

# Approved

## Discipline Specific Requirements for ICT, Computer Science & Engineering

### Standard 1: Governance

**Criterion 1-5:** The HEI/POE has a documented class size policy and maintains class size that is appropriate for effective management of the teaching-learning-assessment to ensure better attainment of learning outcomes.

Class size (number of students in a class) for theoretical class is maximum 40

Class size (number of students in a class) for practical class is maximum 20

### Standard 4: Curriculum

**Criterion 4-7:** In case of Bachelor degree program curriculum includes minimum 25% of total credits for general education courses with clearly defined course learning outcomes and mapped with PLOs and learning outcome domains of BNQF. In case of Master's degree program curriculum includes minimum 10% of total credits for general education courses with clearly defined course learning outcomes and mapped with PLOs and learning outcome domains of BNQF.

List of general education courses to adapt considering PLO and GA in the curricula:

1) Accounting & Information System (AIS)	15) History of Emergence of Bangladesh
2) Business and Technology Management (BTM)	16) Philosophy
3) Digital Business Transformation (DBT)	17) Public Administration
4) Economics	18) Sustainable Development in Bangladesh
5) Business Communication	19) Constitution and Human Rights
6) Marketing	20) Environment & Disaster Management
7) Organization Behavior	21) Leadership Development
8) Industrial Psychology	22) Human Resource Development
9) Industrial Management	23) Career Planning & Development
	24) Digital Marketing

10) Communicative English	Masters level, proposed GED courses are: 1) Research Methodology 2) Total Quality Management (TQM) 3) Professional Project Management (PPM)
11) Bangladesh Studies	
12) Bangla Literature & Culture	
13) Sociology	
14) Political Science	

**Criterion 4-9:** Provisions of internship/project/dissertation/field work/work integrated learning opportunities are included in the curriculum.

Internship/project/dissertation/field work:

- a. Internship: Six months
- b. Project/Dissertation: Topics based on recent trends of research and development; at least 1 year or two semesters.

## Standard 6: Student Admission & Support Services

**Criterion 6-1:** The HEI/POE maintains a clearly defined and well-communicated admission policy with transfer and withdrawal provisions, entry requirements that reflect the level of qualifications required to match with the nature of the discipline and mission of the POE. Admission policy is effective to select students who have potentials and are able to afford the academic load to complete the program successfully.

Requisite qualifications for admission in the Bachelor Degree (Undergraduate) program:

HSC or equivalent with Mathematics and Physics

The aptitude test to be conducted for the admission seekers based on the following Learning Outcome (LO):

LO1	Ability to solve differential equations
LO2	Ability to solve integral and differential calculus problems
LO3	Ability to solve basic statistical problems
LO4	Ability to solve simple linear equations
LO5	Ability to solve basic physics problems

Requisite qualifications for admission in the Master Degree (Graduate) program:

- i) Undergrad degree in CSE/CS/ICT/IT
- ii) Undergrad in any other discipline but additional courses of BSc level in Programming Language, Algorithm, Data Structure, Database, Operating System, Computer Networks, Artificial Intelligence, Software Engineering and any other courses the Post Graduate committee of the related department thinks necessary.

The aptitude test to be conducted for the admission seekers at Masters level based on the following Learning Outcome (LO):

LO1	Ability to solve basic data structure related problems
LO2	Ability to solve basic algorithmic problems
LO3	Ability to solve discrete math problems
LO4	Ability to design solution based on digital logic
LO5	Ability to write program to solve a problem

**Criterion 6-7:** POE ensures and facilitates the participation of students in co-curricular activities and community services under the management of the HEI on a regular basis to promote creativity, social responsiveness, leadership qualities, values, molding personality towards holistic development.

List of co-curricular activities to support the defined GA:

1. Contest includes Programming, Idea Innovation, Hack-a-Thon, Apps development and related on regular interval
2. Workshops and seminars connecting Industry on recent market demand area and skills building on regular interval
3. Discussion round table engaging industry leaders on regular interval
4. Job fair and career counseling workshops on regular interval
5. Festival related to technology and innovation on annual basis
6. Outreach activities by students to support societal needs for knowledge sharing on regular interval
7. Debating activities based on trends of the time
8. Societal activities engaging sustainable development goals (SDG)
9. Industry Visit

## Standard 7: Faculty and Professional Staff

**Criterion 7-8:** The POE maintains ideal combination of faculty with 10% Professor, 20% Associate Professor, 40% Assistant Professor and 30% Lecturer with reasonable teacher student's ratio, depending on the nature of discipline, as necessary for effective teaching learning in the academic program/ discipline.

Teacher-Student ratio: **1:12**

[For practical class teacher student ratio maximum 1:10].

## Standard 8: Facilities & Resources

**Criterion 8-4:** Laboratory facilities, instructional technology & software, IT learning facilities that are identified through curriculum mapping as necessary to attain the defined learning outcomes of program and course(s) and to conduct research are in good condition with appropriate safety measures, appropriate, adequate and accessible when needed by the students and faculty members under a policy that ensures timely repair/replacement, supply and continuous improvement.

List of Essential Laboratories:

1. Software Engineering Lab	5. Embedded Systems and IoT Lab
2. Competitive Programming Practice Lab	6. Digital Logic Design Lab
3. General Purpose Programming Lab	7. Digital and Analog Electronics Lab
4. High-Performance Computing Lab with GPU	8. Electrical Circuit Lab
	9. Networking Lab

List of Supporting Labs for Research and Development (optional):

1. Computer Interfacing Lab	5. VLSI lab
2. Cyber Security and Resilience Lab	6. Cloud Computing lab
3. Machine Learning Lab	7. Big Data Analytics Lab
4. Data Science Lab	

List of optional instructional technology and software (IT facilities):

1. Matlab and Simulink
2. Open Source Engineering Tool