

Scheme of Studies for Batch 2025 onwards

Bachelors of Metallurgical Engineering									
First Year									
Fall Semester					Spring Semester				
Course Code	Course Title	Credit Hrs			Course Code	Course Title	Credit Hrs		
		Th	Pr	Total			Th	Pr	Total
MY-102	Introduction to Metallurgical Engineering	2	0	2	EA-128	Functional English	3	0	3
ES-108	Ideology and Constitution of Pakistan	2	0	2	ES-105/ES-127	Pakistan Studies / Pakistan Studies For Foreigners	2	0	2
CY-110	Applied Chemistry for Engineers	2	1	3	AU-112	Engineering Drawing and Computer Graphics	2	1	3
MT-116	Calculus & Analytical Geometry	3	0	3	PF-101	IT Fundamentals and Application	2	1	3
EE-124	Basic Electricity and Electronics	2	1	3	ES-206/ES-209	Islamic Studies / Ethical Behavior	2	0	2
ME-101	Engineering Mechanics	3	1	4	MT-221	Linear Algebra & Ordinary Differential Equations	3	0	3
CY-100	Essentials of Chemistry (for Computer Science Students Only)	NC Course							
Total		14	3	17	Total		14	2	16
Second Year									
Fall Semester					Spring Semester				
Course Code	Course Title	Credit Hrs			Course Code	Course Title	Credit Hrs		
		Th	Pr	Total			Th	Pr	Total
MT-441	Advanced Mathematical Techniques	3	0	3	MY-210	Iron Making Processes	2	0	2
MY-211	Metallurgical Thermodynamics and Kinetics	3	0	3	MM-303	Inspection and Testing of Materials	3	1	4
MY-212	Physical Metallurgy	3	1	4	MY-214	Metal Forming and Shaping Processes	3	1	4
MY-213	Instrumentation and Control	2	0	2	MY-215	Engineering Ceramics and Refractories	2	0	2
PF-201	Civics and Community Engagement	2	0	2	MT-331	Probability and Statistics	3	0	3
ME-228	Workshop Practice	0	1	1	MY-208	Mineral Processing	2	1	3
MY-207	Mechanical Behavior of Materials	2	1	3	PF-205	Community Service	NC Course		
Total		15	3	18	Total		15	3	18

Scheme of Studies for Batch 2025 onwards

Third Year									
Fall Semester					Spring Semester				
Course Code	Course Title	Credit Hrs			Course Code	Course Title	Credit Hrs		
		Th	Pr	Total			Th	Pr	Total
EA-304	Business Communication and Ethics	3	0	3	MY-304	Metallurgy of Welding	2	1	3
MY-308	Polymer and Composite Materials	2	1	3	MY-310	Non-Ferrous Extractive Metallurgy	3	0	3
MY-309	Steel Making Processes	2	0	2	PF-301	Professional Ethics	2	0	2
MY-303	Foundry: Principles, Methods and Practices	3	1	4	MM-304	Heat Treatment of Materials	3	1	4
MY-311	Machine Learning in Metallurgical Engineering	2	1	3	XX-###	Social Science Elective	2	0	2
PF-401	Entrepreneurship	2	0	2	MY-412	Metallurgy of Advanced Steels	2	0	2
					EA/ES###	Foreign Language-I	0	0	0
Total		14	3	17	Total		14	2	16

Final Year									
Fall Semester					Spring Semester				
Course Code	Course Title	Credit Hrs			Course Code	Course Title	Credit Hrs		
		Th	Pr	Total			Th	Pr	Total
MY-415	Design, Selection and Characterization of Engineering Materials	3	1	4	MY-413	Corrosion Engineering	2	1	3
XX-###	Management Sciences-Elective	2	0	2	MY-406	Powder Metallurgy	2	1	3
MY-410	Fracture Mechanics and Failure Analysis	2	1	3	MY-417	Computational Materials Science	1	2	3
MY-416	Health, Safety & Environment	1	0	1	MY-408	Metallurgical Engineering Design Project	0	3	3
MY-408	Metallurgical Engineering Design Project	0	3	3	XX-###	Technical Elective 3	2	0	2
EA/ES###	Foreign Language-II	0	0	0	XX-###	Technical Elective 4	2	0	2
XX-###	Technical Elective 1	2	0	2					
XX-###	Technical Elective 2	2	0	2					
Total		12	5	17	Total		9	7	16

Scheme of Studies for Batch 2025 onwards

Social Sciences Electives					
1	EA-321	Logic & Critical Thinking	2	0	2
2	MG-228	Sociology and Development	2	0	2
3	MG-257	Organizational Behavior	2	0	2
4	ME-433	Law for Engineers	2	0	2
Management Sciences Electives					
1	MG-483	Supply Chain Management	2	0	2
2	ME-434	Total Quality Management	2	0	2
3	PF-206	Engineering Economics and Management	2	0	2
Technical Elective-1					
1	MY-418	Advanced Materials	2	0	2
2	MY-419	High-Temperature Metals and Alloys	2	0	2
3	MY-420	Nanotechnology	2	0	2
4	MY-421	Fundamentals of Biomaterials	2	0	2
5	MY-422	Electronic, Magnetic and Optical Materials	2	0	2
Technical Elective-2					
1	MY-423	Thin Films and Coating Techniques	2	0	2
2	MY-424	Surface Engineering	2	0	2
3	MY-425	Additive Manufacturing	2	0	2
Technical Elective-3					
1	MY-426	Phase Transformations in Metals and Alloys	2	0	2
2	MY-427	Metallurgical Plants and Quality Control	2	0	2
3	MY-411	Vacuum Metallurgy	2	0	2
Technical Elective-4					
1	MY-428	Nuclear Metallurgy	2	0	2
2	MM-309	Construction Materials	2	0	2
3	MY-429	Oil Field Metallurgy	2	0	2

Scheme of Studies for Batch 2025 onwards

FOREIGN LANGUAGE-I	
COURSE CODE	COURSE TITLE
EA-220	Chinese Language-I
EA-231	Turkish Language-I
EA-224	German Language-I
EA-226	French Language-I
ES-222	Arabic Language-I
EA-233	Japanese Language-I
EA-235	Russian Language-I
FOREIGN LANGUAGE –II	
EA-221	Chinese Language-II
EA-232	Turkish Language-II
EA-225	German Language-II
EA-227	French Language-II
ES-223	Arabic Language-II
EA-234	Japanese Language-II
EA-236	Russian Language-II