FAST-NUCES COMPUTING PROGRAMS

SECTION 1: OVERVIEW

The FAST School of Computing is a pioneer in computing education in Pakistan, established in 1985. It has expanded to five campuses offering various Bachelor, Master, and PhD degree programs. The school focuses on innovative technologies such as Generative AI, Deep Learning, Data Science, Blockchain, Cyber Security, and Cloud Computing.

SECTION 2: BS PROGRAMS ADMISSION AND SELECTION

Admission Test Options
Applicants must select only one of the following options:
- FAST-NUCES Admission Test
- SAT
- NTS NAT-IE or NAT-ICS (NTS tests from specific universities are not acceptable)

Eligibility Criteria
- SSC (Matric) or equivalent: Minimum 60% marks.
- HSSC (FSC) or equivalent: Minimum 50% marks.
- Subject Requirements: Mathematics must be studied at the HSSC or equivalent level.
- Pre-Medical Students: Eligible if they have passed additional mathematics or are waiting for results.

Selection Criteria Weightage
- Admission Test Marks: 50%
- HSSC/Equivalent Marks: 40%
- SSC/Equivalent Marks: 10%

SECTION 3: BACHELOR OF SCIENCE PROGRAMS

Bachelor of Science (Artificial Intelligence)
- Mission: To provide theoretical knowledge and practical skills for a professional career in AI, covering core computing concepts with a specialization in AI and ethical applications.
- Career Opportunities: Risk manager, reporting analyst, project manager, data engineer, machine learning engineer, AI developer.
- Award of Degree: Requires passing courses totaling at least 137 credit hours and earning a CGPA of at least 2.00.

Bachelor of Science (Computer Science)
- Mission: To provide theoretical and practical knowledge required for a professional career in computing, covering core computer science in breadth.
- Career Opportunities: Computer programmer, software engineer, software developer, web/game/mobile app developer, software quality engineer, graphics designer.
- Award of Degree: Requires passing courses totaling at least 137 credit hours and earning a CGPA of at least 2.00.

Bachelor of Science (Cyber Security)
- Mission: To provide knowledge and skills for a career in Cyber Security, covering core computing with a specialization in Cyber Security and ethical applications.
- Career Opportunities: Cyber Security specialist, analyst, consultant, IT auditor, information assurance engineer, digital forensics analyst, penetration tester.
- Award of Degree: Requires passing courses totaling at least 137 credit hours and earning a CGPA of at least 2.00.

Bachelor of Science (Data Science)

- Mission: To provide knowledge and skills for a career in Data Science, covering core computing with a specialization in Data Science.
- Career Opportunities: Data scientist, business analyst, big data analyst, data engineer, decision scientist, machine learning engineer.
- Award of Degree: Requires passing courses totaling at least 137 credit hours and earning a CGPA of at least 2.00.

Bachelor of Science (Software Engineering)
- Mission: To provide knowledge and skills for a career in Software Engineering, covering core computing with a specialization in Software Engineering.
- Career Opportunities: Software quality assurance engineer, systems programmer, embedded software engineer, software architect, user interface designer.
- Award of Degree: Requires passing courses totaling at least 137 credit hours and earning a CGPA of at least 2.00.

General Structure for BS Degrees
- Computing Core: 52 Credit Hours
- General Education: 34 Credit Hours
- Maths and Supporting Courses: 12 Credit Hours
- Domain Core: 18 to 21 Credit Hours
- Domain Elective: 15 to 18 Credit Hours
- Elective Supportive Courses: 3 Credit Hours
- Total: 137 Credit Hours

SECTION 4: MS PROGRAMS ADMISSION AND SELECTION

Admission Test Options
Applicants must select only one of the following options:
- FAST-NUCES Admission Test
- GRE General
- NTS GAT-A General (NTS tests from specific universities are not acceptable)

Eligibility Criteria
- Education: Degree earned in a relevant subject of Science from a recognized university after 16 years of education.
- Performance: Minimum 60% marks or CGPA of at least 2.00 on a scale of 4.00.
- Specific Requirement for MS Software Project Management: 2 years of experience related to Software Development Lifecycle (SDLC) activities is required.

Selection Criteria Weightage
- Admission Test Marks: 50%
- Past Academic Record (Bachelor): 50%

SECTION 5: MASTER OF SCIENCE PROGRAMS

Master of Science (Artificial Intelligence)
- Mission: To produce competent professionals capable of applying AI and Data Science to solve real-life problems.
- Prerequisites: Object Oriented Programming, Data Structures and Algorithms, Artificial Intelligence.
- Structure: Includes coursework and research components (3 core courses).
- Award of Degree: Requires passing 30 credit hours and earning a CGPA of at least 2.50.

Master of Science (Cyber Security)
- Mission: To develop professionals skilled in understanding data security implications, detecting/preventing cyber-attacks, and protecting national security.

- Prerequisites (for interdisciplinary admissions): Cyber Security, Computer Networks, Software Engineering.
- Structure: Includes core courses like Applied Information Security, Advanced Network Security, and Secure Systems Design.
- Award of Degree: Requires passing 30 credit hours and earning a CGPA of at least 2.50.

Master of Science (Computer Science)
- Mission: To nurture capacity building and original thinking for lifelong learning, producing postgraduates sought by IT organizations.
- Prerequisites: Computer Programming, Data Structures, Operating Systems, Database Systems, Design and Analysis of Algorithms, Computer Networks, Theory of Automata, Software Engineering.
- Award of Degree: Requires passing 30 credit hours and earning a CGPA of at least 2.50.

Master of Science (Data Science)
- Mission: To equip students to transform data into actionable insights for complex business decisions using computational and statistical techniques.
- Prerequisites: Object Oriented Programming, Data Structures and Algorithms.
- Structure: Specialized core courses include Big Data Analytics, Distributed Data Processing, Deep Learning, and Natural Language Processing.
- Award of Degree: Requires passing 30 credit hours and earning a CGPA of at least 2.50.

Master of Science (Software Engineering)
- Mission: To produce future software designers and innovators who can adapt to new technological developments.
- Prerequisites: Object Oriented Programming, Data Structures, Software Engineering, Software Design and Analysis, Software Quality Engineering.
- Award of Degree: Requires passing 30 credit hours and earning a CGPA of at least 2.50.

Master of Science (Software Project Management)
- Mission: To develop skills to manage software projects using industry standards and metrics, and to demonstrate leadership.
- Award of Degree: Requires passing 30 credit hours and earning a CGPA of at least 2.50.

General Rules for MS Programs
- Deficiency Courses: Students with deficiencies in prerequisite courses may be required to study up to four deficiency courses. These must be passed in the first two semesters and are not charged a fee.
- Thesis Registration: Allowed if the student has earned at least 15 credit hours, passed the Research Methodology course, and has a CGPA of at least 2.50.