BS (COMPUTER SCIENCE)

Those who have taken the HSSC or an equivalent examination and are awaiting result are also eligible to apply. The four-year undergraduate programs of full time study are divided into eight semesters.

Program Info

1. Impart in-depth understanding of Computer Science field according to international standards
2. Convert understanding to innovations
3. Build diverse careers in Computer Science as productive IT professionals and entrepreneurs for the socio-economic development
4. Prepare students for the graduate level studies and research
5. Develop effective communication, management and leadership skills
6. Impart professional ethics and collaborative team player abilities

Learning Outcomes

1. Students will be able to possess essential knowledge and overview of the general area of computer science, and its applications
2. Students will be able to think creatively and critically and build logic and solve non trivial problems
3. Students will be able to demonstrate basic concepts of programming, data structures, operating systems, algorithms, databases, artificial intelligence, and computer networking
4. Students will be able to exhibit fundamental software engineering, object oriented analysis & design concepts by developing and managing software projects
5. Students will be able to address ethical, social, and environmental issues in their professional life and will practice professional and ethical responsibilities
6. Students will be able to apply concepts and techniques from computing and mathematics to both theoretical and practical problems
7. Students will be able to communicate their knowledge, experience, and ideas at national and international level
8. Students will be able to pursue their careers as Software engineer, Programmer, Web developer, Games programmer or Computer graphic designer
9. Students will be able to work effectively in multi-disciplinary teams
10. Students will be able to pursue graduate level studies and research

Career Opportunities

Your career prospects will be excellent: You may become a software engineer, programmer, web developer, games programmer or computer graphic designer.

Award of Degree

For the award of BS (Computer Science) degree, a student must have:

- Passed courses totalling at least 130 credit hours, including all those courses which have been specified as Core courses.
- Obtained a CGPA of at least 2.00

Offered Campuses

Chiniot-Faisalabad	Islamabad	Karachi	Lahore	Peshawar
✔	✔	✔	✔	✔

Eligibility:

- At least 60% marks in SSC (Matric) or an equivalent examination (such as O-levels) **AND**
- Should have studied for HSSC or an equivalent qualification, for at least two years **AND**
- Should have EITHER
  - studied Mathematics at the HSSC or equivalent level. **OR**
  - pass HSSC level Mathematics exam within one year of admission, conducted by any one of the following:
    - Local Board of Intermediate & Secondary Education
    - A recognized Foreign Board (Oxford, Cambridge, etc.)
    - NUCES (FAST)

Selection Criteria:

Candidates having passed SSC exam, and then followed the HSSC route

- 50% weight to marks obtained in SSC **AND**
- 50% weight to marks obtained in HSSC-I Exams

Candidates having passed O-level exam, and then followed the HSSC route

- 50% weight to IBCC equivalent score x 1.1 **AND**
- 50% weight to marks obtained in HSSC-I Exams

Candidates having passed O-level exam, and then followed the A-level route

- 100% weight to IBCC equivalent marks (for O-level) x 1.1

Candidates having taken NTS-NAT IE exam

- Cut-off marks in the NTS-NAT IE exam to be determined by the University

Candidates having taken SAT examination

- Combined score of 1,000 or more in the SAT-I examination **AND**
- At least 550 in the SAT-II (Math Level IIC) examination.

Tentative Study Plan

Sr. No	Course Name	Crdt Hrs.
Semester 1		
1	Intro to Info. & Comm. Technologies	1
2	Programming Fundamentals	3+1
3	Applied Physics	3
4	Calculus & Analytical Geometry	3
5	Pakistan Studies	3
6	English Composition & Comprehension	2+1

Sr. No	Course Name	Crdt Hrs.

Sr. No	Course Name	Crdt Hrs.
Semester 2		
1	Object Oriented Programming	3+1
2	Digital Logic Design	3+1
3	Differential Equations (Cal II)	3
4	Islamic & Religious Studies	3
5	Communication & Presentation Skills	2+1

Sr. No	Course Name	Crdt Hrs.
Semester 3		
1	Discrete Structures	3
2	Data Structures	3+1
3	Comp. Organization & Assembly Lang.	3+1
4	Linear Algebra	3
5	University Elective - I	3

Sr. No	Course Name	Crdt Hrs.
Semester 4		
1	Database Systems	3+1
2	Operating Systems	3+1
3	Design & Analysis of Algorithms	3
4	Probability & Statistics	3
5	University Elective - II	3

Sr. No	Course Name	Crdt Hrs.
Semester 5		
1	Theory of Automata	3
2	Computer Networks	3+1
3	Software Design and Analysis	3
4	Numerical Computing	3
5	Technical and Business Writing	3

Sr. No	Course Name	Crdt Hrs.
Semester 6		
1	Software Engineering	3
2	Parallel and Distributed Computing	3

Sr. No	Course Name	Crdt Hrs.
3	Artificial Intelligence	3+1
4	CS Elective - I	3
5	CS Supporting Elective	3

Sr. No	Course Name	Crdt Hrs.
Semester 7		
1	Information Security	3
2	Professional Practices	3
3	Final Year Project - I	3
4	CS Elective - II	3
5	CS Elective - III	3

Sr. No	Course Name	Crdt Hrs.
Semester 8		
1	Final Year Project - II	3
2	CS Elective - IV	3
3	CS Elective - V	3
4	CS Elective - VI	3
5	University Elective - III	3

Note: Registration in “Project-I” is allowed provided the student has earned at least 100 credit hours, and his/her CGPA is equal to or greater than the graduating CGPA (2.0).