

Semester	Course Code	Course Name (optional)	Course Credits (Optional)
1	MS10210	Introduction to Materials Science and Engineering	2
1	EP10108	Modern Physics	2
1	CY10018	Environmental Chemistry	2
1	MA10110	Calculus-I	1
1	MA10220	Calculus-II	1
1	ID10063	Introduction to programming (Theory+Lab)	3
1	LA10760	English communication	2
1	EP10118	Mathematics for Physics	2
2	MS10220	Structure of Materials	2
2	MS10230	Physics of Solids-I	3
2	ID10054	Digital fabrication	2
2	MA10140+1015	Mathematics-II (Linear algebra+Differentials Equations)	2
2	ID10050	Introduction to Artificial Intelligence	1
2	EP10031	Physics Laboratory	2
2	CY10031	Chemistry Laboratory	2
2	SS	Soft skills	1
3	MS20213	X-ray Diffraction in Materials Science	3
3	MS20220	Fundamentals of Physical Metallurgy	3
3	MS20230	Physics of Solids -II	3
3	MS20240	Thermodynamics of Materials	3
3	ID10041	Engineering Drawing	2
3	ME20110	Mechanics of Materials	3
3	MS20211	Metallography Laboratory	1
4	MS20250	Imaging in Materials Science	3
4	MS20260	Materials Synthesis	3
4	MS20270	Mechanical Behaviour of Materials	3
4	MS20280	Transport Phenomena in Materials Processing	2
4	MS20290	Diffusion in Solids	3
4	MS20300	Computational Methods in Materials Science	3
4	BT10010	Introduction to Life Science	1
5	MS30310	Phase transformations	3
5	MS30320	Soft Materials	3
5	MS30330	Fundamentals of Extractive Metallurgy	2
5	MS30311	Functional Materials Processing Laboratory	2
5	MS30321	Mechanical Behaviour Laboratory	1
5	MS30340	Spectroscopic Techniques in Materials Science	2
5	XXxxxx	Free Elective	3
5	LAxxxx	LA/CA	2
6	MS30315	Option 1: Internship (only for CGPA \geq 8), Option 2: Project	6

6	MS30350	Iron and Steel Making	3
6	MS30363	Powder Metallurgy	1
6	XXxxxx	Free Elective	4
6	LAxxxx	LA/CA	2
7	MS40310	Welding and Additive Manufacturing	3
7	MS40320	Corrosion and Electrochemistry	2
7	MS40330	Metal Forming and Thermomechanical Processing	3
7	MS40340	Properties of Materials	3
7	MS40350	Metal Casting	2
7	XXxxxx	Soft skills	1
7	LAxxxx	LA/CA	2
8	MS40311	Metal forming Laboratory	2
8	MSXXxx	Department elective	3
8	ID40006	Ethics and Values	1
8	LAxxxx	LA/CA	2
8	XXxxxx	Free Elective	4
		Total credits	128