



Tertiary and Vocational Education Commission
National Competency Standards and Curriculum
For
ICT for Beginner – NVQ Level 3



Course synopsis

This course is designed to give students basic knowledge, along with abilities, skills and attitudes that will enable them to start their career in ICT field. This course is improved the competences of students on ICT (Information and Communication Technology) enabling them to manage their tasks effectively and efficiently in their ICT working environment. This course provides competencies required to identify common computer problems related to software & hardware, carry out basic maintenance of a computer such as install software & drivers, configure and use digital devices. And also this course provide competences required to use Internet, advance web search, basic operation of web browser, basic operation of email, prepare reports, effective use of office package (document management, spread sheet, presentation & database), identify security threats and preventive action, basic systems maintenance such as backup and recovery, work with ICT related projects, effective communication and basic knowledge on digital marketing. This course is extremely covered in the curriculum considering the practical aspects as well.

Course Title	Course Duration
ICT for Beginners	3 months
<p>Objectives of the course</p> <p>ICT is the technology required for information processing, in particular, the use of electronic computers, communication devices and software applications to convert, store, protect, process, transmit and retrieve information from anywhere, anytime.</p> <p>This course is intended to give students basic knowledge, along with abilities, skills and attitudes that will enable them to enjoy productive employment in the ICT environment. While specialization in their career of choice will come later, students need a foundation that will allow them easy upward mobility in that career.</p>	
<p>Competencies / modules to be covered</p> <ol style="list-style-type: none"> 1. Handling Computers and digital devices This module provides necessary skills to identify common problem of computer related to hardware & software, carry out the basic maintenance of personal computer with Install & configure office appliances and digital devices. 2. Internet and Communications This module provides understanding of basic operation of internet, web browsing, cloud technology, email and advanced search. And also provides skills to use Internet as cooperative resource to solve the problems by doing some research and compile reports. 	

3. Working with and securing computers

This module provides skills to identify security threats and preventive actions. Further provides skills to maintenance of the system such as backup and recovery.

4. Computers for office productivity

This subject provides skills to identify advanced text editing option and convert to different file format, different data presenting techniques, basic operation of securing document. Further this subject covered basic operation of spreadsheet and importance of database, identify software based on user requirement and carry out the operation of mail merge, database and professional presentation.

5. Users role in software system lifecycle

This subject provides skills to identify different type of ICT projects and their basic operations. And also Understand the function of ICT enable organization and basic programming.

6. Contributing towards a better work place

This subject provides skills to identify organizational behavior, effective communication and presentation and digital marketing

7. Career Skills

This module is compulsory in all NVQ Level 3 courses. It provides an introduction to the soft skills that will help students enjoy productive employment. This course provides basic communicative skills in English and effective elementary reading and writing skills and basic knowledge of grammar to facilitate this. It also introduces cognitive skills with regard to effective work and the ability to work efficiently alone and in a team.

Module 01

Module Title and Code: Handling Computers and digital devices	Module code:
	Time Frame: 40
Reference to NCS:	
<p>Competencies (job functions and soft skills) and descriptions:</p> <ol style="list-style-type: none"> 1. Identify common computer problems related to hardware & software. Trainees identify common computer problems related to hardware & software. Further they identify the capabilities of their computers. Trainees should be able to diagnose simple problems and communicate those giving explanations. 2. Identify error messages and separately as software & hardware problems Students identify error messages which can be generated from computer. Further they identify them separately as software & hardware problems. 3. Identify problems related to hardware and explain issues The student should be able to identify problems related to hardware issues such as absence of devices. They explain and reasons and can communicate clearly about the issue. 4. Carry out basic maintenance work of a computer Students identify basic maintenance work of a computer and safety considerations in doing physical maintenance. Students identify the license agreement of software and durations. 5. Install ,configure and use devices and office appliances Trainees install devices to their computers and configure devices. Moreover, they use office appliances such as printers, projectors, fax, Scanner and PABX. They can install drivers and devices to their system and configure devices accordingly They can connect their computers in to networks and use shared devices in networks. Further, they use digital devices in communications. Eg: Use a projector for presentations. They connect their computers and devices to different networks using wired connection/ wifi and share devices. Further they create mobile hotspots and share services through wireless networks. 	
<p>Typical related work situations to master:</p> <ol style="list-style-type: none"> (1) Computer is giving beeps in starting process and it doesn't start as usual (2) Error messages are popping out, user is not allow to proceed forward (3) Company expect their employees to install and configure electronic devices by their own (4) Shared printer/ scanner don't appear in the network or devices are not accessible. 	

<p>Important pertinent Content: (knowledge)</p>	<ul style="list-style-type: none"> • Using and sharing printers, fax machine, scanners etc in internal network and make use of them • Using projectors, WebEx session and video conferencing. • Routers and WIFI hotspots • PABX
<p>Potentially useful teaching methods: (optional)</p>	<p>e. g.</p> <ul style="list-style-type: none"> - Letting students to identify error messages which can be generated from computer. Further listing down those under software & hardware problems. - Letting student to identify 10 different problems related to hardware issues such as absence of devices (along with the number of beeps) and getting explain and reasons for those issues. - An activity based work on scanning a document (text file) and edit it, scanning image files using different option (change resolution/ and quality and saving them in different formats (JPEG/ PDF)) using , further fax/ print materials - Demonstrate how to use projector for presentation and multimedia purposes. (Focusing, making use of the functions and options eg: PC screen only, Duplicate, Extend, Second screen only)of a multimedia projector) - Group activities on adding digital devices (printer/ scanner etc. as a shared device to network, using internal network for communications.

Module 02

Module Title and Code: Internet and Communications	Module code: Time Frame: 60
Reference to NCS:	
<p>Competencies (job functions and soft skills) and descriptions:</p> <ol style="list-style-type: none"> <p>1. Understand basic operation of internet and web browser</p> <p>Trainees understand the concepts and terms associated with internet.</p> <p>They perform the basic browser settings for effective web browsing. Further they browse the internet, navigate effectively and are familiar with book marks, form submission, save files, take print outs functionalities.</p> <p>2. Carry out research and compile reports</p> <p>Trainees carry out research and compile reports. Moreover, they use internet as a corporate resource to solve problems.</p> <p>3. Identify common services available in the internet and effective use of advance searching.</p> <p>Trainees identify the advantages and common useful services available in the internet. They are capable of finding the services through effective surfing technique. Moreover, they recognize advance searching options and tools in finding appropriate information for their day to day work.</p> <p>They realize how they can improve the quality and efficiency of their works using internet resources in business environments. They download, install programs and use them as tools.</p> <p>4. Carry out the basic operation of email</p> <p>They understand concept of email, email addresses and basic features. Trainees handle emails professionally in a business environment with attachments and proper writing styles.</p> <p>They send and receive emails effectively with the standard email functionality. Trainees understand how to manage and maintain email systems in terms of organizing emails, contacts, folders etc.</p> <p>They understand the legal and ethical aspects of computer communications.</p> 	

5. Identify the Cloud technology and carry out the basic operation

They use cloud technology for storing data and sharing/ gathering information in internet. They use internet in sharing ideas, getting comments and feedback remotely from stakeholder/ partners and colleagues.

Eg: Google drive, Google forms, Drop box

They identify the purpose and the functions of e-tools and compare the benefits of different products and services available.

Trainees understand concepts of virtual communities such as social networking, internet forums, blogging, chat rooms, online games etc.

Trainees understands the use of internet as a digital marketing platform

Typical related work situations to master:

(5) Handling communications through emails for business purpose.

(6) Find and research useful information and prepare reports

(7) Communicate through video conferencing tools such as skype

Important pertinent Content (knowledge):

- Browsers
- Email
- Search Engines
- Cloud technology/ Google drive/ Drop box
- Google forms/ web based application
- Digital marketing

Potentially useful teaching methods (optional):

- Conduct a video conference
- Write business email
- Produce a research report on a topic
- Demonstrate browsing techniques to peers
- Team presentation on useful resources in the internet

Module 03

<p>Module Title and Code:</p>	<p>Module: Working with and securing computers</p>
<p>Reference to NCS:</p>	<p>Time Frame: 40 hours</p> <p>See Competency Profile of Sector Skills Council</p>
<p>Competencies (job functions and soft skills) and descriptions:</p> <p>1. Identify the security threats and preventive action Trainees identify the different types of physical and logical security threats such as virus attacks, data theft, malware, spyware etc. They identify antivirus software in the market and install the software based on your machine and further upgrade the software when required. They recognize how the internal network and resources can affect your computer system security, how the internet can cause system vulnerabilities</p> <p>2. Carry out the system recover and basic maintenance Trainees define what is system recovery and different ways in which the system backups can be taken such as external backups, cloud backups...etc, further they explain what is disaster recovery/ contingency planning They recover the computer when it fails by first devising a recovery plan, such as when, where and how to take backups and recover system.</p>	
<p>Typical related work situations to master:</p> <p>(8) New computer are bought, basic anti-virus software etc. needs to be installed and the system is made to work properly. (9) There was a loss of data due to hardware problems, recovery of data is asked for. (10) Computer security was breached. A backup is needed. Proposals for more security in future are welcome.</p>	
<p>Important pertinent Content (knowledge):</p>	<ul style="list-style-type: none"> - Different types of threats (Physical threats/ Logical Threats), sources of threats and impact of the threats - Potential vulnerabilities related to threats - Anti-virus software - Basics of System recovery - Different types of backup (external backups/ Cloud backups) - Recovery plans - Staying up-to-date (regarding computer protection)

<p>Potentially useful teaching methods (optional):</p>	<ul style="list-style-type: none">- Installing anti-virus software/ scanning and identifying threats along with their types- Searching internet for 3 antivirus software and comparing features.- A report on individual licensing and group licensing,- finding three stories about cyber threats and explain students point of view and how these would have been resolved- Identifying threats based on a given simple case study, preparing a plan for security and describing steps in order to recover when a problem comes up.
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Module 04

Module Title and Code: Computers for office productivity	Module code:
Reference to NCS:	Time Frame: 110 hours
Competencies (job functions and soft skills) and descriptions:	
<p>1. Identify advanced text editing option and convert to different file format Trainees identify usage of advance text editing option office packages. Eg: (Microsoft word/ open office). Further prepare reports/ proposals using text editing software and convert those in to useful formats (PFD/ Jpeg/ Text). They can convert text files to useful formats. They secure the content of documents they prepare.</p> <p>2. Carry out operation of mail merge, They Produce many copies of a letter, each copy with a different name and address using mail merge.</p> <p>3. Identify different data presenting techniques They use images, URLs, art works etc. with text documents and further they use appropriate data presentation methods. Further they recognize the techniques for preparing professional presentations.</p> <p>4. Identify the basic operation of securing document They secure the content of documents and different levels of securing documents. They use securing method along with the various formats of text files. They create digital signatures.</p> <p>5. Identify the basic operation of spreadsheet and importance of data base Trainees use multiple sheets and files, use data from multiple sheets and files to analyze/ compare They use data and display them meaningfully using figures, graphs, different types of charts and diagrams. Trainees explain the importance of maintaining electronic data bases, advantages of having electronic data bases. Moreover, they create simple data bases and make use of it.</p> <p>6. Carry out the professional presentation Trainees identify the option and capabilities related to computer presentation applications. Further they recognize the techniques for preparing professional presentations. They use the reports obtain through databases for presentations. Moreover, they use different types of data to display results and use multimedia in presenting it They suggest how to use multimedia for a professional presentation and use them effectively in different audiences. Criticize how to use multimedia to attract audience.</p>	

<p>7. Work with Data Base Trainees create a database and insert data via database forms. They identify the nature of data bases and advantage of maintaining electronic data bases. Further they design simple data bases and store data in data bases. They create reports with different tables in a database and fetch data from tables to create reports. Further, integrating MS Access with MS word and Excel.</p> <p>8. Identify software based on user requirement They select the appropriate application software to solve the given problem. Further they use job oriented application for day to day activities while increasing efficiency and effectiveness. They identify user requirements and suggest improvements of feature and tools of computer applications. Explain how suggested improvements can be used effectively as users.</p>	
<p>Typical related work situations to master:</p> <p>(11) Compiling reports/ proposals for office purposes (12) Use effecting data/ information presentation methods for effective writing (13) Company needs employer to make presentation to evaluate performances. (14) Employee has to describe the variation of their services/ products to their partners/ stake holders through presentation.</p>	
<p>Important pertinent Content (knowledge):</p>	<ul style="list-style-type: none"> - Microsoft word/ open office - Report writing technique/ content management/formats - Mail Merging - Spread sheets - Power point - Professional presentation techniques (communication oriented) - MS Access - Retrieving data/ queries - Data base management - Job/ task oriented computer applications <p>Effective communication techniques</p>
<p>Potentially useful teaching methods (optional):</p>	<p>e. g.</p> <ul style="list-style-type: none"> - Activity based learning opportunities for text editing (Compiling a complete report using a text editor (MS Word)) - Direct and assist trainees to use application for their day to day works. -

Module 05

Module Title and Code: Users role in software system lifecycle	Module code:
Reference to NCS:	Time Frame: 60
Competencies (job functions and soft skills) and descriptions:	
<p>1. Identify the different type of ICT project and work with ICT project Trainees recognize different types of ICT projects in an organization and understand they can be part of an ICT project as users. Trainees can relate to key success factors of ICT projects from user perspective. They can interpret different phases of ICT project life cycle and understands the different user roles in IT projects. Trainees communicate business requirements effectively and prepare basic user requirement documents to contribute to IT projects. They carry out software basic data configuration.</p> <p>2. Identify the basic operation of ICT project Trainees carry out basic ICT enabled business process training to end users. They produce basic user manual for the end users. They prepare basic project plans using project planning software. Trainees interpret the importance of quality management in software development lifecycle and understand their role in the activity. Further they explain different quality assurance standards. Trainees understands user acceptance testing as a concept and conducts such testing effectively.</p> <p>3. Understand the function of ICT enable organization and basic programming Trainees understand their role in an ICT enabled organization. Further they effectively works with ICT support staff in resolving cases. Trainees understand the software support function and reports issues effectively. Moreover they write a simply “hello world” software program.</p>	
Typical related work situations to master:	
(15) Company is implementing a customized software for its operations (16) Company is implementing an out of the box ERP for its operations (17) Company is carrying out business requirement study (18) IT project team is carrying out UAT (19) IT project team is documenting a user manual (20) IT project team is carrying out user training (21) IT System is going live (22) Working with support staff effectively (23) A task has been assigned to the user to plan and execute in a timely manner (24) Act as IT user of a system	
Important pertinent Content (knowledge):	<ul style="list-style-type: none"> - Types of IT projects - Basics of Project Management - Phases of an IT projects - Project planning software - Basics of Business Analysis and documentation

	<ul style="list-style-type: none"> - Basics of software configuration - SOP documentation - Basic Quality Assurance - Software support operation
<p>Potentially useful teaching methods (optional):</p>	<p>e. g.</p> <ul style="list-style-type: none"> - Prepare work breakdown structure for a project - Presentation of a project plan - Suggest useful software / digital tools which can be useful in increasing the efficiency of the business process - Role play of software life cycle of a customized project - Role play of a life cycle of an ERP project - Role play of business requirement study - Configure a simple software - Prepare a simple user manual - Prepare Test cases - Execute test cases - Role play of software support scenario - Presentation of business requirement - Write a “Hello world” simple software program

Module 06

Module Title and Code:	Module code:
Contributing towards a better work place	Time Frame: 30
Reference to NCS:	
<p>Competencies (job functions and soft skills) and descriptions:</p> <ol style="list-style-type: none"> 1. Identify organizational behavior Trainees think as a member in an organization and contribute effectively in IT related tasks. Moreover, they suggest improvements for the business process using their IT skills. They identify the organizational responsibilities in an ICT/ICT enabled organization 2. Identify effective communication and presentation They have the confidence to communicate with different stakeholders. Further they act with good etiquettes, demonstrate good PR and customer relationship Trainees make presentations to others and help others think Positively and show right attitudes. 3. Identify digital marketing They identify the how marketing can be used through internet (social media etc.) for projects/business 	
<p>Typical related work situations to master:</p> <p>(25) Employee is asked to take part in a team work. (26) Employee is asked to lead his team for certain tasks (27) Employee has to play a role as an organizer for an event (28) When employee has to discuss/ negotiate and corporate with stake holders</p>	
Important pertinent Content (knowledge):	General responsibilities as a team member Using creativity for developments Leadership Ethics related to working environment. Using internet for marketing
Potentially useful teaching methods (optional):	e. g. Note: Trainers should improve above competencies of their trainee during the other technical modules in an effective manner. Trainers are free to use activity based teaching techniques to improve above mentioned competencies with the technical modules.

Module 07

Module Title	Course Duration
Career Skills 1	At least 60 hours in any 3 month course
<p>Objectives of the module</p> <p>This module is compulsory in all NVQ Level 3 courses. It provides an introduction to the soft skills that will help students enjoy productive employment. This course provides basic communicative skills in English and effective elementary reading and writing skills and basic knowledge of grammar to facilitate this. It also introduces cognitive skills with regard to effective work and the ability to work efficiently alone and in a team.</p>	
<p>Competencies</p> <p>a Understand and use simple expressions to communication This subject provides the necessary communication skills so that students can introduce themselves and interact with others, and can respond to simple questions and follow simple instructions, describe people, places, tools.</p> <p>b Read and write effectively This subject provides the necessary skills to find and understand the information given in a text, to understand notices, instructions and information, to take down short messages and write simple descriptions.</p> <p>c. Use English correctly This subject is not taught separately but is included in the development of the productive and receptive skills above, since awareness of the structure of the language is necessary for these The development of appropriate vocabulary is also targeted to deploy the above skills</p> <p>d. Develop the capacity to think and plan productively y This subject develops cognitive abilities and skills with regard to effective work, with strengthening of thinking skills, recognition of systems, making deductions etc</p> <p>e. Develop effective working capacity This subject develops the capacity to work effectively individually and in collaboration with others through building the sense of individual responsibility, and accountability within a working group</p>	