1. 5. Curriculum Framework for Transport Mechanical Engineering

No.	Course Code	Area / Course Title	Total Cr.	Credit Components					Sem.	Prereq. Code
				Lec.	Prac./ Lab	Disc./ Assign.	Proj.	Intern.		
9.1		**General Education**	**59**	**56**	**3**	**0**	**0**	**0**		
9.1.1		**Social Sciences and Humanities**	**19**	**19**	**0**	**0**	**0**	**0**		
9.1.1.1		***Compulsory***	**15**	**15**	**0**	**0**	**0**	**0**		
1	LP6010	Marxist-Leninist Philosophy	3	3	0	0	0	0	**1**	
2	LP6025	Marxist-Leninist Political Economy	2	2	0	0	0	0	**5**	
3	LP6026	Scientific Socialism	2	2	0	0	0	0	**5**	
4	LP6027	History of the Communist Party of Vietnam	2	2	0	0	0	0	**7**	
5	LP6022	Ho Chi Minh Thought	2	2	0	0	0	0	**6**	
6	LP6021	Introduction to Law	2	2	0	0	0	0	**7**	
7	BS6046	Intercultural Communication	2	2	0	0	0	0	**2**	
9.1.1.2		***Electives (select one course from Group 1 and one from Group 2)***	***4***	***4***	***0***	***0***	***0***	***0***		

TCĐL1		**Group 1**								
1	BS6021	Humans and the Environment	2	2	0	0	0	0	**1**	
2	BS6019	Introduction to Scientific Research	2	2	0	0	0	0	**1**	
3	BS6020	Labor Relations and Employment	2	2	0	0	0	0	**1**	
4	BM6091	Project Management	2	2	0	0	0	0	**1**	
5	BM6001	Introduction to Economics	2	2	0	0	0	0	**1**	
6	ME6060	Professional Work Practices	2	2	0	0	0	0	**1**	
TCĐL2		**Group 2**								
1	BS6050	Introduction to Music	2	2	0	0	0	0	**6**	
2	BS6051	Introduction to Art Studies	2	2	0	0	0	0	**6**	
3	BS6052	Introduction to Fine Arts	2	2	0	0	0	0	**6**	
9.1.2	**Select one of four foreign language programs**		**10**	**10**	**0**	**0**	**0**	**0**		
		Chinese Language Program								
1	FL6339	*Chinese 1*	5	5	0	0	0	0	**4**	

2	FL6340	*Chinese 2*	5	5	0	0	0	0	**5**	
		Korean Language Program								
1	FL6335	*Korean 1*	5	5	0	0	0	0	**4**	
2	FL6336	*Korean 2*	5	5	0	0	0	0	**5**	
		German Language Program								
1	FL6582	*German 1*	5	5	0	0	0	0	**4**	
2	FL6583	*German 2*	5	5	0	0	0	0	**5**	
		Japanese Language Program								
1	FL6337	*Japanese 1*	5	5	0	0	0	0	**4**	
2	FL6338	*Japanese 2*	5	5	0	0	0	0	**5**	
		English Language Program								
1	SL6325	*English for Mechanical and Automotive Engineering 1*	5	5	0	0	0	0	**4**	
2	SL6326	*English for Mechanical and Automotive Engineering 2*	5	5	0	0	0	0	**5**	
9.1.3		**Natural Sciences**	**27**	**25**	**2**	**0**	**0**	**0**		
9.1.3.1		***Compulsory***	***24***	***22***	***2***	***0***	***0***	***0***		

1	BS6002	Calculus	3	3	0	0	0	0	**1**	
2	BS6027	General Physics	3	2	1	0	0	0	**1**	
3	CT6279	General Chemistry	3	2	1	0	0	0	**3**	
4	BS6004	Engineering Mathematics	3	3	0	0	0	0	**5**	
5	BS6001	Linear Algebra	3	3	0	0	0	0	**1**	
6	BS6042	Probability and Statistics	3	3	0	0	0	0	**4**	
7	SM6190	Engineering Thermodynamics	2	2	0	0	0	0	**2**	
8	SM6061	Fundamentals of Hydraulics	2	2	0	0	0	0	**3**	
9	SM6017	Industrial Statistics	2	2	0	0	0	0	**4**	
9.1.3.2	**TCĐL3**	***Group 3 Electives (select one course from Group 3)***	***3***	***3***	***0***	***0***	***0***	***0***		
1	BS6039	Numerical Methods	3	3	0	0	0	0	**2**	
2	BS6045	Mathematical Modeling	3	3	0	0	0	0	**2**	
3	SC6223	Discrete Mathematics	3	3	0	0	0	0	**2**	
9.1.4		**National Defense and Security Education**	**8.5**							
		In accordance with Circular No. 05/2020/TT-BGDDT dated March 18, 2020								

9.1.5		**Physical Education**	**4**							
		In accordance with the Physical Education Training Regulations promulgated under Decision No. 957/QD-DHCN dated August 8, 2016, of Hanoi University of Industry								
9.1.6	SC6201	Digital Competency Development	**3**	2	1	0	0	0	6	
9.2		**Professional Education**	**76**	**41**	**14**	**1**	**13**	**7**		
9.2.1		**Field Foundations**	**11**	**9**	**2**	**0**	**0**	**0**		
9.2.1.1		***Compulsory***	**11**	**9**	**2**	**0**	**0**	**0**		
1	SM6050	Engineering Drawing	3	3	0	0	0	0	2	
3	SC6208	Programming Techniques	3	2	1	0	0	0	3	
2	SM6176	Industrial Safety and Environment	2	2	0	0	0	0	5	
4	SEE6164	Electrical and Electronic Engineering	3	2	1	0	0	0	2	
9.2.2		**Discipline Group Foundational Knowledge**	**17**	**13**	**3**	**0**	**1**	**0**		
9.2.2.1		***Compulsory***	**17**	**13**	**3**	**0**	**1**	**0**		
1	SM6178	Engineering Mechanics	3	3	0	0	0	0	2	

2	SM6055	Strength of Materials	2	2	0	0	0	0	3	BS6002
3	SM6048	Introduction to Engineering	2	2	0	0	0	0	1	
4	SM6138	Basic Mechanical Engineering Practice	2	0	2	0	0	0	1	
5	SM6049	Introduction to Engineering Project	**1**	**0**	**0**	**0**	**1**	**0**	**2**	
6	SM6054	Theory of Mechanisms	2	2	0	0	0	0	3	
7	SM6056	Machine Elements	2	2	0	0	0	0	5	
8	SM6057	Fundamentals of Mechanical Design Laboratory	1	0	1	0	0	0	**3**	
9	SM6140	Materials Science	2	2	0	0	0	0	2	
9.2.3		**Major Foundational Knowledge**	**11**	**6**	**3**	**0**	**2**	**0**		
9.2.3.1		***Compulsory***	**9**	**4**	**3**	**0**	**2**	**0**		
1	SM6059	Tolerances and Measurement Techniques	2	2	0	0	0	0	4	
2	SM6195	Computer-Aided Design (CAD)	2	0	2	0	0	0	**3**	
3	SM6153	Tolerances and Measurement Practice	1	0	1	0	0	0	**4**	SM6138
4	SM6142	Principles of Internal Combustion Engines	2	2	0	0	0	0	**3**	

5	SM6154	Transport Mechanical Engineering Foundation Project	2	0	0	0	2	0	**4**	SM6190
9.2.3.2	**TC4**	***Elective Courses (select 2 credits)***	**2**	**2**	**0**	**0**	**0**	**0**		
1	SM6029	Automotive Electrical and Electronic Systems	2	2	0	0	0	0	6	
2	SM6102	Exhaust Emissions and Environmental Pollution	2	2	0	0	0	0	6	
9.2.4		**Specialization**	**20**	**11**	**6**	**1**	**2**	**0**		
9.2.4.1		***Compulsory***	***17***	***9***	***6***	***0***	***2***	***0***		
1	SM6040	Internal Combustion Engine Construction	3	3	0	0	0	0	**4**	SM6054
2	SM6030	Basic Engine and Automotive Practice	2	0	2	0	0	0	6	SM6138
3	SM6166	Engine Laboratory	2	0	2	0	0	0	**7**	SM6040
4	SM6143	Engine Diagnostics and Repair Techniques	2	2	0	0	0	0	**7**	SM6040
5	SM6041	Engine Design Calculations	2	2	0	0	0	0	**7**	SM6055
6	SM6042	Transport Mechanical Engineering Specialization Project	2	0	0	0	2	0	**7**	SM6039 SM6142
7	SM6165	Engine Modeling and Simulation	2	0	2	0	0	0	**7**	SM6040

8	SM6101	New Energy Technologies for Vehicles	2	2	0	0	0	0	**6**	SM6190
9.2.4.2	**TC5**	***Electives (select up to 2 credits)***	***3***	***2***	***0***	***1***	***0***	***0***		
1	SM6033	Electric and Hybrid Vehicle Design and Calculations	3	2	0	1	0	0	**7**	
2	SM6169	Automotive Design and Engineering Calculations	3	2	0	1	0	0	**7**	
9.3	**SE6209**	**Innovation and Entrepreneurial Thinking**	**2**	**2**	0	0	0	0	**6**	
9.4		**Industry Internship and Graduation Project/Thesis**	**15**	**0**	**0**	**0**	**8**	**7**		
1	SM6046	Industry Internship (Transport Mechanical Engineering)	7	0	0	0	0	7	**8**	SM6030
2	SM6148	Graduation Project (Transport Mechanical Engineering)	8	0	0	0	8	0	**8**	SM6142 SM6040
		Total	**135**	97	17	1	13	7		