

COURSE CURRICULUM

The curriculum of Bachelor of Science (Honours) course in Biotechnology and Genetic Engineering was designed keeping in mind the objective of the course and after thorough revision of leading national and foreign universities and consideration of the opinions of national pioneer and experts of Biotechnology and Genetic Engineering. The course consists of 160 credits of study and the whole curriculum was divided into eight different parts to cover in eight subsequent semesters.

Here,

1 credit = 14 lectures, 1 lecture = 50 minutes
1 semester = 14 weeks, 1 week = 5 working days

Summary of 4 (four) years credit distribution for the degree of Bachelor of Science (Honours) in Biotechnology and Genetic Engineering

Year	Semester	Credit Hours	Total credit
First	1 st	19	38
	2 nd	19	
Second	1 st	22	42
	2 nd	20	
Third	1 st	21	41
	2 nd	20	
Fourth	1 st	21	39
	2 nd	18	
Grand Total	8	160	160

Distribution of course credit is as follows:

Year	Credit theory	Credit sessional	Total credit
First	17+17=34	2+2=4	38
Second	20+18=38	2+2=4	42
Third	18+17=35	3+3=6	41
Fourth	18+18=36	3+0=3	39
Grand Total	143	17	160

**Course Curricula for the Degree of B. Sc. (Hons.) in
Biotechnology and Genetic Engineering (Effective for 2016-2017 session)**

First Year First Semester		Class Hours/Week		Credit
Course Code	Course Title	Theory	Sessional	
BGE 1101	Introduction to Biotechnology	3		3
BGE 1103	Biomolecules I	2		2
BGE 1105	Basic Biology	3		3
BGE 1107	Chemistry for Biotechnology	3		3
BGE 1108	Chemistry for Biotechnology (Sessional)		2	1
BGE 1109	Physics for Biology	3		3
BGE 1111	Introduction to Computer Science	3		3
BGE 1112	Introduction to Computer Science (Sessional)		2	1
Total		17	4	19

First Year Second Semester		Class Hours/Week		Credit
Course Code	Course Title	Theory	Sessional	
BGE 1201	Biomolecules II	3		3
BGE 1202	Biomolecules II (Sessional)		2	1
BGE 1203	Human Physiology I	3		3
BGE 1205	Molecular Biology I	3		3
BGE 1207	Plant Tissue Culture	3		3
BGE 1208	Plant Tissue Culture (Sessional)		2	1
BGE 1209	Mathematics I	2		2
BGE 1211	Functional and Communicative English	2		2
BGE 1213	Course Viva			1
Total		16	4	19

Second Year First Semester		Class Hours/Week		Credit
Course Code	Course Title	Theory	Sessional	
BGE 2101	Molecular Biology II	3		3
BGE 2103	Basic Concepts of Genetics	3		3
BGE 2105	Metabolism I	3		3
BGE 2107	Human Physiology II	3		3
BGE 2109	Basic Microbiology	3		3
BGE 2110	Basic Microbiology (Sessional)		2	1
BGE 2111	Breeding	3		3
BGE 2112	Breeding (Sessional)		2	1
BGE 2113	Mathematics II	2		2
Total		20	4	22

Second Year Second Semester		Class Hours/Week		Credit
Course Code	Course Title	Theory	Sessional	
BGE 2201	Enzymology	3		3
BGE 2203	Metabolism II	3		3
BGE 2205	Nutrition	3		3
BGE 2207	Immunology I	3		3
BGE 2208	Immunology I (Sessional)		2	1
BGE 2209	Economics	2		2
BGE 2211	Biostatistics	3		3
BGE 2212	Biostatistics (Sessional)		2	1
BGE 2213	Course Viva			1
Total		17	4	20

Third Year First Semester		Class Hours/Week		Credit
Course Code	Course Title	Theory	Sessional	
BGE 3101	Clinical and Molecular Basis of Diseases	3		3
BGE 3102	Clinical and Molecular Basis of Diseases (Sessional)		2	1
BGE 3103	Plant Physiology	3		3
BGE 3105	Recombinant DNA Technology	3		3
BGE 3107	Virology	2		2
BGE 3109	Bioinformatics	2		2
BGE 3110	Bioinformatics (Sessional)		2	1
BGE 3111	Microbial Genetics	3		3
BGE 3112	Microbial Genetics (Sessional)		2	1
BGE 3113	Cancer Biology	2		2
Total		18	6	21

Third Year Second Semester		Class Hours/Week		Credit
Course Code	Course Title	Theory	Sessional	
BGE 3201	Molecular Genetics	3		3
BGE 3203	Food Biotechnology	3		3
BGE 3204	Food Biotechnology (Sessional)		2	1
BGE 3205	Fermentation Technology	2		2
BGE 3207	Plant Genetic Engineering	3		3
BGE 3208	Plant Genetic Engineering (Sessional)		2	1
BGE 3209	Biopharmaceutical Chemistry	3		3
BGE 3210	Biopharmaceutical Chemistry (Sessional)		2	1
BGE 3211	Immunology II	2		2
BGE 3213	Course Viva			1
Total		16	6	20

Fourth Year First Semester		Class Hours/Week		Credit
Course Code	Course Title	Theory	Sessional	
BGE 4101	Medical and Pharmaceutical Biotechnology	3		3
BGE 4103	Cell Biology	3		3
BGE 4105	Computational Biology	3		3
BGE 4106	Computational Biology (Sessional)		2	1
BGE 4107	Animal Biotechnology	3		3
BGE 4108	Animal Biotechnology (Sessional)		2	1
BGE 4109	Research Methodology	3		3
BGE 4111	Analytical Methods	3		3
BGE 4112	Analytical Methods (Sessional)		2	1
Total		18	6	21

Fourth Year Second Semester		Class Hours/Week		Credit
Course Code	Course Title	Theory	Sessional	
BGE 4201	Forensic DNA typing and Molecular Diagnostics	3		3
BGE 4203	Protein and Metabolic Engineering	3		3
BGE 4205	Downstream Processing	3		3
BGE 4207	GEOs and Biosafety Regulations	3		3
BGE 4209	Environmental Biotechnology	3		3
BGE 4211	Research Project/Survey Report			2
BGE 4213	Course Viva			1
Total		15		18

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