

# Scheme of Studies up to Batch 2024

## FIRST YEAR

Fall Semester			Spring Semester						
Course Code	Course Title	Credit Hours			Course Code	Course Title	Credit Hours		
		Th	Pr	Total			Th	Pr	Total
MY-101	Introduction to Metallurgical Engg.	2	1	3	EE-116	Principles of Electrical Engineering	3	1	4
EA-111	Functional English	2	0	2	ME-101	Engineering Mechanics	3	1	4
PH-122	Applied Physics	3	1	4	CY-109	Applied Chemistry	3	1	4
ME-111	Engineering Drawing	2	1	3	ME-104	Workshop Practice	0	2	2
MT-114	Calculus	3	0	3	ES-105/ ES-127	Pakistan Studies OR Pakistan Studies (for Foreigners)	2	0	2

## SECOND YEAR

Fall Semester			Spring Semester						
Course Code	Course Title	Credit Hours			Course Code	Course Title	Credit Hours		
		Th	Pr	Total			Th	Pr	Total
MT-215	Differential Equation and Complex Variables	3	0	3	MY-210	Iron Making Processes	2	0	2
MY-211	Metallurgical Thermodynamics and Kinetics	3	0	3	MY-208	Mineral Processing	2	1	3
MM-201	Physical Metallurgy	3	1	4	IM-207	Computer Programming and Drafting	2	1	3
EE-221	Instrumentation	3	1	4	MY-207	Mechanical Behaviour of Materials	2	1	3
ES-206/ ES-209	Islamic Studies OR Ethical Behaviour	2	0	2	MY-209	Metal Forming and Shaping Processes	2	1	3
					MY-206	Furnances and Refractories	3	1	4
					EA-200	Community Service	-	-	NC

## THIRD YEAR

Fall Semester			Spring Semester						
Course Code	Course Title	Credit Hours			Course Code	Course Title	Credit Hours		
		Th	Pr	Total			Th	Pr	Total
MM-303	Inspection and Testing of Materials	3	1	4	MY-304	Metallurgy of Welding	2	1	3
MY-308	Polymer & Composite Materials	2	1	3	MY-310	Non-Ferrous Extractive Metallurgy	3	0	3
MT-315	Mathematical Methods	3	0	3	EA-304	Business Communication and Ethics	3	0	3
MY-303	Foundry: Principles, Methods and Practice	3	1	4	MM-304	Heat Treatment of Materials	3	1	4
MG-481	Entrepreneurship	3	0	3	PF-303	Applied Economics for Engineers	3	0	3
					MY-309	Steel Making Processes	2	0	2
					EA/ES-###	Foreign Language-I	-	-	NC

## FINAL YEAR

Fall Semester			Spring Semester						
Course Code	Course Title	Credit Hours			Course Code	Course Title	Credit Hours		
		Th	Pr	Total			Th	Pr	Total
MY-407	Design, Selection and Characterisation of	3	1	4	MY-409	Metallurgical Plants and Quality Control	3	0	3
MY-410	Engineering Materials	2	1	3	MY-406	Powder Metallurgy	2	1	3
MY-413	Fracture Mechanics and Failure Analysis	2	1	3	CH-407	Industrial Organization & Management	2	1	3
	Corrosion Engineering				MY-411	Vacuum Metallurgy	2	0	2
IM-417	Health Safety and Environment	2	1	3	MY-408	Metallurgical Engineering Project	0	3	3
MY-408	Metallurgical Engineering Project*	0	3	3	##-###	Elective-II	3	0	3
A/ES-###	Foreign Language-II	-	-	NC					
##-###	Elective-I	2	0	2					

### Elective – I (2 + 0) (to be chosen from the following)

MM-408	High Temperature Materials and Superalloys	2	0	2
MM-413	Nuclear Materials	2	0	2
MY-412	Metallurgy of Advanced Steels	2	0	2

### Elective – II (3 + 0) (to be chosen from the following)

MY-402	Advanced Materials	3	0	3
MM-411	Nanomaterials and Nanotechnology	3	0	3