DEPARTMENT OF CHEMICAL ENGINEERING
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program Code : **XXX M.Tech. (Chemical Engineering)**
Department : **Department of Chemical Engineering**
Year : **I**
Model : **2**

Teaching Scheme					Contact Hours/Week			Exam Duration	
S.No.	**Subject Code**	**Course Title**	**Subject Area**	**Credits**	**L**	**T**	**P**	**Theory**	**Practical**
Semester-I (Autumn)									
1.	CHC-501	Mathematical Methods in Chemical Engineering	PCC	4	3	0	2	3	0
2.	CHC-503	Advanced Transport Phenomena	PCC	4	3	0	2	3	0
3.	CHC-505	Advanced Reaction Engineering	PCC	4	3	0	2	3	0
4.	CHC-507	Advanced Thermodynamics and Molecular Simulations	PCC	4	3	1	0	3	0
5.		Social Science Course	SSC	2	-	-	-	-	-
		Total		**18**					
Semester-II (Spring)									
1.		Program Elective-I	PEC	4	-	-	-	-	-
2.		Program Elective-II	PEC	4	-	-	-	-	-
3.		Program Elective-III	PEC	4	-	-	-	-	-
4.		Program Elective-IV	PEC	4	-	-	-	-	-
5.		Science, Technology, and Advanced Research-tools	STAR	3	-	-	-	-	-
6.	CHC-700	Seminar	SEM	2	-	-	-	-	-
		Total		**21**					

DEPARTMENT OF CHEMICAL ENGINEERING
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program Code : **XXX M.Tech. (Chemical Engineering)**
Department : **Department of Chemical Engineering**
Year : **II**
Model : **2**

Teaching Scheme					Contact Hours/Week			Exam Duration	
S.No.	**Subject Code**	**Course Title**	**Subject Area**	**Credits**	**L**	**T**	**P**	**Theory**	**Practical**
Semester-I (Autumn)									
1.	CHC-691	Internship Social Activity	ISA	3	-	-	-	-	-
2.	CHC-701A	Thesis Stage-I	THESIS	10	-	-	-	-	-
		Total		**13**					
Semester-II (Spring)									
1.	CHC-701B	Thesis Stage-II	THESIS	14	-	-	-	-	-
		Total		**14**					

Summary				
Semester	**1**	**2**	**3**	**4**
Semester-wise Total Credits	18	21	13	14
Total Credits	**66**			

M.Tech. (Chemical Engineering)

Program Elective Courses

Teaching Scheme					Contact Hours/Week			Exam Duration	
S.No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical
1.	CHL-511	Process Integration	PEC	4	3	1	0	3	0
2.	CHL-513	Biochemical Engineering	PEC	4	3	1	0	3	0
3.	CHL-515	Computational Fluid Dynamics	PEC	4	3	1	0	3	0
4.	CHL-517	Optimization of Chemical Processes	PEC	4	3	1	0	3	0
5.	CHL-510	Advanced Process Control	PEC	4	3	1	0	3	0
6.	CHL-512	Solid and Hazardous Waste Management	PEC	4	3	1	0	3	0
7.	CHL-514	Pollution Control Systems	PEC	4	3	1	0	3	0
8.	CHL-516	Kinetics of Polymerization	PEC	4	3	1	0	3	0
9.	CHL-518	Waste to Energy Conversion	PEC	4	3	1	0	3	0
10.	CHL-520	Oil and Gas Transport	PEC	4	3	1	0	3	0
11.	CHL-522	Nanotechnology in Chemical Engineering	PEC	4	3	1	0	3	0
12.	CHL-524	Microfluidics	PEC	4	3	1	0	3	0
13.	CHL-526	Supercritical Fluids: Theory and Applications	PEC	4	3	1	0	3	0
14.	CHL-528	Introduction to Granular Rheology	PEC	4	3	1	0	3	0
15.	CHL-530	Drug Delivery	PEC	4	3	1	0	3	0
16.	CHL-532	Colloids and Interfacial Science	PEC	4	3	1	0	3	0
17.	CHL-534	Novel Separation Techniques	PEC	4	3	1	0	3	0
18.	CHL-536	Design of Experiments and Parameter Estimation	PEC	4	3	1	0	3	0
19.	CHL-538	Industrial Safety and Hazard Management	PEC	4	3	1	0	3	0
20.	CHL-540	Multiphase Flow	PEC	4	3	1	0	3	0
21.	CHL-541	Biomass Conversion and Biofuels	PEC	4	3	1	0	3	0

M.Tech. (Chemical Engineering)

Science, Technology, and Advanced Research-tools Basket

Teaching Scheme					Contact Hours/Week			Exam Duration	
S.No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical
1.	CHT-501	Computational Fluid Dynamics with Tools	STAR	3	2	1	0	3	0

DEPARTMENT OF CHEMICAL ENGINEERING
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program Code : **XXX Master of Science (by Research) in Chemical Engineering**
Department : **Department of Chemical Engineering**
Year : **I**
Model : **3**

Teaching Scheme					Contact Hours/Week			Exam Duration	
S.No.	**Subject Code**	**Course Title**	**Subject Area**	**Credits**	**L**	**T**	**P**	**Theory**	**Practical**
Semester-I (Autumn)									
1.	CHC-501	Mathematical Methods in Chemical Engineering	PCC	4	3	0	2	3	0
2.	CHC-503	Advanced Transport Phenomena	PCC	4	3	0	2	3	0
3.	CHC-505	Advanced Reaction Engineering	PCC	4	3	0	2	3	0
4.	CHC-507	Advanced Thermodynamics and Molecular Simulations	PCC	4	3	1	0	3	0
5.		Social Science Course	SSC	2	-	-	-	-	-
		Total		**18**					
Semester-II (Spring)									
1.	CHC-751A	Thesis Stage-I	THESIS	15	-	-	-	-	-
		Total		**15**					

DEPARTMENT OF CHEMICAL ENGINEERING
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE

Program Code : **XXX Master of Science (by Research) in Chemical Engineering**
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Year : **II**
Model : **3**

Teaching Scheme					Contact Hours/Week			Exam Duration	
S.No.	**Subject Code**	**Course Title**	**Subject Area**	**Credits**	**L**	**T**	**P**	**Theory**	**Practical**
Semester-I (Autumn)									
1.	CHC-751B	Thesis Stage-II	THESIS	17	-	-	-	-	-
		Total		**17**					
Semester-II (Spring)									
1.	CHC-751C	Thesis Stage-III	THESIS	18	-	-	-	-	-
		Total		**14**					

Summary				
Semester	**1**	**2**	**3**	**4**
Semester-wise Total Credits	18	15	17	18
Total Credits	**68**			