BS Industrial Engineering Curriculum

From Batch Fall 2023 to Onwards

From Batch Fall 2023 to Onwards												
	First Semester						Second Semester					
Pre Req	C. Code	Course Title	Lec	Lab	CR	Pre Req	C. Code	Course Title	Lec	Lab	CR	
	HM-101	English Grammar and Comperehension	3	0	3		HM-102	Composition and Communication	3	0	3	
	HM-111	Islamic Studies/Ethics	2	0	2		NS-102	Linear Algebra	3	0	3	
	IE-111	Engineering Drawing and Graphics	1	0	1		IE-121	Manufacturing Processes I	3	0	3	
	IE-111 L	Engineering Drawing and Graphics (Lab)	0	1	1		IE-121L	Manufacturing Processes I (Lab)	0	1	1	
	IE-101	Engineering Mechanics	3	0	3		HM-112	Pakistan Studies	2	0	2	
	IE-101 L	Engineering Mechanics (Lab)	0	1	1		IE-141	Programming Fundamentals	2	0	2	
	IE-102	Introduction to Engineering Managaement	2	0	2		IE-141L	Programming Fundamentals (Lab)	0	1	1	
	NS-101	Applied Calculus	3	0	3		IE-151	Basic Industrial Electronics	2	0	2	
	IE-103L	Workshop Practice	0	2	2		IE-151L	Basic Industrial Electronics (Lab)	0	1	1	
		Total	14	4	18			Total	15	3	18	
		Third Semester		-	-		-	Fourth Semester			-	
Pre Req	C. Code	Course Title	Lec	Lab	CR	Pre Req	C. Code	Course Title	Lec	Lab	CR	
	NS-203	Differential Equations	3	0	3		IE-213	Mechanics of Materials	3	0	3	
	IE-252	Probability and Statistics for Engineers	3	0	3		IE-213L	Mechanics of Materials (Lab)	0	1	1	
	IE-204	Introduction to Thermo & Fluids	3	0	3		IE-253	Engineering Economics	3	0	3	
	IE-205	Materials Engineering	3	0	3		IE-242	Numerical Analysis and Computer Applications	2	0	2	
	IE-205L	Materials Engineering (Lab)	0	1	1		IE-242L	Numerical Analysis and Computer Applications (Lab)	0	1	1	
	IE-212	Machine Design and CAD	2	0	2		IE-222	Metrology and SQC	3	0	3	
	IE-212L	Machine Design and CAD (Lab)	0	1	1		IE-222L	Metrology and SQC (Lab)	0	1	1	
							IE-223	Workstudy and Ergonomics	3	0	3	
							IE-223L	Workstudy and Ergonomics (Lab)	0	1	1	
		Total	14	2	16			Total	14	4	18	
		Fifth Semester		1	1			Sixth Semester				
Pre Req	C. Code	Course Title	Lec	Lab	CR	Pre Req	C. Code	Course Title	Lec	Lab	CR	
	IE-331	Operations Research	3	0	3		IE-324	Manufacturing Process II	3	0	3	
	IE-331L	Operations Research (Lab)	0	1	1		IE-324L	Manufacturing Process II (Lab)	0	1	1	
	IE-343	Systems Simulations	2	0	2		IE-333	Project Management	3	0	3	
	IE-343L	Systems Simulations (Lab)	0	1	1		IE-333L	Project Management (Lab)	0	1	1	
	IE-354	Instrumentation and Control	3	0	3		IE-356	Automation and Robotics	2	0	2	
									_	0		
	IE-354L	Instrumentation and Control (Lab)	0	1	1		IE-356L	Automation and Robotics (Lab)	0	1	1	
	IE-354L IE-355	Instrumentation and Control (Lab) Technical Report Writing and Presentation Skills	0	1 0	1		IE-356L IE-334	Automation and Robotics (Lab) Environment Maintenance and Safety			1 3	
		. ,							0	1		
	IE-355	Technical Report Writing and Presentation Skills Technical Report Writing and Presentation Skills (Lab)	1	0	1		IE-334	Environment Maintenance and Safety Machine Learning	0 3	1	3	
	IE-355 IE-355L	Technical Report Writing and Presentation Skills Technical Report Writing and Presentation	1	0	1		IE-334 IE-344	Environment Maintenance and Safety	0 3 2	1 0 0	3 2	
	IE-355 IE-355L	Technical Report Writing and Presentation Skills Technical Report Writing and Presentation Skills (Lab) Production planning and control	1 0 3	0 2 0	1 2 3		IE-334 IE-344	Environment Maintenance and Safety Machine Learning Machine Learning (Lab)	0 3 2 0	1 0 0	3 2 1	
	IE-355 IE-355L IE-332 C. Code	Technical Report Writing and Presentation Skills Technical Report Writing and Presentation Skills (Lab) Production planning and control Total Seventh Semester Course Title	1 0 3 12 Lec	0 2 0 5 Lab	1 2 3 17 CR		IE-334 IE-344 IE-344L C. Code	Environment Maintenance and Safety Machine Learning Machine Learning (Lab) Total Eighth Semester Course Title	0 3 2 0 13 Lec	1 0 1 4 Lab	3 2 1 17 CR	
	IE-355 IE-355L IE-332	Technical Report Writing and Presentation Skills Technical Report Writing and Presentation Skills (Lab) Production planning and control Total Seventh Semester	1 0 3 12	0 2 0 5	1 2 3 17		IE-334 IE-344 IE-344L	Environment Maintenance and Safety Machine Learning Machine Learning (Lab) Total Eighth Semester	0 3 2 0 13	1 0 0 1 4	3 2 1 17	
	IE-355 IE-355L IE-332 C. Code	Technical Report Writing and Presentation Skills Technical Report Writing and Presentation Skills (Lab) Production planning and control Total Seventh Semester Course Title	1 0 3 12 Lec	0 2 0 5 Lab	1 2 3 17 CR		IE-334 IE-344 IE-344L C. Code	Environment Maintenance and Safety Machine Learning Machine Learning (Lab) Total Eighth Semester Course Title	0 3 2 0 13 Lec	1 0 1 4 Lab	3 2 1 17 CR	
	IE-355 IE-355L IE-332 C. Code IE-4XX	Technical Report Writing and Presentation Skills Technical Report Writing and Presentation Skills (Lab) Production planning and control Total Seventh Semester Course Title Elective 1	1 0 3 12 Lec 3	0 2 0 5 <u>Lab</u> 0	1 2 3 17 CR 3		IE-334 IE-344 IE-344L IE-344L IE-4XX	Environment Maintenance and Safety Machine Learning Machine Learning (Lab) Total Eighth Semester Course Title Elective 3	0 3 2 0 13 <u>Lec</u> 3	1 0 1 4 <u>Lab</u> 0	3 2 1 17 CR 3	
	IE-355 IE-355L IE-332 IE-4XX IE-4XX IE-435	Technical Report Writing and Presentation Skills Technical Report Writing and Presentation Skills (Lab) Production planning and control Total Seventh Semester Course Title Elective 1 Industrial Facilities Planning	1 0 3 12 <u>Lec</u> 3 2	0 2 0 5 Lab 0 0	1 2 3 17 CR 3 2		IE-334 IE-344 IE-344L IE-344L IE-4XX HM-457	Environment Maintenance and Safety Machine Learning Machine Learning (Lab) Total Eighth Semester Course Title Elective 3 Social and Ethical Aspects in Engineering	0 3 2 0 13 <u>Lec</u> 3 3	1 0 1 4 0 0 0	3 2 1 17 CR 3 3	
	IE-355 IE-355L IE-332 IE-4XX IE-435 IE-435L IE-436 IE-4XX	Technical Report Writing and Presentation Skills Technical Report Writing and Presentation Skills (Lab) Production planning and control Total Seventh Semester Course Title Elective 1 Industrial Facilities Planning Industrial Facilities Planning (Lab)	1 0 3 12 <u>Lec</u> 3 2 0 3 3 3	0 2 0 5 Lab 0 0 0	1 2 3 17 CR 3 2 1 3 3 3		IE-334 IE-344 IE-344L IE-344L IE-445 IE-445 IE-445 IE-445 IE-425	Environment Maintenance and Safety Machine Learning Machine Learning (Lab) Total Eighth Semester Course Title Elective 3 Social and Ethical Aspects in Engineering CAM and CIM*	0 3 2 0 13 13 2 3 3 2	1 0 1 4 0 0 0 0 0	3 2 1 17 CR 3 3 3 2 1 3	
	IE-355 IE-355L IE-332 IE-42X IE-435 IE-435L IE-436	Technical Report Writing and Presentation Skills Technical Report Writing and Presentation Skills (Lab) Production planning and control Total Seventh Semester Course Title Elective 1 Industrial Facilities Planning Industrial Facilities Planning (Lab) Entrepreneurship	1 0 3 12 2 0 3 3	0 2 0 5 5 <u>Lab</u> 0 0 0 1	1 2 3 17 CR 3 2 1 3		IE-334 IE-344 IE-344L IE-344L IE-445 IE-445 IE-445 IE-445L	Environment Maintenance and Safety Machine Learning Machine Learning (Lab) Total Eighth Semester Course Title Elective 3 Social and Ethical Aspects in Engineering CAM and CIM* CAM and CIM (Lab)*	0 3 2 0 13 13 3 3 2 0	1 0 1 4 0 0 0 0 0 1	3 2 1 17 CR 3 3 2 1	

*Computer aided manufacturing and computer integrated manufacturing Note: Internship of 6 to 8 weeks is compulsory for graduation

Electives
Industry 4.0
Artificial Intelligence for Manufacturing
Digital Logic Design
Embedded Systems
Industrial Internet of Things
Reliability Engineering
Tool and Die Design
Design of Experiments
Total Productive Maintenance
Total Quality Management
Energy Auditing and Management
Management information systems
Introduction to Six Sigma
Six Sigma in Health Care
Organizational Behavior
Supply Chain management
Human Resourse Management

Total Cr. Hrs.

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