



Department of Chemical Engineering
B.Tech Curriculum (2020 Onwards)

Course No	SEM-1	Credits	Type
EP1108	Modern Physics	2	BS
CY1018	Environmental Chemistry	2	BS
MA1110	Calculus-I	1	BS
MA1220	Calculus-II	1	BS
ID1063	Introduction to programming	3	BE
CH1110	Introduction to Chemical Engineering	2	DC
CH1120	Applied Chemistry	2	BS
LAxxxx	English Communication	2	SS
	Total	15	

Course No	SEM-III	Credits	Type
CH2110	Biological Engineering	3	DC
CH2120	Numerical Methods	3	DC
CH2130	Transport Phenomena	3	DC
CH2140	Chemical Engineering Thermodynamics	3	DC
CH2150	Applied Mathematics in Chemical Engineering	3	DC
LAxxxx	LA/CA	3	LA/CA
	Total	18	

Course No	SEM-V	Credits	Type
CH3110	Mass Transfer – I	3	DC
CH3120	Mechanical Operations	3	DC
CH3130	Chemical Technology	2	DC
CH3140	Chemical Reaction Engineering-II	3	DC
CH3121	HT & FM Lab	2	DL
CHxxxx	Dept Electives-I*	6	DE
	Total	19	

Course No.	SEM-II	Credits	Type
CYxxxx	Chemistry Lab	2	BS
LAxxx	Life Science	1	BS
MA1140	Elementary Linear Algebra	1	BS
MA1150	Differential Equations	1	BS
CH1031	Applied Chemistry Lab	1	BS
ID1054	Digital Fabrication	2	BE
CH1130	Chemical Process Calculations	2	DC
CH1140	Thermodynamic Laws & Phase Transitions	3	BE
	Introduction to Entrepreneurship	1	SS
LAxxxx	LA/CA	2	LA/CA
LAxxxx	Personality Development	1	SS
	Total	17	

Course No	SEM-IV	Credits	Type
EP1031	Physics Lab	2	BS
ID1054	Intro to AI& ML	1	BE
EE1102	Basic Electrical Engineering	3	BE
CH2160	Materials Science for Chemical Engineers	2	BE
CH2170	Chemical Reaction Engineering-I	3	DC
CH2180	Heat transfer	3	DC
CH2190	Fluid Mechanics	3	DC
LAxxxx	LA/CA	2	LA/CA
	Total	19	

Course No	SEM-VI	Credits	Type
CH3150	Mass Transfer – II	2	DC
CH3160	Process Control	3	DC
CH3131	MUO and CRE Lab	2	DL
CHxxxx	Dept Electives-II*/Internship	6	DE
	Free Electives-I*	4	FE
	Total	17	

Course No	SEM-VI	Credits	Type
CH4112	Process Design and Economics	3	DC
CH4111	Process Simulation Lab	2	DL
CH4121	MT and Control Lab	2	DL
CHxxxx	Dept Electives-III*	2	DE
	Free Elective-II#	3	FE
	LA/CA	1	LA/CA
	Total	13	

Course No.	SEM-VIII	Credits	Type
CH4140	Process Intensification	1	DC
LAxxxx	LA/CA	1	LA/CA
CHxxxx	Dept Electives-IV*	4	DE
	Free Electives-III#	5	FE
	Total	11	

Total Number of Credits : 129

*Department electives: 6 credits of department electives can be earned by doing mini project (optional and only for those who are not undergoing internship)

*#The electives and free elective credits indicated in each semester are only suggestions, the students are free to do these courses in other semesters.

Course distribution

Course No	Basic Sciences (BS)	Credits	SEM
EP1108	Modern Physics	2	1
CY1017	Environmental Chemistry	2	1
MA1110	Calculus-I	1	1
MA1220	Calculus-II	1	1
CH1130	Applied Chemistry	2	1
CYxxxx	Chemistry Lab	2	2
LAxxx	Life Science	1	2
MA1140	Elementary Linear Algebra	1	2
MA1150	Differential Equations	1	2
CH1031	Applied Chemistry Lab	1	2
EP1031	Physics Lab	2	4
	Total	16	

Course No	Liberal Arts/ Creative Arts (LA/CA)	Credits	SEM
LAxxxx	LA/CA	2	2
LAxxxx	LA/CA	3	3
LAxxxx	LA/CA	2	4
LAxxxx	LA/CA	1	7
LAxxxx	LA/CA	1	8
	Total	9	

Course No.	Basic Engineering (BE)	Credits	SEM
ID1063	Introduction to programming	3	1
ID1054	Digital Fabrication	2	2
CH1050	Thermodynamic Laws & Phase Transitions	3	2
ID1054	Intro to AI& ML	1	4
EE1102	Basic Electrical Engineering	3	4
CH3140	Materials Science for Chemical Engineers	2	4
	Total	14	

Course No.	Soft Skill (SS)	Credits	SEM
LAxxxx	English Communication	2	
	Introduction to Entrepreneurship	1	
LAxxxx	Personality Development	1	
	Total	4	

Course No.	Free Elective (FE)	Credits	SEM
	Free Elective -1	4	6
	Free Elective-II	3	7
	Free Elective-III	5	8
	Total	12	

Course No	Department Core Courses (DC)	Credits	SEM
CH1010	Introduction to Chemical Engineering	2	1
CH1130	Chemical Process Calculations	2	2
CH2110	Biological Engineering	3	3
CH2120	Numerical Methods	3	3
CH2130	Transport Phenomena	3	3
CH2140	Chemical Engineering Thermodynamics	3	3
CH2150	Applied Mathematics in Chemical Engineering	3	3
CH2170	Chemical Reaction Engineering-I	3	4
CH2190	Heat transfer	3	4
CH2190	Fluid Mechanics	3	4
CH3110	Mass Transfer – I	3	5
CH3120	Mechanical Operations	3	5
CH3130	Chemical Technology	2	5
CH3140	Chemical Reaction Engineering-II	3	5
CH3150	Mass Transfer – II	2	6
CH3160	Process Control	3	6
CH4112	Process Design and Economics	3	7
CH4140	Process Intensification	1	8
	Total	48	

Overall Distribution	Credits	%
Department Core	48	37.2
Department Lab	8	6.2
Department Elective	18	14.0
Basic Science	16	12.4
Basic Engineering	14	10.9
Free Elective	12	9.3
LA/CA	9	7
Soft Skill	4	3

Course No.	Department Electives (DE)	Credits	SEM
CHxxxx	Dept Electives-I	6	5
CHxxxx	Dept Electives-II*/Internship	6	6
CHxxxx	Dept Electives-III*	2	7
CHxxxx	Dept Electives-IV*	4	8
	Total	18	

Course No.	Department Labs (DL)	Credits	SEM
CH3131	HT & FM Lab	2	5
CH3121	MUO and CRE Lab	2	6
CH4121	MT and Control Lab	2	7
CH4111	Process Simulation Lab	2	7
	Total	8	

