

2022 -Chemical and Biochemical Engineering

Semester I

S. No	Course Code	Course Name	L	T	P	C
1	CH 102	Fundamental concepts and applications of chemistry	3	0	0	6
2	MA 109	Calculus I (1st Half)	3	1	0	4
3	MA 121	Calculus II (2nd Half)	3	1	0	4
4	PH 101	Quantum Physics and Applications	2	1	0	6
5	BB 103	Introduction to Modern Biology	3	0	0	6
6	CS 103	Introduction to Programming - 1 (Using C) (1st Half)	3	0	2	4
7	EE 103	Introduction to Programming - 2 (Using Python) (2nd Half)	3	0	2	4
8	PH 113	Hands on Science Laboratory - I	0	0	3	3
9	HS 103	Introduction to Fine Arts				PP/NP
10	HS 106	Design Thinking and Creativity				PP/NP
11	NO 101/ NO 102	National Sports Organization (NSO)/National Service Scheme (NSS)				PP/NP
		Total Credits				37

Semester II

S. No	Course Code	Course Name	L	T	P	C
1	MA 102	Linear Algebra (1st Half)	3	1	0	4
2	BB 201	Biomolecules	2	1	0	6
3	ME 111	Engineering Graphics Laboratory	1	0	3	5
4	ME 201	Engineering Mechanics	2	1	0	6
5	CS 201	Data Structures and Algorithms	3	0	0	6
6	CS 211	Data Structures and Algorithms Laboratory	0	0	3	3
7	ME 113	Hands on Engineering Laboratory	0	0	3	3
8	CL 101	Introduction to Chemical Engineering	3	0	0	6
9	NO 102/ NO 104	National Sports Organization (NSO)/National Service Scheme (NSS)				PP/NP
		Total Credits				39

Semester III

S. No	Course Code	Course Name	L	T	P	C
1	CL 201	Introduction to Transport Phenomena	3	0	0	6
2	CL 204	Introduction to chemical engineering Thermodynamics	3	0	0	6
3	ME 203	Fluid Mechanics	2	1	0	6
4	ME 222	Mechanics of Materials	2	1	0	6
5	EE 221	Introduction to Probability (1st Half)	3	0	0	3
6	EE 227	Data Analysis (2nd Half)	3	0	0	3

7	BB 301	Basics of Cell Biology and Genetics	3	0	0	6
8	CL 211	Chemical Engineering lab -I (Thermodynamics and fluid mechanics)	0	0	3	3
		Total Credits				39

Semester IV

S. No	Course Code	Course Name	L	T	P	C
1	ME 220	Heat Transfer	3	0	0	6
2	EE 101	Introduction to electricity Systems and Electronics	3	0	0	6
3	CL 202	Reaction Engineering	3	0	0	6
4	MA 407	Introduction to Numerical Linear Algebra (1st Half)	3	1	0	4
5	MA 103	Differential Equations - I (2nd Half)	3	1	0	4
6	BB 404	Biophysical	3	0	0	3
7	CH 201	Organic Chemistry	3	0	0	3
8	CL 203	Mass transfer	3	0	0	6
		Total Credits				38

Semester V

S. No	Course Code	Course Name	L	T	P	C
1	CL 301	Process Equipment Design and Economics	3	0	0	6
2	HS 201	Economics	3	0	0	6
3	CH 306	Electrochemistry	3	0	0	3
4	CH 304	Introduction to computational chemistry	3	0	0	6
5	CL 212	Chemical Engineering lab -II (Heat Transfer & Solid mechanics)	0	0	3	3
6	CL 213	Chemical Engineering Lab III (mass transfer and reaction engineering)	0	0	3	3
7		Programme elective-I	3	0	0	6
8		Programme elective-II	3	0	0	6
		Total Credits				36

Semester VI (Yellow highlights are courses must for honors)

S. No	Course Code	Course Name	L	T	P	C
1	CH 402	Catalysis	3	0	0	3
2	CE 301	Environmental Studies	3	0	0	6
3	EE 226	Control systems and lab	2	0	2	6
4		Programme elective-III	3	0	0	6
5		Programme elective-IV	3	0	0	6
6	CL 303	Scientific presentation	0	0	3	3
7	CL 401	Chemical reaction engineering-II	3	0	0	6
		Total Credits				30

Semester VII (Yellow highlights are courses must for honors)

S. No	Course Code	Course Name	L	T	P	C
1		HSS Elective	3	0	0	6
2		Institute Elective-I	3	0	0	6
3		Institute Elective-II	3	0	0	6
4		Programme elective-V/ BTP-I	3	0	0	6
5		Programme elective-VI	3	0	0	6
6	CL403T	Advanced Transport phenomena	3	0	0	6
		Total Credits				24

Semester VIII (Yellow highlights are courses must for honors)

S. No	Course Code	Course Name	L	T	P	C
1		Institute Elective-III	3	0	0	6
2		Institute Elective-IV/ HSS elective	3	0	0	6
3		Programme elective-VII/BTP -II	3	0	0	6
4		Programme elective-VIII	3	0	0	6
5		Programme elective-IX	3	0	0	6
		Total Credits				18
Overall Credits Required (Minimum)						261