STUDENTS' HANDBOOK 2023

INFORMATION TECHNOLOGY

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FACULTY OF INFORMATION TECHNOLOGY



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CURRICULUM OVERVIEW

PROGRAM TITLE	1	Information Technology (IT)
PROGRAM CODE	2	7480201
DELIVERY MODE	3	Full time 3.5 years
INSTRUCTION LANGUAGE	4	Vietnamese
NUMBER OF CONCENTRATIONS	5	141 credits*
DIDACTIC APPROACH	6	Mandatory classroom-based learning (80%) & Blended-learning (20%)

** 1 credit equivalent to 1.36 credit in the European Credit Transfer and Accumulation System ECTS*

CURRICULUM OVERVIEW

Program Objectives (POs)

PO1	Solid political qualities, a sense of discipline, and professional ethics
PO2	Capacity to organize work, communicate effectively, and use specialized English
PO3	Mastery of fundamental IT knowledge and international standard skills to adapt to a dynamic market.
PO4	Capacity for self-study and research at higher academic levels.

CURRICULUM OVERVIEW

Core Program Learning Outcomes (PLOs)

Knowledge

PLO1
Apply fundamental knowledge of computer science and IT

PLO2
Apply knowledge of law, professional ethics, and social responsibility

PLO3
Capacity to communicate and present IT solutions effectively

PLO4
Proficient in teamwork, organization, planning, and technical reporting

PLO5
Communicate in a foreign language (English) regarding IT

Autonomy & Responsibility

PLO6
Capacity for self-study and lifelong learning

CURRICULUM OVERVIEW

Major-Specific Program Learning Outcomes (Specialization PLOs)

Specialization / Major	PLO Code	Competency & Learning Outcomes
Cybersecurity	PLO7a-11a	PLO7a-11a: Analyze, design, and build corporate networks; evaluate network systems; manage and maintain networks; ensure information security and cryptography; provide consultancy for security solutions.
Software Engineering	PLO7b-11b	PLO7b-11b: Collect and analyze software requirements; design system architectures and modules; develop software applications; deploy built systems; consult on software solutions for enterprises.
Information Systems	PLO7c-11c	PLO7c-11c: Analyze requirements for information systems; design system modules and features; deploy information systems; administer and tune systems; provide consultancy on IT business solutions.
Data Science	PLO7d-11d	PLO7d-11d: Analyze requirements for data analysis systems; design data-driven modules; deploy data analysis systems; manage and optimize data pipelines; consult on big data and AI solutions.
Microchip Engineering / IC Design	PLO7e-11e	PLO7e-11e: Mastery of electronic devices and circuits; expertise in embedded and object-oriented programming; design of embedded systems and microchips; development of embedded software; operation of IoT and smart systems.

GRADUATION REQUIREMENTS



1. Successful completion of at least 141 credits as mandated by the curriculum
2. Attainment of a cumulative GPA meeting current university regulations (typically 2.0/4.0 or higher).
3. Possession of a valid certificate for National Defense Education
4. Successful completion of all required Physical Education modules
5. Attainment of an English proficiency level of TOEIC 450 or an equivalent international certificate.
6. Not subject to criminal prosecution and not currently under disciplinary suspension from studies. Not exceeding the maximum permitted duration of study at the school.

CAREER OPPORTUNITIES

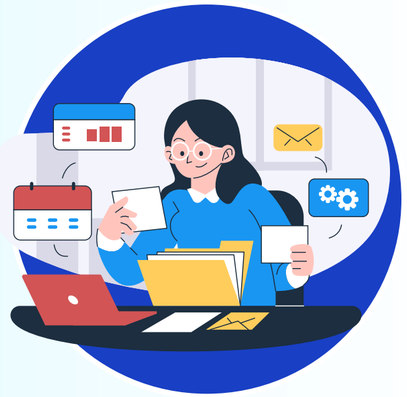


SOFTWARE DEVELOPMENT

Desktop, Web, and Mobile app developers; Software Testers

SYSTEM ADMINISTRATION

Database Administrators, Network Administrators, and Security Operations Center (SOC) specialists





IT CONSULTANCY

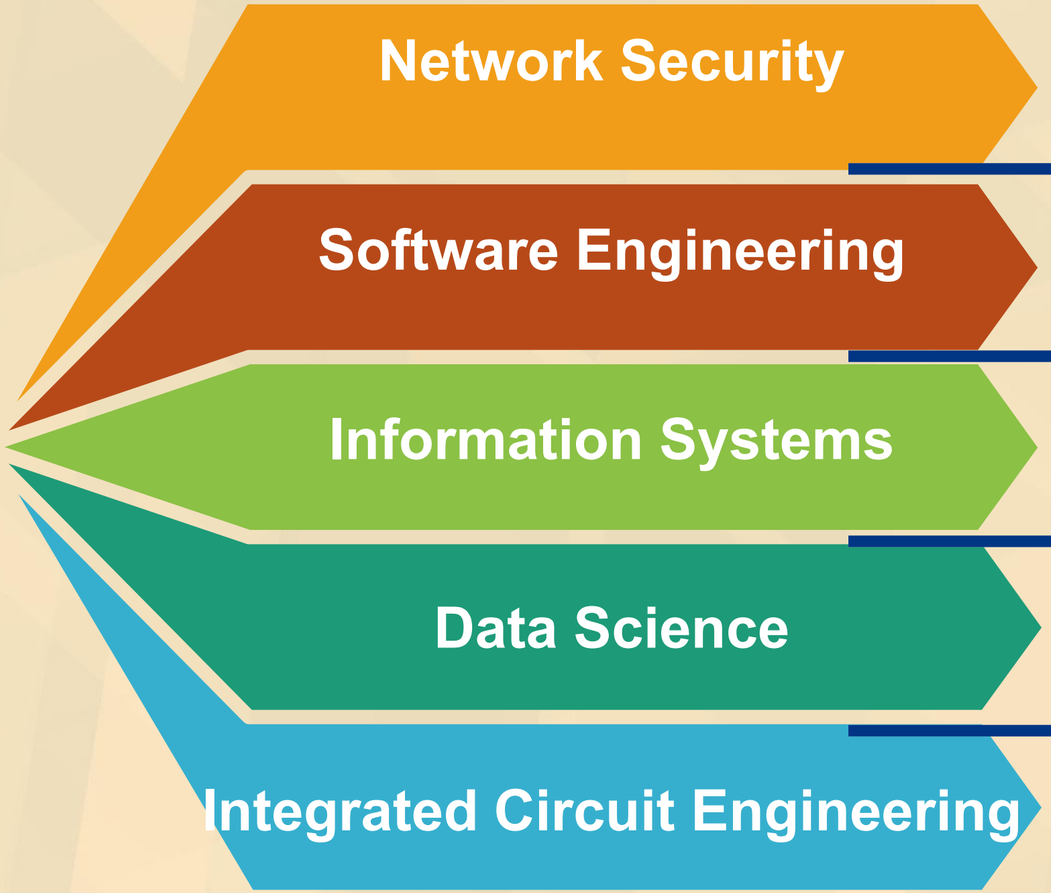
Technical consultants for business solutions, hardware distribution, and infrastructure maintenance

ACADEMIC RESEARCH & EDUCATION

University lecturers or researchers at specialized IT and technology institutes



FIVE SPECIALIZATIONS



Focuses on the analysis, design, and operation of secure network systems. Students emphasize the evaluation (PLO7a) and protection of corporate infrastructures against emerging threats

Concentrates on the full software development lifecycle. Emphasis is placed on architecture design for scalability (PLO7b) and professional maintenance standards.

Centers on managing and optimizing business information solutions. Covers data management and the optimization of enterprise-wide system solutions (PLO7c)

Focuses on data mining, intelligent systems, and machine learning. Students design analytical modules to extract insights from large-scale datasets (PLO7d)

Dedicated to physical hardware and circuit design. Students learn to design and build embedded systems, IoT applications, and integrated circuits/microchips (PLO7e)

COURSES & MODULES



The program comprises 141 credits, including 56 credits for general education and 85 credits for professional education (28 credits for foundational knowledge, 48 credits for specialized knowledge, as well as 9 credits for internship and thesis), spread across 9 semesters, to help students achieve the program's learning objectives.

In addition, students are required to participate in extracurricular activities during their official study period, including professional activities such as talk shows, workshops, and seminars; cultural and artistic activities; sports activities; and volunteer activities. Students are also required to directly organize these activities to apply the skills learned in class, such as negotiation, planning, project presentation, external communication skills, time management, etc.

In addition, during the mandatory 3-month internship at companies, businesses, or organizations, students receive training and have their practical work skills assessed based on the actual requirements of the labor market before starting official employment.

General education curriculum

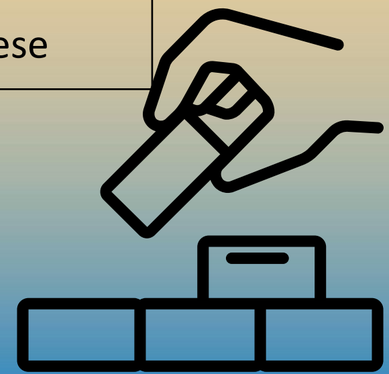
Course Code	Course Title	Credits (Lec+Prac)	Instruction Language
Political Theory and Law		13	
1010443	Marxist-Leninist Philosophy	3	Vietnamese
1010452	Marxist-Leninist Political Economics	2	Vietnamese
1010462	Scientific Socialism	2	Vietnamese
1010472	History of the Communist Party of Vietnam	2	Vietnamese
1010092	Ho Chi Minh Ideology	2	Vietnamese
1010052	Introduction to Laws of Vietnam	2	Vietnamese
Foreign Languages		15	
1010663	General English 1	3	English
1010673	General English 2	3	English
1010703	General English 3	3	English
1250013	Professional English 1	3	English
1250023	Professional English 2	3	English

General education curriculum

Course Code	Course Title	Credits (Lec+Prac)	Instruction Language
Mathematics – Informatics – Natural Sciences		26	
1250033	Calculus	3	Vietnamese
1250043	Linear Algebra	3	Vietnamese
1221203	Discrete Mathematics for Computer Science	3	Vietnamese
1210113	Probability and Statistics	3 (2+1)	Vietnamese
1250052	Introduction to Information Technology	2	Vietnamese
1250064	Introduction to Programming	4 (3+1)	Vietnamese
1250074	Programming Techniques	4 (3+1)	Vietnamese
1210154	Graph Algorithms	4 (3+1)	Vietnamese
Economics – Social Sciences		2	
1230172	Soft Skills	2	Vietnamese
Physical Education and National Defense & Security Education (Not counted towards cumulative GPA)			
1010042	Physical Training 1	2	Vietnamese
	Physical Training 2: Select 1 of the following courses:		Vietnamese
1010602	• Physical Training 2 – Fitness	3	Vietnamese
1010612	• Physical Training 2 – Aerobics	3	Vietnamese
1010622	• Physical Training 2 – Vovinam	3	Vietnamese
1010632	• Physical Training 2 – Yoga	3	Vietnamese
1010642	• Physical Training 2 – Dancesport	3	Vietnamese
1010652	• Physical Training 2 – Swimming	3	Vietnamese
1010034	National Defense and Security Education	3	Vietnamese

Fundamental Major Knowledge

Course Code	Course Title	Credits (Lec+Prac)	Instruction Language
1221024	Introduction to Databases	4 (3+1)	Vietnamese
1221014	Data Structures and Algorithms	4 (3+1)	Vietnamese
1221084	Operating Systems	4 (3+1)	Vietnamese
1230214	Web Programming	4 (3+1)	Vietnamese
1221134	Computer Networks	4 (3+1)	Vietnamese
1250084	Software Analysis and Design	4 (3+1)	Vietnamese
1230444	Mobile Application Programming	4 (3+1)	Vietnamese



Network Security Specialization

COMPULSORY CORE COURSES

ELECTIVE SPECIALIZED COURSES

Structured Learning, Real-World Security, Future-Ready Careers.

The specialization equips learners with the knowledge and practical skills to protect systems, networks, and data. It covers cybersecurity fundamentals, defense techniques, incident response, and legal aspects of cybersecurity.



COURSES & MODULES

Course Code	Course Title	Credits (Lec+Prac)	Instruction Language
Mandatory Courses (20 Credits)		**20**	
1230374	Network Security	4 (3+1)	Vietnamese
1223014	Network Operating Systems	4 (3+1)	Vietnamese
1230274	Network Administration	4 (3+1)	Vietnamese
1250124	Cryptography Techniques	4 (3+1)	Vietnamese
1210164	Blockchain and Applications	4 (3+1)	Vietnamese
Elective Courses (Select 28 Credits)		**28**	
1230294	Network Service Installation and Management	4 (3+1)	Vietnamese
1250094	Network Programming	4 (3+1)	Vietnamese
1250104	Secure Programming	4 (3+1)	Vietnamese
1250114	Computer Hacking Forensic Investigation	4 (3+1)	Vietnamese
1250204	Network Infrastructure Design	4 (3+1)	Vietnamese
1250254	Penetration Testing	4 (3+1)	Vietnamese
1250234	Cloud Computing	4 (3+1)	Vietnamese
1250264	Security System Administration (Network Defense)	4 (3+1)	Vietnamese
1250274	End-User Security	4 (3+1)	Vietnamese
1250224	Advanced Network Programming	4 (3+1)	Vietnamese
1250244	Wireless Networking	4 (3+1)	Vietnamese
1250374	Reverse Engineering	4 (3+1)	Vietnamese
1250384	Malware Analysis	4 (3+1)	Vietnamese
1210112	Entrepreneurship	2 (2+0)	Vietnamese
2320002	Intellectual Property Law	2 (2+0)	Vietnamese

Software Engineering
Specialization

COMPULSORY CORE COURSES

ELECTIVE SPECIALIZED COURSES



COURSES & MODULES

Course Code	Course Title	Credits (Lec+Prac)	Instruction Language
Mandatory Courses (20 Credits)		**20**	
1221064	Software Engineering	4 (3+1)	Vietnamese
1222024	Advanced Database Systems	4 (3+1)	Vietnamese
1250134	User Interface Design	4 (3+1)	Vietnamese
1230114	Software Testing	4 (3+1)	Vietnamese
1222034	Distributed Databases	4 (3+1)	Vietnamese
Elective Courses (Select 28 Credits)		**28**	
1224024	Advanced Software Engineering	4 (3+1)	Vietnamese
1224034	Software Project Management	4 (3+1)	Vietnamese
1230344	Advanced Web Programming	4 (3+1)	Vietnamese
1250524	Advanced Mobile Application Programming	4 (3+1)	Vietnamese
1210164	Blockchain and Applications	4 (3+1)	Vietnamese
1230324	Java Programming	4 (3+1)	Vietnamese
1250364	Electronic Commerce	4 (3+1)	Vietnamese
1230474	Design Patterns	4 (3+1)	Vietnamese
1230534	Advanced Software Testing (Quality Assurance)	4 (3+1)	Vietnamese
1230484	Accounting Information Systems	4 (3+1)	Vietnamese
1222014	Database Management Systems	4 (3+1)	Vietnamese
1230314	Management Information Systems	4 (3+1)	Vietnamese
1230544	Internet of Things (IoT)	4 (3+1)	Vietnamese
1250174	Data Mining	4 (3+1)	Vietnamese
2320002	Intellectual Property Law	2 (2+0)	Vietnamese

Information Systems

Specialization

COMPULSORY CORE COURSES

ELECTIVE SPECIALIZED COURSES



COURSES & MODULES

Course Code	Course Title	Credits (Lec+Prac)	Instruction Language
Mandatory Courses (20 Credits)		**20**	
1221064	Software Engineering	4 (3+1)	Vietnamese
1222024	Advanced Database Systems	4 (3+1)	Vietnamese
1250134	User Interface Design	4 (3+1)	Vietnamese
1230314	Management Information Systems	4 (3+1)	Vietnamese
1210164	Blockchain and Applications	4 (3+1)	Vietnamese
Elective Courses (Select 28 Credits)		**28**	
1230484	Accounting Information Systems	4 (3+1)	Vietnamese
1230504	Information System Security	4 (3+1)	Vietnamese
1230344	Advanced Web Programming	4 (3+1)	Vietnamese
1230524	Advanced Mobile Application Programming	4 (3+1)	Vietnamese
1250174	Data Mining	4 (3+1)	Vietnamese
1230474	Design Patterns	4 (3+1)	Vietnamese
1222014	Database Management Systems	4 (3+1)	Vietnamese
1250364	Electronic Commerce	4 (3+1)	Vietnamese
1222034	Distributed Databases	4 (3+1)	Vietnamese
1224034	Software Project Management	4 (3+1)	Vietnamese
1230544	Internet of Things (IoT)	4 (3+1)	Vietnamese
1211064	Business Data Analysis	4 (3+1)	Vietnamese
1250304	Big Data	4 (3+1)	Vietnamese
2320002	Intellectual Property Law	2 (2+0)	Vietnamese

Data Science
Specialization

COMPULSORY CORE COURSES

ELECTIVE SPECIALIZED COURSES



COURSES & MODULES

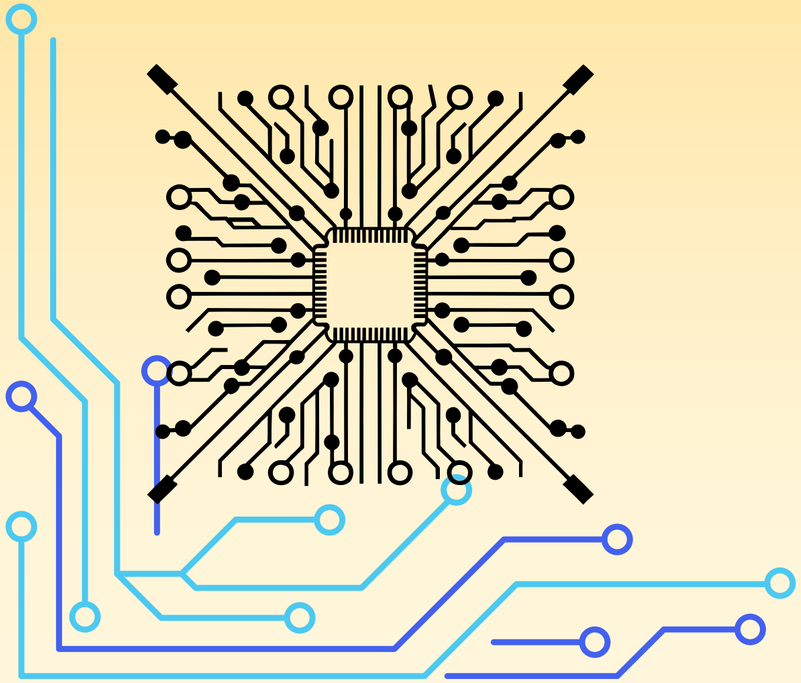
Course Code	Course Title	Credits (Lec+Prac)	Instruction Language
Mandatory Courses (20 Credits)		20	
1221064	Software Engineering	4 (3+1)	Vietnamese
1222024	Advanced Database Systems	4 (3+1)	Vietnamese
1230184	Machine Learning	4 (3+1)	Vietnamese
1230404	Artificial Intelligence	4 (3+1)	Vietnamese
1230624	Information Retrieval	4 (3+1)	Vietnamese
Elective Courses (Select 28 Credits)		28	
1250174	Data Mining	4 (3+1)	Vietnamese
1250304	Big Data	4 (3+1)	Vietnamese
1230554	Natural Language Processing	4 (3+1)	Vietnamese
1230564	Computer Vision	4 (3+1)	Vietnamese
1230574	Recommender Systems	4 (3+1)	Vietnamese
1230584	Fuzzy Logic and Applications	4 (3+1)	Vietnamese
1230594	Bioinformatics	4 (3+1)	Vietnamese
1230604	Deep Learning	4 (3+1)	Vietnamese
1230544	Management Information Systems	4 (3+1)	Vietnamese
1230544	Internet of Things (IoT)	4 (3+1)	Vietnamese
1230524	Advanced Mobile Application Programming	4 (3+1)	Vietnamese
2320002	Intellectual Property Law	2 (2+0)	Vietnamese
1230344	Advanced Web Programming	4 (3+1)	Vietnamese
1250094	Data Analysis	4 (3+1)	Vietnamese

Integrated Circuit Engineering

Specialization

COMPULSORY CORE COURSES

ELECTIVE SPECIALIZED COURSES



Course Code	Course Title	Credits (Lec+Prac)	Instruction Language
Mandatory Courses (20 Credits)		**20**	
1262014	Electronic Devices and Circuits	4 (3+1)	Vietnamese
1262024	Digital Logic Design	4 (3+1)	Vietnamese
1262034	Microprocessors and Microcontrollers	4 (3+1)	Vietnamese
1262044	Embedded Systems	4 (3+1)	Vietnamese
1223024	System Programming	4 (3+1)	Vietnamese
Elective Courses (Select 28 Credits)		**28**	
1262064	Embedded Programming	4 (3+1)	Vietnamese
1262074	Microcontroller Programming	4 (3+1)	Vietnamese
1262084	Sensor Technology	4 (3+1)	Vietnamese
1262094	Smart Systems	4 (3+1)	Vietnamese
1230544	Internet of Things (IoT)	4 (3+1)	Vietnamese
1262104	Robotics Engineering	4 (3+1)	Vietnamese
1262114	Topics in Embedded Systems	4 (3+1)	Vietnamese
1262124	Embedded System Design	4 (3+1)	Vietnamese
1262134	System and Integrated Circuit Design	4 (3+1)	Vietnamese
1262144	VLSI Integrated Circuit Design	4 (3+1)	Vietnamese
1262154	Topics in Integrated Circuit Design (Topics in Chip Design)	4 (3+1)	Vietnamese

COURSES & MODULES

INDUSTRIAL INTERNSHIP & GRADUATION COMPONENT

1. INDUSTRIAL INTERNSHIP (3 CREDITS)

Course Code	Course Title	Credits	Language
1230443	Industrial Internship	3	Vietnamese



2. GRADUATION COMPONENT – STUDENTS SELECT 1 OF 2 OPTIONS

OPTION 1: GRADUATION THESIS (6 CREDITS)

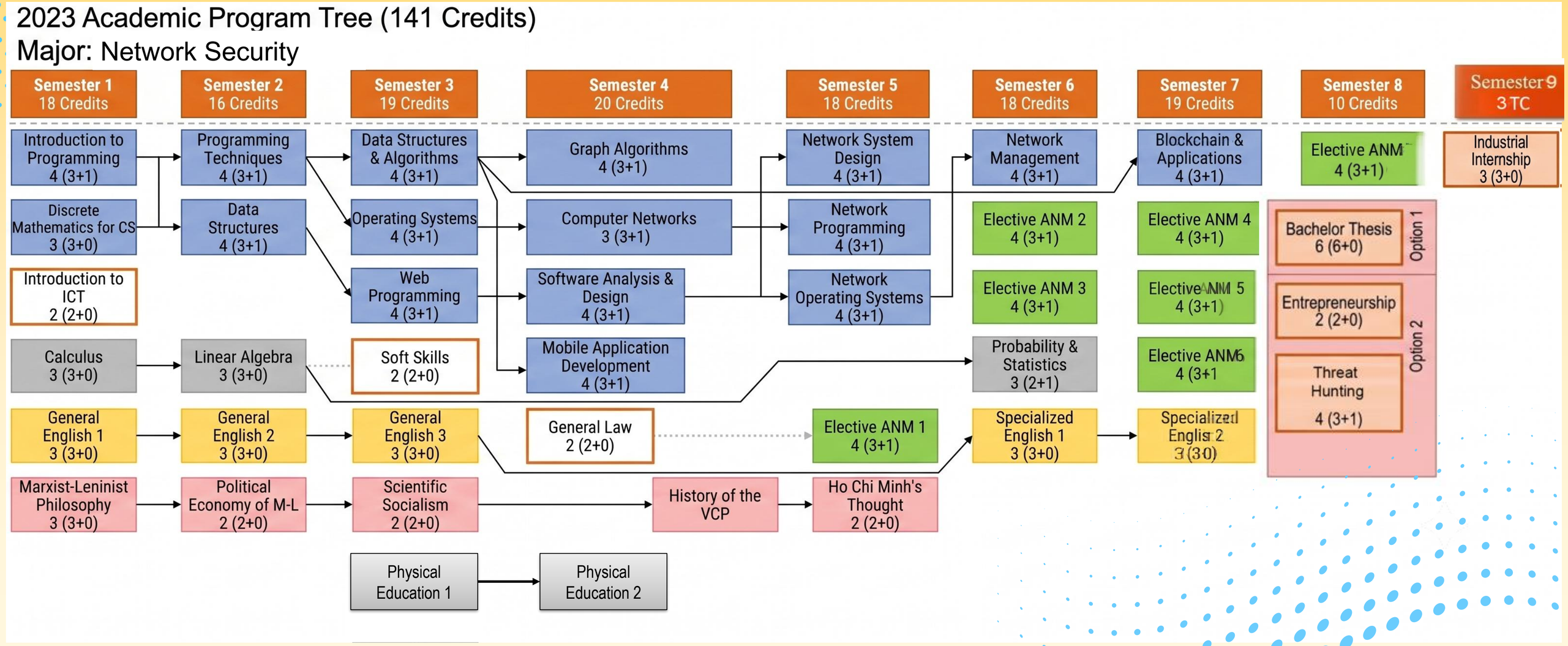
Course Code	Course Title	Credits	Language
1230466	Graduation Thesis	6	Vietnamese

OPTION 2: COURSEWORK REPLACEMENT FOR THESIS (≥ 6 CREDITS)

Specialization	Course Code	Course Title	Credits	Medium of Instruction
Software Engineering	1210112	Entrepreneurship	2	Vietnamese
	1211064	Business Data Analytics	4 (3+1)	Vietnamese
Information Systems	1210112	Entrepreneurship	2	Vietnamese
	1230934	Enterprise Resource Planning (ERP)	4 (3+1)	Vietnamese
Data Science	1210112	Entrepreneurship	2	Vietnamese
	1211064	Business Data Analytics	4 (3+1)	Vietnamese
Network Security	1210112	Entrepreneurship	2	Vietnamese
	1210174	Threat Intelligence	4 (3+1)	Vietnamese
Integrated Circuit Engineering	1210112	Entrepreneurship	2	Vietnamese
	1262154	Topics in Chip Design	4 (3+1)	Vietnamese

COURSE PLAN

Network Security

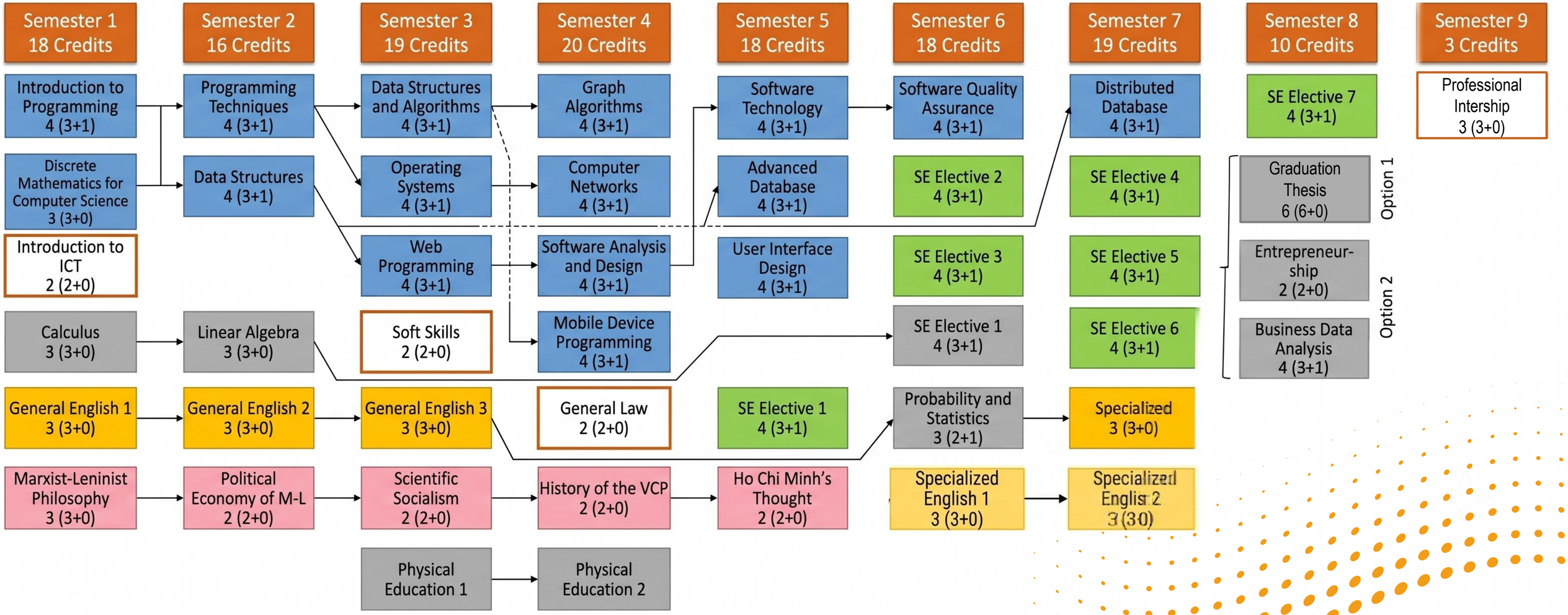


COURSE PLAN

Software Engineering

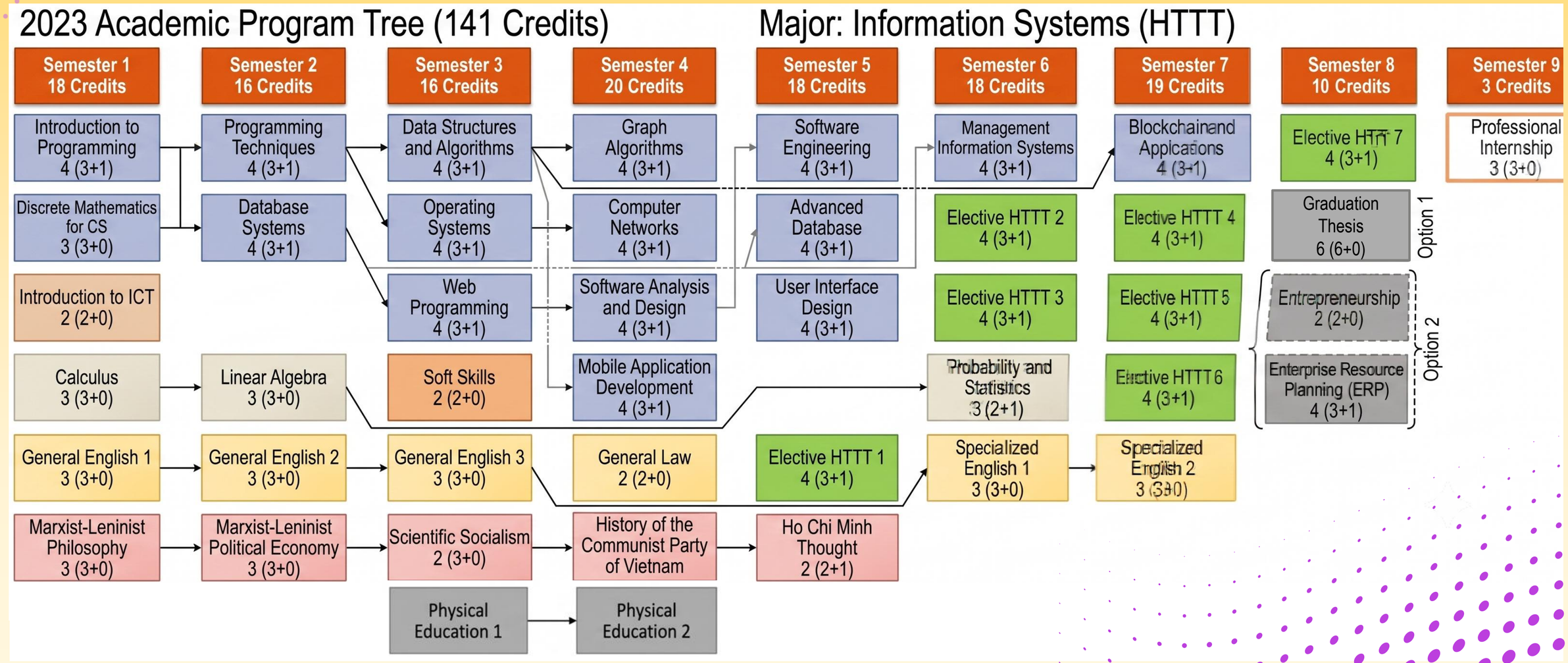
2023 Curriculum Program Tree (141 Credits)

Major: Software Engineering (SE)



COURSE PLAN

Information Systems



COURSE PLAN



Data Science

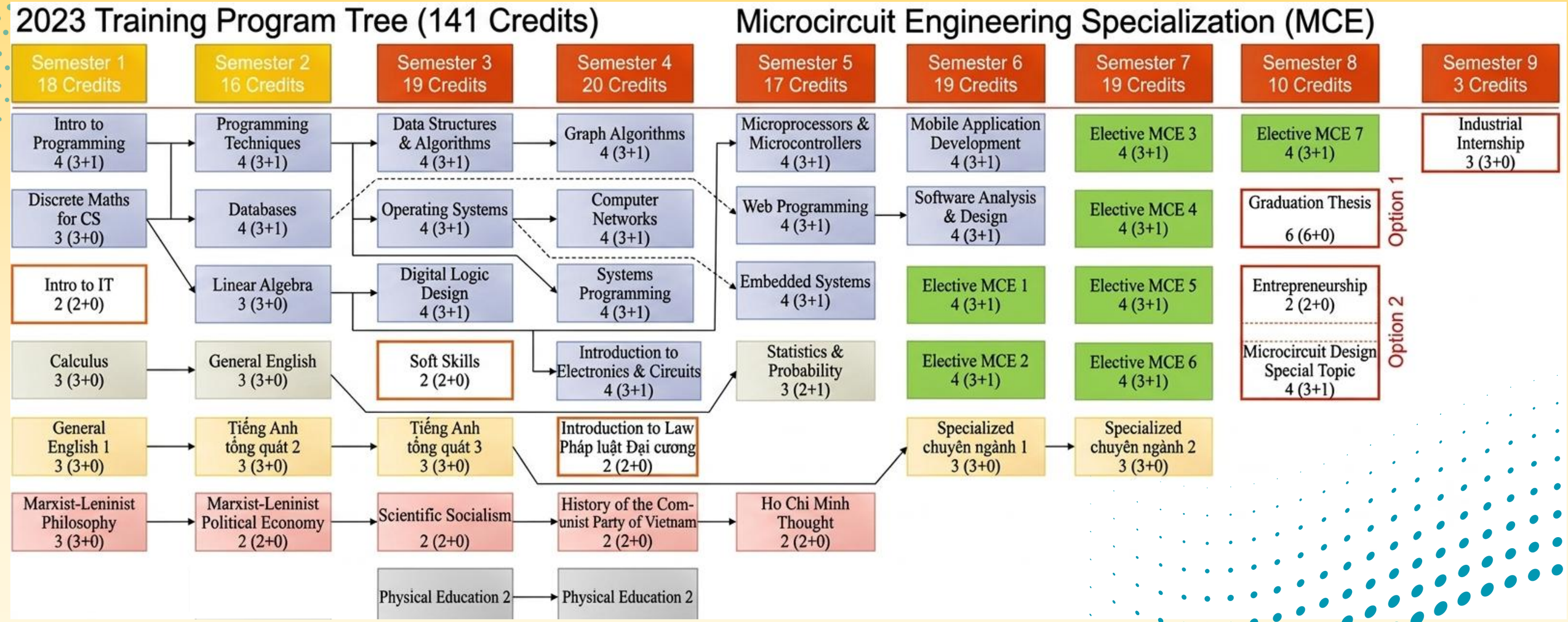
Academic Program Tree 2023 (141 Credits)

Data Science Specialization (DS)

Semester 1 18 Credits	Semester 2 16 Credits	Semester 3 19 Credits	Semester 4 20 Credits	Semester 5 18 Credits	Semester 6 18 Credits	Semester 7 19 Credits	Semester 8 10 Credits	Semester 9 3 Credits
Introduction to Programming 4 (3+1)	Programming Techniques 4 (3+1)	Data Structures and Algorithms 4 (3+1)	Graph Theory and Algorithms 4 (3+1)	Software Engineering 4 (3+1)	Machine Learning 4 (3+1)	Information Retrieval 4 (3+1)	Elective DS 7 4 (3+1)	Professional Intership 3 (3+0)
Discrete Mathematics for CS 3 (3+0)	Databases 4 (3+1)	Operating Systems 4 (3+1)	Computer Networks 4 (3+1)	Advanced Databases 4 (3+1)	Elective DS 2 4 (3+1)	Elective DS 4 4 (3+1)	Graduation Thesis 6 (6+0) — Option 1	
Introduction to IT 2 (2+0)		Web Programming 4 (3+1)	Software Analysis and Design 4 (3+1)	Artificial Intelligence 4 (3+1)	Elective DS 3 4 (3+1)	Elective DS5 4 (3+1)	Entrepreneur-ship 2 (2+0) — Option 2	
Calculus 3 (3+0)	Linear Algebra 3 (3+0)	Soft Skills 2 (2+0)	Mobile Device Programming 4 (3+1)		Probability and Statistics 3 (2+1)	Elective DS 6 4 (3+1)	Business Data Analysis 4 (3+1) — Option 2	
General English 1 3 (3+0)	General English 2 3 (3+0)	General English 3 3 (3+0)	General Law 2 (2+0)	Elective DS 1 4 (3+1)	Specialized English 1 3 (3+0)	Specialized English 2 3 (3+0)		
Marxist-Leninist Philosophy 3 (3+0)	Marxist-Leninist Political Economy 2 (2+0)	Scientific Socialism 2 (2+0)	History of the CPV 2 (2+0)	Ho Chi Minh Thought 2 (2+0)				
		Physical Education 1	Physical Education 2					

COURSE PLAN

Integrated Circuit

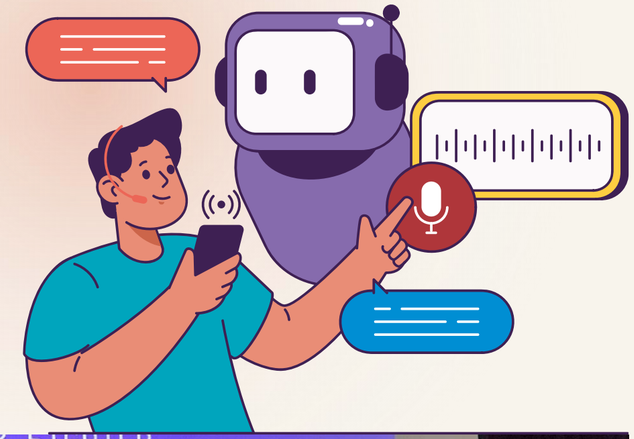


PRACTICAL ACTIVITIES – COMMUNITY (EXTRACURRICULAR ACTIVITIES)



Community engagement activities	Community engagement activities are a type of extracurricular activity conducted throughout the years of study. These include: Organizing events and programs connecting businesses and organizations (domestic and international) related to the field; Participating in charity, community service, arts, and sports activities.
Industry Internships and Field Trips	A 3-credit requirement (2–3 months) where students are embedded in IT enterprises to experience professional culture, ethics, and real-world project workflows. Annual corporate visits to leading IT corporations, providing exposure to international working environments for over 150 students per excursion
Teaching Research Teams &Thematic Workshops	Students collaborate directly with faculty on research projects to foster innovation and prepare for postgraduate studies (Master's or PhD).The Faculty maintains an extensive network of industry partners, including Gameloft, TMA Solutions, Harvey Nash, and LogiGear. These partners regularly host specialized workshops on Game Programming, Big Data, AI, and Software Testing

PRACTICAL ACTIVITIES – COMMUNITY (EXTRACURRICULAR ACTIVITIES)









PRACTICAL ACTIVITIES – COMMUNITY (EXTRACURRICULAR ACTIVITIES)









PRACTICAL ACTIVITIES – COMMUNITY (EXTRACURRICULAR ACTIVITIES)







We ♡ our Volunteers



CONTACT INFORMATION

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GRADUATION