

Intake:		2020 onwards		Specialization:		Chemical and Process Engineering		Stream:			
Details of the Curriculum											
Module Code	Module Name	Category C/F/O	Time allocation [Hours/Week]		Credits offered		Norm		Evaluation %		
			Lecture	Lab / Tute	GPA	NGPA	GPA	NGPA	CA	WE	
Semester 1			Specialization requirement				15.0				
CE1023	Fluid Mechanics	C	2	2/4	2.0				20	80	
CS1033	Programming Fundamentals	C	2	2	3.0				20	80	
EE1040	Electrical Fundamentals	C	2	2/4	2.0				20	80	
MA1014	Mathematics	C	5/2	1	3.0			15.0	20	80	
ME1033	Mechanics	C	2	2/4	2.0				20	80	
MT1023	Properties of Materials	C	2	2/4	2.0				20	80	
EL1030	Language Skills Enhancement [S1 & S2]	C	0	2	1.0				100	0	
Total					15.0	0.0	15.0	0.0			
Semester 2			Specialization requirement				20.0				
CH1051	Engineering Thermodynamics	C	2	2	3.0				40	60	
CH1044	Fluid Dynamics	C	3	2	4.0				40	60	
CH1071	Chemistry and Green Chemistry for Process Engineers	C	2	2	3.0			18.0	40	60	
CH1061	Chemical and Bioprocess Engineering Principles	C	3	2	4.0				40	60	
MA1024	Methods of Mathematics	C	5/2	1	3.0				30	70	
EL1030	Language Skills Enhancement [S1 & S2]	C	0	2	1.0				100	0	
HM-1	Humanities I	E	2	0	2.0			2.0	100	0	
Total					20.0	0.0	20.0	0.0			
Semester 3			Specialization requirement				20.0				
CH2631	Chemical Thermodynamics	C	2	2	3.0				40	60	
CH2015	Heat and Mass Transfer	C	3	2	4.0				40	60	
CH2160	Bioprocess Engineering and Practices	C	2	2	3.0				40	60	
CH2170	Laboratory Practices I	C	0	6	3.0			20.0	100	0	
MA2014	Differential Equations	C	2	0	2.0				30	70	
MA2034	Linear Algebra	C	2	0	2.0				30	70	
EN1803	Basic Electronics for Engineering Applications	C	2	2	3.0				30	70	
Total					20.0	0.0	20.0	0.0			
Semester 4			Specialization requirement				22.0				
CH2151	Particulate Systems	C	3	2	4.0				40	60	
CH2180	Separation Processes	C	3	4	5.0				40	60	
CH4501	Chemical Kinetics and Reactor Design	C	3	2	4.0			20.0	40	60	
CH2210	Materials for Engineering Applications	C	2	2	3.0				30	70	
CH2270	Laboratory Practices II	C	0	4	2.0				100	0	
MA3024	Numerical Methods	C	2	0	2.0				30	70	
HM-2	Humanities II	E	2	0	2.0			2.0	100	0	
Total					22.0	0.0	22.0	0.0			
Semester 5			Specialization requirement				23.0				
CH4045	Process Dynamics and Control	C	2	2	3.0				40	60	
CH3045	Plant Safety, Health and Environment	C	7/2	1	4.0				30	70	
CH3034	Process Equipment Design	C	3	2	4.0				40	60	
CH3055	Energy Systems Engineering	C	2	2	3.0			21.0	40	60	
CH3150	Chemical Process Synthesis and Integration	C	2	2	3.0				40	60	
CH3880	Engineer and Society [S5 & S6]	C	0	2	1.0				100	0	
MN3043	Business Economics and Financial Accounting	C	3	0	3.0				30	70	
MA3014	Applied Statistics	E	2	0	2.0			2.0	30	70	
MA2024	Calculus	E	2	0	2.0				30	70	
MA3030	Operational Research	E	2	0	2.0				30	70	
Total					27.0	0.0	23.0	0.0			
Industrial Training			Specialization requirement				6.0				
CH3994	Industrial Training	C				6.0			6.0	100	0
Total					0.0	6.0	0.0	6.0			
Semester 6			Specialization requirement				9.0				
EL3820	Technical Report Writing and Presentation Skills	C	1	4	3.0				100	0	
CH4751	Research Project [S6, S7 & S8]	C	0	2	1.0			9.0	100	0	
CH3170	Laboratory Practices III	C	0	6	3.0				100	0	
CH3880	Engineer and Society [S5 & S6]	C	1	2	2.0				100	0	
Total					9.0	0.0	9.0	0.0			

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Semester 7		Specialization requirement				13.0		
CH4016	Comprehensive Design Project I	C	0	8	4.0		100	0
CH4751	Research Project [S6, S7 & S8]	C	0	2	1.0	7.0	100	0
MN4023	Engineering Economics	C	2	0	2.0		30	70
CH4120	Biofuels and Biorefineries	E	2	2	3.0		40	60
CH4130	Process Optimization	E	2	2	3.0		40	60
CH4140	Biotechnology	E	2	2	3.0	3.0	40	60
CH4160	Process Chemicals Management	E	2	2	3.0		40	60
CH4371	Petroleum Trade and Economics	E	2	2	3.0		30	70
CH4410	Polymeric Materials	E	2	2	3.0		30	70
CH4026	Process Modelling and Simulation	E	2	2	3.0	3.0	40	60
CH4420	Waste Minimization and Resources Recovery	E	2	2	3.0		30	70
CH4430	Industrial Chemical Manufacturing Processes	E	2	2	3.0		40	60
CH4235	Polymer Processing Operations	E	2	2	3.0		30	70
CH3720	Waste to Energy	E	2	2	3.0		40	60
CH3253	Environmental Bioengineering	E	2	2	3.0		30	70
CH4440	Petrochemical Process Operations	E	2	2	3.0		30	70
CH4285	Food Safety and Hygienic Plant Design	E	2	2	3.0		40	60
		Total		49.0	0.0	13.0	0.0	
Semester 8		Specialization requirement				10.0		
CH4035	Comprehensive Design Project II	C	0	10	5.0		100	0
CH4751	Research Project [S6, S7 & S8]	C	0	2	1.0	10.0	100	0
MN4151	Project Management	C	2	0	2.0		30	70
MN4113	Production and Operations Management	C	2	0	2.0		30	70
CH4275	Polymer Products Manufacturing Technologies	E	2	2	3.0		40	60
CH4742	Polymer Products and Tool Design	E	2	2	3.0		40	60
CH4450	Energy Storage Systems	E	2	2	3.0		40	60
CH4255	Renewable Energy	E	2	2	3.0		40	60
CH4651	Combustion Technology	E	2	2	3.0		40	60
CH4215	Environmental Engineering and Management	E	2	2	3.0		30	70
CH4460	Sustainable Process Technology	E	2	2	3.0		30	70
CH4351	Up-stream Oil and Gas Operations	E	2	2	3.0		30	70
CH4381	Petroleum Refining Operations	E	2	2	3.0		30	70
CH4294	Bioengineering	E	2	2	3.0		40	60
CH4691	Food Process Engineering	E	2	2	3.0		40	60
		Total		43.0	0.0	10.0	0.0	
		Grand Total		205.0	6.0	132.0	6.0	

Total credit requirement for the Specialization		138.0
Faculty/Specialization Electives beyond the specialization requirements [refer faculty electives table]*		12.0
TOTAL CREDIT REQUIREMENT FOR GRADUATION		150.0

Service modules									
Code	Module Name	Semester	Time allocation [Hours/Week]		Credits		Offered to	Evaluation %	
			Lecture	Lab / Tute	GPA	NGPA		CA	WE