Intake:	2020 onwards	Specialization:	Chemical and Process Engineering
Details of the Curriculum		Stream:	

Module Code	Module Name	Category C/E/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	2.0				20	80
EE1040	Electrical Fundamentals	C	2	2/4	3.0				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				30	70
MA2024	Calculus	E	2	0	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**		

Intake:	2020 onwards	Specialization:	Chemical and Process Engineering

Semester 7		Specialization requirement					13.0			
CH4016	Comprehensive Design Project I	C	0	8	4.0		7.0		100	0
CH4751	Research Project [S6, S7 & S8]	C	0	2	1.0				100	0
MN4023	Engineering Economics	C	2	0	2.0				30	70
CH4120	Biofuels and Biorefineries	E	2	2	3.0		3.0		40	60
CH4130	Process Optimization	E	2	2	3.0				40	60
CH4140	Biotechnology	E	2	2	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		3.0		30	70
CH4026	Process Modelling and Simulation	E	2	2	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		10.0		100	0
CH4751	Research Project [S6, S7 & S8]	C	0	2	1.0				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	Semeter	Time allocation [Hours/Week]		Credits		Offered to	Evaluation %	
			Lecture	Lab / Tute	GPA	NGPA		CA	WE