

**Curriculum of B.Sc. Engineering Honours Degree Programme**  
**Chemical & Process Engineering Specialization**  
**Department of Chemical & Process Engineering**

Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignments hrs/weeks	Credits		Norm		Evaluation	
					GPA	NGPA	GPA	NGPA	CA%	WE%
<b>Semester 1</b>										
MA1013	Mathematics	C	3	1/1	3.0		15.0	1.0	20	80
CS1032	Programming Fundamentals	C	2.0	3/1	3.0				20	80
ME1032	Mechanics	C	2.0	3/4	2.0				20	80
MT1022	Properties of Materials	C	2.0	3/4	2.0				20	80
CE1022	Fluid Mechanics	C	2.0	3/4	2.0				20	80
EE1012	Electrical Engineering	C	2.0	3/4	2.0				20	80
EL1012	Language Skill Enhancement I	C	-	3/1	1.0				20	80
MN1012	Engineering in Context	C	1.0	-	-	1.0			30	70
<b>Total for Semester 1</b>							<b>15.0</b>	<b>1.0</b>		
<b>Semester 2</b>										
CH1013	Chemistry for Engineers	C	2.0	3/2	2.5		19.5		30	70
CH1023	Process Engineering Fundamentals	C	2.0	3/1	3.0				30	70
CH1050	Fundamentals of Engineering Thermodynamics	C	2.0	3/2	2.5				30	70
MT2802	Material Science	C	2.0	3/2	2.5				30	70
ME1090	Engineering Drawing & Computer Aided Modeling	C	2.0	3/1	3.0				100	-
MA1023	Methods of Mathematics	C	3.0	1/1	3.0				30	70
EN1802	Basic Electronics	C	2.0	3/4	2.0				30	70
EL1022	Language Skill Enhancement II	C	-	3/1	1.0				30	70
DE2xxx	Humanities Elective I	E	-	-	2.0		2.0		70	30
MN1030	Entrepreneurship Skill Development (continuing)	O	0.5	3/2	-	1.0	-	1.0	70	30
<b>Total for Semester 2</b>							<b>21.5</b>			

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<b>Semester 3</b>										
CH2100	Fluid Dynamics	C	3.0	3/2	3.5		18.5		30	70
CH2090	Chemical Kinetics and Thermodynamics	C	3.0	3/2	3.5				30	70
CH2063	Principles of Biological Engineering Fundamentals	C	2.0	3/2	2.5				30	70
CH2073	Polymer Science and Technology	C	2.0	3/2	2.5				30	70
CH2083	Environmental Science and Technology	C	2.0	3/2	2.5				30	70
MA2013	Differential Equations	C	2.0	-	2.0				30	70
MA2023	Calculus	C	2.0	-	2.0		18.5		30	70
MN1030	Entrepreneurship Skill Development (continuing from S2)	O	0.5	3/2	-	1.0	-	1.0	70	30
<b>Total for Semester 3</b>						18.5		<b>18.5</b>		
<b>Semester 4</b>										
CH2023	Unit Operations 1	C	3.0	3/1	4.0		19.0		30	70
CH2044	Particle Technology	C	3.0	3/2	3.5				30	70
CH2013	Heat and Mass Transfer	C	3.0	3/1	4.0				30	70
CH2110	Fuel Science and Combustion Technology	C	3.0	3/2	3.5				30	70
MA2033	Linear Algebra	C	2.0	-	2.0				30	70
MA3023	Numerical Methods	C	2.0	-	2.0				19.0	
DE2XXX	Humanities Electives II	E	-	-	2.0		2.0			
MN 2010	Entrepreneurial Leadership	O	1.5	3/2	2.0				50	50
<b>Total for Semester 4</b>							<b>21.0</b>	<b>0.0</b>		

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					GPA	NGPA	GPA	NGPA	CA %	WE %
<b>Semester 5</b>										
CH3090	Reactor Engineering	C	3.0	3/2	3.5		19.0		30	70
CH3060	Plant and Equipment Design 1	C	4.0	3/2	4.5				30	70
CH3070	Energy Efficiency and Conservation	C	2.0	3/2	2.5				30	70
CH3043	Plant Safety and Loss Prevention	C	2.0	3/2	2.5				30	70
MN3052	Industrial Management & Marketing	C	2.5	3/2	3.0				30	70
MN3042	Business Economics & Financial Accounting	C	3.0	-	3.0				30	70
MA3013	Applied Statistics	O	2	-	2.0				30	70
MN3010	Multidisciplinary Design, Innovation and Venture creation	O	1.5	3/2	2.0		50	50		
<b>Total for Semester 5</b>							<b>19.0</b>	<b>0.0</b>		
<b>Industrial Training</b>										
CH3993	Industrial Training	C	-	-		6.0		6.0		
<b>Total for Industrial Training</b>								<b>6.0</b>		
<b>Semester 6</b>										
CH4070	Research/Industrial Project	C	-	6/1	2.0		5.0		100	
CH3080	Computer Aided Chemical Engineering	C	2.0	3/1	3.0				50	50
CH4013	Comprehensive Design Project I	C							100	
CH2952	Technical Report Writing and Presentation Skills	C	1.0	3/1		2.0			100	
CH2913	Engineering Skill Development	C	2.0	3/1		3.0			60	40
<b>Total for Semester 6</b>							<b>5.0</b>	<b>5.0</b>		

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Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignments hrs/weeks	Credits		Norm		Evaluation	
					GPA	NGPA	GPA	NGPA	CA%	WE%
<b>Semester 7</b>										
CH4013	Comprehensive Design Project I	C	2.0	9/1	5.0		17		100	
CH 4060	Process Modeling & Simulation	C	1.5	3/1	2.5				30	70
CH4050	Plant and Equipment Design II	C	3.0	3/2	3.5				30	70
CH3013	Unit operations II	C	3.0	3/1	4.0				30	70
MN4022	Engineering economics	C	2.0	-	2.0				30	70
CH4213	Environmental Engineering and Management	E	3.0	3/1	4.0		4.0		30	70
CH4223	Food and Bio Processing	E	3.0	3/1	4.0				30	70
CH4233	Polymer Processing Operations	E	3.0	3/1	4.0				30	70
ER4810	Petroleum Geology	E	1.5	3/2	2.0				30	70
CH4320	Reservoir Engineering and Drilling Technology	E	1.5	3/2	2.0				30	70
MN4062	Organization Behaviour & Management	O	2.0	-	2.0				30	70
MA4023	Operational Research	O	3.0	-	3.0				30	70
MN4030	Strategic Enterprise Management	O	1.5	3/2	2.0				40	60
MN3020	Entrepreneurship Business Basics	O	2.0	3/1	3.0				50	50
<b>Total for Semester 7</b>							<b>21.00</b>	<b>0.00</b>		

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Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignments hrs/weeks	Credits		Norm		Evaluation	
					GPA	NGPA	GPA	NGPA	CA%	WE%
<b>Semester 8</b>										
CH4033	Comprehensive Design Project II	C	2.0	9/1	5.0		9.0		100	
CH4043	Process Dynamics and Control	C	3.0	3/1	4.0				30	70
CH4243	Clean Technology	E	3.0	3/1	4.0		8.0		30	70
CH4253	Renewable Energy Engineering	E	3.0	3/1	4.0				30	70
CH4263	Polymer Engineering and Mould Design	E	3.0	3/1	4.0				30	70
CH4273	Design of Polymer Products	E	3.0	3/1	4.0				30	70
CH4283	Food Engineering and Hygienic Plant Design	E	3.0	3/1	4.0				30	70
CH4293	Biochemical Engineering	E	3.0	3/1	4.0				30	70
CH4303	Process Design and Integration	E	3.0	3/1	4.0				30	70
CH4313	Natural Resource Process Engineering	E	3.0	3/1	4.0				30	70
CH4330	Oil and Gas Processing and Petrochemical Engineering	E	3.0	3/1	4.0				30	70
CH4340	Petroleum Plant Design and Operation	E	3.0	3/1	4.0				30	70
MN4122	Human Resource Management and Industrial Relations	O	2.0	-	2.0				30	70
MN4042	Technology Management	O	2.0	-	2.0				30	70
MN4112	Production and Operations Management	O	2.0	-	2.0				30	70
MN4072	Small Business Management & Entrepreneurship	O	2.0	-	2.0				30	70
MN4170	Global Entrepreneurship	O	1.5	3/2	2.0				40	60
MN4010	Business Plan Development	O	1.5	3/2	2.0				70	30
MA4013	Linear Models and Multivariate Statistics	O	3.0	-	3.0				30	70
MN4150	Project Management	O	2.0		2.0				50	50
<b>Total for Semester 8</b>						0.0	17.0	0.0		
<b>Total for the Programme</b>							<b>138.0</b>	<b>12.0</b>		

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**Requirements for Focus Areas**

Focus Area	Subject Code	Name	Credits
Energy and Environmental Engineering	CH4213	Environmental Engineering and Management	4
	CH4243	Clean Technology	4
	CH4253	Renewable Energy Engineering	4
Food and Biochemical Engineering	CH4223	Food and Bio Processing	4
	CH4283	Food Engineering and Hygienic Plant Design	4
	CH4293	Biochemical Engineering	4
Polymer Engineering	CH4233	Polymer Processing Operations	4
	CH4263	Polymer Engineering and Mould Design	4
	CH4273	Design of Polymer Products	4
Petroleum Engineering	ER4810	Petroleum Geology	2
	CH4320	Reservoir Engineering and Drilling Technology	2
	CH4330	Oil and Gas Processing and Petrochemical Engineering	4
	CH4340	Petroleum Plant Design and Operation	4

**Requirements for Entrepreneurship Minor**

Students following the Chemical and Process Engineering program can obtain a minor in entrepreneurship by fulfilling following subject requirements.

Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignments hrs/weeks	Credits		Norm		Evaluation	
					GPA	NGPA	GPA	NGP A	CA%	WE%
MN1030	Entrepreneurship Skill Development	C	1.0	3/1		2.0		2.0	70	30
MN2010	Entrepreneurial Leadership	C	1.5	3/2	2.0		2.0		50	50
MN3010	Multidisciplinary Design, Innovation and Venture creation	C	1.5	3/2	2.0		2.0		50	50
MN3020	Entrepreneurship Business Basics	C	2.0	3/1	3.0		3.0		50	50
MN4010	Business Plan Development	C	1.5	3/2	2.0		2.0		70	30
MN4022	Engineering economics	E	2.0	-	2.0				30	70
MN4030	Strategic Enterprise Management	E	1.5	3/2	2.0		2.0		40	60
MN4042	Technology Management	E	2.0	-	2.0				30	70
MN4112	Production and Operations Management	E	2.0	-	2.0				30	70
MN4170	Global Entrepreneurship	E	1.5	3/2	2.0				40	60

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**Modules Offered to Other Fields of Specialization**

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					GPA	NGPA	CA%	WE%
<i>Semester 4</i>								
CH2803	Process Engineering	E	1.5	3/2	2.0		30	70
<i>Semester 8</i>								
CH4350	Petroleum Refining and Petrochemical Industry	E	1.5	3/2	2.0		30	70

