

**Department of Life Sciences**  
**School of Biosciences and Technology**  
**Galgotias University, Greater Noida, U.P, India-203201**

**Bachelor of Science (Hons. with research) in Biotechnology-4 Years**

**Program Structure**

**Bachelor of Science (Hons. with research) in Biotechnology-4 Years**

S.N .	Semester	Course Name	Type	L	T	P	Credits
1	Sem-1	Fundamentals of Cell Biology	Core	3	0	1	4
2	Sem-1	Introduction to Biotechnology	Core	3	0	1	4
3	Sem-1	Biochemistry	Core	4	0	0	4
4	Sem-1	Elective-1	Elective	2	0	0	4
5	Sem-1	Ecology and Environment	AEC	2	0	0	2
6	Sem-1	Essentials of IT Tools	SEC	1	0	1	2
7	Sem-1	Food Nutrition and Hygiene	VAC	2	0	0	2
<b>Total Credits</b>							<b>22</b>
8	Sem-2	Principles of Genetics	Core	3	0	1	4
9	Sem-2	Fundamentals of Microbiology	Core	3	0	1	4
10	Sem-2	Biochemistry of Metabolism	Core	4	0	0	4
11	Sem-2	Elective-2	Elective	4	0	0	4
12	Sem-2	Logical Communication	AEC	2	0	0	2
13	Sem-2	Python Programming	MDC	1	0	1	2
14	Sem-2	Stress Management	VAC	2	0	0	2
<b>Total Credits</b>							<b>22</b>
15	Sem-3	Fundamentals of Molecular Biology	Core	3	0	1	4
16	Sem-3	Environmental Biotechnology	Core	3	0	0	3
17	Sem-3	Plant Biotechnology	Core	3	0	1	4
18	Sem-3	Elective-3	Elective	4	0	0	4
19	Sem-3	Critical Thinking & Writing	AEC	2	0	0	2
20	Sem-3	Introduction to Artificial Intelligence	SEC	2	0	0	2
21	Sem-3	Community Connect/NCC/NSS/Vedic Math	VAC	2	0	0	2
<b>Total Credits</b>							<b>21</b>
22	Sem-4	Recombinant DNA Technology	Core	3	0	1	4
23	Sem-4	Animal Biotechnology	Core	3	0	0	3
24	Sem-4	Concepts of Immunology	Core	3	0	1	4
25	Sem-4	Bioanalytical Techniques	Core	3	0	0	3
26	Sem-4	Elective-4	Elective	4	0	0	4
27	Sem-4	Disaster Management	AEC	2	0	0	2
<b>Total Credits</b>							<b>20</b>
28	Sem-5	Enzyme Technology	Core	3	0	1	4

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29	Sem-5	Food Biotechnology	Core	3	0	1	4
30	Sem-5	Biostatistics	MDC	4	0	0	4
31	Sem-5	Elective-5	Elective	4	0	0	4
32	Sem-5	IPR & Bio-entrepreneurship	SEC	2	0	0	2
33	Sem-5	Internship	Internship	0	0	2	2
<b>Total Credits</b>							<b>20</b>
34	Sem-6	Industrial Biotechnology	Core	3	0	1	4
35	Sem-6	Bioinformatics	Core	3	0	1	4
36	Sem-6	Biosafety & Bioethics/AI in Biosciences	SEC	2	0	0	2
37	Sem-6	Waste Management & Environmental Sustainability	VAC	2	0	0	2
38	Sem-6	Elective-6	Elective	4	0	0	4
39	Sem-6	Nanobiotechnology	MDC	3	0	0	3
40	Sem-6	Academic & Research Report Writing	SEC		0	1	1
<b>Total Credits</b>							<b>20</b>
<b>After 3 Years, Students will get the degree of <u>B.Sc. (Hons)</u> in Biotechnology with Total Credits= 125</b>							
41	Sem-7	Genomics and Proteomics	Core	4	0	0	4
42	Sem-7	Molecular Diagnostics and Clinical Biotechnology	Core	3	0	1	4
43	Sem-7	Cancer Biology / Stem Cell/	DSE	3	0	0	3
44	Sem-7	Structural Biology / Drug Designing	DSE	3	0	1	4
45	Sem-7	Elective-7	Elective	0	0	0	4
46	Sem-7	Elective-8	Elective	0	0	0	4
<b>Total Credits</b>							<b>23</b>
46	Sem-8	Dissertation	Dissertation				12
<b>Total Credits</b>							<b>12</b>

**After 4 Years, Students will get the degree of B.Sc. (Hons with Research) in Biotechnology with Total Credits= 160**

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**List of Electives**

Track-1 Food and Agriculture Biotechnology					
S.N.	Course Name	L	T	P	Credits
1	Natural Resource Management and Sustainability	4	0	0	4
2	Nutraceutical and Functional Foods	4	0	0	4
3	Food Microbiology	4	0	0	4
4	Principles of Food Processing	4	0	0	4
5	AQUACULTURE AND Fish Processing technology	4	0	0	4
6	Mushroom Cultivation Technology	4	0	0	4
7	BIO-FERTILISER and Biopesticide	4	0	0	4
8	Food Standards and Quality Control	4	0	0	4
		<b>Total</b>			<b>32</b>
Track-2 Health and Pharmaceutical Biotechnology					
S.N.	Course Name	L	T	P	Credits
1	Medicinal Chemistry	4	0	0	4
2	Public Health and Epidemiology	4	0	0	4
3	Cell & Tissue Culture	4	0	0	4
4	Biomedical Devices	4	0	0	4
5	Molecular Pathogenesis of Infectious Diseases	4	0	0	4
6	Tissue Engineering & Regenerative Medicine	4	0	0	4
7	Molecular Basis of Gene Therapy	4	0	0	4
8	Clinical Trials and Regulatory Affairs	4	0	0	4
		<b>Total</b>			<b>32</b>