

**Curriculum of B.Tech. Program  
in  
Metallurgical Engineering and Materials Science**

**(from AY 2023-24 onwards)**



**Indian Institute of Technology Indore**

**Course Structure of 3<sup>rd</sup> and 4<sup>th</sup> Year of Metallurgical Engineering and Materials Science is under consideration, and it will be updated soon.**

**2<sup>nd</sup> Year B.Tech. (Metallurgical Engineering and Materials Science)**

**III Semester**

Course Code	Course Name	(L-T-P)	Credit
ZZ 2XX	Course -I for minor program	X-X-X	3
MA 205	Complex Analysis	3-1-0 (Half Semester)	2
MA 207	Differential Equations II	3-1-0 (Half Semester)	2
MM 209	Structure of Materials	2-1-0 (Half Semester)	1.5
MM 211	Physics of Materials	2-1-0 (Half Semester)	1.5
MM 213	Principles of Extractive Metallurgy	2-1-0 (Half Semester)	1.5
MM 215	Mechanical Behaviour of Materials	2-1-0	3
MM 217	Physical Metallurgy	2-1-0	3
MM 219	Thermodynamics of Materials	2-1-0	3
MM 255	Mechanical Behaviour of Materials Lab	0-0-2	1
MM 257	Physical Metallurgy Lab	0-0-2	1
MM 2XX	Department Elective - I	2-1-0	3
		<b>14-6.5-4</b>	<b>22.5/25.5</b>

**Options for Elective I (3<sup>rd</sup> Semester)**

Course Code	Course Name	(L-T-P)	Credit
MM 221	Finite Element Simulations in Materials	2-1-0	1.5
MM 223	Statistical Mechanics for Materials Science	2-1-0	1.5
MM 225	Diffusion in Solids	2-1-0	3
MM 227	Crystal Growth and Thin Films	2-1-0	3

**IV Semester**

Course Code	Course Name	(L-T-P)	Credit
ZZ 2XX	Course -II for minor program	X-X-X	3
MA 204N	Numerical Methods	2-0-2	3
MM 208	Theory of Metal Forming	2-1-0	3
MM 210	Phase Transformation and Heat Treatment	2-1-0	3
MM 212	Transport Phenomena	2-1-0	3
MM 214	Materials Characterization	2-0-2	3
MM 216	Mineral Processing and Extractive Metallurgy Lab	0-0-2	1
MM 258N	Metal Forming Lab	0-0-2	1
MM 2XX	Department Elective - II	2-1-0	3
ZZ 2XX	Institute open elective - I	2-1-0	3
		<b>14-5-8</b>	<b>23/26</b>

**Options for Elective II (4<sup>th</sup> Semester)**

Course Code	Course Name	(L-T-P)	Credit
MM 218	Materials Economics and Sustainability	2-1-0	1.5
MM 220	Materials Data Science	2-1-0	1.5
MM 222	Fuels, Furnaces and Refractories	2-1-0	3
MM 224	Phase Diagrams and Phase Equilibria in Materials	2-1-0	3

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