

**DEPARTMENT OF CHEMICAL ENGINEERING  
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE**

Program Code: **14 M.Tech. (Computer Aided Process Plant Design)**

Department: **CH Department of Chemical Engineering**

Year: **I**

Teaching Scheme					Contact Hours/Week			Exam Duration		Relative Weight (%)				
S. No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
<b>Semester- I (Autumn)</b>														
1.	CHN-501	Numerical Methods in Chemical Engineering	PCC	4	3	0	2	3	0	15	25	20	40	-
2.	CHN-503	Advanced Transport Phenomena	PCC	4	3	1	0	3	0	25	-	25	50	-
3.	CHN-505	Chemical Reactor Analysis	PCC	4	3	1	0	3	0	25	-	25	50	-
4.	CHN-507	CAD of Heat Transfer Equipment	PCC	4	3	0	2	3	0	15	25	20	40	-
5.		Programme Elective-I	PEC	4	3	1	0	3	0	25	-	25	50	-
		Total		20	12	2	4							
<b>Semester-II (Spring)</b>														
1.	CHN-502	CAD of Mass Transfer Equipment	PCC	4	3	0	2	3	0	15	25	20	40	-
2.	CHN-700	Seminar	SEM	2	0	0	-	-	-	-	-	-	100	-
3.		Programme Elective-II	PEC	4	3	1	0	3	0	25	-	25	50	-
4.		Programme Elective-III	PEC	4	3	1	0	3	0	25	-	25	50	-
5.		Programme Elective-IV	PEC	4	3	1	0	3	0	25	-	25	50	-
		Total		18	3	0	2							

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Program Code: **14 M.Tech. (Computer Aided Process Plant Design)**

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Teaching Scheme					Contact Hours/Week			Exam Duration		Relative Weight (%)				
S. No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
<b>Semester- I (Autumn)</b>														
1.	CHN-701A	Dissertation Stage-I (to be continued next semester)	DIS	12	-	-	-	-	-	-	-	-	100	-
		Total		12										
<b>Note: Students can take 1 or 2 audit courses as advised by the supervisor, if required.</b>														
<b>Semester-II (Spring)</b>														
1.	CHN-701B	Dissertation Stage-II (contd. From III semester)	DIS	18	-	-	-	-	-	-	-	-	100	-
		Total		18										

<b>Summary</b>					
Semester		1	2	3	4
<b>Semester-wise Total Credits</b>		<b>20</b>	<b>18</b>	<b>12</b>	<b>18</b>
<b>Total Credits</b>		<b>68</b>			

**Program Elective Courses (CAPPD)**

**PROGRAM ELECTIVE – I (For Autumn Semester)**

Teaching Scheme					Contact Hours/Week			Exam Duration		Relative Weight (%)				
S. No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
1.	CHN-561	Computational Fluid Dynamics	PEC	4	3	1	0	3	0	25	-	25	50	-
2.	CHN-563	Process Integration	PEC	4	3	1	0	3	0	25	-	25	50	-
3.	CHN-565	Optimization of Chemical Processes	PEC	4	3	1	0	3	0	25	-	25	50	-

**PROGRAM ELECTIVES – II, III and IV (For Spring Semester)**

4.	CHN-562	Modeling of Chemical Engineering Systems	PEC	4	3	1	0	3	0	25	-	25	50	-
5.	CHN-564	Heterogeneous Catalysis & Reactor Design	PEC	4	3	1	0	3	0	25	-	25	50	-
6.	CHN-566	Design of Piping Systems	PEC	4	3	1	0	3	0	25	-	25	50	-
7.	CHN-568	Advanced Process Control	PEC	4	3	1	0	3	0	25	-	25	50	-
8.	CHN-570	Natural Gas Engineering	PEC	4	3	1	0	3	0	25	-	25	50	-
9.	CHN-572	Waste to Energy	PEC	4	3	1	0	3	0	25	-	25	50	-
10.	CHN-574	Novel Separation Techniques	PEC	4	3	1	0	3	0	25	-	25	50	-