Master's Curriculum Framework in Mechanical Engineering

No.	Course Code	Knowledge Area / Course Title	Total Credits	Credit Breakdown			
				Theory	Practice / Laboratory	Discussion	Internship / Project
6.1		**Part 1. General Knowledge**	**5**	**4**	**0**	**1**	
1	LP 7201	Philosophy	3	3	0	0	
2	ME 7218	Scientific Research Methods	2	1	0	1	
3		Foreign Language*					
6.2		**Part 2. Foundational Discipline Knowledge**	**14**				
6.2.1		***Compulsory Courses***	***10***	***5***	***4***	***1***	
1	ME 7208	Automated Measurement Systems in Mechanical Manufacturing	2	1	1	0	
2	ME 7215	System Modeling and Simulation	2	1	0	1	
3	ME 7243	Finite Element Applications in Mechanical Engineering	2	1	1	0	
4	ME 7220	Experimental Design and Analysis	2	1	1	0	
5	ME 7213	Surface Generation Theory	2	1	0	1	
6.2.2		***Elective Courses*** *(Select at least 4 credits)*	***4***	***2***	***-***	***-***	
1	ME 7204	Physical Fundamentals of Metal Cutting	2	1	1	0	
2	ME 7212	Theory of Metal Plastic Deformation	2	1	0	1	
3	ME 7214	Friction in Mechanical Structures	2	1	1	0	
4	ME 7265	Principles of Laser Material Processing	2	2	0	0	
5	ME 7249	Special Topic 1: Measurement Systems	2	1	0	1	
6.3		**Part 3. Specialized Knowledge**	**23**				
6.3.1		***Compulsory Courses***	***15***	***8***	***5***	***2***	***0***
1	ME 7209	Flexible Manufacturing Systems (FMS) and Computer-Integrated Manufacturing (CIM)	2	1	1	0	

2	ME 7222	Optimization of Machining Processes	2	1	0	1	
3	ME 7244	Advanced Machining Methods	2	1	1	0	
4	ME 7245	High-Speed Machining	2	1	1	0	
5	ME 7248	Advanced Production Management	3	2	1	0	
6	ME 7246	Microfabrication Technology	2	1	0	1	
7	ME 7202	Surface Coating Technology	2	1	1	0	
6.3.2		***Elective Courses*** *(Select at least 8 credits)*	***8***	***4***	**-**	**-**	
1	ME 7201	Methods for Determining Machining Accuracy	2	1	0	1	
2	ME 7247	Advanced Materials Technology	2	1	1	0	
3	ME 7205	Reliability and Service Life of Mechanical Equipment	2	1	1	0	
4	ME 7210	Reverse Engineering and Rapid Prototyping	2	1	1	0	
5	ME 7217	Dynamic Analysis and Simulation of Machining Processes	2	1	1	0	
6	ME 7219	Surface Modeling Methods for CAD/CAM	2	1	1	0	
7	ME 7256	Mechatronic Systems in Manufacturing	2	1	1	0	
8	ME 7250	Special Topic 2: Manufacturing Systems	2	1	0	1	
9	ME 7266	Applications of Laser Technology in Mechanical Engineering	2	2	0	0	
10	ME 7267	Advanced Laser Techniques in Metrology and Micro/Nanofabrication	2	2	0	0	
6.4		**Part 4. Internship**	**9**	**0**	**0**	**0**	**9**
	ME 7253	Internship (Mechanical Engineering)	9	0	0	0	9
6.5		**Part 5. Graduation Project**	**9**	**0**	**0**	**0**	**9**
	ME 7255	Graduation Project (Mechanical Engineering)	9	0	0	0	9
		Total	**60**				