

**Course Structure: B.Tech. (Chemical Engineering)**  
**Valid for students admitted from year 2023 onwards**

**Semester 3:**

S.No.	Course Catag	Course No.	Course title	Contact Periods			Credits	Marks			Total
				L	T	P		Course-Work	Mid-Sem	End-Sem	
1	PC	CHC2012	Basic Principles of Chemical Engineering	3	1	-	4	15	25	60	100
2	PC	CHC2032	Fluid Mechanics	3	1	-	4	15	25	60	100
3	PC	CHC2042	Fluid Particle Operations	3	1	-	4	15	25	60	100
4	PC	CHC2052	Chemical Engineering Thermodynamics	3	1	0	4	15	25	60	100
5	PC	CHC2062	Heat Transfer Operations	3	1	0	4	15	25	60	100
6	PC	CHC2072	Numerical Methods in Chemical Engg.	3	1	0	4	15	25	60	100
7	PC	CHC2902	Computer Applications Lab			3	1.5	60	--	40	100

**TOTAL CREDITS: 25.5**

**Semester 4:**

S.No.	Course Catag	Course No.	Course title	Contact Periods			Credits	Marks			Total
				L	T	P		Course-Work	Mid-Sem	End-Sem	
1	BS	ACS2022	Engineering Chemistry	3	0	0	3	15	25	60	100
2	PC	CHC2002	Process Instrumentation	3	0	0	3	15	25	60	100
3	PC	CHC2022	Chemical Reaction Engineering	3	1	0	4	15	25	60	100
4	PC	CHC2082	Mass Transfer Operations	3	1	0	4	15	25	60	100
5	PC	CHC2092	Equilibrium Stage Processes	3	1	0	4	15	25	60	100
6	PC	CHC2922	Fluid Mechanics Lab	-		3	1.5	60	--	40	100
7	PC	CHC2932	Mechanical Operations Lab	-		3	1.5	60	--	40	100
8	PC	CHC2942	Heat Transfer lab	0	0	3	1.5	60		40	100

**TOTAL CREDITS: 22.5**

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**Semester 5:**

S.No.	Course Catag	Course No.	Course title	Contact Periods			Credits	Marks			Total
				L	T	P		Course-Work	Mid-Sem	End-Sem	
1	ESA	ACA3112	Engineering Materials	3	0	0	3	15	25	60	100
2	BS	AMS3412	Advanced Engineering Mathematics	3	0	0	3	15	25	60	100
3	ESA	CHA3012	Biology for Engineers	3	0	0	3	15	25	60	100
4	PC	CHC3122	Process Equipment Design	3	0	0	3	15	25	60	100
5	PC	CHC3912	Computer Programming Lab	0	0	3	1.5	60		40	100
6	PC	CHC3952	Reaction Engg. & Thermodynamics Lab			3	1.5	60		40	100
7	PC	CHC3962	Mass Transfer Lab	0	0	3	1.5	60		40	100
8	PSI	CHP3812	Seminar and Report Writing	0	2	0	2	100			100
9	HM	MEH3452	Engineering Economy & Management	3	0	0	3	15	25	60	100

**TOTAL CREDITS: 21.5**

**Semester 6:**

S.No.	Course Catag	Course No.	Course title	Contact Periods			Credits	Marks			Total
				L	T	P		Course-Work	Mid-Sem	End-Sem	
1	PC	CHC3132	Chemical Process Industries	3	1	0	4	15	25	60	100
2	PC	CHC3162	Energy Engineering and Management	3	0	0	3	15	25	60	100
3	PC	CHC3182	Transport Phenomena	3	1	-	4	15	25	60	100
4	PC	CHC3192	Plant Design and Economics	3	1		4	15	25	60	100
5	PC	CHC3922	CAD/Simulation Lab	0	0	3	1.5	60		40	100
6	PC	CHC3972	Chemical Engineering Design & Drawing	0	0	2	1	15	25	60	100
7	PSI	CHP3932	Plant Design Project A	0	3	0	3	60		40	100
8	DE		Departmental Elective-1				3	15	25	60	100
9	DE		Departmental Elective-2				3	15	25	60	100

**TOTAL CREDITS: 26.5**

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**Semester 7:**

S.No.	Course Catag	Course No.	Course title	Contact Periods			Credits	Marks			Total
				L	T	P		Course-Work	Mid-Sem	End-Sem	
1	PC	CHC4112	Industrial Pollution Control & Waste N	3	0	0	3	15	25	60	100
2	PC	CHC4122	Process Dynamics and Control	3	1	0	4	15	25	60	100
3	PC	CHC4232	Process Safety and Risk Analysis	3	0	0	3	15	25	60	100
4	PC	CHC4922	Process Dynamics and Control lab	0	0	3	1.5	15	25	60	100
5	PC	CHC4932	Technology Lab	0	0	3	1.5	60		40	100
6	PSI	CHP4982	Plant Design Project B	0	3	0	3	60		40	100
7	PSI	CHP4992	Project (Experimental/Computational)	0	3	0	3	60		40	100
8	OE		Open Elective-1				3	15	25	60	100
9	HM		Elective Course under Humanities category				3	15	25	60	100

**TOTAL CREDITS: 25**

**Semester 8:**

S.No.	Course Catag	Course No.	Course title	Contact Periods			Credits	Marks			Total
				L	T	P		Course-Work	Mid-Sem	End-Sem	
1	PC	CHC4952	Industrial Lectures	0	1	0	1	15	25	60	100
2	PSI	CHP4802	Industrial Training/Internship	0	2	0	2			100	100
3	PSI	CHP4812	Social Internship	0	2	0	1			100	100
4	DE		Departmental Elective-3				3	15	25	60	100
5	DE		Departmental Elective-4				3	15	25	60	100
6	DE		Departmental Elective-5				3	15	25	60	100
7	OE		Open Elective-2				3	15	25	60	100

**TOTAL CREDITS: 16**

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List of Departmental Elective (DE) Courses:

S.No.	Crs. No.	Course title	S.No.	Crs. No.	Course title
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**SUMMARY:**

Category Code	Category Name	II-IV Year Credits	First Year Credits	Total Credits
DC	Departmental Core	84	0	84
DE	Departmental Elective	15	0	15
BS	Basic Sciences	6	19	25
ESA	Engg. Science and Arts	6	19	25
OE	Open Elective	6	0	6
HM	Humanities	6	5	11
PSI	Project, Seminar, Internship	14	0	14
<b>TOTAL</b>		<b>137</b>	<b>43</b>	<b>180</b>