

No	Subject code	Subjects	Credits	Credit hours			Pre-requisite (s) subject code
				Theory	Practice	Self-study	
I	General knowledge module <i>(Subject 8-9 are not included)</i>		21				
1	PHI1006	<i>Marxist-Leninist Philosophy</i>	3	30	15		
2	PEC1008	<i>Marx-Lenin Political Economy</i>	2	20	10		PHI1006
3	PHI1002	<i>Scientific Socialism</i>	2	30	0		
4	HIS1001	<i>Revolutionary Guidelines of Vietnam Communist Party</i>	2	20	10		
5	POL1001	<i>Ho Chi Minh's Ideology</i>	2	20	10		
6	FLF1107	<i>English B1</i>	5				
7	FLF1108	<i>English B2</i>	5				
8		<i>Physical Education</i>	4				
9		<i>National Defence Education</i>	8				
II	Field-Based Knowledge		32				
10	INS1111	<i>Fundamental Informatics</i>	3	30	15		
11	INS1193	<i>Algebra and Analytic Geometry</i>	3	30	15		
12	INS1043	<i>Calculus 1</i>	3	30	15		
13	INS1195	<i>Calculus 2</i>	3	30	15		INS1043
14	INS1044	<i>Physics</i>	3	30	15		
15	INS1045	<i>Chemistry</i>	3	27	18		

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				Theory	Practice	Self-study	
16	INS1046	<i>Theoretical Mechanics</i>	4	27	18		INS1193, INS1043, INS1195
17	INS1047	<i>Partial Differential Equations</i>	3	27	18		INS1043
18	INS1196	<i>Theory of Probability and Mathematical Statistics</i>	3	30	15		
19	INS1048	<i>Continuum Mechanics</i>	4	30	15		INS1193, INS1043, INS1195, INS1047
III	Area-Based Knowledge		20				
20	INS1049	<i>Introduction to Automation and IT</i>	2	20	10		
21	INS1189	<i>Numerical Methods</i>	3	30	15		
22	INS2010	Advanced Materials	3	30	15		
23	INS2068	<i>Thermoelastics</i>	3	30	15		INS1048
24	INS2069	<i>Theory of Automation and Control</i>	3	30	15		
25	INS2020	<i>Programming 1</i>	3	30	15		INS1111
26	INS2073	<i>Programming 2</i>	3	30	15		INS2020
IV	Discipline-Based Knowledge		33				
IV.1	Compulsory subjects		29				
27	INS2031	<i>Electrical Engineering</i>	3	30	15		

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				Theory	Practice	Self-study	
28	INS2075	<i>Electronics</i>	3	30	15		
29	INS2070	<i>Engineering Graphics and CAD</i>	3	30	15		
30	INS3080	<i>Artificial Intelligence</i>	3	30	15		INS1196
31	INS2083	<i>Computer Networks</i>	3				INS1111
32	INS2084	<i>Automation</i>	3	30	15		
33	INS3062	<i>Principles of Information Security</i>	3	27	18		
34	INS2085	<i>Sustainable Development</i>	2	30	0		
35	INS3009	<i>Entrepreneurship</i>	3	45	0		
36	INS2086	<i>Project I</i>	3	15	30		INS2073, INS2084
IV.2	<i>Elective subjects</i>		<i>04/12</i>				
37	INS2087	<i>Semiconductor and IC</i>	2	21	9		INS2075
38	INS3180	<i>Measurement and Control by Computers</i>	2	21	9		INS2075
39	INS2088	<i>Computer Architecture and Industrial Communication Networks</i>	2	21	9		INS2083
40	INS2079	<i>Intellectual Property Rights</i>	2	21	9		
41	INS2090	<i>IoT Applications Development</i>	2	21	9		INS2083
42	INS2091	<i>Real time Operating Systems</i>	2	21	9		INS1111
V	Specialized Knowledge		53				
V.1	Compulsory subjects		12				

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				Theory	Practice	Self-study	
43	INS3144	<i>Digital Signal Processing</i>	3	30	15		
44	INS3143	<i>Measurement Techniques and Sensors</i>	3	30	15		INS2075
45	INS3135	<i>Simulation of Digital Circuits</i>	3	30	15		INS2075
46	INS3145	<i>Supervisory Control And Data Acquisition</i>	3	30	15		INS3143
V.2	<i>Selected in-depth knowledge electives</i>		26/52				
V.2.1	<i>Orientation of automation control</i>		26				
47	INS3146	<i>Fundamentals of Machinery Manufacturing Technology</i>	3	30	15		INS1046, INS2075
48	INS3147	<i>Modeling and Simulation of Control Systems</i>	2	15	15		INS2069
49	INS3148	<i>Microprocessors and Microcontrollers</i>	3	25	20		INS2075
50	INS3149	<i>Automation in Manufacturing</i>	3	30	15		INS2069
51	INS3150	<i>PLC Programming</i>	3	30	15		INS2075
52	INS3151	<i>Embedded Control Systems</i>	3	30	15		INS2075
53	INS3152	<i>Robotics</i>	3	30	15		INS2069

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				Theory	Practice	Self-study	
54	INS3153	<i>Motors and Fundamentals of Electrical Drive</i>	3	30	15		INS2031
55	INS3154	<i>Project II: Design of Control Systems in Industry</i>	3	15	30		INS3147, INS3149
V.2.2	<i>Informatics Orientation</i>		26				
56	INS3050	<i>Data Structure and Algorithms</i>	3	27	18		INS2020
57	INS2080	<i>Databases</i>	3	30	15		
58	INS3056	<i>Information Systems Modeling and Design</i>	3	27	18		
59	INS3155	<i>Computer Vision</i>	3	27	18		
60	INS3070	Information Systems Management	3	30	15		
61	INS3159	<i>Software Technology</i>	2	21	9		
62	INS3076	<i>Big Data Analytics</i>	3	30	15		
63	INS3034	<i>Dot Net Framework</i>	3	30	15		INS2020
64	INS3156	<i>Project III: Design Information Systems, Software in Industry</i>	3	15	30		
V.3	<i>Internship and Graduation/ Alternative subjects for Dissertation</i>		15				
65	INS4001	<i>Internship</i>	5	0	0	75	
66	INS4030	<i>Graduation Project</i>	10	0	0	75	
Total			159				

