



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
CH10010	Introduction to Chemical Engineering	2	DC
CH10020	Applied Chemistry	2	BS
LAxxxxx	English Communication	2	SS
	Total	15	

Course No	SEM-III	Credits	Type
CH20010	Biological Engineering	3	DC
CH20020	Numerical Methods	3	DC
CH20030	Transport Phenomena	3	DC
CH20040	Chemical Engineering Thermodynamics	3	DC
CH20050	Applied Mathematics in Chemical Engineering	3	DC
LAxxxxx	LA/CA	3	LA/CA
	Total	18	

Course No	SEM-V	Credits	Type
CH30010	Mass Transfer – I	3	DC
CH30020	Mechanical Operations	3	DC
CH30030	Chemical Technology	2	DC
CH30040	Chemical Reaction Engineering-II	3	DC
CH30021	HT & FM Lab	2	DL
CHxxxxx	Dept Electives-I*	6	DE
	Total	19	

Course No.	SEM-II	Credits	Type
CYxxxxx	Chemistry Lab	2	BS
BTxxxxx	Life Science	1	BS
MA1140	Elementary Linear Algebra	1	BS
MA1150	Differential Equations	1	BS
CH10031	Applied Chemistry Lab	1	BS
ID1054	Digital Fabrication	2	BE
CH10030	Chemical Process Calculations	2	DC
CH10040	Thermodynamic Laws & Phase Transitions	3	BE
EM3020	Introduction to Entrepreneurship	1	SS
LAxxxxx	LA/CA	2	LA/CA
LAxxxxx	Personality Development	1	SS
	Total	17	

Course No	SEM-IV	Credits	Type
EP1031	Physics Lab	2	BS
ID1050	Intro to AI	1	BE
EE1102	Basic Electrical Engineering	3	BE
CH20060	Materials Science for Chemical Engineers	2	BE
CH20070	Chemical Reaction Engineering-I	3	DC
CH20080	Heat transfer	3	DC
CH20090	Fluid Mechanics	3	DC
LAxxxxx	LA/CA	2	LA/CA
	Total	19	

Course No	SEM-VI	Credits	Type
CH30050	Mass Transfer – II	2	DC
CH30060	Process Control	3	DC
CH30031	MUO and CRE Lab	2	DL
CHxxxxx	Dept Electives-II*/Internship	6	DE
	Free Electives-I#	4	FE
	Total	17	

Course No	SEM-VI	Credits	Type
CH40012	Process Design and Economics	3	DC
CH40011	Process Simulation Lab	2	DL
CH40021	MT and Control Lab	2	DL
CHxxxxx	Dept Electives-III*	2	DE
	Free Elective-II#	3	FE
	LA/CA	1	LA/CA
	Total	13	

Course No.	SEM-VIII	Credits	Type
CH40040	Process Intensification	1	DC
LAxxxxx	LA/CA	1	LA/CA
CHxxxxx	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
CH10030	Applied Chemistry	2	1
CYxxxxx	Chemistry Lab	2	2
LAxxx	Life Science	1	2
MA1140	Elementary Linear Algebra	1	2
MA1150	Differential Equations	1	2
CH10031	Applied Chemistry Lab	1	2
EP1031	Physics Lab	2	4
	Total	16	

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

Course No.	Basic Engineering (BE)	Credits	SEM
ID1063	Introduction to programming	3	1
ID1054	Digital Fabrication	2	2
CH10040	Thermodynamic Laws & Phase Transitions	3	2
ID1050	Intro to AI& ML	1	4
EE1102	Basic Electrical Engineering	3	4
CH20060	Materials Science for Chemical Engineers	2	4
	Total	14	

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

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

Course No	Department Core Courses (DC)	Credits	SEM
CH10010	Introduction to Chemical Engineering	2	1
CH10030	Chemical Process Calculations	2	2
CH20010	Biological Engineering	3	3
CH20020	Numerical Methods	3	3
CH20030	Transport Phenomena	3	3
CH20040	Chemical Engineering Thermodynamics	3	3
CH20050	Applied Mathematics in Chemical Engineering	3	3
CH20070	Chemical Reaction Engineering-I	3	4
CH20080	Heat transfer	3	4
CH20090	Fluid Mechanics	3	4
CH30010	Mass Transfer – I	3	5
CH30020	Mechanical Operations	3	5
CH30030	Chemical Technology	2	5
CH30040	Chemical Reaction Engineering-II	3	5
CH30050	Mass Transfer – II	2	6
CH30060	Process Control	3	6
CH40012	Process Design and Economics	3	7
CH40040	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
CHxxxxx	Dept Electives-I	6	5
CHxxxxx	Dept Electives-II*/Internship	6	6
CHxxxxx	Dept Electives-III*	2	7
CHxxxxx	Dept Electives-IV*	4	8
	Total	18	

Course No.	Department Labs (DL)	Credits	SEM
CH30021	HT & FM Lab	2	5
CH30031	MUO and CRE Lab	2	6
CH40021	MT and Control Lab	2	7
CH40011	Process Simulation Lab	2	7
	Total	8	

