

Bachelor of Science in Computer Science – RAG-Optimized Study Plans

This document presents structured, retrieval-optimized Computer Science study plans from major UAE universities. Each program is listed hierarchically (Year > Semester > Course), enabling precise information retrieval in RAG-based systems.

University of Sharjah

Program: Bachelor of Science in Computer Science Total Credits: 123 Capstone: Junior Project, Senior Project, CO-OP Summer Training Year 1 - Semester 1 - Introduction to IT (1501100) – 3 credits - Calculus I (1440131) – 3 credits - Physics I for Sciences (1430110) – 3 credits - Physics I Lab (1430116) – 1 credit - Arabic Language (0201102) – 3 credits - English for Academic Purposes (0202112) – 3 credits - Semester 2 - Programming I (1501116) – 4 credits - General Chemistry I (1420101) – 3 credits - General Chemistry I Lab (1420102) – 1 credit - Calculus II (1440132) – 3 credits - University Elective 1 – 3 credits - University Elective 2 – 3 credits Year 2 - Semester 3 - Programming II (1501211) – 3 credits - Digital Logic Design (1502201) – 3 credits - Discrete Structures (1501279) – 3 credits - Intro to Probability & Statistics (1440281) – 3 credits - Islamic Culture (0104100) – 3 credits - Semester 4 - Data Structures (1501215) – 3 credits - OO Design with Java (1501246) – 3 credits - Digital Logic Design Lab (1502202) – 1 credit - Computer Organization & Assembly Language (1501252) – 4 credits - Linear Algebra (1440211) – 3 credits - UAE Society (0204102) – 3 credits Year 3 - Semester 5 - Database Management Systems (1501263) – 3 credits - Design & Analysis of Algorithms (1501371) – 3 credits - Artificial Intelligence (1501330) – 3 credits - Software Engineering (1501366) – 3 credits - Critical Reading & Writing (0202227) – 3 credits - Semester 6 - Programming Languages & Paradigms (1501319) – 3 credits - Operating Systems (1501352) – 3 credits - Networking Fundamentals (1501252) – 3 credits - Formal Languages & Automata (1501372) – 3 credits - Junior Project (1501394) – 2 credits - CO-OP Summer Training (1501397) – 3 credits Year 4 - Semester 7 - Issues in Computer Science (1501322) – 2 credits - Information Security (1501459) – 3 credits - Cloud Computing (1501454) – 3 credits - Departmental Elective 1 – 3 credits - Departmental Elective 2 – 3 credits - Semester 8 - Senior Project (1501494) – 3 credits - Departmental Elective 3 – 3 credits - Departmental Elective 4 – 3 credits

Canadian University Dubai (CUD)

Program: Bachelor of Science in Computer Science Total Credits: 127 Internship: 3 credits (16 weeks minimum) Capstone: Two-semester Computer Science Project Year 1 - Semester 1 - English I for Engineering and Computing (LNG 181) – 3 credits - GE Elective 1 – 3 credits - Calculus I (MTH 112) – 3 credits - Elements of Computing (BCS 101) – 3 credits - Fundamentals of Innovation & Entrepreneurship 1 (ENT 141) – 2 credits - Semester 2 - Discrete Mathematics (MTH 120) – 3 credits - English II for Engineering and Computing (LNG 182) – 3 credits - Introduction to Computing Science I (BCS 102) – 3 credits - Calculus II (MTH 113) – 3 credits - GE Elective 2 – 3 credits - Fundamentals of Innovation & Entrepreneurship 2 (ENT 142) – 1 credit Year 2 - Semester 3 - Linear Algebra (MTH 114) – 3 credits - Probability and Statistics (MTH 130) – 3 credits - Discrete Mathematics for Computing Science (MTH 203) – 3 credits - Logic for Computing Science (BCS 201) – 3 credits - Introduction to Computing Science II (BCS 202) – 3 credits - Entrepreneurship 1 (ENT 241) – 2 credits - Semester 4 - Computer Architecture (ENG 210) – 4 credits - Software

Specifications (BCS 203) – 3 credits - Information Structures (BCS 206) – 3 credits - Communication Networks (BCS 221) – 3 credits - Programming Paradigms (BCS 222) – 3 credits - Entrepreneurship 2 (ENT 242) – 1 credit Year 3 and 4 - Key Courses: Operating Systems (BCS 301), Security Principles (BCS 303), Data Mining (BCS 304), Databases (BCS 306), Algorithms (BCS 309), Artificial Intelligence (BCS 405), and Capstone Project (BCS 410).

Al Ain University (AAU)

Program: Bachelor of Science in Computer Science Total Credits: 123 Internship: 3 credits
Capstone: Two-part project (3 credits total) Year 1 - Calculus I (0107101) – 3 credits - English I (0401120) – 3 credits - Computer Skills (0102120) – 3 credits - Physics I (0108103) – 3 credits - Islamic Culture (0406110) – 3 credits - Chemistry (0201100) – 3 credits Year 2 - Object-Oriented Programming (0102221) – 3 credits - Data Structures & Algorithms (0102270) – 3 credits - Discrete Structures (0107200) – 3 credits - Database Systems (0102330) – 3 credits - Operating Systems (0102340) – 3 credits - System Analysis & Design (0102331) – 3 credits Year 3 - Design & Analysis of Algorithms (0102370) – 3 credits - Artificial Intelligence (0114208) – 3 credits - Web Development (0102420) – 3 credits - Computer Networks (0102450) – 3 credits - Software Engineering Foundations (0103220) – 3 credits - Computer Graphics (0102460) – 3 credits Year 4 - Capstone Project I (0102491) – 1 credit - Capstone Project II (0102492) – 2 credits - CS Internship (0102490) – 3 credits

Khalifa University (KU)

Program: Bachelor of Science in Computer Science Total Credits: 130 Internship: 1-credit Engineering Internship Capstone: Senior Design Project I & II Year 1 - Academic English I (ENGL 101) – 3 credits - Calculus I (MATH 111) – 4 credits - Grand Challenges (GENS 101) – 4 credits - Chemistry I (CHEM 115) – 4 credits - Academic Development & Success (GENS 100) – 1 credit - Academic English II (ENGL 102) – 3 credits - Calculus II (MATH 112) – 4 credits - Physics I (PHYS 121) – 4 credits - Python Programming (COSC 114) – 4 credits Year 2 - Foundations of Computer Science (COSC 101) – 3 credits - Linear Algebra (MATH 204) – 3 credits - Probability & Statistics (MATH 242) – 3 credits - Object-Oriented Programming (ECCE 230) – 4 credits - Data Science & AI (ENGR 202) – 3 credits - Computer Systems Organization (COSC 201) – 3 credits - Data Structures (COSC 310) – 3 credits - Discrete Mathematics (MATH 234) – 3 credits Year 3 - Software Engineering (ECCE 336) – 3 credits - Algorithms (COSC 312) – 3 credits - Artificial Intelligence (COSC 330) – 3 credits - Operating Systems (ECCE 354) – 3 credits - Computer Networks (ECCE 356) – 4 credits Year 4 - Database Systems (ECCE 434) – 3 credits - Technical Electives (x3) – 9 credits - Senior Design Project I (COSC 497) – 3 credits - Senior Design Project II (COSC 498) – 3 credits - Career Preparation (GENS 400) – 1 credit

New York University Abu Dhabi (NYUAD)

Program: Bachelor of Science in Computer Science Total Credits: ~128 Capstone: Two-semester project with Research Seminar Year 1 - Semester 1 - Introduction to Computer Science – 4 credits - Calculus with Applications to Science & Engineering – 4 credits - Discrete Mathematics – 3 credits - Writing Seminar – 3 credits - Colloquium – 1 credit - Semester 2 - Data Structures & Algorithms – 4 credits - Computer Systems Organization – 4 credits - General Elective – 3 credits - Core Course – 3 credits - Colloquium – 1 credit Year 2 - Operating Systems – 4 credits - Computer Networks – 4 credits - Software Engineering – 4 credits - Computer Science Elective – 3 credits - Core Course – 3 credits Year 3 - Study Abroad (New York Campus) - Advanced Computer Science Electives - Research or Project Work - Minor Courses - General Electives Year 4 - Research Seminar in

Computer Science – 3 credits - Capstone Project I – 3 credits - Capstone Project II – 3 credits -
General Electives – 6 credits