

**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
NETWORK ADMINISTRATOR)**

Ho Chi Minh City, 2020



TRAINING PROGRAM

Industry name, profession: Computer Network Administrator

Industry code: 6480209

Level of training: college

Training form: formal (credit)

Admissions: High school graduation or equivalent

Training time: 2,5 years

1. Training objectives

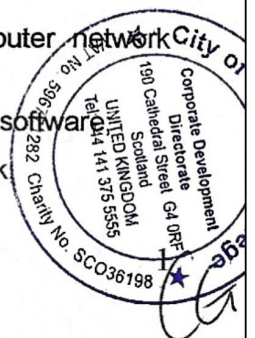
1.1. Common goal:

Graduates of college programs specialize in computer network administration of political, ethical and good health; have enough knowledge, capacity to design, operate, administer and secure LAN, WAN; Meet the needs of information technology personnel in different areas of expertise.

1.2. Specific objectives:

❖ Knowledge:

- Reaching 3/5 level of national skills standards;
- IC3 standards or equivalent; Certificate of Applied information from school issued (except for the information technology industry).
- Foreign language to reach level 3 of the foreign Language capacity framework 6 tier for Vietnam or higher; English language certificate B1 level or equivalent or higher, certificate issued by the school
- Presented basic knowledge about computers;
- Presenting background knowledge about computer networks;
- Analyzing the needs of customers to use the network;
- Analyzing the need to upgrade, optimize the network;
- Present principles and methods to plan, design and build, install and configure, operate and administer, maintain, repair and upgrade computer networks;
- Identify the functions and operations of network equipment in the system;
- Exactly presenting the structure and role of network services, computer network knowledge, and network administrators;
- Identify requirements for exploiting, updating data, creating reports in the software;
- Presenting basic knowledge about developing applications on the network



- Determining the model and network system necessary for the exploitation of information technology services;
- Describes how to design and install the wireless network;
- List the risks, incidents of data insecurity and safety as well as propose troubleshooting solutions; Types of viruses and anti-virus software;
- Analyzing and evaluating the security level of the network system and measures to protect the network system;
- Demonstrating how to develop policies to troubleshoot network cables, network infrastructure, network systems, and network security;
- Explain the specifications of operating system, DHCP network services, Web, Mail, FTP, DNS;
- Identify hazards that can affect the security of network services;
- List the items to configure to secure network services;
- Demonstrate methods of hacker attacks on the network;
- Presenting the most up-to-date advanced technologies and techniques to counter the harmful effects of cyber-attacks;
- Demonstrating how to manage risks of technology and techniques deployed in the network system;
- Identify the process of handover and log work;
- Identify occupational safety standards.

❖ Skill:

- Exploiting applications on the network;
- Design, build and deploy a network system for small and medium enterprises;
- Deploy, install, operate (administer) an information system for businesses;
- Evaluate the security system, encrypt data;
- Build and deploy a firewall system to protect the network system;
- Maintain, repair and upgrade the software and hardware of the network system;
- Compile a list of access control policies that apply to objects in the system;
- Use tools to check and scan vulnerabilities on network devices;
- Prepare a supervision document for cable transmission system, equipment infrastructure, service system, and network security;
- Establish a troubleshooting process; maintenance and troubleshooting policy;
- Group management, monitoring, keeping information confidential in small and medium systems;
- Build simple applications on the network;
- Evaluate and select a wireless network device;
- Maintain and fix error of wireless network;
- Use basic information technology as prescribed; to apply information technology in a number of professional jobs of the profession;
- Can use basic foreign languages, reach level 2/6 of Vietnam's Framework of Foreign Language Proficiency; applying foreign languages to professional jobs of the profession;



❖ Degree of self-responsibility and liability:

- Ethical performance, professional sense, civic responsibility, always striving to complete the task: Identifying accurate information about the workplace: size, equipment, factory, Rules - Regulations. Determine the right purposes, requirements, products, rules of the job;
- Perform responsibility, ethics, professional manners, have right professional motivation, respect copyrights; perform hard work, hard work and creativity; perform work in accordance with the labor discipline of the organization and strictly comply with the internal rules of the agency or enterprise;
- Responsible for the work results of themselves and the group before leaders of agencies, organizations and enterprises;
- Solve work, complex problems in changing working conditions;
- Minimum guidance, supervise subordinates performing the identified task;
- Product quality assessment is achieved after group members' performance results are completed;
- Sort byproducts such as computer hardware equipment, printing ink, ... into the right place to avoid environmental pollution;
- Applying the principles of software copyright and responsible intellectual property.

1.3. Job Placement After graduation:

After graduation, qualified learners will meet the requirements at the employment positions of the profession including:

- Design and build network systems;
- Network administrator;
- Administration, monitoring network security;
- Computer network maintenance and database
- Managing hosting, domain, website.

2. The volume of knowledge and duration of the course:

- Number of subjects: **37**
- Volume knowledge, Skills full course: **100** Credits
- The volume of common subjects/general: **525** sessions
- The volume of professional subjects: **2060** sessions
- Theoretical mass: **648** sessions; Practice, internship, experiments: **1855** sessions
- Course Time: **2,5** years



3. Program content:

Course Code	Subject Name	Credits	Study Time (45 minutes per session)			Exam
			Total number of Sessions	In which		
				Theory	Practice/ internship/ experiments/ exercises/ discussion	
I	General Courses/Outlines	30	525	240	255	30
CTC304	Political education	4(3,1,7)	75	41	29	5
CTC305	Law	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	Information Science	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, vocational	70	2060	408	1600	52
II.1	Academic subjects	19	407	135	253	19
Compulsory coursework		19	407	135	253	19
TTC3700	Protecting the environment, using energy and resources efficiently	2(2,0,4)	30	9	20	1
TTC302	Programming techniques	4(2,2,5)	90	28	60	2
TTC303	Database	2(1,1,3)	45	13	30	2
TTC3202	Big Data (replaced with CoGC curriculum)	2(1,1,3)	31	16	13	2
TTC3203	Practice with Big Data	1(0,1,2)	30		27	3
TTC3204	E-Commerce Solutions (replaced with CoGC curriculum)	1(1,0,1)	31	13		
TTC3205	Practice with E-Commerce Solutions	1(0,1,2)	30			



Course Code	Subject Name	Credits	Study Time (45 minutes per session)			Exam
			Total number of Sessions	In which		
				Theory	Practice/ internship/ experiments/ exercises/ discussion	
TTC343	Computer hardware	3(2,1,5)	60	28	30	2
TTC344	Computer networks and network administrators	3(2,1,5)	60	28	30	2
II.2	Specialization Course	51	1653	273	1347	33
Compulsory subjects		43	1473	219	1227	27
TTC3143	Network system settings	4(2,2,5)	90	28	60	2
TTC3144	Advanced Networking	4(2,2,5)	90	28	60	2
TTC348	Network devices	3(2,1,5)	60	28	30	2
TTC350	Network administrator on Linux	3(2,1,5)	60	28	30	2
TTC349	Network configuration	3(2,1,5)	60	28	30	2
TTC3206	Data Security (replaced with CoGC curriculum)	2(1,1,3)	31	16	13	2
TTC3207	Practice with Data Security	1(0,1,2)	30		27	3
TTC351	Advanced Network Admin on Linux	3(2,1,5)	60	28	30	2
TTC3208	Mobile Technology (replaced with CoGC curriculum)	2(1,1,3)	31	13	16	2
TTC3209	Practice with Mobile Technology	1(0,1,2)	30		27	3
TTC3210	Ethical Hacking (replaced with CoGC curriculum)	2(1,1,3)	31	10	19	2
TTC3214	Practice with Ethical Hacking	2(1,1,3)	45	12	30	3
TTC356	Windows Network Administration Project (**)	1(0,1,0)	45		45	
TTC357	Linux Network Management Project	1(0,1,0)	45		45	
TTC3191	Graduation Projects (**)	5(0,5,0)	225		225	
TTC358	Graduation Internship (**)	6(0,6,0)	270		270	
TTC3192	Business Internship (**)	6(0,6,0)	270		270	
Subjects of choice		8	180	54		



Course Code	Subject Name	Credits	Study Time (45 minutes per session)			Exam
			Total number of Sessions	In which		
				Theory	Practice/ internship/ experiments/ exercises/ discussion	
Heading 1 (choose 1 of 3 subjects)		4	90	28	60	2
TTC320	Web Design	4(2,2,5)	90	28	60	2
TTC3003	IoT Application Development	4(2,2,5)	90	28	60	2
TTC3120	Building network Infrastructure	4(2,2,5)	90	28	60	2
Group 2 (2 out of 3 subjects)		4	90	26	60	4
TTC364	Virtualization Technology	2(1,1,3)	45	13	30	2
TTC352	Information System security	2(1,1,3)	45	13	30	2
TTC3004	Governance Data Center	2(1,1,3)	45	13	30	2
Total		100	2585	648	1855	82

4. Teaching Plan

TT	Course Code	Subject Name	Credits	Course Code: Previous study (a) Tandem (b)	Notes
Semester 1			18		
<i>Compulsory coursework</i>			18		
1	CBC307	National Defense and Security education	4(3,1,7)		
2	KT801	Soft Skills	4(4,0,8)		
3	TTC301	Information Science	4(1,3,4)		
4	TTC302	Programming techniques	4(2,2,5)		
5	TTC303	Database	2(1,1,3)	TTC301 (b)	
<i>Subjects of choice</i>			0		
Semester 2			20		
<i>Compulsory coursework</i>			20		
6	CBC305	Physical Education	2(0,2,1)	CBC307 (a)	
7	CTC304	Political education	4(3,1,7)	CBC305 (b) TTC3700 (b)	



TT	Course Code	Subject Name	Credits	Course Code: Previous study (a) Tandem (b)	Notes
8	CBC301	English 1	3(1,2,3)		
9	TTC3700	Protecting the environment, using energy and resources efficiently	2(2,0,4)	KT801 (a)	
10	TTC3202	Big Data (replaced with CoGC curriculum)	2(1,1,3)	TTC303 (a) TTC302 (a)	
11	TTC3203	Practice with Big Data	1(0,1,2)	TTC3202 (b)	
12	TTC343	Computer hardware	3(2,1,5)		
13	TTC344	Computer networks and network administrators	3(2,1,5)	TTC343 (b)	
<i>Subjects of choice</i>			0		
Semester 3			20		
<i>Compulsory coursework</i>			16		
14	CBC302	English 2	3(1,2,3)	CBC301 (a)	
15	TTC3204	E-Commerce Solutions (replaced with CoGC curriculum)	1(1,0,1)		
16	TTC3205	Practice with E-Commerce Solutions	1(0,1,2)	TTC3204 (b)	
17	TTC3143	Network system settings	4(2,2,5)	TTC344 (a)	
18	TTC348	Network devices	3(2,1,5)	TTC344 (a)	
19	TTC350	Network administrator on Linux	3(2,1,5)	TTC344 (a)	
20	TTC356	Windows Network Administration Project (**)	1(0,1,0)	TTC3143 (b)	Business
<i>Subjects of choice (Choose 1 of 3 subjects)</i>			4		
21	TTC320	Web Design	4(2,2,5)	TTC305 (a)	
22	TTC3003	IoT Application Development	4(2,2,5)	TTC344 (a)	
23	TTC3120	Building network Infrastructure	4(2,2,5)		
Semester 4			22		
<i>Compulsory coursework</i>			22		
24	CTC305	Law	2(2,0,4)	CTC304 (a)	
25	CBC303	English 3	2(1,1,3)	CBC302 (a)	
26	TTC3144	Advanced Networking	4(2,2,5)	TTC3003 (a) TTC3120 (a)	
27	TTC349	Network configuration	3(2,1,5)	TTC3143 (a) TTC348 (a)	
28	TTC351	Advanced Network admin on Linux	3(2,1,5)	TTC350 (a)	
29	TTC3208	Mobile Technology (replaced with CoGC curriculum)	2(1,1,3)	TTC356 (a)	
30	TTC3209	Practice with Mobile Technology	1(0,1,2)	TTC3204 (b)	
31	TTC3210	Ethical Hacking	2(1,1,3)	TTC306 (a)	



TT	Course Code	Subject Name	Credits	Course Code: Previous study (a) Tandem (b)	Notes
		(replaced with CoGC curriculum)		TTC320 (a)	
32	TTC3214	Practice with Ethical Hacking	2(1,1,3)	TTC3210 (b)	
33	TTC357	Linux Network Management Project	1(0,1,0)	TTC350 (a)	
<i>Subjects of choice</i>			0		
Semester 5			20		
<i>Compulsory coursework</i>			16		
34	CBC304	English 4	2(2,0,4)	CBC303 (a)	
35	TTC3206	Data Security (replaced with CoGC curriculum)	2(1,1,3)	TTC3145 (a)	
36	TTC3207	Practice with Data Security	1(0,1,2)	TTC3206 (b)	
37	TTC3191	Graduation Projects (**)	5(0,5,0)	TTC347 (a) TTC349 (a) TTC357 (a) TTC351 (a) TTC3192 (b)	Business
38	TTC358	Graduation Internship (**)	6(0,6,0)	CTC305 (a) CBC304 (b) TTC382 (b) TTC364 (b) TTC352 (b) TTC3004 (b) TTC3191 (b)	Business
39	TTC3192	Business Internship (**)	6(0,6,0)		Business, No tuition fee
<i>Subjects of choice (Choose 2 of 3 subjects)</i>			4		
40	TTC364	Virtualization Technology	2(1,1,3)	TTC3144 (a)	
41	TTC352	Information System security	2(1,1,3)	TTC3144 (a)	
42	TTC3004	Governance Data Center	2(1,1,3)	TTC3144 (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.



Program Manuals:

5.1. Instructions for determining the content and time for extracellular activities:

- In order for students to have full awareness of their career, the school has arranged a visit to a number of business establishments suitable for training;
- The time for extracellular activity is arranged outside the key training time at the appropriate time.

5.2. Guide to check out course:

Follow the provisions of the organization implementing the training program of intermediate level, colleges according to the method of credit accumulation; Rules of examination, examination, review of graduation recognition at the Technical College of self-esteem in Ho Chi Minh City issued with Decision No. 713/QĐ-LTT-DT on 19 Jul 2017 of the rector of the Technical College of self-esteem Ho Chi Minh City.

5.3. Graduation Recognition Guide:

Graduation recognition under Decision No. 696/QĐ-LTT-DT on Jun 26, 2020 on amendments, additional article of Decision No. 713/QĐ-LTT-DT Jul 19, 2017 of the principal of the College of technical and self-esteem Ho Chi Minh City on the regulation of organizing the implementation of the training program of intermediate level, college according to the method of credit accumulation; Regulations on examination, examination and recognition of graduation in Ho Chi Minh City's Technical College of self-esteem.

Pursuant to the proposal of the Graduation Review Council, the principal signed the decision on recognition of graduation and issue the diploma of the College for students who are eligible to graduate.

5.4. Other notes (if any)

Physical education subjects, national defence and security education, soft skills and enterprise internship do not count on the overall average academic point but are subject to eligibility for the completion of academic volume, qualification for graduation exams, graduation recognition.

Business internship subjects have credits that do not count to the total number of credits in the program. Depending on the expertise of each industry, the Dean can choose 1 of the following forms to perform:

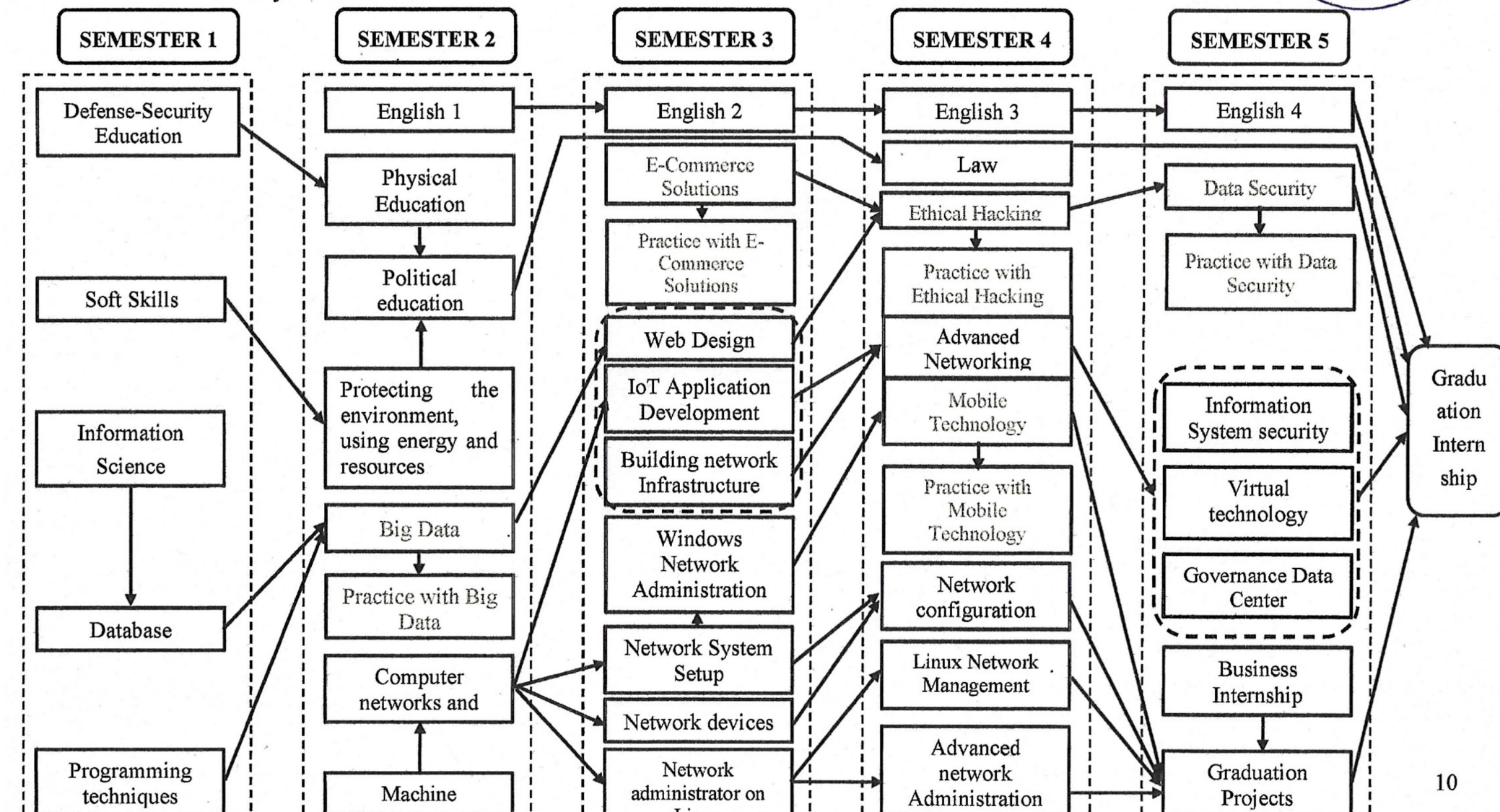
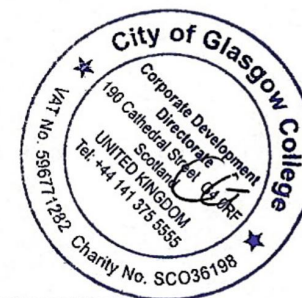
- Internship in the enterprise.
- Internship at professional workshops or affiliated business centres located in Trường Lý Tự Trọng College TP. Hồ Chí Minh
- Participating in specialized clubs in faculty.
- Implementing the model and project by the faculty.
- (* *) Study at the Enterprise.



DIAGRAM OF CONTACT AND COURSE TRAINING IN THE TRAINING PROGRAM

Industry name, profession: Computer Network Administrator

Industry code: 6480209



BRIEF DESCRIPTION OF CITY OF GLASGOW COLLEGE SUBJECTS:

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.

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

Mobile Technology

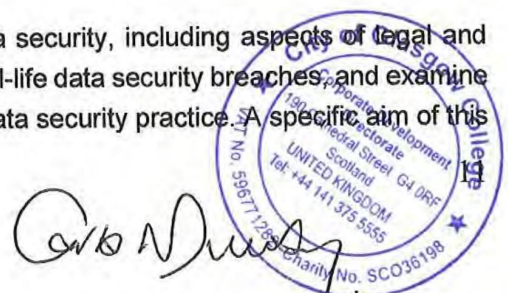
Provide Learners with an opportunity to develop their knowledge and understanding of the fundamental design considerations in web pages for mobile devices. Learners will also develop practical skills in the creation of mobile web pages and considerations that must be brought into the design process. 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.

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.

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.

