

Undergraduate Chemical Engineering Curriculum:
(2022 Batch ONLY)

[updated 20 March, 2024]

Semester 1			
Course code	Course name	Category	Credits
CL 101	Introduction to Chemical Engineering (DIC 1)	Department Core	6
MA 109	Calculus I	Basic Sciences and Mathematics	4
MA 111	Calculus II	Basic Sciences and Mathematics	4
CH 105	Organic & Inorganic Chemistry	Basic Sciences and Mathematics	4
CH 107	Physical Chemistry	Basic Sciences and Mathematics	4
CS 101	Computer programming	Engineering Sciences and skills	6
HSS/IDC/ENT	Introduction to HASMED	HASMED Core	8
PH 117	Physics lab	Basic Sciences and Mathematics	3
NOCS 01	NCC/NSS/NSO	Non - Credited compulsory Courses	
GC 101	Gender sensitization course	Non - Credited compulsory Courses	
TA 101	TA Course	Non - Credited compulsory Courses	
		Semester Total	39
Semester 2			
Course code	Course name	Category	Credits
CL 102	Material and Energy Balances	Department Core	6
MA 106	Linear Algebra	Basic Sciences and Mathematics	4

MA 108	Differential Equations	Basic Sciences and Mathematics	4	
PH 111	Introduction to classical physics	Basic Sciences and Mathematics	4	
PH 112	Introduction to quantum physics	Basic Sciences and Mathematics	4	
CH 117	Chemistry lab	Basic Sciences and Mathematics	3	
BB 101	Biology	Basic Sciences and Mathematics	6	
MS 101	Makerspace	Engineering Sciences and skills	8	
NOCS 02	NCC/NSS/NSO	Non - Credited compulsory Courses		
		Semester Total	39	
Semester 3				
Course code	Course name	Category	Credits	
CL 205	AI and Data Science	Engineering Sciences and skills	6	
EC 101	Economics	HASMED Core	6	
CL 203	Introduction to Transport Phenomena	Department Core	6	
CL 254	Process Fluid Mechanics	Department Core	6	
CL 207	Chemical Engineering Thermodynamics	Department Core	6	
ES 250 & HS 250	Environmental Studies; Environmental Studies: Science and Engineering	HS 200 and ES 200	6	
		Semester Total	36	
Semester 4				

Course code	Course name	Category	Credits	
DE 250	Design Thinking	HASMED Core	6	
CL 208	Chemical Reaction Engineering	Department Core	6	
CL 210	Separation Processes	Department Core	6	
CL 242	Fundamentals of Heat and Mass Transfer	Department Core	6	
CL 232	Chemical Engineering Lab I	Department Lab and SLP/PT/Works Visit	6	
CL 238	Introduction to Numerical Analysis	Department Core	6	
		Semester Total	36	
Semester 5				
Course code	Course name	Category	Credits	
CL 306	Chemical Processes	Department Core	6	
CL 327	Chemical Process Design I	Department Core	6	
CL 329	Process Control	Department Core	6	
CL 333	Chemical Engineering Lab II	Department Lab and SLP/PT/Works Visit	6	
	HASMED Elective I	HASMED Elective	6	
CL 249	Computational Methods Lab	Department Lab and SLP/PT/Works Visit	3	
CL 336	Advanced Transport Phenomena	Department Electives	6	Honors Course 1 (DD)
		Semester Total	33	33+6 credit for Honors/DD
Semester 6				

Course code	Course name	Category	Credits	
CL 331	Chemical Process Design II	Department Core	6	
CL 335	Chemical Engineering Lab III	Department Lab and SLP/PT/Works Visit	6	
	HASMED Elective II	HASMED Elective	6	
	STEM Elective I	STEM Elective	6	
	Department Elective I	Department Electives	6	
		Department Electives		
CL 325	Advanced Reaction Engineering	Department Electives	6	Honors Course 2/DD
		Semester Total	30	30+6 credit for Honors/DD
Semester 7				
Course code	Course name	Category	Credits	
	Department Elective II	Department Electives	6	
	BTP I/Department Elective III	BTP/Equivalent Elective courses	6	
		STEM Elective	6	
		Flexible Elective	6	
		Flexible Elective	6	
		BTP/Equivalent Elective courses	0	
	Honors Elective	Department Electives	6	Honors Course 3/DD
		Semester Total	30	30+6 credit for Honors/DD
Semester 8				

Course code	Course name	Category	Credits	
	BTP II/Department Elective IV	BTP/Equivalent Elective courses	6	
	Department Elective V	Department Electives	6	
		Flexible Elective	6	
		Flexible Elective	6	
		Flexible Elective	6	
	Honors Elective	Department Electives	6	Honors Course 4/DD
		Semester Total	30	30+6 credit for Honors/DD
Semester 9				
Course code	Course name	Category	Credits	
	Dual Degree Project - 1	Department Core	36	
	PG Elective - 1	Department Electives	6	
	PG Elective - 2	Department Electives	6	
		Flexible Elective	0	
		Flexible Elective	0	
		Semester Total	48	
Semester 10				
Course code	Course name	Category	Credits	
	Dual Degree Project - 2	Department Core	36	
	PG Elective - 3	Department Electives	6	
	PG Elective - 4	Department Electives	6	

		Flexible Elective	0	
		Flexible Elective	0	
	Semester Total		48	
	MINOR COURSES			
Course Code	Course name		Credits	
CL 102	Material and Energy Balances		6	
CL 203	Introduction to Transport Phenomena		6	
CL 207	Chemical Engineering Thermodynamics		6	
CL 208	Chemical Reaction Engineering		6	
CL 210	Separation Processes		6	