



Maldives National Skills Development Authority



National Competency Standard for Computer Hardware and Networking

Standard Code: ICTS02V2/20

Qualification Name: National Certificate IV in Computer Hardware and Networking
Qualification Code: ICTS01Q2L4V2/20

PREFACE

Technical and Vocational Education and Training (TVET) Authority was established with the vision to develop a TVET system in the Maldives that is demand driven, accessible, beneficiary financed and quality assured, to meet the needs of society for stability and economic growth, the needs of Enterprise for a skilled and reliable workforce, the need of young people for decent jobs and the needs of workers for continuous mastery of new technology.

TVET system in the Maldives flourished with the Employment Skills Training Project (ESTP) funded by ADB with the objective of increasing the number of Maldivians, actively participating in the labor force, employed and self-employed. The Project supported expansion of demand driven employment-oriented skills training in priority occupations and to improve the capacity to develop and deliver Competency Based Skill Training (CBST). The project supported delivery of CBST programs to satisfy employer demand-driven needs. The National Competency Standards (NCS) provide the base for this training. Currently CBST is offered for five key sectors in the Maldives: Tourism, Fisheries and Agriculture, Transport, Construction and the Social sectors. These sectors are included as priority sectors that play a vital role in the continued economic growth of the country. The Ministry of Health has provided support to TVET Authority to develop National Competency Standard, instructional materials, assessment resource book and trainees log book for the National Competency Standard for "Computer Technician".

The NCS are developed in consultation with Employment Sector Councils representing employers. They are designed using a consensus format endorsed by the Maldives Qualifications Authority (MQA) to maintain uniformity of approach and the consistency of content amongst occupations. This single format also simplifies benchmarking the NCS against relevant regional and international standards. NCS specify the standards of performance of a competent worker and the various contexts in which the work may take place. NCS also describes the knowledge, skills and attitudes required in a particular occupation. They provide explicit advice to assessors and employers regarding the knowledge, skills and attitudes to be demonstrated by the candidates seeking formal recognition for the competency acquired following training or through work experience. By sharing this information, all participants in the training process have the same understanding of the training required and the standard to be reached for certification. Certification also becomes portable and can be recognized by other employers and in other countries with similar standards.

NCS are the foundation for the implementation of the TVET system in Maldives. They ensure that all skills, regardless of where or how they were developed can be assessed and recognized. They also form the foundation for certifying skills in the Maldives National Qualification Framework (MNQF).

NCS are developed by the TVET Section of Ministry of Higher Education, Employment and Social Security. The NCS are endorsed by the Employment Sector Councils of the respective sectors and validated by the Maldives Qualification Authority.



Mohamed Hashim
Minister of State for Higher Education
TVET Authority

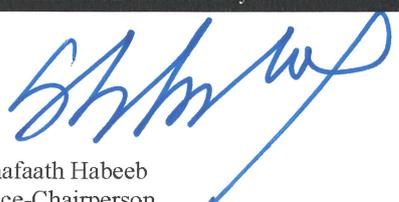


Ahmed Nisham
Director, Standard Development & Statistics
TVET Authority

TECHNICAL PANEL MEMBERS

#	Name	Designation	Organization
01	Basim Abdulla	Lecturer	Faculty of Engineering, Science and Technology
02	Shazra Mohamed Saeed	Assistant IT Service Officer	National Centre for Information Technology
03	Mohamed Naseeh	Senior Human Capital Management Executive Officer	Civil Service Commission
04	Mohamed Musad	Director Digital Transformation	Dhiraagu
05	Mohamed Latheef	Senior Lecturer	Maldives Polytechnic
06	Aminath Sakha Saleem	Computer Technician	Ministry of Health
07	Hussain Samooh	Computer Programmer	Ministry of Health

VERSION	DEVELOPER	DATE	STANDARD CODE
V1	TVET Authority	2018	SOC02S17V2
V2	Mohamed Ishan	19 th October 2020	ICTS01V2/20

EMPLOYMENT SECTOR COUNCILS			
#	Name	Designation	Organization
01	Dr. Ali Fawaz Shareef	Rector	Cyryx College
02	Shafaath Habeeb	Director	Ministry of Communication, Science and Technology
03	Hussain Shifau	IT Executive	National Centre for Information Technology
04	Mariyam Asna	Executive Board Member	Women in Tech
05	Mohamed Latheef	Senior Lecturer	Maldives Polytechnic
06	Mohamed Jailam	CEO	Javaabu
07	Ibrahim Zameel	Senior Manager, Training and Development	Ooredoo
National Occupational Standard has been endorsed by:			
 Dr. Ali Fawaz Shareef Chairperson ICT Employment Sector Council		 Shafaath Habeeb Vice-Chairperson ICT Employment Sector Council	
Technical and Vocational Education and Training Authority Ministry of Higher Education Handhuvaree Hingun, M. World Dream Male', Maldives			
Date of Endorsement: 2017		Date of Revision: 19 th October 2020	

Standard Development Process

To ensure the standard meets the ICT sector job requirements, the process was divided into three phases. A research phase, data analysis phase and drafting phase. First, ICT standards of Maldives and some foreign countries were reviewed. After that, Maldives ICT sector's job requirements were reviewed. Based on the data gathered, ICT standard contents were constructed. By completion of this process, the first Draft of the standard was developed.

For strengthening the development of the National Occupational Standard, a panel with technical experts was formed. The members provide technical support which needs to be included or excluded in the developed standard. If any amendment is brought to the standard, a new draft is constructed and reviewed by the technical panel, until the whole National Occupational Standard caters the needs of the ICT sector.

Once the standard is finalized among the technical panel, the standard then is submitted to the ICT Sector Council. A brief report on how National Occupational Standard for Computer Hardware and Networking was developed is presented to the Sector council. Council members then ensure that the industry need has been catered in the standard and once the standard fully fills the recommendation the standard has been endorsed by the council.

After endorsing the standard from the ICT Sector Council, the final document is submitted to Maldives Qualification Authority (MQA) for approval. After the approval of MQA the National Occupational Standard for Computer Hardware and Networking is published, which would be then used by training providers.

Description of “Computer Hardware and Networking Occupation”

Like all other, qualification of the Maldivian TVET system, this occupational standard document focuses a very important segment of skilled occupations across the Maldives.

Competency standard presented here refers to an important occupation within the Information Communication Technology (ICT) Sector, which is Computer Hardware & Networking.

ICT sector plays an important role in establishing communication between individuals and corporations. Moreover, in this era of information, ICT is considered as the leading sector of securing sensitive data in digital world. Since the opportunities in ICT sector is “infinite”, there are plenty of room for those who are interested to reach higher levels in this sector. For this reason, this standard is designed to cater the needs of the candidates who are interested to proceed in the field of computer hardware & networking.

From an economical aspect, it's not an option for ICT sector to be strong. Instead, it has to be strong to an extent the sector should be capable of competing at international levels. Today, ICT personal need to play an important role in every field. Financial sector and National Security sector count among highly sensitive areas. Highly trained ICT professionals are needed to secure these sectors. And it's true for all other sectors. Individuals who work as computer hardware and network technician or administrator are the ones that lay the backbone of the digital communication network, thus there are the ones who work at the frontline of defending the organizations from cyber-attacks and other various threats.

Job opportunities upon completion of “National Certificate IV in Computer Hardware and Networking”

Upon successful completion of the National Certificate IV in Computer Hardware and Networking, student can work in the following jobs.

1. *Computer Technician*
2. *IT Technician*

KEY FOR CODING

Coding Competency Standards and Related Materials

DESCRIPTION	REPRESENTED BY
Industry Sector as per ESC (Three letters)	Construction Sector (CON) Fisheries and Agriculture (FNA) Information, Communication and Technology (ICT) Transport Sector (TRN) Tourism Sector (TOU) Social Sector (SOC) Foundation (FOU)
Competency Standard	S
Occupation with in a industry sector	Two digits 01-99
Unit	U
Common Competency	CR
Core Competency	CM
Optional / Elective Competency	OP
Assessment Resources Materials	A
Learning Resources Materials	L
Curricula	C
Qualification	Q1, Q2 etc.
MNQF level of qualification	L1, L2, L3, L4 etc.
Version Number	V1, V2 etc.
Year of Endorsement of Standard, Qualification	By “/” followed by two digits responding to the year of last review, example /20 for the year 2020

1. Endorsement Application for Qualification 01

2. NATIONAL CERTIFICATE IV IN COMPUTER HARDWARE AND NETWORKING

3. Qualification code: ICTS01Q2L4/20

Total Number of Credits: 120

4. Purpose of the Qualification

This standard describes the performance outcomes, skills and knowledge required to work professionally in an ICT environment. This standard focuses on the application of skills and knowledge to solve a given problem in ICT field efficiently.

5. Regulations for the Qualification

National Certificate IV in Computer Hardware and Networking will be awarded to those who are competent in units

1+2+3+4+5+6+7+8+9+10+11+12+13+14+15+16+17

6. Schedule of Units:

Unit No.	Unit Title	Code
Common Competencies		
01	Leadership skills	ICTS01CR01V2/20
02	Programing skills for office automation	ICTS01CR02V2/20
03	Fundamentals of web development	ICTS01CR03V2/20
04	Creating a Website with CMS	ICTS01CR04V2/20
Core Competencies		
05	Install and configure open source OS	ICTS01CR05V2/20
06	Install and configure windows server	ICTS01CR06V2/20
07	Create and Manage small server environment	ICTS01CR07V2/20
08	Securing server environment	ICTS01CR08V2/20
09	Windows Server Backup	ICTS01CR09V2/20
10	Advanced Networking	ICTS01CR10V2/20
11	Network Security	ICTS01CR11V2/20
12	Configure router using CLI	ICTS01CR12V2/20
13	Implement and manage wireless networks	ICTS01CR13V2/20
14	Virtualization concepts	ICTS01CR14V2/20
15	Create and configure a local virtual system	ICTS01CR15V2/20
16	Cloud computing concepts	ICTS01CR16V2/20
17	Implement and configure cloud base service	ICTS01CR17V2/20
7. Accreditation Requirements	The training provider should place trainees in relevant industry or sector to provide the trainees the hands-on experience exposure related to this qualification.	
8. Recommended Sequencing of Units	As appearing under the section 06	

Unit Details

#	Unit Title	Code	Level	No of Credits
01	Leadership skills	ICTS01CR01V2/20	IV	05
02	Install and configure open source OS	ICTS01CR05V2/20	IV	05
03	Install and configure windows server	ICTS01CR06V2/20	IV	05
04	Create and Manage small server environment	ICTS01CR07V2/20	IV	15
05	Securing server environment	ICTS01CR08V2/20	IV	05
06	Windows Server Backup	ICTS01CR09V2/20	IV	07
07	Advanced Networking	ICTS01CR10V2/20	IV	05
08	Network Security	ICTS01CR11V2/20	IV	10
09	Configure router using CLI	ICTS01CR12V2/20	IV	08
10	Implement and manage wireless networks	ICTS01CR13V2/20	IV	05
11	Virtualization concepts	ICTS01CR14V2/20	IV	05
12	Create and configure a local virtual system	ICTS01CR15V2/20	IV	07
13	Cloud computing concepts	ICTS01CR16V2/20	IV	05
14	Implement and configure cloud base service	ICTS01CR17V2/20	IV	07
15	Programing skills for office automation	ICTS01CR02V2/20	IV	10
16	Fundamentals of web development	ICTS01CR03V2/20	IV	09
17	Creating a Website with CMS	ICTS01CR04V2/20	IV	07

Packaging of National Qualifications:

National Certificate IV in Computer Hardware and Networking will be awarded to those who are competent in units 1+2+3+4+5+6+7+8+9+10+11+12+13+14+15+16+17

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