



Bangladesh Accreditation Council

Discipline/Subject Specific Requirements for Accreditation of Academic Program

Discipline/Subject: Biotechnology and Genetic Engineering (BGE)/ Genetic Engineering and Biotechnology (GEB or GEBT)

Program: Bachelor of Biotechnology and Genetic Engineering/Bachelor of Genetic Engineering and Biotechnology
and
Master of Biotechnology and Genetic Engineering/Master of Genetic Engineering and Biotechnology

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 teaching-learning-assessment to ensure better attainment of learning outcomes.

Number of students in a class for **theory** is maximum 40

Number of students in a class for **practical/sessional** is maximum 20

Standard 4: Curriculum

Criterion 4.2: Curriculum aims at producing graduates focusing on graduate attributes, that are defined following the identified needs of the stakeholders and learning domains in the QF of Bangladesh for higher education.

Graduate Attributes for Bachelor Degree Program:

GA 01: Deep knowledge and intellectual breadth on Biotechnology

GA 02: Creative with critical thinking and problem solving

GA 03: Teamwork and communication skills

GA 04: Professionalism and leadership readiness

GA 05: Ethical competency

GA 06: Digital capabilities

GA 07: Environmental literacy

GA 08: Self-awareness and emotional intelligence

Graduate Attributes for Master's Degree Program:

GA 01: Apply foundational knowledge in academia, research, governance and in industry

GA 02: Modern Tool Usage

GA 03: Professional and ethical responsibility

GA 04: Multidisciplinary teamwork

GA 05: Effective communication

GA 06: Global and societal context

GA 07: Lifelong learning

GA 08: Project management and leadership

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

List of some general education (GEd) courses but are not limited to:

1. Introduction to Development Studies	13. Bio-business and Entrepreneurship
2. Communicative English	Intellectual Property Rights
3. Technical Communication and Scientific Writing	14. Health Information Management
4. Ethics	15. Philosophy of Science
5. Disaster Management	16. Principles of Management and Leadership
6. Critical Thinking and Logic	17. Environment and Sustainability
7. Science, Technology and Society	18. Principles of Marketing
8. Food and Nutrition	19. Public Health and Epidemiology
9. Psychology	20. Data Science
10. Sociology	21. Industry and Business Law
11. Production Economics	22. Bangladesh Studies
12. Ecology	

Note: The program offering entity (POE) may select appropriate courses considering program learning outcomes (PLO)/ Course learning outcomes (CLO).

Criterion 4-9: Provisions of internship/project/dissertation/fieldwork/work integrated learning opportunities should be included in the curriculum.

Both the bachelor and master program must include dissertation/thesis/project for the partial fulfilment of the degree requirement. Furthermore, the following work integrated learning opportunities should be included:

- a) Field visits related to biotech industries, research institutes, academic institutions etc. can be considered as the integral parts of the curriculum.
- b) Projects/ exhibition/ demonstration of different curriculum related topics.

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 Bachelor in BGE/GEB Program:

1. Completion of HSC or an equivalent program
2. The applicant must have Biology, Chemistry and Physics in both of the SSC and HSC or A Level or equivalent exam

3. The university admission test should be designed to assess applicants' aptitude in biology, chemistry, and physics to ensure a comprehensive evaluation of their scientific readiness.

Requisite Qualifications for Admission in Masters in BGE/GEB Program:

Bachelor of Genetic Engineering and Biotechnology/Biotechnology and Genetic Engineering or Bachelor of allied/related subjects from any UGC approved university or recognized higher education institution.

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 a few co-curricular activities but not limited to:

1. Rotary Club	14. Swimming club
2. Red Crescent society	15. Athletic Club
3. BNCC/Girl's Guide	16. Language Club
4. Rover Scout	17. Participation in various seminars/conference
5. Debating Club	18. Observance of special day
6. Blood Donation Club	19. Environmental Club
7. Cultural Club (Drama, Music etc.)	20. Career Club
8. Photography Society	21. Philanthropic Society
9. Journal Club	22. ICT club
10. Biotech Club/Society	23. Different Olympiad
11. Sports club	24. Research Volunteer
12. Science Club	25. Technical and Innovation club
13. Business Startup Club	

Note: POE will select appropriate co-curricular activities related to graduate attributes and learning outcomes and encourage students to participate for holistic development of the graduates.

Standard 7: Faculty and Professional Staff

Criterion 7-8: The PoE maintains ideal combination of faculty with Professor, Associate Professor, Assistant Professor and 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: 1:10

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.

Essential Laboratory Facilities for Bachelor and Master program:

1. Plant Biotechnology
2. Animal Biotechnology
3. Medical and Pharmaceutical Biotechnology
4. Biochemistry and Molecular Biology
5. Food Biotechnology
6. Microbial Biotechnology
7. Bioinformatics
8. Bioprocess
9. Forensic Biotechnology
10. Agricultural Biotechnology Field Laboratory

Other facilities and Supporting Labs may include

1. ICT lab	2. Medicinal Plant Garden
3. Animal House	4. Modern Language Centre
5. Green House	6. Workshop
7. Gamma Garden	8. Genome Center