Curriculum Framework for Mold and Die Engineering Technology

No.	Course Code	Area / Course Title	Total Cr.	Credit Components					Sem.	Prior Code	Prereq. Code
				Lec.	Prac./Lab	Disc./Assign.	Proj.	Intern.			
9.1		**General Education**									
9.1.1		**Social Sciences and Humanities**									
9.1.1.1		***Compulsory***	**15**								
1.	LP6021	Introduction to Law	2	2	0	0	0	0	7		
2.	LP6022	Ho Chi Minh Thought	2	2	0	0	0	0	6		
3.	LP6010	Marxist-Leninist Philosophy	3	3	0	0	0	0	1		
4.	LP6025	Marxist-Leninist Political Economy	2	2	0	0	0	0	2		
5.	LP6026	Scientific Socialism	2	2	0	0	0	0	3		
6.	LP6027	History of the Communist Party of Vietnam	2	2	0	0	0	0	5		
7.	BS6046	Intercultural Communication	2	2	0	0	0	0	5		
9.1.1.2		***Electives (select one course from Group 1 and one from Group 2)***	***4***								
Tc1		**Group 1**	**2**						6		
8.	SE6218	Introduction to Economics	2	2	0	0	0	0	6		
9.	SM6186	Professional Work Practices	2	2	0	0	0	0	6		
10.	BS6047	Introduction to Scientific Research	2	2	0	0	0	0	6		
11.	BS6048	Labor Relations and Employment	2	2	0	0	0	0	6		
12.	BS6049	Humans and the Environment	2	2	0	0	0	0	6		
13.	SE6257	Project Management	2	2	0	0	0	0	6		
Tc2		**Group 2**	**2**						**7**		
14.	BS6050	Introduction to Music	2	2	0	0	0	0	7		

No.	Course Code	Area / Course Title	Total Cr.	Credit Components					Sem.	Prior Code	Prereq. Code
				Lec.	Prac./Lab	Disc./Assign.	Proj.	Intern.			
15.	BS6051	Introduction to Art Studies	2	2	0	0	0	0	7		
16.	BS6052	Introduction to Fine Arts	2	2	0	0	0	0	7		
9.1.2	**Select one of four foreign language programs**		**10**	**10**	**0**	**0**	**0**	**0**			
		Chinese Language Program									
	SL6347	*Chinese 1*	5	5	0	0	0	0	4		
	SL6348	*Chinese 2*	5	5	0	0	0	0	5		
		Korean Language Program									
	SL6351	*Korean 1*	5	5	0	0	0	0	4		
	SL6352	*Korean 2*	5	5	0	0	0	0	5		
		Japanese Language Program									
	SL6349	*Japanese 1*	5	5	0	0	0	0	4		
	SL6350	*Japanese 2*	5	5	0	0	0	0	5		
		German Language Program									
	FL6582	*German 1*	5	5	0	0	0	0	4		
	FL6583	*German 2*	5	5	0	0	0	0	5		
		English Language Program									
17	SL6325	*English for Mechanical and Automotive Engineering 1*	5	5	0	0	0	0	4		SL6311

No.	Course Code	Area / Course Title	Total Cr.	Credit Components					Sem.	Prior Code	Prereq. Code
				Lec.	Prac./Lab	Disc./Assign.	Proj.	Intern.			
18	SL6326	*English for Mechanical and Automotive Engineering 2*	5	5	0	0	0	0	5	SL6312	SL6325
9.1.3		**Natural Sciences**	**18**								
9.1.3.1		***Compulsory***	***12***								
1	BS6002	Calculus	3	3	0	0	0	0	1		
2	BS6040	Engineering Mathematics	3	3	0	0	0	0	3		
3	BS6042	Probability and Statistics	3	3	0	0	0	0	3		
4	BS6027	General Physics	3	2	1	0	0	0	1		
9.1.3.2		***Elective***	***6***	**6**					2		
1	CT6279	General Chemistry	3	2	1	0	0	0	2		
2	SC6221	Numerical Methods in Programming	3	3	0	0	0	0	2		
3	SC6223	Discrete Mathematics	3	3	0	0	0	0	2		
4	BS6039	Numerical Methods	3	3	0	0	0	0	2	BS6002	
5	BS6041	Physics II	3	3	0	0	0	0	2		BS6027
9.1.4		**Free Electives**	***3***								
9.1.4.1		***Compulsory***									
1	SC6201	Digital Competency Development[1]	3	2	1	0	0	0	6		
9.1.4.2		***Elective***									
9.1.5		**National Defense and Security Education**	**8.5**						1		

[1] Credits: 3 compulsory credits; an additional course covers digital transformation.

No.	Course Code	Area / Course Title	Total Cr.	Credit Components					Sem.	Prior Code	Prereq. Code
				Lec.	Prac./Lab	Disc./Assign.	Proj.	Intern.			
1		In accordance with Circular No. 05/2020/TT-BGDDT dated March 18, 2020							1		
9.1.6		Physical Education[3]	**3**						1,2		
1		In accordance with the Physical Education Training Regulations promulgated under Decision No. …./QD-DHCN dated ../…/2024, of Hanoi University of Industry[4]	3								
9.2		**Professional Education**									
9.2.1		**Field Foundations**									
9.2.1.1		**Compulsory**	**11**								
1	SM6176	Industrial Safety and Environment	2	2	0	0	0	0	1		
2	SC6208	Programming Techniques	3	2	1	0	0	0	6		
3	SEE6164	Electrical and Electronic Engineering	3	2	1	0	0	0	3		
4	SM6050	Engineering Drawing	3	3	0	0	0	0	1		
9.2.1.2		**Elective**									
9.2.2		**Discipline Group Foundations**									
9.2.2.1		**Compulsory**	**16**								

No.	Course Code	Area / Course Title	Total Cr.	Credit Components					Sem.	Prior Code	Prereq. Code
				Lec.	Prac./Lab	Disc./Assign.	Proj.	Intern.			
1	SM6178	Engineering Mechanics	3	3	0	0	0	0	2	BS6002	
2	SM6048	Introduction to Engineering	2	2	0	0	0	0	1		
3	SM6054	Theory of Mechanisms	2	2	0	0	0	0	3		
4	SM6055	Strength of Materials	2	2	0	0	0	0	3		
5	SM6056	Machine Elements	2	2	0	0	0	0	4	SM6055	
6	SM6057	Fundamentals of Mechanical Design Laboratory	1	0	1	0	0	0	4	SM6056	
7	SM6138	Basic Mechanical Engineering Practice	2	0	2	0	0	0	2		
8	SM6140	Materials Science	2	2	0	0	0	0	2		
9.2.2.2		**Elective**									
9.2.3		**Major Foundations**	**18**								
9.2.3.1		**Compulsory**	**16**								
1	SM6195	Computer-Aided Design (CAD)	2	0	2	0	0	0	4		SM6050
2	SM6049	Introduction to Engineering Project	1	0	0	1	1	0	2	SM6048	
3	SM6183	Specialized Engineering Drawing	2	2	0	0	0	0	2		
4	SM6190	Engineering Thermodynamics	2	2	0	0	0	0	4		
5	SM6059	Tolerances and Measurement Techniques	2	2	0	0	0	0	3		
6	SM6153	Tolerances and Measurement Practice	1	0	1	0	0	0	3	SM6059	
7	SM6061	Fundamentals of Hydraulics	2	2	0	0	0	0	5		

No.	Course Code	Area / Course Title	Total Cr.	Credit Components					Sem.	Prior Code	Prereq. Code
				Lec.	Prac./Lab	Disc./Assign.	Proj.	Intern.			
8	SM6062	Blank Manufacturing Technology	2	2	0	0	0	0	4	SM6140	
9	SM6073	Polymer Processing	2	2	0	0	0	0	4	SM6140	
9.2.3.2		**Elective**	**2**	**2**					4		
1	MC6008	Welding Practice	2	0	2	0	0	0	4		
2	SM6193	Theory of Plastic Deformation of Metals	2	2	0	0	0	0	4	SM6140	
3	SM6194	Metal Forming Technology	2	2	0	0	0	0	4	SM6140	
4	SM6070	Reverse Engineering and Rapid Prototyping Practice	2	0	2	0	0	0	4	SM6195	
5	SM6082	Mechanical Properties of Plastics	2	2	0	0	0	0	4	SM0140	
6	SM6086	Product Design and Development	2	2	0	0	0	0	4		
9.2.4		**Specialization**	**22**								
9.2.4.1		***Compulsory***	**20**								
3	SM6177	CNC Technology	2	2	0	0	0	0	5	SM6065	
2	SM6192	Mold and Die Machining and Assembly Practice	3	0	3	0	0	0	7		SM6065
4	SM6196	CNC Practice	2	0	2	0	0	0	6		SM6177
5	SM6197	CAD/CAM	2	0	2	0	0	0	6	SM6065	
6	SM6064	Machine Tools	3	3	0	0	0	0	4	SM6054	
7	SM6065	Machine Manufacturing Technology	3	3	0	0	0	0	5	SM6064	

No.	Course Code	Area / Course Title	Total Cr.	Credit Components					Sem.	Prior Code	Prereq. Code
				Lec.	Prac./Lab	Disc./Assign.	Proj.	Intern.			
8	SM6068	Machine Manufacturing Technology Laboratory	1	0	1	0	0	0	5	SM6064 SM6065	
9	SM6074	Mold and Die Design	2	2	0	0	0	0	5	SM6062	
10	SM6075	Mold and Die Design and Simulation Practice	1	0	1	0	0	0	5	SM6074	
11	SM6076	Mold and Die Design Project	1	0	0	1	1	0	6		SM6074
12	SM6077	Mold and Die Manufacturing Technology Project	1	0	0	1	1	0	7		SM6065
9.2.4.2		***Elective***	**2**								
1	SM6191	Fixture Design	1	1	0	1	1	0	7		
2	SM6013	Product Quality Management	2	2	0	0	0	0	7		
3	SM6066	Production Process Automation	2	2	0	0	0	0	7		
4	SM6069	Stamping Die Design	2	1	0	1	1	0	7	SM6074	
5	SM6078	Casting Mold Design	2	1	0	1	1	0	7	SM6074	
6	SM6079	Prototyping Technology	2	0	2	0	0	0	7	SM6177	
7	SM6080	Heat Transfer in Molds	2	2	0	0	0	0	7	SM6074	
8	SM6081	Hot Runner Technology	2	0	2	0	0	0	7	SM6074	
9	SM6139	Aluminum Extrusion Technology	2	1	0	1	1	0	7		
9.3		**Free Electives**	**2**	**2**	**0**	**0**	**0**	**0**			
9.3.1		***Compulsory***	2	2	0	0	0	0			

No.	Course Code	Area / Course Title	Total Cr.	Credit Components					Sem.	Prior Code	Prereq. Code
				Lec.	Prac./Lab	Disc./Assign.	Proj.	Intern.			
1	SE6209	Innovation and Entrepreneurial Thinking	2	2	0	0	0	0	7		
9.3.2		**Elective**	0	0	0	0	0	0			
		(Select one of four foreign language program groups)									
		Chinese Language Program									
	FL6560	Basic Chinese 1	5	5	0	0	0	0	1		
	FL6561	Basic Chinese 2	5	5	0	0	0	0	2	FL6560	
		Korean Language Program									
	FL6564	Basic Korean 2	5	5	0	0	0	0	1		
	FL6565	Basic Korean 1	5	5	0	0	0	0	2	FL6564	
		Japanese Language Program									
	FL6562	Basic Japanese 2	5	5	0	0	0	0	1		
	FL6563	Basic Japanese 1	5	5	0	0	0	0	2	FL6562	
		German Language Program									
	FL6580	Basic German 1	5	5	0	0	0	0	1		
	FL6581	Basic German 2	5	5	0	0	0	0	2	FL6580	
		English Language Program									
	SL6311	Basic English for Mechanical and Automotive Engineering 1	5	5	0	0	0	0	1		
	SL6312	Basic English for Mechanical and Automotive Engineering 2	5	5	0	0	0	0	2	SL6311	

No.	Course Code	Area / Course Title	Total Cr.	Credit Components					Sem.	Prior Code	Prereq. Code
				Lec.	Prac./Lab	Disc./Assign.	Proj.	Intern.			
9.4		**Industry Internship and Graduation Project/Thesis**	**15**	**0**	**0**	**0**	**8**	**7**			
	SM6083	Industry Internship	7	0	0	0	0	7	8		
	SM6084	Graduation Project/Thesis	8	0	0	0	8	0	8		