

1. Curriculum Structure (except for Physical Education and National Defense Education)

Courses	Credits
Compulsory Courses	≥ 107
Computer Science Courses	≥ 50
Non Computer Science Courses	≥ 29
Mathematics Courses	16
Physics Courses	12
Elective Computer Science Courses	≥ 48
Graduation Thesis	10
Total	≥ 165

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			≥ 50												
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					

12.	CS321	<i>Languages and Compiler Design I</i>	4							X					
13.	CS322	<i>Languages and Compiler Design II</i>	4								X				
14.	CS333	<i>Introduction to Operating Systems</i>	4								X				
15.	CS350	<i>Algorithms and Complexity</i>	4								X				
16.	CS487	<i>Software Engineering Capstone I</i>	3										X		
17.	CS488	<i>Software Engineering Capstone II</i>	3											X	
NON COMPUTER SCIENCE COURSES			≥ 29												
18.	CM101	<i>Communication Management</i>	4	X											
19.	CTH001	<i>Fundamental principles of Marxism and Leninism</i>	5		X	X									
20.	SC203	<i>Scientific Method</i>	4				X								
21.	WR227	<i>Technical Writing</i>	4					X							
22.	CTH003	<i>Ho Chi Minh's Ideology</i>	2					X							
23.	ECE341	<i>Computer Hardware</i>	4					X							
24.	CTH002	<i>Revolution Directions of the Vietnam Communist Party</i>	3						X						
25.	TC001	<i>Physical Education 1</i>			X										
26.	TC002	<i>Physical Education 2</i>				X									
27.	QS001	<i>National Defense 1</i>		X											
28.	QS002	<i>National Defense 2</i>		X											
29.	PLD001	<i>Introduction in Laws</i>	3												
MATHEMATICS COURSES			16												
30.	MTH251	<i>Calculus I</i>	4	X											

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			≥ 20												
Students select at least 20 credits in the courses listed below:															
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						

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			≥ 8												
Students select at least 8 credits in the courses listed below:															
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, Economy Entrepreneurship & Education	4						x						
66.	CS407	Technology-based Innovation and Leadership	4								x				
67.	CS408	Computational Finance	4												
68.	CS409	Entrepreneurship	4								x				
69.	DTV001	Fundamental Electronics	4												
70.	KT006	Macro economics	4												
GRADUATION			10												
71.		Thesis	10												x

		Total	≥ 165														
--	--	--------------	------------------------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--

KHOA CÔNG NGHỆ THÔNG TIN - TRƯỜNG ĐẠI HỌC KHOA HỌC TỰ NHIÊN TP.HCM