

COURSE STRUCTURE

B.Tech. and B.Tech.-M.Tech. Dual Degree (Category-A & B) and Double Major (Fuel, Minerals and Metallurgical Engineering)

		GROUP-I				SEMESTER												NINTH	TENTH
		FIRST (IC)		SECOND (IC)		THIRD		FOURTH		FIFTH	SIXTH			SEVENTH		EIGHTH			
C O U R S E	MCI101	3-1-0-11	MCI102	3-1-0-11	FMC201 (DC1)	3-0-0-9	FMC204 (DC4)	3-0-0-9	FMC301 (DC8)	3-0-2-11	FMC303 (DC10)	3-0-0-9	DE1	3-0-0-9	DE3	3-0-0-9	DUAL DEGREE	DUAL DEGREE	
	PHI101	3-0-0-9	CY101	3-0-0-9	FMC202 (DC2)	3-0-0-9	FMC205 (DC5)	3-0-0-9	FMC302 (DC9)	3-0-0-9	FMC304 (DC11)	3-0-2-11	DE2	3-0-0-9	DE4	3-0-0-9			
	PHI102	0-0-2-2	CY102	0-0-2-2	FMC203 (DC3)	3-0-0-9	FMC206 (DC6)	3-0-0-9	OE1	3-0-0-9	MS	3-0-0-9	OE4	3-0-0-9	OE7	3-0-0-9			
	EEl101 Modular	3-0-0-9 (9/2)	MCI103 Modular	2-2-0-5	FME221 (E/SO1)	3-0-0-9	FMC207 (DC7)	3-0-0-9	HSS	3-0-0-9	OE2	3-0-0-9	OE5	3-0-0-9	FMC401 (UGP2)	0-0-0-6			
	EEl102 Modular	0-0-3-3 (3/2)	CSI101 Modular	2-1-0-4	E/SO2 Optional	3-0-0-9	FME222 (E/SO3)	3-0-0-9	E/SO4 Optional	3-0-0-9	OE3	3-0-0-9	OE6	3-0-0-9	HSS/OE8	3-0-0-9			
	ECI101 Modular	3-0-0-9 (9/2)	CSI102 Modular	0-0-2-2	FMC251 (DP1)	0-0-2-2	FMC253 (DP3)	0-0-2-2	FMC351 (DP5)	0-0-3-3	FMC352 (DP6)	0-0-3-3	FMC401 (UGP1)	0-0-0-6	--	--			
	ECI102 Modular	0-0-3-3 (3/2)	ESI101	1-0-0-3	FMC252 (DP2)	0-0-2-2	FMC254 (DP4)	0-0-2-2	--		FMS301 (DC12)	0-0-0-0 S/X	FMS401 (DC13)	0-0-0-0 S/X	--	--			
	CEI101	1-0-3-6	GLI101	1-0-0-3	--	--	--	--	--	--	--	--	--	--	--	--			
	MEI101	3-1-0-11	MEI102	2-0-3-9	--	--	--	--	--	--	--	--	--	--	--	--			
	MSI101	2-0-0-2	HSI101	1-0-2-5	--	--	--	--	--	--	--	--	--	--	--	--			
	CCS101	0-0-0-0 S/X	CCS102	0-0-0-0 S/X	--	--	--	--	--	--	--	--	--	--	--	--			
	57		52		49		53		52		49		51		42				

DUAL DEGREE (CATEGORY-A)										DUAL DEGREE (CATEGORY-B)													
FIFTH		SIXTH		SEVENTH		EIGHTH		NINTH		TENTH		FIFTH		SIXTH		SEVENTH		EIGHTH		NINTH		TENTH	
FMC503 DCPG	3-0-0-9	FMD522 DEPG	3-0-0-9	FMC504 DCPG	3-0-0-9	FMD518 DEPG	3-0-0-9	FMC597 36 Credits Thesis		FMD515 DEPG	3-0-0-9	FMC203 DCUG	3-0-0-9	FMC205 DCUG	3-0-0-9	FMC302 DCUG	3-0-0-9	FMD518 DEPG	3-0-0-9	FMC597 36 Credits Thesis		FMD515 DEPG	3-0-0-9
										FMD513 DEPG	3-0-0-9					FMC201 DCUG	3-0-0-9	FMD519 DEPG	3-0-0-9			FMD531 DEPG	3-0-0-9
		OR Any one from the basket given in the next page, if suggested by the department				OR Any one from the basket given in the next page, if suggested by the department				Or any course is suggested by the department FMC598 18 Credits Thesis												Or any course is suggested by the department FMC598 18 Credits Thesis	
												• In place of OE-1 will take (FMC203), • In place of OE-2 will take (FMC205), • In place of OE-3 will take (FMC302), • In place of OE-4 will take (FMC201), All four DCUG courses are prescribed from the Course Structure of the Undergraduate Program where the student will do the M.Tech. Program under Dual Degree (Category-B)											

DOUBLE MAJOR (SECOND MAJOR IN OTHER DEPARTMENT)															Department Practical, if any				
MONSOON SEMESTER		FME221* ESO	3-0-0-9	FMC201 DC	3-0-0-9	FMC203 DC	3-0-0-9	FMC301 DC	3-0-0-9	FME302 DC	3-0-0-9	FMD431 DE1	3-0-0-9	FMD432 DE2	3-0-0-9				
WINTER SEMESTER		FME222* (ESO)	3-0-0-9	FMC205 DC	3-0-0-9	FMC207 DC	3-0-0-9	FMC303 DC	3-0-0-9	FMC304 DC	3-0-0-9	FMC434 DC3	3-0-0-9	FMC525 DC4	3-0-0-9				

NOTE: (1) *Two ESOs guided/optional prescribed in the course structure of Double Major program and the same is taken by the students for completion of the course work of the Double Major in the slot of their optional ESO, both the ESOs will fulfil the ESO credit requirement of the Double Major program as well as B.Tech. degree. **(2)** In lieu of Four DCUG (DCPG if the second department does not have any UG program) courses of the Dual Degree (Category-B & C) and Double Major Program will be considered as OE-1, OE-2, OE-3 & OE-4 of the B.Tech. program of Parent Department and the credits of these courses will be counted for fulfilment of the OE credit requirements.

LIST OF COURSES FOR COMPLETION OF MINOR

MONSOON SEMESTER		WINTER SEMESTER	
FMC202	Heat and mass transfer	FMC205	Thermodynamics and Kinetics
FMC302	Extractive Metallurgy	FMC303	Mechanical metallurgy

TITLE OF THE MINOR: **Metallurgical Engineering**

DETAILS OF THE MINIMUM CREDIT REQUIREMENTS FOR COMPLETION OF B.TECH. PROGRAM AND LIST OF ESO, DE AND OE COURSES

Minimum Credit requirements for Graduation:

- Institute Core (IC) : 109 Credits
- Department Compulsory : 103
- Department Elective : 36
- Department Practical : 14
- Engineering/Science Option : 36
- Open Elective : 72
- HSS+MS ; 18 (9+9)
- UGP-1 & UGP-2 12 (6+6)

Total : **400**

LIST OF E/SO	
Guided	Offered
--	FME221
--	FME222

LIST OF DEPARTMENTAL ELECTIVES (DE)	
FMD461	FMD526
FMD462	FMO543
FMD463	FMO544
FMD464	FMO545
FMD525	

LIST OF OPEN ELECTIVES (OE)	
FMO431	FMO541

Minimum Credit requirements for completion of Additional Academic Program

Dual Degree (Category-A)		Dual Degree (Category-B)		Double Major	
<ul style="list-style-type: none"> • Departmental Core (DCPG) 18 Credits • DEPG/OEPH 36 Credits • Thesis 54 Credits <p>Total: 108 Credits</p>		<ul style="list-style-type: none"> • Departmental Core (4 DCUG) of Second Department (Extra credits to be counted in B.Tech part as OE credits) 36 Credits • 2 DCPG & 4 DEPG/OEPG or 1 DCPG & 5 DEPG/OEPG 54 Credits • Thesis 54 Credits <p>Total: 108 Credits</p>	(Not to be counted in M.Tech. Part)	<ul style="list-style-type: none"> • Two ESO courses 18 Credits • Departmental Core (8 DCUG) of Second Major Department 72 Credits • 4 DE of Second Department 54 Credits <p>Total: 108 Credits</p>	(Not to be counted in the Second Major)