



Bachelor's degree in Computer Science with Concentration in:

Data Science

Jumeira University Dubai

Key Highlights:

- Accredited by the Commission for Academic Accreditation (CAA)
- Industry-integrated curriculum
- 4-year full-time program
- Cutting-edge facilities and technology
- Strong focus on entrepreneurship and innovation
- Internship opportunities with leading companies

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The Professions University: Where Your Future Takes Flight

Program Description

The Bachelor of Science in Computer Science program with concentrations in Artificial Intelligence (AI), Data Science, and Cybersecurity aims to equip students with the knowledge, skills, and competencies necessary to address the growing demands of the technology sector. This program focuses on the application of theoretical and practical principles to solve real-world problems in AI, data science, and cybersecurity. Students will gain expertise in designing, implementing, and evaluating innovative solutions while adhering to ethical and sustainability standards.



Program Structure

- 4-year full-time program
- 120 credit hours
- Core business courses + Specialized electives
- Capstone project in final year
- Mandatory internship for real-world experience

BSCS Course

University Requirements (24 Credit Hours)

Core Courses (18 Credit Hours)

Course Code	Course Title	CH	Requisites
GE 101 or *GE 115	Arabic Language Communication1 or Basic Arabic Language 1	3	None
GE 103	English Language Communication 1	3	Score 5 in IELTS or equivalent
GE 104	English Language Communication 2	3	Score 5 in IELTS or equivalent
GE 125	Fundamentals of Entrepreneurship & Innovation	3	Score 5 in IELTS or equivalent
GE 142 / GE144	UAE Society / مجتمع الإمارات	3	Score 5 in IELTS or equivalent / None
GE 147 / GE141	Islamic Thought / الثقافة الإسلامية	3	Score 5 in IELTS or equivalent / None
	Total	18	Credit Hours

Elective Courses (6 Credit Hours)

University Requirements - Elective Courses			
Course Code	Course Title	CH	Requisites
GE 102 or *GE 116	Arabic Language Communication 2 or Basic Arabic Language 2	3	None
GE 114	Principles of Research Skills	3	Score 5 in IELTS or equivalent
GE 123 / GE 107	Personal Management / الإدارة الذاتية	3	Score 5 in IELTS or equivalent / None
GE 131	Critical Thinking	3	Score 5 in IELTS or equivalent TI
GE 145 / GE 140	Islamic Civilization / الحضارة الإسلامية	3	Score 5 in IELTS or equivalent / None
GE 148	UAE Economy and Labour Market	3	Score 5 in IELTS or equivalent
GE 132	Introduction to Programming	3	None
GE 133	Linear Algebra	3	None
	Total	6	Credit Hours

College Requirements (54 Credit Hours)

Core Courses (45 Credit Hours)

Course Code	Course Title	CH	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 Software Engineering	3	CG 205
CG 301	Introduction to Information Security	3	CG 204
CG 208	Web Engineering	3	GE 132
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	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	C H	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 207
	Concentration Courses	1 8	
	Total	3 3	Credit Hours

Program Elective Courses (9 Cr)

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

Concentration Courses (18 Credit Hours)

Course Category – Data Science Core Courses = 18 CREDITS

Course Code	Course Title	CH	Requisites
DA 211	Introduction to Data Science	3	None
DA 309	Business Intelligence Systems	3	DA 211
DA 310	Big Data Concepts and Techniques	3	DA 211
DA 417	Programming for Big Data	3	CG 300
DA 418	Text & Web Analytics	3	CG 208
DA 419	Mining and Predictive Analytics	3	DA 310
	Total	18	Credit Hours

Key Learning Outcomes

PLO1: Technical Proficiency and Problem Solving: Analyse and solve complex problems with appropriate knowledge and understanding of the concepts, principles, and theories in computing.

PLO2: Design, Implementation, and Evaluation: Design, implement, and evaluate computing-based solutions to meet specific requirements, incorporating principles of sustainability and ethical considerations in the context of the program's concentrations.

PLO3: Effective Communication and Team Collaboration: Communicate effectively in various professional contexts and function as a responsible member or leader of diverse teams, promoting innovative and entrepreneurial solutions in computing projects.

PLO4: Ethics, Professional Responsibility, and Sustainability: Recognize professional responsibilities and make informed judgments in computing practice based on legal, ethical, and sustainability principles, ensuring data privacy and cybersecurity standards are upheld.

PLO5: Lifelong Learning and Professional Development: Participate in continuous professional development and lifelong learning to keep pace with the rapidly evolving fields in computer science domain.

PLO 6: Research, Innovation, and Entrepreneurship: Apply innovative solutions using advanced techniques in computer science to address real-world problems, demonstrate the ability to conduct research, and take individual initiative and enterprise.

PLO7: Global, Societal, and Environmental Impact: Analyse the local and global environmental impact of computing on individuals, organizations, and society, emphasizing the ethical implications, benefits and its advancements.

PLO8: AI Development: Develop and implement AI technologies, models and techniques across various domains encompassing the requirements, regulations and ethical practice locally and globally.

PLO9: Data Analytics Implementation: Demonstrate proficiency in collecting, cleaning, managing, and analysing large datasets and making data-driven decisions in various business contexts.

PLO10: Cybersecurity Analysis and Design: Illustrate expertise in identifying, and analysing threats and risks, design and develop a secure systems and networks by ensuring confidentiality, integrity and authenticity.

Why Choose CS at JU?

Industry-Integrated Curriculum

- Developed in collaboration with industry leaders
- Regular updates to reflect current business trends
- Guest lectures from successful entrepreneurs and executives

Practical Skills Focus

- Case study-based learning
- Business simulations and role-playing exercises
- Industry projects and consultancy opportunities

Entrepreneurship and Innovation

- Access to JU's business incubator
- Mentorship from successful start-up founders
- Annual business plan competition with funding opportunities

Global Perspective

- International case studies and projects
- Option for semester programs abroad
- Diverse faculty with global business experience

Technology Integration

- State-of-the-art computer labs and software
- Courses in digital marketing, e-commerce, and data analytics
- Access to business intelligence tools and ERP systems

Personal Development

- Leadership development workshops
- Public speaking and presentation skills training
- Emotional intelligence and stress management courses

Career Opportunities

The mapping shows that JU's BSc Computer Science curriculum covers most of the key areas required by CS2024, the curriculum aligns well with ACM/IEEE/AAAI's recommendations, offering students tracks in specialized areas such as AI, Data Analytics, and Cybersecurity.

Getting a degree in Artificial Intelligence (AI) from Jumeira University equips graduates with the skills to design and implement intelligent systems that mimic human decision-making. Career opportunities in AI include roles like AI engineers, who develop advanced algorithms and applications for industries such as healthcare and finance, and machine learning specialists, who create systems that learn and adapt over time. Other roles, such as NLP experts, work on systems that process and understand human language, like chatbots or virtual assistants, while robotics engineers design intelligent machines for

sectors like manufacturing and healthcare. AI graduates often find lucrative opportunities in technology giants like Google, IBM, and Microsoft, with salaries typically ranging between \$120,000 and \$150,000 annually. Data analytics roles are prevalent across industries, with career progression to senior data management and governance roles.

A degree in Data Science from Jumeira University prepares graduates to analyse and interpret complex datasets, enabling informed decision-making across various industries. Data scientists and analysts use statistical tools and predictive modelling to uncover insights, while data engineers focus on building systems that streamline data collection and processing. Business intelligence specialists apply their expertise to create data visualizations and strategies that drive organizational growth. These professionals are integral in fields such as finance, retail, and healthcare, with salaries ranging from \$115,000 to \$140,000. The ever-growing importance of data in decision-making ensures a robust demand for skilled data scientists across sectors.

Cybersecurity degree in Jumeira University focuses on protecting digital infrastructure from threats, offering careers such as cybersecurity analysts, ethical hackers, and security engineers. These professionals are responsible for safeguarding networks, identifying vulnerabilities, and mitigating risks in real-time. Incident responders handle cyberattacks, while CISOs (Chief Information Security Officers) lead organizational cybersecurity strategies. Cybersecurity experts are in high demand due to the increasing prevalence of cyber threats, with competitive salaries ranging from \$110,000 to \$140,000. Key employers in this field include government agencies, defence organizations, and private companies across industries like finance and technology.

Each of these disciplines at Jumeira University offers dynamic, rewarding careers in cutting-edge fields, with opportunities to impact diverse industries and contribute to technological advancement.



100% Career Assistance

At JU, we're committed to your professional success beyond graduation:

- Dedicated Career Services Department
- One-on-one career counseling and mentoring
- Resume building and interview preparation workshops
- Access to exclusive job portals and alumni networks
- Annual career fairs with leading employers
- Internship placements with partner organizations
- Lifelong learning and skill upgrade programs for alumni

**Join our CS program and embark on a transformative journey
towards becoming a future business leader!**

[Apply now for Spring 2025 intake!](#)

Entry Requirements

To be eligible for the BSCS program, applicants must have a minimum score of 5.0 in IELTS or an equivalent English proficiency test. Additionally, specific prerequisites for courses may apply, such as prior completion of relevant courses or achieving specific scores in prerequisite courses. Jumeirah University (JU) has established a comprehensive admission policy for its undergraduate programs, ensuring compliance with the CAA standards. The admission requirements are as follows:

Minimum Secondary School Certificate (SSC) Scores:

- Elite and Advanced Streams: Minimum of 70% on the 12th grade in the UAE secondary school certificate.
- General Stream: Minimum of 75% on the 12th grade in the UAE secondary school certificate.

English Language Proficiency:

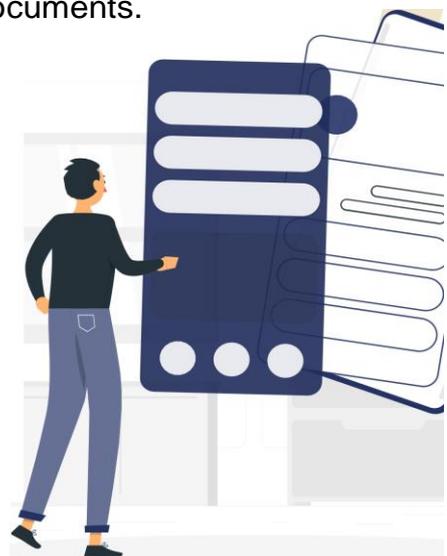
- English Language Proficiency:
- IELTS: Minimum overall band of 5.0 (valid for two years).
- TOEFL: iBT 61, PBT 500, or CBT 173.
- Equivalent scores on other nationally or internationally recognized tests approved by the Ministry of Education (MOE).

Arabic Language Proficiency:

- EmSAT: Minimum score of 600 for programs taught in Arabic.
- **Additional Requirements:**
- Verified high school graduation certificate earned within the past three years.
- Certificate of Good Conduct.
- Original High School Certificate Equivalence from the Ministry of Education.
- Original certificates for English and Arabic language competency valid for 18 months.
- Recent passport-size photos and copies of valid identification documents.

Application Process

1. Submit online application form
2. Provide required documents (see checklist below)
3. Pay application fee
4. Attend interview (if required)
5. Receive offer letter
6. Accept offer and pay deposit
7. Complete registration



Required Documents

- Attested high school certificate
- EmSAT/IELTS/SAT score reports
- Copy of passport and Emirates ID
- 4 recent passport-size photos
- Certificate of good conduct

Fees Structure

Tuition Fees:

- AED 1,800 per credit hour
- Total program cost: AED 216,000 (120 credit hours)

Other Fees:

- Application Fee: AED 1,500 (non-refundable)
- Registration Fee: AED 750 per semester
- Student Services Fee: AED 750 per semester
- Textbooks: Approximately AED 1,200 - 1,800 per semester

Payment Plans:

- Full payment (5% discount)
- Semester-wise payment (two installments per year)
- Monthly payment plan available upon request

Scholarships and Financial Aid

Jumeira University offers various scholarships and financial aid options:

- Academic Merit Scholarships (up to 50% tuition waiver)
- Emirati National Scholarship
- Financial Need-Based Grants
- Sibling Discounts
- Corporate Partner Discounts

Contact our Enrollment Office for more information on eligibility and application process.

Application Deadlines

- Spring 2025 Semester: Feb 1st
- Fall 2025 Semester: Sep 15th

Early applications are encouraged for priority consideration.

For more information or to start your application, contact our Enrollment Office:

Email: enrollment@ju.ac.ae

Phone: +971 4 515 4555

Student Experience at Jumeira University

State-of-the-Art Facilities

- Modern classrooms with smart boards
- Advanced computer labs with latest software
- Dedicated Business Simulation Lab
- Well-stocked Learning Resources Center with library access
- Student lounges and recreational areas
- Prayer rooms

Technology Integration

- Campus-wide Wi-Fi
- Student portal for course management and administrative services
- Access to industry-standard business software and tools
- E-learning platforms for blended learning experiences

Student Support Services

- Academic advising
- Personal counseling
- Career guidance and placement services
- Learning support and tutoring
- IT helpdesk

Extracurricular Activities

Student clubs and organizations
Business and entrepreneurship competitions
Cultural and sports events
Community service opportunities
Leadership development programs

Internship and Industry Connections

- Mandatory internship program
- Industry guest lectures and workshops
- Company visits and field trips
- Networking events with industry professionals
- Alumni mentorship program

Global Exposure

International student exchange programs
Study abroad opportunities
Multicultural student body and faculty
International case studies and projects

Student Experience at Jumeira University

Campus Life

- Separate facilities for male and female students
- On-campus cafeteria with diverse food options
- Sports facilities including gym and multi-purpose courts
- Student-run events and festivals
- Safe and secure campus environment

Student Development

- Soft skills workshops
- Personal branding and professional etiquette training
- Innovation and entrepreneurship bootcamps
- Language courses (Arabic for non- native speakers)

Health and Wellness

- On-campus medical clinic
- Wellness programs and fitness classes
- Stress management workshops
- Health awareness campaigns

At Jumeira University, we're committed to providing a holistic educational experience that prepares you for success in your career and personal life. Join our vibrant community and unlock your full potential!



World-Class Faculty

Our Computer Science program is led by a diverse team of highly qualified faculty members:

- 80% hold Ph.D. degrees from renowned international universities
- Extensive industry experience across various business sectors
- Active researchers contributing to leading business journals
- Visiting professors from top global business schools

Research Focus Areas

- Artificial intelligence
- Cybersecurity
- Computing theory
- Computer Systems
- Networks
- Data Science
- Software Engineering



Research Opportunities for Students

- Undergraduate Research Assistantships
- Faculty-mentored research projects
- Annual Student Research Symposium
- Publication opportunities in world class IT Review
- Research-based capstone projects

Business Incubator and Innovation Center

- Support for student start-ups
- Prototyping and product development facilities
- Mentorship from successful entrepreneurs
- Access to seed funding and investor networks

Industry Collaboration

- Joint research projects with leading companies
- Sponsored research opportunities
- Industry advisory board for curriculum development
- Knowledge transfer partnerships

Research Resources

- Access to major business databases and journals
- Advanced statistical and data analysis software
- Research methodology workshops and seminars
- Grant writing support for student projects



International Research Collaborations

- Partnerships with global research institutions
- Participation in international conferences
- Collaborative research with international faculty
- Access to global case study databases

At Jumeira University, we believe in the power of research to drive innovation and solve real-world business challenges. Join us to be at the forefront of business knowledge creation and application!





Alumni Success Stories

Making Waves in the Business World

Sarah Al Maktoum,

Class of 2019

Founder & CEO, TechInnovate LLC



The program at JU gave me the confidence and skills to launch my own tech start-up. Today, my company employs over 50 people and operates in three countries. The entrepreneurship focus at JU was instrumental in my journey."

Ahmed Khalid,

Class of 2020

Senior Consultant, Big Four Consulting Firm



Thanks to JU's industry connections, I secured an internship at a Big Four consulting firm. This led to a full-time offer upon graduation, kickstarting my career in management consulting. The practical, case-study based learning at JU prepared me well for the challenges of the consulting world."

Fatima Rashid,

Class of 2018

Regional Marketing Manager, Multinational FMCG Company



The international perspective I gained at JU helped me land a role in the UAE office of a multinational corporation. Within three years, I was promoted to a regional management position. JU's focus on cross-cultural management has been invaluable in my career."

Testimonials

Omar Al Ali,

Financial Analyst, Investment Bank

“ The program at Jumeira University provided me with a solid foundation in business principles and practical skills that I use every day in my job. The faculty's real-world experience and the hands-on learning approach made all the difference.”

Laila Mohammed,

Laila Mohammed, Co-founder,
EduTech Innovations

“ What sets JU apart is its commitment to innovation and entrepreneurship. The business incubator program gave me the platform to develop my business idea, which is now a thriving start-up. I'm grateful for the mentorship and support I received.”

John Smith,

Global Supply Chain Manager,
Logistics Company

“ As an international student, I found JU to be incredibly welcoming and diverse. The global perspective in the curriculum, combined with the multicultural student body, prepared me well for a career in international business.”

Join Jumeira University's CS program and become part of our growing network of successful alumni shaping the future of business!

[Apply now for Spring 2025 intake! >>](#)