

Indian Institute of Technology Tirupati

B.Tech. Curriculum: Chemical Engineering for students Admitted from Academic Year 2019-2020 onwards

Semester-I

S.No.	Course Code	Course Name	Category	L-T-P-C	Course Code (prior to Jul 2022)	Senate
1.	ES103M/ EA101M	Introduction to Programming/ Engineering Drawing	BET/ BES	2-0-3-4 1-0-3-3	ES1101/ EA1101	14 4
2.	CY101L/ CY102L	Physical and Theoretical Chemistry/ Organic and Inorganic Chemistry	SCY	2-1-0-3	CY1101/ CY1202	4 4
3.	ES101M	Concepts in Engineering and Design	BET	1-0-2-2	ID1101	4
4.	MA101L	Calculus	SMA	3-1-0-4	MA1101	4
5.	PH101L	Introduction to Classical Mechanics	SPH	2-1-0-3	PH1101	4
6.	PH103P/ CY103P	Physics Laboratory/ Chemistry Laboratory	SPH/ SCY	0-0-3-2	PH1103/ CY1204	4 4
7.	EA102P	Workshop-I	BES	0-0-3-2	EA1103	4
8.	HS10XN	Language Course (Pass/Fail)	HPF	2-0-0-2	HS110X	
Total Credits				22/21		

Approved Language Courses

Course Code	Course Name	Category	L-T-P-C	Course Code (prior to Jul 2022)	Senate
HS101N	Proficiency in English	HPF	2-0-0-2	HS1101	4
HS102N	Basic Course in German			HS1103	6
HS103N	Basic Course in Japanese			HS1105	6
HS104N	Basic Course in Sanskrit			HS1107	6
HS105N	Basic Course in Spanish Language			HS1109	9

Semester-II

S.No.	Course Code	Course Name	Category	L-T-P-C	Course Code (prior to Jul 2022)	Senate
1.	ES103M/ EA101M	Introduction to Programming/ Engineering Drawing	BET/ BES	2-0-3-4 1-0-3-3	ES1101/ EA1101	14 4
2.	CY101L/ CY102L	Physical and Theoretical Chemistry/ Organic and Inorganic Chemistry	SCY	2-1-0-3	CY1101/ CY1202	4 4
3.	ES201L	Engineering Mechanics	BET	3-1-0-4	ES2101	4
4.	MA102L	Differential Equations and Matrices	SMA	3-1-0-4	MA1202	4
5.	PH102L	Introduction to Electrodynamics and Quantum Mechanics	SPH	2-1-0-3	PH1202	4
6.	PH103P/ CY103P	Physics Laboratory/ Chemistry Laboratory	SPH/SCY	0-0-3-2	PH1103/ CY1204	4 4
7.	EA103P	Workshop-II	BES	0-0-3-2	EA1202	4
Total Credits				21/22		

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Semester-III

S. No.	Course Code	Course Name	Category	L-T-P-C	Course Code (prior to Jul 2022)	Senate
1.	ES203L/ ES202L	Life Sciences/ Ecology and Environment	SLS/ BET	2-0-0-2/ 2-0-0-2	BS2101/ ES2103	9 8
2.	CH201L	Material and Energy Balances	PMT	2-1-0-3	CH2101	12
3.	CH202L	Fluid and Particle Mechanics	PMT	3-1-0-4	CH2103	12
4.	CH203G	Applied Process Engineering I	PMT	---1	CH2150	12
5.	CH202P	Fluid and Particle Mechanics Laboratory	PML	0-0-3-2	CH2191	12
6.	ES102L	Basic Electrical Engineering	BET	3-1-0-4	ES1201	8
7.	HSE1	Humanities Elective-1	HSS	3-0-0-3		
8.	MAE1	Mathematics Elective-1	SMA	3-0-0-3		
Total Credits				22		

Semester-IV

S.No.	Course Code	Course Name	Category	L-T-P-C	Course Code (prior to Jul 2022)	Senate
1.	CH204L	Chemical Engineering Thermodynamics	PMT	3-1-0-4	CH2202	12
2.	CH205L	Process Heat Transfer	PMT	2-1-0-3	CH2204	12
3.	CH206L	Fundamentals of Mass Transfer	PMT	2-1-0-3	CH2206	12
4.	CH207G	Applied Process Engineering II	PMT	---1	CH2250	12
5.	CH205P	Heat Transfer Laboratory	PML	0-0-3-2	CH2292	12
6.	ES202L/ ES203L	Ecology and Environment/ Life Sciences	BET/ SLS	2-0-0-2/ 2-0-0-2	ES2103/ BS2101	8 9
7.	HSE2	Humanities Elective-2	HSS	3-0-0-3		
8.	MAE2	Mathematics Elective-2	SMA	3-0-0-3		
Total Credits				21		

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Semester-V

S. No.	Course Code	Course Name	Category	L-T-P-C	Course Code (prior to Jul 2022)	Senate
1.	CH301L	Homogeneous Reaction Engineering	PMT	2-1-0-3	CH3101	12
2.	CH302L	Separation and Purification Processes	PMT	2-1-0-3	CH3103	12
3.	CH303L	Transport Phenomena	PMT	2-1-0-3	CH3105	12
4.	CH304M	Computational Techniques for Chemical Engineers	PMT	3-0-3-5	CH3107	12
5.	CH305G	Applied Process Engineering III	PMT	---1	CH3150	12
6.	CH302P	Mass Transfer Laboratory	PML	0-0-3-2	CH3191	12
7.	DPE1		PMT	3-0-0-3		
8.	FRE1		FRE	3-0-0-3		
Total Credits				23		

Semester-VI

S.No.	Course Code	Course Name	Category	L-T-P-C	Course Code (prior to Jul 2022)	Senate
1.	CH306L	Heterogeneous Reaction Engineering	PMT	2-1-0-3	CH3202	12
2.	CH307L	Process Control and Instrumentation	PMT	2-1-0-3	CH3204	12
3.	CH308M	Process Equipment Design	PMT	2-0-3-4	CH3206	12
4.	CH309G	Applied Process Engineering IV	PMT	- - - 1	CH3250	12
5.	CH306P	Reaction Engineering Laboratory	PML	0-0-3-2	CH3292	12
6.	CH307P	Process Control Laboratory	PML	0-0-3-2	CH3294	12
7.	HSE3	Humanities Elective-3	HSS	3-0-0-3		
SUMMER						
8.	CH391G	Industrial/Research Internship	PIT	---2	IT3202	1
Total Credits				20		

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Semester-VII

S. No.	Course Code	Course Name	Category	L-T-P-C	Course Code (prior to Jul 2022)	Senate
1.	CH401L	Process Synthesis and Economics	PMT	3-0-0-3	CH4101	12
2.	CH402L	Process Safety and Industrial Pollution	PMT	3-0-0-3	CH4103	12
3.	DPE2	Department Elective-2	PMT	3-0-0-3		
4.	DPE3	Department Elective-3	PMT	3-0-0-3		
5.	CH491G	Project I	PMP	- - - 3	CH4150	1
6.	FRE2	Free Elective-2	FRE	3-0-0-3		
Total Credits				18		

Semester-VIII

S. No.	Course Code	Course Name	Category	L-T-P-C	Course Code (prior to Jul 2022)	Senate
1.	CH404L	Bioprocess Engineering	PMT	3-0-0-3	CH4202	12
2.	DPE4	Department Elective-4	PMT	3-0-0-3		
3.	CH492G/ DPE5 DPE6	Project Phase-II/ Department Elective-5 Department Elective-6	PMP PMT PMT	---6/ 3-0-0-3 3-0-0-3	CH4250/ DPE5 DPE6	1 22
4.	FRE3	Free Elective-3	FRE	3-0-0-3		
5.	HS401L	Professional Ethics	HPE	2-0-0-2	HS4202	7
6.	CH493N	Industrial Lecture	PIL	1-0-0-1	IL4101	1
Total Credits				18		

TOTAL CREDITS: 165

Senate in the last column of the table refers to the Senate in which contents of the course were approved.