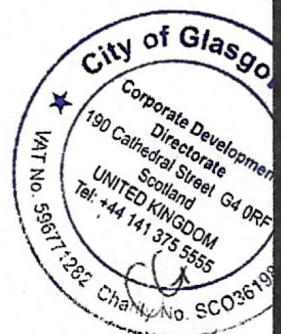


PEOPLE'S COMMITTEE OF HO CHI MINH CITY
LY TU TRONG COLLEGE OF HO CHI MINH CITY

TRAINING PROGRAM OF COLLEGE LEVEL

**COURSE TITLE: INFORMATION
TECHNOLOGY (MAJOR IN COMPUTER
PROGRAMMING)**

Ho Chi Minh City, 2020



TRAINING PROGRAM

Specialized, Major Name: Computer Programming

Specialized, Major Code: 6480207

Training Level: College

Training mode: Regular (Credit)

Admissions: High school graduate or equivalent

Training time: 2,5 years

1. Training objectives

1.1. Common objectives:

Graduates of college program in Computer Programming have good political, ethical and health qualities; have sufficient knowledge and capacity to operate, manage and develop information technology applications; meet the needs of information technology human resources in various professional fields.

1.2. Specific objectives:

- **Knowledge:**
 - Read and understand necessary professional documents in English.
 - Describe the current status of management information systems of several types of enterprises.
 - Evaluating advantages and disadvantages of the current situation of software application of enterprises.
 - Proposing specific software application solutions to bring high efficiency in business activities.
 - Know how to plan and plan to deploy software applications, build and develop software.
- **Skills:**
 - Achieve level 3/5 of the national vocational skill standards;
 - Informatics meet IC3 standards or equivalent or higher; Certification of applied information technology issued by the University (except for IT students).
 - Foreign language grade 3 of the 6-level foreign language competence framework for Vietnam or higher; Certificate of English language proficiency level B1 or equivalent or higher, a certificate issued by the School
 - Participating in designing, building and maintaining information systems for agencies, schools and businesses.
 - Participate in developing software projects at companies operating in the field of information technology or related to the application of information technology



- Ability to quickly grasp and apply professional software construction processes according to the characteristics of software development units.
 - Building, operating and developing websites, management software systems and e-learning systems for organizations and units.
 - Proficient in using a number of programming tools to build and develop management software for organizations and units.
 - Building and exploiting information using database management systems.
 - Ability to assemble, install computers and basic network management.
- ❖ Degree of autonomy and responsibility:
- Understand the social needs, understand the impact of new technologies in the global social and economic context. Capable of forming ideas, analyzing, designing, organizing, building and deploying software applications to meet social, entrepreneurial and creative needs.

1.3. Job position after graduation:

After graduation, students will work in agencies and enterprises wishing to apply informatics software in management and production business operations. Specifically:

- + Application consultants and software transfer experts;
- + Application software designer;
- + Specialist in software system administration and database;
- + Computer system maintenance specialist;
- + Website designers and administrators;

Students can also work in IT software units such as systems analyst and designer, application software developer, web designer, and software testing specialist. soft..

2. Volume of knowledge and course duration:

- Number of subjects: 40
- Volume of knowledge and skills for the entire course: 100 credits
- Volume of general / basic subjects: 525 sessions
- Volume of professional subjects: 1861 sessions
- Theoretical volume: 662 sessions; practice, internship, experiment: 1657 sessions
- Course duration: 2.5 years



3. Program contents:

Subject code	Subject title	Credits	Study Time (45 minutes per session)			
			Total number of Sessions	In which		
				Theory	Practice/ internship/ experiments/ exercises/ discussion	Exam
I	General Subjects/ Theoretical Subjects	30	525	240	255	30
CTC304	Political Education	4(3,1,7)	75	41	29	5
CTC305	Introduction in Laws	2(2,0,4)	30	18	10	2
CBC305	Physical Education (*)	2(0,2,1)	60	5	51	4
CBC307	National Defense and Security Education	4(3,1,7)	75	36	35	4
TTC301	Basic Information Technology	4(1,3,4)	75	15	58	2
CBC301	English 1	3(1,2,3)	40	14	24	2
CBC302	English 2	3(1,2,3)	40	14	24	2
CBC303	English 3	2(1,1,3)	40	14	24	2
CBC304	English 4	2(2,0,4)	30	28		2
KTC301	Soft Skills	4(4,0,8)	60	55		5
II	Specialized subjects	70	1861	422	1402	45
II.1	Basic subjects	17	375	104	260	11
CNTT3700	Environmental protection, efficient use of energy and resources	2(2,0,4)	30	9	20	1
TTC302	Basic Programming	4(2,2,5)	90	28	60	2
TTC303	Introduction to Database Systems	2(1,1,3)	45	13	30	2
TTC304	Data Structures And Algorithms	2(1,1,3)	45	13	30	2
TTC305	Database Management System	3(1,2,3)	75	13	60	2
TTC322	Hardware And Computer Network	4(2,2,5)	90	28	60	2
II.2	Advanced Subjects	45	1336	232	1082	30
TTC318	Windows Programming	4(3,1,7)	75	43		2



Subject code	Subject title	Credits	Study Time (45 minutes per session)			
			Total number of Sessions	In which		
				Theory	Practice/ internship/ experiments/ exercises/ discussion	Exam
TTC3134	Design Web Interface With Photoshop	2(1,1,3)	45	13	30	2
TTC317	Object-Oriented Programming	3(2,1,5)	60	28	30	2
TTC327	XML	2(1,1,3)	45	13	30	2
TTC333	Database Programming	3(2,1,5)	60	28	30	2
TTC331	Ethical hacking (**) (replaced with CoGC curriculum)	2(1,1,3)	31	10	19	2
TTC3135	Practice with Ethical hacking	2(1,1,3)	45	13	30	2
TTC329	Data Security (**) (replaced with CoGC curriculum)	2(1,1,3)	31	16	13	2
TTC3136	Practice with Data Security	2(1,1,3)	45	13	30	2
TTC3300	Mobile Technology (**) (replaced with CoGC curriculum)	2(1,1,3)	31	13	16	2
TTC3137	Practice with Mobile Technology	2(1,1,3)	45	13	30	2
TTC3132	Big Data(**) (replaced with CoGC curriculum)	2(1,1,3)	31	16	13	2
TTC3138	Practice with Big Data	1(0,1,0)	43		45	2
TTC3133	E-commerce Solutions (**) (replaced with CoGC curriculum)	2(1,1,3)	31	13	16	2
TTC3139	Practice with E-commerce Solutions	1(0,1,0)	43		45	2
TTC326	Basic Project (**)	1(0,1,0)	45		45	
TTC334	Specialized Project (**)	1(0,1,0)	45		45	
TTC336	Graduation Project (**)	5(0,5,0)	225		225	
TTC332	Graduation Practice (**)	6(0,6,0)	270		270	
TTC3301	Workshop Practice (**)	2(0,2,0)	90		90	
II.3	Elective Subjects (Students choose 2 out of 4 subjects)	8	150	86	60	4
TTC320	Web Design	4(2,2,5)	75	43	30	2



Subject code	Subject title	Credits	Study Time (45 minutes per session)			
			Total number of Sessions	In which		
				Theory	Practice/ internship/ experiments/ exercises/ discussion	Exam
TTC328	Java Programming (**)	4(2,2,5)	75	43	30	2
TTC325	Web Programming (**)	4(2,2,5)	75	43	30	2
TTC335	SEO Web Techniques (**)	4(3,1,7)	75	43	30	2
Tổng cộng		100	2386	662	1657	75

4. Teaching Plan

Numerical Order	Subject code	Subject title	Credits	Subject code: Study first (a) Study in parallel (b)	Note
Semester 1			18		
<i>Compulsory Subjects</i>			18		
1	CBC307	National Defense and Security Education	4(3,1,7)		
2	KTC301	Soft Skills	4(4,0,8)		
3	TTC301	Basic Information Technology	4(1,3,4)		
4	TTC303	Introduction to Database Systems	2(1,1,3)	TTC301 (b)	
5	TTC322	Hardware And Computer Network	4(2,2,5)		
<i>Elective Subjects</i>			0		
Semester 2			20		
<i>Compulsory Subjects</i>			20		
6	CBC305	Physical Education (*)	2(0,2,1)	CBC307 (a)	
7	CTC304	Political Education	4(3,1,7)	CBC305 (b) TTC3700 (b)	
8	CBC301	English 1	3(1,2,3)		
9	TTC304	Data Structures And Algorithms	2(1,1,3)	TTC302 (a)	
10	TTC305	Database Management System	3(1,2,3)	TTC303 (a)	



Numerical Order	Subject code	Subject title	Credits	Subject code: Study first (a) Study in parallel (b)	Note
11	TTC3134	Design Web Interface With Photoshop	2(1,1,3)		
12	TTC302	Basic Programming	4(2,2,5)		
Elective Subjects			0		
Semester 3			21		
Compulsory Subjects			21		
13	CBC302	English 2	3(1,2,3)		
14	CNTT3700	Environmental protection, efficient use of energy and resources	2(2,0,4)	KT301 (a)	
15	TTC317	Object-Oriented Programming	3(2,1,5)	TTC302 (b)	
16	TTC318	Windows Programming	4(3,1,7)	TTC317 (a)	
17	TTC333	Database Programming	3(2,1,5)	TTC305 (a), TTC318 (a)	
18	TTC331	Ethical hacking (**) (replaced with CoGC curriculum)	2(1,1,3)	TTC302 (a)	
19	TTC3135	Practice with Ethical hacking	2(1,1,3)	TTC331 (a)	
20	TTC327	XML	2(1,1,3)	TTC320 (b)	
Elective Subjects			0		
Semester 4			20		
Compulsory Subjects			16		
21	CTC305	Introduction in Laws	2(2,0,4)	CTC304 (a)	
22	CBC303	English 3	2(1,1,3)	CBC302 (a)	
23	TTC326	Basic Project (**)	1(0,1,0)	TTC320 (a)	
24	TTC3132	Big Data (**) (replaced with CoGC curriculum)	2(1,1,3)	TTC302 (a)	
25	TTC3138	Practice with Big Data	1(0,1,0)	TTC3132 (a)	
26	TTC329	Data Security (**) (replaced with CoGC curriculum)	2(1,1,3)	TTC328 (b)	
27	TTC3136	Practice with Data Security	2(1,1,3)	TTC329 (a)	
28	TTC3300	Mobile Technology (**) (replaced with CoGC curriculum)	2(1,1,3)	TTC320 (a), TTC333 (a)	
29	TTC3137	Practice with Mobile Technology	2(1,1,3)	TTC3300 (a)	
Elective Subjects (Students choose 1 out of 2 subjects)			4		
30	TTC320	Web Design	4(2,2,5)	TTC3134 (a), TTC302 (a)	
31	TTC328	Java Programming (**)	4(2,2,5)	TTC302 (a)	



Numerical Order	Subject code	Subject title	Credits	Subject code: Study first (a) Study in parallel (b)	Note
Semester 5			21		
<i>Compulsory Subjects</i>			17		
32	TTC332	Graduation Practice (**)	6(0,6,0)		
33	CBC304	English 4	2(2,0,4)		
34	TTC3133	E-commerce Solutions (**) (replaced with CoGC curriculum)	2(1,1,3)	TTC3132 (a)	
35	TTC3139	Practice with E-commerce Solutions	1(0,1,0)	TTC3133 (a)	
36	TTC334	Specialized Project (**)	1(0,1,0)	TTC331 (b)	
37	TTC336	Graduation Project (**)	5(0,5,0)	TTC329 (a)	
38	TTC3301	Workshop Practice (**)	2(0,2,0)		
<i>Elective Subjects (Students choose 1 out of 2 subjects)</i>			4		
39	TTC325	Web Programming (**)	4(2,2,5)	TTC320 (a), TTC333 (b)	
40	TTC335	SEO Web Techniques (**)	4(3,1,7)	TTC333 (a)	
Total			100		

Note:

City of Glasgow College will supply all course and assessment materials for the 5 modules in English. Each module has 31 sessions and it will be delivered by Ly Tu Trong College lecturers in Vietnamese. In addition, City of Glasgow College will provide their customised Virtual Learning Environment (MyCity) and E library resources to those students enrolled for the modules to support their study.

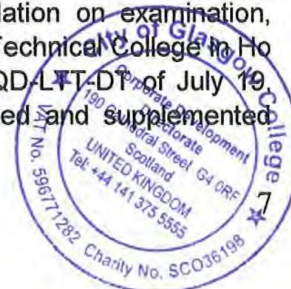
5. Program manual:

5.1. Instructions to identify content and time for extracurricular activities:

- In order for students to be fully aware of the occupation they are studying, the school arranges to visit a number of production and business establishments suitable to the training profession;
- The time for extra-curricular activities is arranged outside the regular training time at an appropriate time.

5.2. Instructions to test all subjects:

To comply with the Regulation on organizing the implementation of training programs at the intermediate, college level by the mode of credit accumulation; Regulation on examination, examination and consideration for graduation recognition at Ly Tu Trong Technical College in Ho Chi Minh City, issued together with the Principal's Decision No. 713 / QD-LTT-DP of July 19, 2017 Technical College Ly Tu Trong TP. Ho Chi Minh City is amended and supplemented.



according to Decision No. 696 / QD-LTT-DT June 26, 2019 of the Principal of Ly Tu Trong College in Ho Chi Minh City.

5.3. Instructions for considering graduation recognition:

Consideration of graduation recognition complies with the Regulation on organization of implementation of training programs at the intermediate level and college level by the mode of credit accumulation; Regulation on examination, examination and consideration for graduation recognition at Ly Tu Trong Technical College in Ho Chi Minh City, issued together with the Principal's Decision No. 713 / QD-LTT-DT of July 19, 2017 Technical College Ly Tu Trong TP. Ho Chi Minh City is amended and supplemented according to Decision No. 696 / QD-LTT-DT June 26, 2019 of the Principal of Ly Tu Trong College in Ho Chi Minh City.

Based on the proposal of the Graduation Review Board, the Principal signs a decision to recognize the graduation and issue the diploma of the College for students who are eligible to graduate.

5.4. Other notes

The subjects of Physical Education, National Defense and Security Education, Soft Skills and Workshop Practice do not count toward the overall GPA but are conditional subjects for consideration of completion of academic and regulatory subjects, graduation contest, graduation recognition.

The Business Internship course does not count credits in the total number of credits in the program. Depending on the specialization of each industry and occupation, the Dean may choose one of the following forms to implement:

- Practice in Enterprise.
- Practice at professional workshops or associated business centers located at Ly Tu Trong College in Ho Chi Minh City. HCM.
- Join the specialized club at the department.
- Implement models and projects implemented by the faculty.
- Subjects marked with (**) studied at the Enterprise.

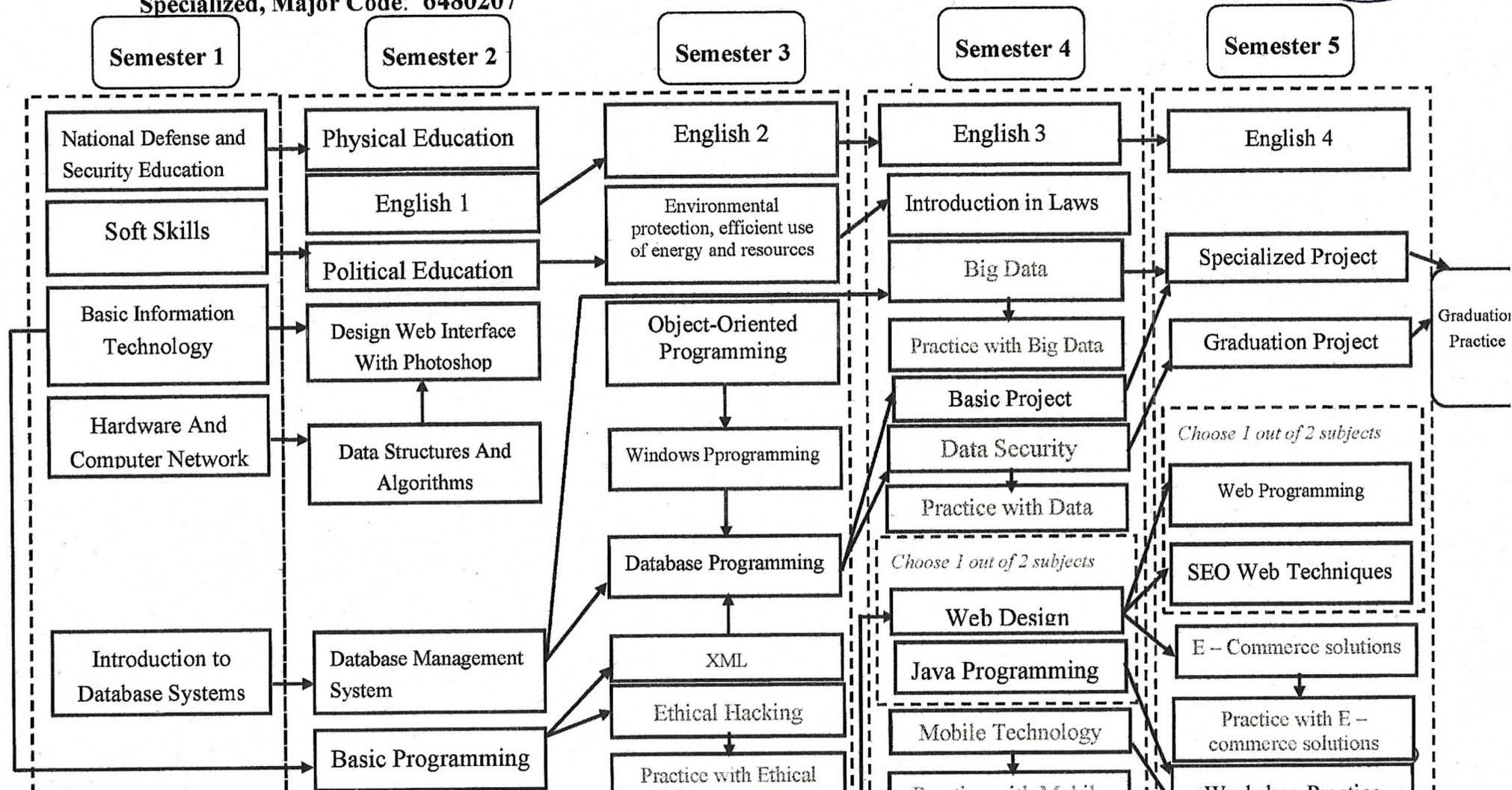


CONTACT CHART AND TRAINING PROCESS OF SUBJECTS IN THE TRAINING PROGRAM



Specialized, Major Name: Computer Programming

Specialized, Major Code: 6480207



BRIEF DESCRIPTION OF CITY OF GLASGOW COLLEGE SUBJECTS:

Ethical Hacking

Develop an awareness of the knowledge and skills used by ethical and malicious hackers. A specific aim of this Module is to enhance learners' awareness of the potential threats from malicious hackers to individuals and organisations, and how ethical hacking can help identify and mitigate these threats. Additionally, learners will understand the legislation and ethics of hacking. On completion of this Module, learners will gain knowledge of the current legislation relating to computer hacking, and how this relates to their professional practice. Learners will be able to distinguish between methods used by ethical and malicious hackers to compromise individuals' and organisations' computer systems, as well as applying these skills to identify vulnerabilities.

Big Data

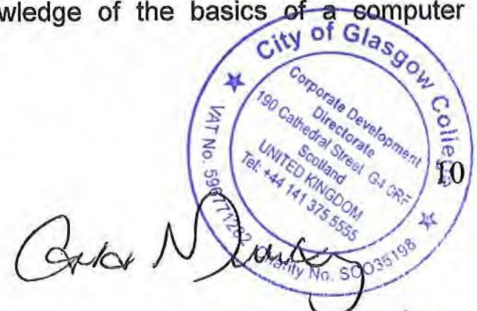
Provide an introduction to the theory and practice of big data. The Module is for non-specialists who require a basic understanding of the concepts behind big data and its potential social, commercial and scientific uses. It is suitable for a wide range of learners. The Module covers a mix of theory and practice. The theoretical content includes the concepts behind big data, how it differs from traditional analytical techniques, the applications of big data, and the societal implications of its use. The practical content relates to how big data can be used in real life situations. The Module seeks to provide foundation knowledge of this emerging discipline so that learners can appreciate its actual and potential uses in a range of contexts.

Data Security

Introduce concepts around personal and corporate data security, including aspects of legal and ethical obligations. Learners will discuss examples of real-life data security breaches, and examine the reputational and financial damage caused by poor data security practice. A specific aim of this Module is to place data security within the context of the real world. This includes the legal and ethical considerations, and the practical methods to protect personal and corporate data. On completion of this Module, learners will be able to use their knowledge to discuss data security breaches and provide remedial solutions, within the context of legal and ethical obligations.

Mobile Technology

Provide Learners with an opportunity to develop their knowledge and understanding of the fundamental design considerations in web pages for mobile devices. Learners will also develop practical skills in the creation of mobile web pages and considerations that must be brought into the design process. This Module is aimed at Learners who are interested in developing media for mobile technology. The Module is suitable for Learners who have no prior knowledge of mobile technology or web design experience. A working knowledge of the basics of a computer operating system would be an advantage.



E-commerce Solutions

Designed to provide Learners with knowledge and understanding of e-commerce and its impact on business, society and customers. Learners will develop an understanding of the available technologies and the implications to a business of introducing e-commerce to their operations. Learners will apply this knowledge to allow them to evaluate

