

# Department of Chemical Engineering

## BACHELOR OF TECHNOLOGY (Polymer Science and Engineering)

S.No.	Code	Title	Area	Cr	L	T	P	TH	PH	CWS	PRS	MTE	ETE	PRE
<b>First Year (Autumn Semester)</b>														
1	MAN-001	Mathematics-I	BSC	4	3	1	0	3	0	25	-	25	50	-
2	PEN-101	Introduction to Polymer Science and Engineering	PCC	2	2	0	0	0	0	-	-	100	-	-
3	CEN-105	Introduction to Environmental Studies	GSC	3	3	0	0	3	0	15	-	35	50	-
4	HSN-001A	Communication skills (Basic)	HSSC	2	1	0	2	2	0	25	-	25	50	-
	HSN-001B	Communication skills (Advanced)	HSSC	2	1	-	2	2	-	25	-	25	50	-
5	HSN-002	Ethics and Self-Awareness	HSSC	2	1	1	0	2	0	15	-	35	50	-
6	CYN-009	Polymer Chemistry	BSC	4	3	1	0	2	0	25	-	25	50	-
7	PEN-103	Computer Programming and Numerical Methods	ESC	4	3	0	2	3	0	15	25	20	40	-
		Total		21	16	3	4							
<b>First Year (Spring Semester)</b>														
1	MAN-002	Mathematical Methods	BSC	4	3	1	0	3	0	25	-	25	50	-
2	CHN-102	Material and Energy Balance	PCC	4	3	1	0	3	0	25	-	25	50	-
3	CHN-106	Thermodynamics and Chemical Kinetics	PCC	4	3	1	0	3	0	25	-	25	50	-
4	PEN-102	Properties of Polymers	PCC	3	3	0	2/2	2	0	20	20	20	40	0
5	CYN-011	Polymer Characterization	BSC	2	2	0	0	2	0	25	-	25	50	0
	EEN-112	Electrical Science	ESC	4	3	1	2/2	3	0	20	20	20	40	0
6	CYN-013	Polymer Chemistry Lab	BSC	2	0	0	4			-	100	-	-	-
		Total		23	17	5	6							
<b>Second Year (Autumn Semester)</b>														
1	CHN-201	Heat Transfer	PCC	4	3	1	2/2	3	0	20	20	20	40	0
2	CHN-211	Fluid and Fluid Particle Mechanics	PCC	4	3	1	2/2	0	0	20	20	20	40	0
3	PEN-201	Polymer Engineering Thermodynamics	PCC	4	3	1	0	3	0	25	-	25	50	-
4	PEN-203	Polymer Blends	PCC	3	2	1	0	2	0	25	-	25	50	-
5	MIN-108	Mechanical Engineering Drawing	ESC	4	2	0	4	0	4	-	25	25	-	50
6	HSN-ELE	Any one course from 'Humanities and Social Science Elective Course'	HSSMEC	3	3	0	0	3	0	15	-	35	50	-
		Total		22	16	4	6							
<b>Second Year (Spring Semester)</b>														
1	CHN-212	Mass Transfer	PCC	4	3	1	2/2	3	0	20	20	20	40	0
2	PEN-202	Polymer Reaction Engineering	PCC	4	3	1	2/2	3	0	20	20	20	40	0
3	PEN-204	Polymer Rheology and Processing	PCC	3	2	0	3/2	2	0	20	20	20	40	0
4	PEN-206	Polymer Production Engineering	PCC	3	3	0	0	3	0	15	0	35	50	-
5	PEN-208	Elastomers Processing and Engineering	PCC	3	2	0	2	2	0	15	25	20	40	0
6	MTN-106	Materials Science	ESC	4	3	1	0	3	0	25	-	25	50	-
		Total		21	16	3	5							



## Department Elective

### Category I

S.No.	Code	Title	Area	Cr	L	T	P	TH	PH	CWS	PRS	MTE	ETE	PRE
1.	PEN-321	Optimization of Chemical Engineering Processes	PEC	4	3	1	0	3	0	25	0	25	50	0
2.	PEN-322	Advanced Numerical Methods	PEC	4	3	1	0	3	0	25	0	25	50	0
3.	PEN-323	Computational Fluid Dynamics	PEC	4	3	1	0	3	0	25	0	25	50	0
4.	PEN-324	Process Integration	PEC	4	3	1	0	3	0	25	0	25	50	0
5.	PEN-325	Probability and Systems Reliability	PEC	4	3	1	0	3	0	25	0	25	50	0

### Category 2

S.No.	Code	Title	Area	Cr	L	T	P	TH	PH	CWS	PRS	MTE	ETE	PRE
1.	PEN-401	Bio-Polymer Engineering	PEC	4	3	1	0	3	0	25	0	25	50	0
2.	PEN-402	High Preferential and Special Polymers	PEC	4	3	1	0	3	0	25	0	25	50	0
3.	PEN-403	Electronic and Conducting Polymers	PEC	4	3	1	0	3	0	25	0	25	50	0
4.	PEN-404	Polymeric Film Technology	PEC	4	3	1	0	3	0	25	0	25	50	0
5.	PEN-405	Polymeric Membrane Technology	PEC	4	3	1	0	3	0	25	0	25	50	0
6.	PEN-406	Advanced Polymers Composites	PEC	4	3	1	0	3	0	25	0	25	50	0
7.	PEN-407	Advanced Extrusion and Compounding	PEC	4	3	1	0	3	0	25	0	25	50	0
8.	PEN-408	Paints and Coating Engineering	PEC	4	3	0	0	3	0	25	0	25	50	0
9.	PEN-409	Fiber and Film Technology	PEC	4	3	1	0	3	0	25	0	25	50	0
10.	PEN-410	Adhesive and Sealants Technology	PEC	4	3	1	0	3	0	25	0	25	50	0
12.	PEN-411	Rubber Product Technology	PEC	4	3	1	0	3	0	25	0	25	50	0
13.	PEN-412	Polymer Colloids	PEC	4	3	1	0	3	0	25	0	25	50	0
14.	PEN-413	Polymer Nan composites	PEC	4	3	1	0	3	0	25	0	25	50	0
15.	PEN-414	Advanced Process Control	PEC	4	3	1	0	3	0	25	0	25	50	0