



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

Course No	SEM-1	Credits	Type
EP1108	Modern Physics	2	BS
CY1010	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

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
EM3020	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
ID1050	Intro to AI	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

CH3140	Chemical Reaction Engineering-II	3	DC
CH3121	HT & FM Lab	2	DL
CHxxxx	Dept Electives-I*	6	DE
	Total	19	

CHxxxx	Dept Electives-II*/Internship	6	DE
	Free Electives-I#	4	FE
	Total	17	

Course No	SEM-VII	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

Course No.	Basic Engineering (BE)	Credits	SEM
ID1063	Introduction to programming	3	1
ID1054	Digital Fabrication	2	2
CH1140	Thermodynamic Laws & Phase Transitions	3	2
ID1050	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
------------	-----------------	---------	-----

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	

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	

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	

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

