

1. Curriculum Structure

Courses	Credits
Compulsory Courses	≥ 126
Computer Science Courses	≥ 64
Non Computer Science Courses	≥ 34
Mathematics Courses	16
Physics Courses	12
Elective Computer Science Courses	≥ 48
Graduation Thesis	8
Total	≥ 182

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					

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			≥ 34												
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>	2		X										
26.	TC002	<i>Physical Education 2</i>	2			X									
27.	QS001	<i>National Defense 1</i>	2	X											
28.	QS002	<i>National Defense 2</i>	2	X											
MATHEMATICS COURSES			16												
29.	MTH251	<i>Calculus I</i>	4	X											
30.	MTH252	<i>Calculus II</i>	4												

31.	MTH253	Calculus III	4			x									
32.	STAT451	Applied Statistics for Engineers and Scientists	4					x							
PHYSICS COURSES			12												
33.	PH211	General Physics I	4	x											
34.	PH212	General Physics II	4		x										
35.	PH213	General Physics III	4			x									
ELECTIVE COMPUTER SCIENCE COURSES			≥ 20												
Students select at least 20 credits in the courses listed below:															
36.	CS411	Computer Graphics	4							x					
37.	CS412	Computer Vision	4									x			
38.	CS414	Machine Learning	4									x			
39.	CS415	Optimization Method	4												
40.	CS416	Data Modeling and Integration	4								x				
41.	CS417	Game Theory, Multi-Agents and Social Algorithms	4			x									
42.	CS418	Introduction to Natural Language Processing	4					x							
43.	CS419	Introduction to Information Retrieval	4					x							
44.	CS420	Artificial Intelligence	4					x							
45.	CS421	Software Requirement	4												
46.	CS422	Software Analysis and Design	4					x							
47.	CS423	Software Testing	4							x					
48.	CS424	Web Application Development	4												
49.	CS426	Mobile Device Application Development	4						x						
50.	CS427	3D Visualization and Game	4						x						

		<i>Development</i>														
51.	CS428	<i>Electronic Commerce</i>	4												x	
52.	CS429	<i>Mining on Big Data</i>	4						x							
53.	CS430	<i>Human-Computer Interaction</i>	4						x							
54.	CS431	<i>Wireless Network</i>	4													
55.	CS432	<i>Cryptography</i>	4													
56.	CS433	<i>Network Security</i>	4													
57.	CS434	<i>Computer Security</i>	4													
58.	CS494	<i>Internetworking Protocols</i>	4								x					
ELECTIVE MATHEMATICS COURSES			≥ 8													
Students select at least 8 credits in the courses listed below:																
59.	MTH261	<i>Introduction to Linear Algebra</i>	4						x							
60.	MTH344	<i>Group Theory</i>	4													
61.	MTH346	<i>Number Theory</i>	4								x					
62.	STAT452	<i>Applied Statistics for Engineers and Scientists 2</i>	4								x					
ELECTIVE COURSES			20													
63.	CS404	<i>Internship</i>	4						x							
64.	CS405	<i>Open, Economy Entrepreneurship & Education</i>	4						x							
65.	CS407	<i>Technology-based Innovation and Leadership</i>	4									x				
66.	CS408	<i>Computational Finance</i>	4													
67.	CS409	<i>Entrepreneurship</i>	4									x				
68.	DTV001	<i>Fundamental Electronics</i>	4													
69.	KT006	<i>Macro economics</i>	4													
GRADUATION			8													
70.		<i>Thesis</i>	8													x
		Total	≥ 182													



Faculty of Information Technology

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