AI Engineer, Machine Learning Specialist, Data Scientist, Computer Vision Engineer, Natural Language Processing (NLP) Specialist, working in advanced systems that drive innovation and efficiency. Opportunities also extend to Conversational AI Developer, AI Research Assistant, and Tech Entrepreneur.

Program Learning Outcomes (PLOs)

PLO 1: Demonstrate knowledge of relevant theories and principles of computing-related solutions in specialized domains.

PLO 2: Analyze a complex computing problem and apply principles of computing, artificial intelligence and other relevant disciplines to identify solutions.

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

PLO 4: Communicate effectively in a variety of professional contexts.

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

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

PLO 7: Apply artificial intelligence theory and software development fundamentals to produce computing-based solutions.

PLO 8: Assimilate new knowledge and skills into their practice by learning from experiences gained in different contexts of artificial intelligence.

Program Completion Requirements

The Bachelor of Science in Artificial Intelligence (BScAI) degree shall be awarded to a student who is officially enrolled in the program and has fulfilled the following requirements:

- Successful completion of 128 credit hours.
- Achievement of a minimum cumulative GPA of 2.0 on a 4.0 scale.
- Completion of at least 50% of total program credit hours at CUD.
- Completion of the Internship and Graduation Project while enrolled at CUD.

Program Structure

Core Courses	**113 Cr. Hrs.**
Electives	**06 Cr. Hrs.**
Practical Experience and Projects	**09 Cr. Hrs.**
Total	**128 Cr. Hrs.**

List of Courses

I. Core Courses

Course			Pre/Co-requisite	Cr. Hrs.
Mathematics and Statistics				**21**
MTH	112	Calculus I	None	3
MTH	113	Calculus II	MTH 112	3
MTH	114	Linear Algebra	MTH 112	3
MTH	120	Discrete Mathematics	None	3
MTH	130	Probability and Statistics	MTH 112	3
MTH	203	Discrete Mathematics for Computing Science	BCS 102, MTH 120	3
BCS	311	Scientific Computing	BCS 102, MTH 114	3
Artificial Intelligence Core				**62**
BAI	101	AI and Modern Life	None	3
BAI	201	Introduction to Artificial Intelligence	BCS 101, MTH 112	3
BAI	202	Data Engineering	BCS 202, MTH 130	3
BAI	301	Introduction to Machine Learning	BAI 201, MTH 130	3
BAI	302	Generative AI	BAI 201	3
BAI	304	Deep Neural Networks	BAI 201, MTH 114	3
BAI	306	Computer Vision	BCS 202, MTH 114, BAI 301	3
BAI	308	Introduction to Natural Language Processing	BCS 206, BAI 301	3
BAI	401	Artificial Intelligence on the Cloud	BCS 301, BCS 303, BAI 301	3
BAI	402	Reinforcement Learning	BAI 301	3
BAI	403	Agentic Artificial Intelligence	BAI 201, BCS 309	3
BAI	404	Conversational AI and Dialogue Systems	BAI 308	3
BCS	101	Elements of Computing	None	3
BCS	102	Introduction to Computing Science I	BCS 101	3
BCS	202	Introduction to Computing Science II	BCS 102	3
BCS	206	Information Structures	BCS 202, MTH 203	3

Course			Pre/Co-requisite	Cr. Hrs.
BCS	221	Communication Networks	BCS 102	3
BCS	301	Operating Systems	BCS 206, (ENG 210 or BAI 201)	4
BCS	303	Security Principles and Practices	BCS 221	4
BCS	309	Algorithms I	BCS 206, (BCS 201 or BAI 201)	3
Professional Practice				**30**
Compulsory Courses (24 Credit Hours)				
BAI	204	AI Project Management	BAI 201	3
BCS	401	Ethics for Computing Professionals	None	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
GED	255	Critical Thinking and Problem Solving	LNG 182 or LNG 172	3
GED	190	Emirati Studies	None	3
LNG	181	English I for Engineering and Computing	None	3
LNG	182	English II for Engineering and Computing	LNG 181 or LNG 172	3
Elective Courses – Science Pool (3 Credit Hours)				
BIO	102	Biology I	None	3
SHS	103	Chemistry	None	3
SCI	210	Modern Physics	None	3
Elective Courses – Humanities Pool (3 Credit Hours)				
GED	110	Modern Art Appreciation	None	3
GED	111	Music Appreciation and Communication	None	3
GED	205	Psychology in Everyday Life	LNG-172 or LNG-182	3
GED	324	Ethical Reasoning for Today's World	LNG-172 or LNG-182	3
GED	330	Introduction to Canadian Studies	None	3
GED	196	Communication Skills in Arabic	None	3
GED	191	Islamic Studies	None	3

II. Elective Courses

Course			Pre/Co-requisite	Cr. Hrs.
Program Major Requirement – Elective Courses (6 Credit Hours)				
BAI	411	Speech Recognition and Synthesis	BAI 308	3
BAI	412	Sentiment Analysis and Text Mining	BAI 308	3
BAI	413	Multilingual Natural Language Processing	BAI 308	3
BAI	414	Deep Learning for Computer Vision	BAI 306	3
BAI	415	3D Vision and Augmented Reality	BAI 306	3

III. Practical Experience & Projects

Course			Pre/Co-requisite	Cr. Hrs.
ENG	420	Internship	90 Credit Hours & CGPA ≥ 2.0	3
BAI	410	Artificial Intelligence Project	Completed 90 Cr. Hrs.	6

Eight Semesters Study Plan

Semester	Course Code		Course Title	Prerequisite/Corequisite	Cr. Hrs.
1	LNG	181	English I for Engineering and Computing	None	3
	XXX	XXX	Professional Practice (Humanities Pool) Elective-1	None	3
	MTH	112	Calculus I	None	3
	BAI	101	AI and Modern Life	None	3
	BCS	101	Elements of Computing	None	3
	ENT	141	Fundamentals of Innovation and Entrepreneurship 1	None	2
	Total				**17**
2	MTH	120	Discrete Mathematics	None	3
	LNG	182	English II for Engineering and Computing	LNG 181	3
	BCS	102	Introduction to Computing Science I	BCS 101	3
	MTH	113	Calculus II	MTH 112	3
	XXX	XXX	Professional Practice (Science Pool) Elective-2	None	3
	ENT	142	Fundamentals of Innovation and Entrepreneurship 2	ENT 141	1
	Total				**16**
3	MTH	114	Linear Algebra	MTH 112	3
	MTH	130	Probability and Statistics	MTH 112	3
	MTH	203	Discrete Mathematics for Computing Science	BCS 102, MTH 120	3
	BAI	201	Introduction to Artificial Intelligence	BCS 101, MTH 112	3
	BCS	202	Introduction to Computing Science II	BCS 102	3
	ENT	241	Entrepreneurship 1	ENT 142	2
	Total				**17**
4	BAI	202	Data Engineering	BCS 202, MTH 130	3
	BAI	204	AI Project Management	BAI 201	3
	BCS	206	Information Structures	BCS 202, MTH 203	3
	BCS	221	Communication Networks	BCS 102	3
	GED	255	Critical Thinking and Problem Solving	LNG 182	3
	ENT	242	Entrepreneurship 2	ENT 241	1
	Total				**16**
5	BCS	311	Scientific Computing	BCS 102, MTH 114	3
	BCS	301	Operating Systems	BCS 206, (ENG 210 or BAI 201)	4
	BCS	303	Security Principles and Practices	BCS 221	4
	BAI	301	Introduction to Machine Learning	BAI 201, MTH 130	3
	Total				**14**
6	BCS	309	Algorithms I	BCS 206, (BCS 201 or BAI 201)	3
	BAI	302	Introduction to Generative AI	BAI 201	3
	BAI	304	Introduction to Deep Neural Networks	BAI 201, MTH 114	3
	BAI	306	Introduction to Computer Vision	BCS 202, MTH 114, BAI 301	3
	BAI	308	Introduction to Natural Language Processing	BCS 206, BAI 301	3
	Total				**15**
7	BCS	401	Ethics for Computing Professionals	None	3
	BAI	401	Artificial Intelligence on the Cloud	BCS 301, BCS 303, BAI 301	3
	BAI	403	Multi-Agent Systems	BAI 201	3
	BAI	XXX	Elective 1		3
	BAI	410	Artificial Intelligence Project	Completed 90 Cr. Hrs.	6
	Total				**18**
8	BAI	410	Artificial Intelligence Project (Continued)		
	GED	190	Emirati Studies	None	3
	BAI	402	Reinforcement Learning	BAI 301	3
	BAI	404	Conversational AI and Dialogue Systems	BAI 308	3
	BAI	XXX	Elective 2		3
	Total				**12**
Internship to be taken in summer after completion of 90 Cr. Hrs. and CGPA 2.0 or more.					3
Total Credit Hours					**128**