1. Curriculum Structure

Courses	Credits
Compulsory Courses	**≥ 129**
Computer Science Courses	≥ 64
Non Computer Science Courses	≥ 37
Mathematics Courses	16
Physics Courses	12
Elective Computer Science Courses	**≥ 48**
Graduation Thesis	**8**
Total	**≥ 185**

2. Detailed curriculum

No.	Course ID	Course Name	Credits	Year 1			Year 2			Year 3			Year 4		
				1	2	3	4	5	6	7	8	9	10	11	12
COMPUTER SCIENCE COURSES			**≥ 64**												
1.	CS161	*Introduction to Computer Science I*	4	x											
2.	CS162	*Introduction to Computer Science II*	4		x										
3.	CS163	*Data Structures*	4			x									
4.	CS201	*Computer Systems Programming II*	4	x											
5.	CS202	*Programming Systems*	4				x								
6.	CS250	*Discrete Structures I*	4				x								
7.	CS251	*Logical Structures*	4					x							
8.	CS305	*Social, Ethical, and Legal Issues*	2						x						
9.	CS386	*Introduction to Database Systems*	4						x						
10.	CS300	*Elements of Software Engineering*	4							x					
11.	CS311	*Computational Structures*	4							x					

No.	Code	Course Name	Credits										
12.	CS321	*Languages and Compiler Design I*	4						x				
13.	CS322	*Languages and Compiler Design II*	4							x			
14.	CS333	*Introduction to Operating Systems*	4							x			
15.	CS350	*Algorithms and Complexity*	4							x			
16.	CS487	*Software Engineering Capstone I*	3									x	
17.	CS488	*Software Engineering Capstone II*	3										x
NON COMPUTER SCIENCE COURSES			**≥ 37**										
18.	CM101	*Communication Management*	**4**	x									
19.	CTH001	*Fundamental principles of Marxism and Leninism*	**5**		x	x							
20.	SC203	*Scientific Method*	**4**				x						
21.	WR227	*Technical Writing*	**4**					x					
22.	CTH003	*Ho Chi Minh's Ideology*	**2**					x					
23.	ECE341	*Computer Hardware*	**4**					x					
24.	CTH002	*Revolution Directions of the Vietnam Communist Party*	**3**						x				
25.	TC001	*Physical Education 1*	**2**		x								
26.	TC002	*Physical Education 2*	**2**			x							
27.	QS001	*National Defense 1*	**2**	x									
28.	QS002	*National Defense 2*	**2**	x									
29.	PLD001	*Introduction in Laws*	**3**										
MATHEMATICS COURSES			**16**										
30.	MTH251	*Calculus I*	4	x									

No.	Code	Name	Credits								
31.	MTH252	*Calculus II*	4								
32.	MTH253	*Calculus III*	4			x					
33.	STAT451	*Applied Statistics for Engineers and Scientists*	4				x				
PHYSICS COURSES			**12**								
34.	PH211	*General Physics I*	4	x							
35.	PH212	*General Physics II*	4		x						
36.	PH213	*General Physics III*	4			x					
ELECTIVE COMPUTER SCIENCE COURSES **Students select at least 20 credits in the courses listed below:**			**≥ 20**								
37.	CS411	*Computer Graphics*	4						x		
38.	CS412	*Computer Vision*	4								x
39.	CS414	*Machine Learning*	4								x
40.	CS415	*Optimization Method*	4								
41.	CS416	*Data Modeling and Integration*	4							x	
42.	CS417	*Game Theory, Multi-Agents and Social Algorithms*	4			x					
43.	CS418	*Introduction to Natural Language Processing*	4				x				
44.	CS419	*Introduction to Information Retrieval*	4				x				
45.	CS420	*Artificial Intelligence*	4				x				
46.	CS421	*Software Requirement*	4								
47.	CS422	*Software Analysis and Design*	4				x				
48.	CS423	*Software Testing*	4						x		
49.	CS424	*Web Application Development*	4								
50.	CS426	*Mobile Device Application Development*	4					x			

No.	Code	Course	Credits													
51.	CS427	*3D Visualization and Game Development*	4						x							
52.	CS428	*Electronic Commerce*	4											x		
53.	CS429	*Mining on Big Data*	4						x							
54.	CS430	*Human-Computer Interaction*	4						x							
55.	CS431	*Wireless Network*	4													
56.	CS432	*Cryptography*	4													
57.	CS433	*Network Security*	4													
58.	CS434	*Computer Security*	4													
59.	CS494	*Internetworking Protocols*	4							x						
ELECTIVE MATHEMATICS COURSES **Students select at least 8 credits in the courses listed below:**			**≥ 8**													
60.	MTH261	*Introduction to Linear Algebra*	4						x							
61.	MTH344	*Group Theory*	4													
62.	MTH346	*Number Theory*	4							x						
63.	STAT452	*Applied Statistics for Engineers and Scientists 2*	4							x						
ELECTIVE COURSES			**20**													
64.	CS404	*Internship*	4						x							
65.	CS405	*Open,EconomyEntrepreneurship & Education*	4						x							
66.	CS407	*Technology-based Innovation and Leadership*	4								x					
67.	CS408	*Computational Finance*	4													
68.	CS409	*Enterpreneurship*	4								x					
69.	DTV001	*Fundamental Electronics*	4													
70.	KT006	*Macro economics*	4													
GRADUATION			**8**													
71.		*Thesis*	8													x

		Total	≥ 182											