

**AP-203  
556th SENATE MEETING**

**9.0 Templates for programs in Chemical Engineering (CHE)**

**9.1 Template for the BT program in Chemical Engineering**

Template for 3 <sup>rd</sup> to 8 <sup>th</sup> semester for BT program in Chemical Engineering					
Semester 3	Semester 4	Semester 5	Semester 6	Semester 7	Semester 8
SCHEME-2 HSS-I (9-11)	SCHEME-3 EME (9-11)	SCHEME-4 HSS-II (9)	SCHEME-5 HSS-II (9)	SCHEME-6 HSS-II (9)	
ESC201 (14)	CHE212 (12)	CHE311 (12)	CHE352 (12)	CHE453 (6)	
ESO201 (11)	CHE213 (12)	CHE331 (12)	CHE655 (12) /CHE668 (9)		
ESO204 (11)	CHE221 (12)	CHE381 (12)	DE-2 (9)	DE-3 (9)	OE-4 (9)
CHE201 (3)	CHE261 (9)	DE-1 (9)	OE-1 (9)	OE-2 (9)	OE-5 (9)
CHE251 (12)	CHE200 (2)			OE-3 (9)	OE-6 (9)
60-62	56-58	54	48-51	42	27
27 credits of DEs and 54 credits of OEs to be taken in the 5 <sup>th</sup> to 8 <sup>th</sup> semester.					

Credit table for BT program in Chemical Engineering		
Course type	Recommended Credit range	Credit in the department template
Institute Core (IC)	112	112
E/SO	18-45	22
Department requirements	144-179	152-155 (125-128 DC + 27 DE)
Open electives (OE)	51-57	54
SCHEME	54-58	54-58
Total for 4-year BT/BS	391-420	394-401

List of courses		
Course No:	Title	Remarks
CHE200 (0-0-2-0) [2]	Chemical Engineering Communication Skills	New course
CHE201 (1-0-0-0) [3]	Introduction to Chemical Engineering	New course
CHE251 (3-0-3-0) [12]	Introduction to ChE + Process Calculation	New course
CHE212 (3-0-3-0) [12]	Heat Transfer	New course
CHE213 (3-0-3-0) [12]	Mass Transfer and Separation Processes	New course
CHE221 (3-0-3-0) [12]	Chemical Engineering Thermodynamics	New course
CHE261 (3-0-0-0) [9]	Chemical Process Technology	New course
CHE311 (3-0-3-0) [12]	Transport Phenomena: Fundamentals and Applications	New course
CHE331 (3-0-3-0) [12]	Chemical Reaction Engineering	New course
CHE381 (3-0-3-0) [12]	Process Dynamics and Control	New course
CHE352 (3-0-3-0) [12]	Chemical Process Synthesis and Design	New course
CHE655 (3-0-3-0) [12]	Data Science for Process Engineers	New course
CHE668 (3-0-0-0) [9]	Bioprocess Engineering	New course
CHE453 (0-1-4-0) [6]	Process Design Capstone Project	New course

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9.2 Template for the BTH program in Chemical Engineering

Template for 3 <sup>rd</sup> to 8 <sup>th</sup> semester for BTH program in Chemical Engineering					
Semester 3	Semester 4	Semester 5	Semester 6	Semester 7	Semester 8
SCHEME-2 HSS-I (9-11)	SCHEME-3 EME (9-11)	SCHEME-4 HSS-II (9)	SCHEME-5 HSS-II (9)	SCHEME-6 HSS-II (9)	
ESC201 (14)	CHE212 (12)	CHE311 (12)	CHE352 (12)	CHE453 (6)	
ESO201 (11)	CHE213 (12)	CHE331 (12)	CHE655 (12) /CHE668 (9)	UGP-2 (9)	OE-4 (9)
ESO204 (11)	CHE221 (12)	CHE381 (12)	UGP-1 (9)	OE-2 (9)	OE-5 (9)
CHE201 (3)	CHE261 (9)	DE-1 (9)	OE-1 (9)	OE-3 (9)	OE-6 (9)
CHE251 (12)	CHE200 (2)		DEH-1 (9)	DEH-2 (9)	DEH-3 (9)
60-62	56-58	54	57-60	51	36
2 UGPS (in lieu of two DEs in the BT template), 9 credits of DE, 27 credits at 6/7 level as DEH and 54 credits of OEs to be taken in the 5 <sup>th</sup> to 8 <sup>th</sup> semester.					

— CPI criteria for BTH: 8.0

9.3 Template for the BTM program in Chemical Engineering

Template for 3 <sup>rd</sup> to 8 <sup>th</sup> semester for BTM program in Chemical Engineering					
Semester 3	Semester 4	Semester 5	Semester 6	Semester 7	Semester 8
SCHEME-2 HSS-I (9-11)	SCHEME-3 EME (9-11)	SCHEME-4 HSS-II (9)	SCHEME-5 HSS-II (9)	SCHEME-6 HSS-II (9)	
ESC201 (14)	CHE212 (12)	CHE311 (12)	CHE352 (12)	CHE453 (6)	
ESO201 (11)	CHE213 (12)	CHE331 (12)	CHE655 (12) /CHE668 (9)		
ESO204 (11)	CHE221 (12)	CHE381 (12)	OE-2 (9)	MTB-1 (9)	MTB-4 (9)
CHE201 (3)	CHE261 (9)	OE-1 (9)	OE-3 (9)	MTB-2 (9)	MTB-5 (9)
CHE251 (12)	CHE200 (2)			MTB-3 (9)	MTB-6 (9)
60-62	56-58	54	48-51	42	27
27 OE credits and 54 MTB credits in the 5 <sup>th</sup> to 8 <sup>th</sup> semester.					

9.4 Template for five year dual-degree program in Chemical Engineering

Template for dual degree program in Chemical Engineering (Category A)					
Sem I-VI	Sem VII	Sem VIII	Summer	Sem IX	Sem X
Same as BT Template	CHE453 (6)		CHE699 (9)	CHE699 (36)	CHE699 (36)
	Complete 54 CHE PG course credits using OE/DE slots. Must do any 2 of CHE611, CHE621, CHE631 and CHE641 in the 54 CHE PG course credits				
PG Credits Summary- Thesis: 81; CHE PG Courses: 54					

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Template for dual degree program in Chemical Engineering (Category B)						
UG Pre-requisites		Sem VII	Sem VIII	Summer	Sem IX	Sem X
Odd Sem	Even Sem	CHE453 (6)				
ESO204/ CHE311	ESO201/ CHE221  CHE331	Complete 54 CHE PG course credits using OE/DE slots. Must do CHE611, CHE621 and CHE631/CHE633 (any one) in the 54 ChE PG course credits		CHE699 (9)	CHE699 (36)	CHE699 (36)
PG Credits Summary- Thesis: 81; CHE PG Courses: 54						

9.5 Template for double major: second major in Chemical Engineering

Odd Sem	Even SEM
Pre-requisites	
ESO201 (11)	
Mandatory CHE courses	
CHE251 (12)	CHE212 (12)
CHE311 (12)	CHE213 (12)
CHE331 (12)	CHE221 (12)
CHE381 (12)	CHE352 (12)
Total CHE course credits: 96	

9.6 Minor in Chemical Engineering

Student should complete any three of the following courses:

CHE251, CHE212, CHE213\*, CHE221\*, CHE311, CHE331\*, CHE381

\* Offered in minor slots