

BS Biotechnology

| Course Title | Course Code | Course Type | Credit Hour |
|--|---------------------|-------------------|------------------------------|
| Semester 1 | | | |
| <u>GEN(NS)</u> | | General | <u>3</u> |
| Functional English | GENG-101 | General | <u>3</u> |
| Civics and Community Engagement | GCCE-101 | General | <u>2</u> |
| Islamic Studies / Ethics (for Non-Muslims) | GISL-101 / GETH-101 | General | <u>2</u> |
| Elements of Biotechnology | BT. 101 | Major | <u>3</u> |
| Cell Biology | BCBT-101 | Major | <u>3</u> |
| Tarjuma-e-Quran | HQ-001 | Compulsory | <u>0</u> |
| Physical Chemistry | | Interdisciplinary | <u>3</u> |
| | | | Total Credit Hours 19 |
| Semester 2 | | | |
| <u>GEN(AH)</u> | | General | <u>2</u> |
| Quantitative Reasoning (I) | GQR-101 | General | <u>3</u> |
| Entrepreneurship | GENT-101 | General | <u>2</u> |
| Ideology and Constitution of Pakistan | GICP-101 | General | <u>2</u> |
| Biochemistry I | BT-102 | Major | <u>3</u> |
| Principles of Genetics | BCBT-102 | Major | <u>3</u> |
| Tarjuma-e-Quran | HQ-002 | Compulsory | <u>1</u> |
| Biosafety, Biosecurity & Bioethics | BT.-104 | Major | <u>2</u> |
| | | | Total Credit Hours 18 |
| Semester 3 | | | |
| Applications of Information and Communication Technologies | GICT-201 | General | <u>3</u> |
| Expository Writing | GENG-201 | General | <u>3</u> |
| Agriculture Biotechnology | BT-201 | Major | <u>3</u> |
| Microbiology | BCBT-203 | Major | <u>3</u> |
| Molecular Biology | BCBT-201 | Major | <u>3</u> |
| Tarjuma-e-Quran | HQ-003 | Compulsory | <u>0</u> |
| Organic Chemistry | | Interdisciplinary | <u>3</u> |
| | | | Total Credit Hours 18 |
| Semester 4 | | | |
| <u>GEN(SS)</u> | | General | <u>2</u> |
| Quantitative Reasoning (II) | GQR-202 | General | <u>3</u> |
| Industrial Biotechnology | BT-206 | Major | <u>3</u> |
| Health Biotechnology | BT-204 | Major | <u>3</u> |
| Recombinant DNA Technology | BT-202 | Major | <u>3</u> |
| Tarjuma-e-Quran | HQ-004 | Compulsory | <u>1</u> |
| Internship | BT-200 | Major | <u>3</u> |
| | | | Total Credit Hours 18 |
| Semester 5 | | | |
| Bioinformatics | Bt-303 | Major | <u>3</u> |
| Ecology and Biodiversity | | Interdisciplinary | <u>3</u> |
| Biostatistics | BCBT-301 | Major | <u>3</u> |
| Biochemistry – II | BT-305 | Major | <u>3</u> |
| Analytical Chemistry & Instrumentation | BT-301 | Major | <u>3</u> |
| Tarjuma-e-Quran | HQ-005 | Compulsory | <u>0</u> |
| | | | Total Credit Hours 15 |
| Semester 6 | | | |
| Biophysics | | Interdisciplinary | <u>3</u> |
| Principles of Biochemical Engineering | BT-306 | Major | <u>3</u> |
| Methods in Molecular Biology | BT-304 | Major | <u>3</u> |
| Immunology | BCBT-302 | Major | <u>3</u> |
| Genomics & Proteomics | BT-302 | Major | <u>3</u> |
| Tarjuma-e-Quran | HQ-006 | Compulsory | <u>1</u> |
| | | | Total Credit Hours 16 |
| Semester 7 | | | |
| Environmental Biotechnology | BT-407 | Major | <u>3</u> |
| Artificial Intelligence in Biotechnology | BT-405 | Major | <u>2</u> |
| Scientific Inquiry and Research Methods | BCBT-401 | Major | <u>3</u> |
| Microbial Biotechnology | BT-401 | Major | <u>3</u> |
| Capstone | BT-480 | Major | <u>3</u> |
| Tarjuma-e-Quran | HQ-007 | Compulsory | <u>0</u> |
| Elective Course-I | | Major | <u>3</u> |
| | | | Total Credit Hours 17 |
| Semester 8 | | | |
| Elective Course-IV | | Major | <u>3</u> |
| Elective Course-III | | Major | <u>3</u> |
| Elective Course-II | | Major | <u>3</u> |
| Nanobiotechnology | BT-404 | Major | <u>3</u> |
| Food Biotechnology | BT-402 | Major | <u>3</u> |
| Tarjuma-e-Quran | HQ-008 | Compulsory | <u>1</u> |
| | | | Total Credit Hours 16 |

