

## Scheme of Studies

Industrial and Manufacturing 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
MT-116	Calculus and Analytical Geometry	3	0	3	PH-129	Applied Physics	3	0	3
IM-108	Engineering Drawing and Graphics	0	2	2	IM-208	Materials Engineering	3	1	4
ME-104	Workshop Practice	0	2	2	ES-108	Ideology and Constitution of Pakistan	2	0	2
ES-105/ ES-127	Pakistan Studies / Pakistan Studies for Foreigners	2	0	2	MT-221	Linear Algebra & Ordinary Differential Equations	3	0	3
MF-101	IT Fundamentals and Applications	2	1	3	ES-206/ ES-209	Islamic Studies/Ethical Behavior	2	0	2
EA-128	Functional English	3	0	3	ME-101	Engineering Mechanics	3	1	4
CY-100	Essentials of Chemistry (For computer science students)	-	-	NC					
Total		10	5	15	Total		16	2	18
Second Year									
Fall Semester					Spring Semester				
Course Code	Course Title	Credit Hrs			Course Code	Course Title	Credit Hrs		
		Th	Pr	Total			Th	Pr	Total
MF-201	Civics and Community Engagement	2	0	2	MT-331	Probability and Statistics	3	0	3
IM-324	Sustainable Manufacturing	2	0	2	IM-218	Machine Design	2	0	2
IM-215	Mechanics of Materials	2	1	3	IM-219	Computer Aided Engineering Design	2	0	2
IM-203	Manufacturing Processes	3	1	4	IM-220	Digital Design and Mechanism Lab	0	1	1
EE-124	Basic Electricity and Electronics	2	1	3	IM-221	Health, Safety & Environment	2	0	2
XX-####	Social Science Elective*	2	0	2	IM-222	Methods Engineering	2	0	2
					IM-223	Industrial Engineering & Safety Lab	0	1	1
					IM-107	Thermofluids	2	1	3
					MF-205	Community Service	-	-	NC
Total		13	3	16	Total		13	3	16

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 & Ethics	3	0	3	IM-322	Industrial Repair and Maintenance	2	1	3
IM-326	Production Management	2	1	3	IM-307	Advanced Manufacturing Processes	3	1	4
XX-####	Management Science Elective	2	0	2	IM-325	Industrial Automation and Control	3	1	4
MT- 443	Numerical Analysis	3	0	3	IM-225	Metrology and Quality Control	2	1	3
IM-308	Operations Research	3	1	4	IM-320	Modeling and Simulation	2	1	3
IM-323	Project Management	2	0	2	XX-####	Foreign Language -I	-	-	NC
Total		15	2	17	Total		12	5	17
Final Year									
Fall Semester					Spring Semester				
Course Code	Course Title	Credit Hrs			Course Code	Course Title	Credit Hrs		
		Th	Pr	Total			Th	Pr	Total
IM-423	Computer Aided Manufacturing	2	1	3	MG-485	Entrepreneurship	2	0	2
IM-####	Technical Electives - I	2/3	1/0	3	IM-426	Smart Manufacturing	2	1	3
MG-320	Financial and Economic Analysis for Engineers	2	0	2	IM-405	Finite Element Analysis	3	1	4
IM-424	Product Design and Development	3	1	4	IM-####	Technical Electives - II	2/3	1/0	3
IM-425	Power Plant and HVAC	2	1	3	IM-####	Technical Electives - III	2/3	1/0	3
IM-409	Industrial & Manufacturing Engineering Design Project	0	3	3	IM-409	Industrial & Manufacturing Engineering Design Project	0	3	3
XX-####	Foreign Language -II	-	-	NC					
Total		11/12	7/6	18	Total		11/13	7/5	18

Elective Courses									
Social Sciences Elective (2+0)					Technical Elective (2+1 or 3+0)				
Course Code	Course Title	Credit Hrs			Course Code	Course Title	Credit Hrs		
		Th	Pr	Total			Th	Pr	Total
ME-433	Law for Engineers	2	0	2	IM-427	Lean Six Sigma	3	0	3
EA-321	Logic & Critical Thinking	2	0	2	IM-428	Computer Integrated Manufacturing	2	1	3
MG-228	Sociology and Development	2	0	2	IM-429	Logistic Management	3	0	3
MG-257	Organizational Behavior	2	0	2	IM-430	Management Information System	2	1	3
IM-227	Professional Ethics	2	0	2	IM-431	Warehouse Management	3	0	3
					IM-432	Applications of AI in Industrial and Manufacturing	2	1	3
Management Sciences Elective (2+0)					IM-433	Data Analytics	2	1	3
Course Code	Course Title	Credit Hrs			IM-434	Advanced Engineering Optimization	3	0	3
		Th	Pr	Total	IM-435	Tool Design	2	1	3
ME-434	Total Quality Management	2	0	2	IM-436	Basics of Additive Manufacturing	2	1	3
MG-483	Supply Chain Management	2	0	2	IM-437	Applied Thermo Fluids	2	1	3
IM-224	Engineering Management	2	0	2	IM-438	Design of Experiment	3	0	3
					IM-439	Manufacturing of Composites	2	1	3
					IM-440	Condition Monitoring	2	1	3
					IM-441	Ergonomics in Workplace Design	2	1	3
Foreign Language - I					Foreign Language - II				
EA-220	Chinese Language - I				EA-221	Chinese Language - II			
EA-231	Turkish Language - I				EA-232	Turkish Language -II			
EA-224	German Language - I				EA-225	German Language -II			
EA-226	French Language - I				EA-227	French Language -II			
ES-221	Arabic Language - I				ES-222	Arabic Language -II			
EA-233	Japanese Language-I				EA-234	Japanese Language-II			