BENNETT UNIVERSITY
THE TIMES GROUP

Program Structure

Masters of Technology (Material Science and Engineering)

Duration: 2 Years AY:

2026-2028

School of Engineering & Applied Sciences

Department of Physics

N. Latta

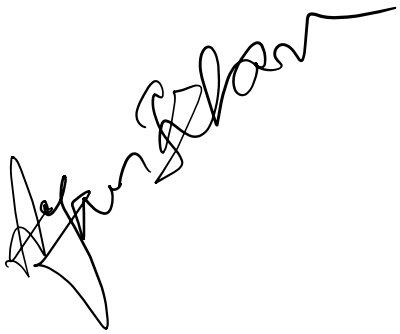
Semester – I 20 credits					
S.No.	**Title**	**L**	**T**	**P**	**Cr**
1	Fundamentals of Materials Science and Technology	3	1	0	4
2	Solid State Physics	3	1	0	4
3	Thermodynamics and Kinetic of Materials	3	1	0	4
4	Computer Programming	0	0	4	2
5	Scientific Writing and Communication	2	0	0	2
6	Elective I	3	1	0	4
Total Credits in Semester-I:		**13**	**4**	**4**	**20**

Semester – II 20 credits					
S.No.	**Title**	**L**	**T**	**P**	**Cr**
1	Nanoscience and Engineering	2	0	2	3
2	Modelling and Simulation of Materials	2	0	2	3
3	Advanced Electronic and Magnetic Properties of Materials	2	0	2	3
4	Elective II	3	1	0	4
5	Materials Testing and Fabrication Lab	0	0	4	2
6	Research Ethics	2	0	0	2
7	Major Project -1	0	0	6	3
	Total Credits in Semester – II	**11**	**1**	**16**	**20**

Semester – III 22 credits					
S.No.	**Title**	**L**	**T**	**P**	**Cr**
1	Optics and Photonics	2	0	2	3
2	Elective III	3	0	0	3

3	Elective IV	3	0	0	3
4	Elective V	3	0	0	3
5	Machine learning basics	0	0	4	2
6	Summer Internship	0	0	8	4
7	Major Project -2	0	0	8	4
	Total Credits in Semester – III	**11**	**0**	**22**	**22**

Semester – IV 23 credits					
S.No.	**Title**	**L**	**T**	**P**	**Cr**
1	Deposition and Characterization Technique	1	0	4	3
2	Industry/ Academic R& D Project (External)	0	0	40	20
	Total Credits in Semester-IV:	**2**	**0**	**44**	**23**



LIST OF ELECTIVE COURSES OFFERED

S.No.	Title	L	T	P	Cr
1.	Semiconductor Physics and Technology	3	1	0	4
2.	Quantum Materials and Devices	3	1	0	4
3.	Chemistry of Materials	3	0	0	3
4.	Applied AI and ML for Materials Discovery	3	0	0	3
5.	Thin Film Technology and Applications	3	1	0	4
6.	X-Ray Diffraction and Electron Microscopy	3	0	0	3
7.	Renewable Energy and Smart Grid	3	0	0	3
8.	Emerging Energy Sources	3	0	0	3
9.	Biomaterials: Design and applications	3	0	0	3
10.	Semiconductor Physics and Technology	3	0	0	3