

Course/ Credits Distribution of ME IMM (Industrial Materials & Metallurgy)

Sr. No.	Courses	Credit Structure	
		No. of Courses	Credits
1	Program Core	04	12 (3 each)
2	Open core	02	06 (3 each)
3	Program Elective	05	15 (3 each)
4	Open Elective	01	03
5	Program Lab	02	04 (2 each)
6	Case Histories and industry Experiences	01	01
7	Seminar and Term paper	01	01
8	Project/ Industry based Project	02	12+18=30
Total Credits			72

CONSOLIDATED SCHEME-ME Industrial Materials & Metallurgy

Sem							Lecture Course	L	T	P	Weekly Contact	Credits
I	Program Core -I Advanced Physical Metallurgy:MTN501 (LTP: 3 0 0)	Program Core-II Industrial Materials MTN502 (LTP: 3 0 0)	Program Mathematics/Mathematics (Open core I) Computer applications and simulations in Metallurgy MTN503 (LTP: 3 0 0)	Program Elective I (see list of Electives) (LTP: 3 0 0)	Program Elective II (see list of Electives) (LTP: 3 0 0)	Program Lab I Materials Processing Lab. MTN510 (LTP: 0 0 3)	5	15	0	3	18	17
II	(Open Core II) Design of Expt & Research Methodology : MTN525 (LTP: 3 0 0)	Program Core-III Material Characterization MTN520 (LTP: 3 0 0)	Program Core-IV Introduction to forming processes MTN521 (LTP: 3 0 0)	Program Elective III (see list of Electives) (LTP: 3 0 0)	Open Elective (See list Open of Electives) (LTP: 3 0 0)	Program Lab II Materials Characterization Lab. MTN530 (LTP: 0 0 3)	5	15	0	3	18	17
III	Program Elective IV (see list of Electives) (LTP: 3 0 0)	Program Elective V (see list of Electives) (LTP: 3 0 0)	Case History and Industry Experiences :MTN547 (LTP: 0 0 2)	Seminar & Term Paper : MTN548 (LTP: 0 0 2)	Project/ Industry Based Project -I :MTN598 (LTP: 0 0 24)		2	6	0	28	34	20
IV	Project/ Industry Based Project-II: MTN599 (LTP: 0 0 36)	-	-	-	-	-	-	0	0	0	36	18

PG (Industrial Materials & Metallurgy) – Curriculum Structure

Semester I

Sr. No.	Course Code	Course Name	L	T	P	Credits
1	MTN501	Program Core-I : Advanced Physical Metallurgy	3	0	0	3
2	MTN502	Program Core-II : Industrial Materials	3	0	0	3
3	MTN503	Program Mathematics/ Mathematics (Open Core I): Computer applications and simulations in Metallurgy	3	0	0	3
4		Program Elective-I	3	0	0	3
5		Program Elective-II	3	0	0	3
6	MTN510	Program Lab-I: Materials Processing Lab.	0	0	3	2
Total						17

Semester II

Sr. No.	Course Code	Course Name	L	T	P	Credits
1	MTN525	Open core-II : Design of Experiments and Research Methodology	3	0	0	3
2	MTN520	Program Core-III : Material Characterization	3	0	0	3
3	MTN521	Program Core IV: Introduction to forming processes	3	0	0	3
4		Program Elective-III	3	0	0	3
5		Open Elective*	3	0	0	3
6	MTN530	Program Lab-II**: Materials Characterization Lab.	0	0	3	2
Total						17

*It could be intra/inter departmental ME course

**To include minimum of two industrial visits of half day duration to nearby industries.

Semester III

Sr. No.	Course Code	Course Name	L	T	P	Credits
1		Elective-IV	3	0	0	3
2		Elective-V	3	0	0	3
3	MTN547	Case Histories and industry Experiences [#]	0	0	2	1
4	MTN548	Seminar and Term Paper	0	0	2	1
5	MTN598	Project/ Industry based Project -I	0	0	24	12
Total						20

[#] To include 4 to 5 invited lectures from industrial experts

Semester IV

Sr. No.	Course Code	Course Name	L	T	P	Credits
1	MTN599	Project/ Industry-based Project -II	0	0	36	18
Total						18

List of Electives

Program Elective-I (Any One)

Course Code	Course Name	L T P	Credits
MTN504	Environmental degradation of materials	3-0-0	3
MTN505	Mechanical behavior of material	3-0-0	3
MTN506	Composites and polymers	3-0-0	3
Total			03

Program Elective-II (Any One)

Course Code	Course Name	L T P	Credits
MTN507	Surface Engineering	3-0-0	3

MTN508	Non-Destructive testing	3-0-0	3
MTN509	Aerospace materials	3-0-0	3
Total			03

Program Elective-III (Any One)

Course Code	Course Name	L T P	Credits
MTN522	Biomaterials	3-0-0	3
MTN523	Failure analysis	3-0-0	3
MTN524	Nano-materials and Technology	3-0-0	3
Total			03

Program Elective-IV (Any One)

Course Code	Course Name	L T P	Credits
MTN540	Inspection and Quality control	3-0-0	3
MTN541	Advanced Materials joining	3-0-0	3
MTN542	Energy Conservation and Pollution Control in Metallurgical Industries	3-0-0	3
Total			03

Program Elective-V (Any One)

Course Code	Course Name	L T P	Credits
MTN543	Advanced Metal Forming	3-0-0	3
MTN544	Advanced Foundry Technology	3-0-0	3
MTN545	Advanced Powder Metallurgy	3-0-0	3
MTN546	Industrial Heat Treatment	3-0-0	3
Total			03
Program Elective Total		15-0-0	15