IQRA IU
UNIVERSITY
H-9 CAMPUS, ISLAMABAD

2023-24

DEPARTMENT OF

COMPUTING & TECHNOLOGY

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Welcome to the Department of Computing and Technology at IQRA University, Islamabad Campus. Our undergraduate programmes in Computer Science, Software Engineering, and Artificial Intelligence offer a Student-centred curriculum that emphasizes interdisciplinary education, critical thinking, and practical skills. Under the mentorship of esteemed PhD faculty, students engage in real-world research, pushing the boundaries of innovation.

For postgraduate studies, we offer an MS in Computer Science and Software Engineering, as well as a PhD in Computer Science. Our state-of-the-art laboratories provide hands-on technical exposure and ensure students stay at the forefront of the latest advancements in computing and technology. Join our community of dedicated individuals and embark on a transformative educational journey and be part of shaping the future in this ever-evolving field.

Bachelor of Science in Computer Science

The programme emphasizes core areas of the field, including Object-Oriented Programming, Cloud Computing, Machine Learning, Mobile Application Development, Database Management System, Software Engineering, and Computer Networks. The curriculum integrates theoretical concepts with practical design skills, while expert consultation ensures teaching quality and relevance. Personal, managerial, and presentation skills are also nurtured for comprehensive development.

Curriculum

PROGRAMME	CR HRS
Bachelor of Science in Computer Science	137
Bachelor of Science in Computer Science (2.5Yrs)	75-83

Bachelor of Science in Software Engineering

The programme equips students to construct complex software in various domains. With a focus on methodologies, design, architecture, and practical applications, students develop technical expertise and professionalism. Developed in consultation with industry experts, the programme emphasizes high-quality teaching and relevance. Graduates emerge as adept software engineers, architects, and researchers, prepared to excel in diverse fields.

**TRANSFORM
COMPLEX SCENARIOS
INTO ACTIONABLE
DECISION**

Curriculum

PROGRAMME	CR HRS
Bachelor of Science in Software Engineering	137
Bachelor of Science in Software Engineering (2.5Yrs)	75-83

Bachelor of Science in Artificial Intelligence

The programme equips students to transform complex scenarios into actionable decisions. It focuses on utilizing inputs like knowledge, vision, language, and databases to enhance human capabilities. Coursework covers computing, mathematics, automated reasoning, statistics, AI languages, neural networks, vision, and symbolic computation. Ethical considerations are emphasized, and students participate in projects solving real-world challenges in various sectors.

Curriculum

PROGRAMME	CR HRS
Bachelor of Science in Artificial Intelligence	140
Associate Degree Programme (2Yrs)	68

Master of Science in Computer Science

It caters to those seeking advanced expertise in the dynamic field of computer science. This exceptional graduate programme offers a comprehensive curriculum focusing on algorithms, database systems, artificial intelligence, computer networks, and software engineering. Delivered by experienced faculty members, esteemed experts in their respective domains, the MS(CS) programme utilizes cutting-edge teaching methodologies to ensure an enriching learning experience. Engaging coursework encompasses advanced algorithms, computer graphics, data mining, distributed systems, and software engineering, providing graduates with the skills to excel in their professional pursuits.

Curriculum

PROGRAMME	CR HRS
Master of Science in Computer Science	33

Master of Science in Software Engineering

The programme equips students with the knowledge and skills essential to thrive, as

software engineering professionals. Through a comprehensive curriculum, students gain a profound understanding of the software development life cycle and the practical application of software engineering principles to real-world projects. Our experienced faculty members, experts in their fields, use the latest teaching methodologies to deliver cutting-edge course content, covering software design, development, testing, project management, quality assurance, security, and maintenance. Choosing the MS(SE) sets you on a path towards a successful and rewarding career.

Curriculum

PROGRAMME	CR HRS
Master of Science in Software Engineering	33

PhD in Computer Science

Experience the pinnacle of computer science education with the PhD programme in Computer Science. Our research-oriented curriculum focuses on cutting-edge areas like artificial intelligence, databases, data mining, computer networks, and software engineering. Under the guidance of experienced faculty advisors, students engage in rigorous coursework and conduct independent research, fostering a profound understanding of the discipline and contributing to groundbreaking advancements in the field of computer science.

Curriculum

PROGRAMME	CR HRS
PhD in Computer Science	36

Note: The curricula is subject to change because of the promulgation of HEC Undergraduate and Graduate Policy 2023

Scan the QR code for comprehensive curriculum details.

Programmes Objectives and Outcomes

The programmes are designed with a multidisciplinary approach, combining computing techniques and human learning psychology for challenging applications. Through this programme, students will develop skills in UI/UX, machine learning, robotics, and speech/image processing, becoming sought-after candidates, as future technology leaders. Career opportunities include roles such as AI Engineer, Machine Learning Engineer, and Research Scientist.

- Develop a strong foundation in computer science theory, principles, and algorithms.
- Acquire programming skills and proficiency in various programming languages.
- Understand and apply mathematical concepts and techniques relevant to computer science.
- Gain knowledge of computer architecture, operating systems, and computer networks.
- Learn about software development methodologies, software engineering principles, and best practices.
- Develop problem-solving and critical thinking skills to analyze and solve complex computing problems.

Career Opportunities

Upon completion of the respective programmes, you will have a wide range of career opportunities available to you. Some of the potential career paths include:

- Graduates with a Bachelor's in Computing programmes have higher chances of getting hired both locally and in the global IT market.
- Our comprehensive courses, practical lab sessions, workshops, webinars, and projects prepare students for diverse roles in the computer science and IT market, including data science, machine learning, AI experts, and web developers for companies worldwide.
- Graduates find lucrative opportunities in various sectors, such as software houses, IT departments of banks, multinationals, government agencies, academia, and entrepreneurship. They also have a favorable position in securing professional positions in the global market and pursuing higher studies abroad.
- The field of Artificial Intelligence is experiencing significant growth, with job postings for AI skills increasing rapidly since 2015. Companies are actively seeking professionals with expertise in AI, creating exciting opportunities in various industries.
- AI is expected to boost economic growth, leading to the creation of new roles while transforming existing job landscapes, as indicated by PwC's analysis.

Programme Facilities and Resources

We take pride in our well-equipped computer labs and facilities that provide an ideal environment for practical training and research according to HEC/NCEAC requirements.

Collaborations & Partnerships

We have established collaborations and partnerships by fostering strong industry connections through MOUs with various companies and software houses. These strategic partnerships offer our students invaluable opportunities for research and internships, providing them with real-world experience and exposure to cutting-edge technologies and practices.

Fee Structure

The Undergraduate and Graduate programmes are being offered at Rs 6,200.00 per CrHr fee, whereas the Associate Degree is being offered at Rs 4,000.00 per CrHr fee, which are subject to change on a yearly basis.

Additional Fee Details

In addition to tuition fees, the 1st semester fee includes the following non-refundable additional fees:

- Admission Fee: PKR 10,000
- Student Fund: PKR 1,250
- Library Fund: PKR 950
- Sports Fee: PKR 850
- Registration Fee: PKR 1,000
- Technology Fee: PKR 970
- Miscellaneous Fee: PKR 500

Admission Requirement

To be eligible for admission to the BS(CS)/BS(SE)/BS(AI)/Associate Degree, student must have:
- Completed FSc / A Levels / Equivalent (including Mathematics) with at least 50% marks as certified by IBCC. The students who have not studied Mathematics at intermediate level must pass deficiency courses of Mathematics (06 credits) in first two semesters.
- Applicants for Bachelor Programmes must take the entrance test. Applicants with acceptable SAT, NTS-NAT, MCAT, GAT General & GAT Subject score will be exempted from the entrance test. The test will be conducted on a computer and will consist of one hundred MCQs of a two-hour duration. The admission test is comprised of:

Mathematics	30%
English	40%
Analytical	30%

To be eligible for admission to the MS(CS)/MS(SE), student must have:

- 16 years of relevant education or equivalent degree from a HEC recognized university/DAI.
- In case of foreign education, the candidate has to get the equivalence certificate from HEC.

- Valid NTS-GAT (General) test with at least 50% score or university test with afloat 60% score.
- Condition of CGPA will be observed as per HEC guidelines.
- After successfully clearing the admission test the students will be scheduled for an interview.

To be eligible for admission to the PhD(CS), candidate must have:

- 18 years of relevant education or equivalent degree from a HEC recognized university/DAI.
- In case of foreign education, the candidate has to get the equivalence certificate from HEC.
- Valid NTS-GAT (Subject) with at least 60% score or university test with at least 70% score.
- Minimum CGPA 3.00/4.00 or First Division in the Annual system
- After successfully clearing the admission test the students will be scheduled for an interview.

Merit Based Scholarships

Iqra University's Islamabad campus extends merit-based scholarships to students enrolled in its undergraduate programmes. These scholarships are designed to cover a significant portion, up to 100%, of the tuition fees and are awarded based on the academic performance of the students in their HSSC or equivalent examinations. For detailed information regarding the specific scholarships available for each programme, please consult the table provided below.

PROGRAMMES	100%	75%	50%	25%	10%
BS (CS, SE, AI)	95 & Above	87-94.99	80-86.99	75-79.99	70-74.99

*Additionally, a 5% scholarship has been announced for students from Gilgit-Baltistan and Azad Jammu Kashmir who meet the required eligibility criteria for our programmes and excel in the qualifying university admission test. Our mission is to provide access to the best education and modern infrastructure to talented individuals from all corners of Pakistan. This scholarship is our gesture to empower deserving students and ensure that financial constraints do not hinder their pursuit of academic excellence.

LABORATORIES AND FACILITIES

Cutting Edge Computer Labs

These powerful labs and machines are optimized for computer science, software development, data analysis, and a wide range of creative endeavors. Additionally, equipped with the latest hardware and diverse software applications, students receive expert guidance to gain hands-on experience and prepare for success with industry certifications and valuable career opportunities in networking and various technical fields.

RESOURCES AND INFRASTRUCTURE

State-Of-The-Art Classrooms

Classroom with smart learning spaces, equipped with state-of-the-art smart boards and ample seating for over 60 students, enhancing interactive and engaging learning experiences.

Auditorium

Auditorium with a capacity of up to 250 people, well-equipped for hosting presentations, lectures, and performances, supported by advanced audiovisual technology.

Conference Room

Modern conference room with smart LED screens and a capacity for 30+ participants, promoting collaboration and immersive learning experiences.

Library

Designed for independent, resource-based learning with a vast collection of books, periodicals, digital databases, manuscripts, and top-notch audio-visual facilities.

Medical Facility/ Polyclinic

The Campus Polyclinic is staffed with skilled medical professionals dedicated to providing quality healthcare services for our students, staff, and faculty. These services include general consultations as well as specialized treatments, ensuring comprehensive care for all members of our community.

Mosque

Designed to accommodate up to 500 students, providing a serene atmosphere for prayers and spiritual reflection.

Cafeteria

Enjoy a variety of delicious meals prepared with care. From hearty comfort food to lighter options, there's something for everyone.
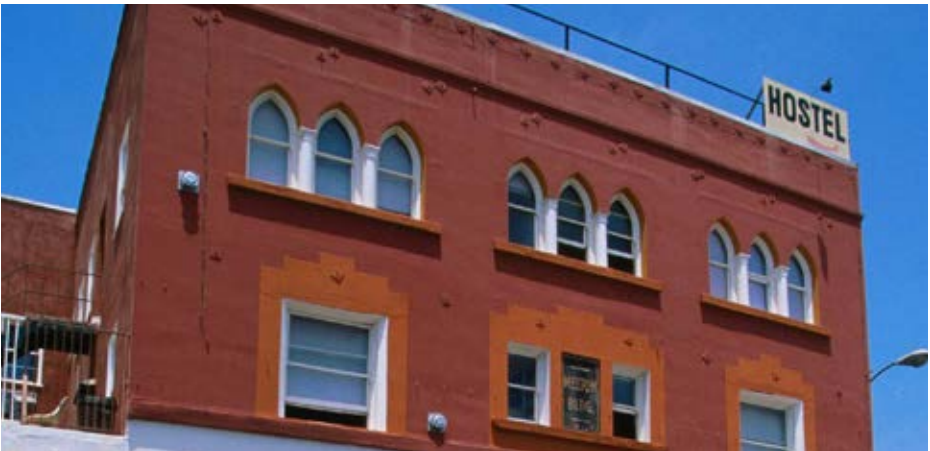
Sports Complex

Dynamic sports complex, complete with dedicated Futsal areas illuminated by Flood-lit lamps for nighttime play, alongside International Quality Volleyball and Basketball courts, exclusive Cricket pitches, and Badminton courts.

Transport Facility

The campus offers convenient third-party transportation services for students from twin cities and adjoining areas

Hostels in Close Proximity

Facilitation in arranging exclusive hostels for boys and separately for girls situated within a convenient 2-4km vicinity, fostering a friendly and accessible accommodation zone for students relocating from different cities. Pick and drop facility available at designated hostels through third-party transport providers.

Clubs and Activities

Nurturing holistic student development, we provide a myriad of events and activities, encompassing a diverse set of clubs like Sports Club, Environment Club, Adventure Club, Media Club, Dramatics Club, Music Club, and an active Alumni Society.

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