

DEPARTMENT OF METALLURGICAL ENGINEERING AND MATERIALS SCIENCE
Credit Structure and semester-wise scheduling of courses for M.Tech. Programme

Specialization: Semiconductor Materials and Processing

	CREDITS				
Course Work	Sem I	Sem II	Sem III	Sem IV	Total Credits
Core Courses	24	15	-	-	39
Electives (**)	6	6	-	-	12
Ins. Elective	-	6	6	-	12
Lab. Course	3	3	-	-	6
Seminar	-	4	-	-	4
R&D Project*	-	-	-	-	-
Communi. Skills	+6	-	-	-	+6
Training	-	-	-	-	
Course Total	33 (+6)	34	06	-	73 +6
Project	-		50*	40	90
Total Credits	33 (+6)	34	56	40	163 +6

* Registration in II Semester (January)

**There are a total of 2 courses under this item listed above as “Electives”. Out of these one course must be taken from the Restricted Electives basket and the other can be any course from the department.

[P.T.O. for semesterwise scheduling of courses]

First Semester

Course No.	Course Name	L T P C
MM 759	Structure and Defects	3 0 0 6
MM 685	Electrical Materials: fundamentals and applications	3 0 0 6
MM 762	Materials Processing in Semiconductor Technology – part I	3 0 0 6
MM 734	Electrical Characterization	3 0 0 3 (Half semester course to run in the Second Half)
MM 732	Structural Characterization of Materials	3 0 0 3 (Half semester course to run in the First Half)
	Restricted Elective I	3 0 0 6
MM 763	Semiconductor processing and characterization Lab I	0 0 3 3
MM 899	Communication and Presentation Skills	1 2 0 6 [#]
	Total Credits	33+6

[#]PP/NP Course, L – Lecture, T – Tutorial, P – Practical, C – Credit

Second Semester

MM 764	Materials Processing in Semiconductor Technology – part II	3 0 0 6
MM 765	Semiconductor Devices and their working principles	3 0 0 6

MM 766	Optical Characterization of Materials	3 0 0 3 (Half semester course to run in the First Half)
	Open Elective I	3 0 0 6
	Institute Elective I	3 0 0 6
MM 767	Semiconductor processing and characterization Lab II	0 0 3 3
MM 694	Seminar	0 0 0 4
	Total Credits	34

Third Semester

	Institute Elective II	3 0 0 6
MM 797	Project Stage I	50
	Total Credits	56

Fourth Semester

MM 798	Project Stage II	40
--------	------------------	----

List of Restricted Electives

Course No.	Course Name	L T P C
MM 677	Diffusion and Kinetics	3 0 0 6
MM 720	Organic Semiconductors and Devices	3 0 0 6
MM 674	Materials and Processes for Semiconductor Devices	3 0 0 6
MM 739	Semiconductor Photoelectrochemistry and Photocatalysis	3 0 0 6
MM 678	Magnetism and Magnetic Materials	3 0 0 6
MM 614	Magnetism, Superconductivity and their applications	3 0 0 6
MM 723	Thermoelectric Materials	3 0 0 6
MM 618	Optoelectronic Properties, Materials and Devices (relook)	3 0 0 6
MM 747	First principles approach to materials science	3 0 0 6
MM 6103	Principles and Applications of Ferroelectric and Piezoelectric Materials	3 0 0 6
MM 652	Advanced Ceramics	3 0 0 6