

School of Biochemical Engineering

B.Tech. Course Structure for Biochemical Engineering (2025-2026)					
Cat.	Deviation	Programme Components	BCE (B.Tech.)	Recommended (IV Years)	
				Min	Max
HLM	0	Humanities and Social Science (5) and Lang & Mangt (6)	11	10	14
IS	0	Science	25	22	28
IE	0	Institute Requirement Engineering/ Pharmacy	18	15	20
EP	0	Engineering Drawing (Manual and Computer Aided), Manufacturing Practices and Practice course of Department/ School	8	8	11
DC/ DE	0	Department/Programme Core (45) + Electives (23)	68	68	74
OE	0	Open Elective (Interdisciplinary from Science/ Engineering/Pharmacy)	6	6	10
Indl/RI/ SUE	0	Industrial/res intern/Start-up or Entrepreneurship	15	15	15
EP	0	Exploratory project	3	3	3
Total			154	147	175

SBCE does not offer any stream.

B.Tech. Course Structure for Biochemical Engineering (2025-2026 onwards) without minor or Second Major

UG-CRC Code	Course Code	Course Name	L-T-P			Credits
Biochemical Engineering: 4-Year B.Tech. I-Semester						
IH.H101.14	HLM101	Universal Human Values	2	0	0	2
GY.PE101.14	PE101	Elementary Physical Education	0	1	3	2.5
GY.CP101.14	CP101	Creative Practices #	0	1	3	2.5
Total			1	2	6	7
LM.HL101.14	HLM102	English	2	0	0	2
Total			3	2	6	9
Biochemical Engineering: 4-Year B.Tech. I-Semester						
IS.PHY102.14	PHY102	Introduction to Engineering Electromagnetics	3	1	2	5
IS.CY101.14	CY101	Chemistry - I	2	1	2	4
IS.MA102.14	MA101	Engineering Mathematics -I	3	1	0	4
IE.ME103.14	ME103	Engineering Thermodynamics	3	1	0	4
IS.BC102.XX	BC102	Biology for Engineers	3	0	0	3
EP.ME105.14	ME105	Manufacturing Practice - I	0	0	3	1.5
Total			14	4	7	21.5
Biochemical Engineering: 4-Year B.Tech. II-Semester						
IS.PHY101.14	PHY101	Classical, Relativistic & Quantum Mechanics	3	1	2	5
IS.MA102.14	MA102	Engineering Mathematics -II	3	1	0	4
EP.ME104.14	ME104	Engineering Drawing	1	0	3	2.5
IE.CSO101.14	CSO101	Computer Programming	3	1	2	5
EP.BC101.14	BC101	Biochemical Engineering Practice	1	0	3	2.5
EP.ME106.14	ME106	Manufacturing Practice - II	0	0	3	1.5
Total			11	3	13	20.5
Biochemical Engineering: 4-Year B.Tech. III-Semester						
IE.CHO.201.14	CHO201	Fluid Mechanics	3	1	0	4
IE.EO102.25	EO102	Fundamentals of Electronics Engineering	3	1	2	5
DC.BC201.15	BC201	Advances in Biochemistry	3	0	2	4
IS.BC221.15	BC221	Fundamentals of Microbiology	3	0	2	4
IH.HXXX.XX	HLM	Humanities/Social Science/Language/Management course	3	0	0	3
Total			15	2	6	20

UG-CRC Code	Course Code	Course Name	L-T-P			Credits
Biochemical Engineering: 4-Year B.Tech. IV-Semester						
DC.BC212.15	BC212	Bioprocess Calculations	2	1	0	3
DC.BC2XX.XX	BC2XX	Bioinformatics and Computational Biology	3	0	2	4
DC.BCXXX.15	BC2XX	Molecular Biology & Genetic Engineering	3	0	2	4
DP.BC291.15	BC291	Exploratory Project	0	0	6	3
DE.BCXXX	DE-1	Department Elective (DE) - 1	3	0	0	3
DE.BCXXX	DE-2	Department Elective (DE) - 2	3	0	2	4
		Total	14	1	12	21
List of Electives DE-1						
DE.BC315.16	BC315	Fermentation Technology	3	0	0	3
DE.BC333.16	BC333	Structural Biology	3	0	0	3
DE.BC2XX.XX	BC2XX	Biostatistics	3	0	0	3
List of Electives DE-2						
DE.BC331.16	BC331	Waste Water Engineering	3	0	2	4
DE.BC325.16	BC325	Biofuels & Bio Energy	3	0	2	4
Biochemical Engineering: 4-Year B.Tech. V-Semester						
DC.BC311.15	BC311	Microbial Engineering	3	0	0	3
DC.BC323.15	BC323	Enzyme Engineering	3	0	2	4
DC.BC301.15	BC301	Bioinstrumentation & Control	3	0	0	3
DC.BC314.15	BC314	Bioreactor Design	3	0	2	4
OE.XXX,XX	OE-1	Open Elective - 1	3	0	0	3
		Total	15	0	4	17
Biochemical Engineering: 4-Year B.Tech. VI-Semester						
IT/SUE/UGRP	*BC393	Industrial/res intern/Start-up or Entrepreneurship	0	0	30	15
DE-BCXXX.XX	DE-3	NPTEL/Swayam (DE-3)	3	0	0	3
						18
Biochemical Engineering: 4-Year B.Tech. VII-Semester						
DC.BC401.15	BC401	Downstream Processing	3	0	0	3
DE.BCXXX	DE-4	Department Elective (DE) - 4	3	0	2	4
DE.BCXXX	DE-5	Department Elective (DE) - 5	3	0	0	3
DC.BCXXX.XX	BC4XX	Omics and Biotechniques	3	0	0	3
HLM	HLM	Humanities/Social Science/Language/Management course	3	0	0	3
		Total	15	0	2	16
SBCE does not offer any stream.						
List of Electives DE-4 & DE-5						
DE.BC402.16	BC402	Food Engineering & Technology	3	0	2	4
DE.BCXXX.16	BC4XX	Bionanotechnology	3	0	2	4
DE.BC415.16	BC424	Animal Cell Culture	3	0	0	3
DE.BC4XX.XX	BC426	Medical Textiles	3	0	0	3
Biochemical Engineering: 4-Year B.Tech. VIII-Semester						
DC.BC403.15	BC403	Bioprocess Plant Design	3	0	0	3
DC.BC435.24	BC435	rDNA Technology	3	0	0	3
DE.BCXXX	DE -6	Department Elective (DE) – 6	3	0	0	3
DE.BCXXX	DE -7	Department Elective (DE) – 7	3	0	0	3
OE.XXX	OE-2	Open Elective – 2	3	0	0	3
HLM	HLM	Humanities/Social Science/Language/Management course	3	0	0	3
		Total	18	0	0	18
SBCE does not offer any stream.						
List of Electives DE-6 & DE-7						
DE.BC417.16	BC417	Bioprocess simulation	3	0	0	3
DE.BC425.16	BC425	Cell & tissue Engineering	3	0	0	3
DE.BC427.16	BC427	Textile Biotechnology	3	0	0	3
DE.BC416.16	BC416	Advance Bio Reactor Design	3	0	0	3
Courses highlighted in yellow require course code assignment.						