Maldives National Skills Development Authority

National Competency Standard for School Laboratory Techniques

Standard Code: SOC-08L3-V2-24

FOREWORD

The pivotal role of the Maldives National Skills Development Authority (MNSDA) in meticulously implementing and expanding Technical and Vocational Education & Training (TVET) exemplifies the steadfast commitment of the Maldives to build a skilled and resilient workforce. This commitment is evident from the strategic formulation of National Standards and the establishment of a comprehensive framework for training and certification.

Under the Higher Education and Training Act 7/2021, the MNSDA assumes an instrumental role, reflecting the government's unwavering dedication to streamlining TVET policies and procedures. This includes the establishment of a robust system for accrediting and registering both Institution Based Training (IBT) and Employer Based Training (EBT) providers. The MNSDA's active involvement in conducting the National Apprenticeship Program (NAP), National Trade Testing and Certification (NTTC), and the issuance of National Certificates reflects a comprehensive approach to ensure elevated quality standards and competency within the workforce.

The National Competency Standards (NCS) revised through the Maldives Enhancing Employability and Resilience of Youth (MEERY) project accentuates the commitment to updating and sustaining contemporary skill sets aligned precisely with industry demands. Deliberate efforts to revise existing NCS, coupled with the development of curriculum, teaching materials, resource books, and logbooks, attest to our dedication to ensuring the ongoing relevance and currency of the TVET system in the Maldives.

The active engagement of Technical Panels and Employment Sector Councils in the NCS development and approval process, coupled with alignment to the Maldives National Qualification Framework (MNQF) and accreditation by the Maldives Qualifications Authority (MQA), certifies that the TVET system not only remains highly responsive but also ensures the quality standards demanded by industries. This approach enables the system to effectively meet the diverse needs of industries and adapt to the evolving economic landscape.

The collaborative development of the National Certificate III in School Laboratory Techniques by the MNSDA, MEERY, and the Maldives Institute of Technology exemplifies the practical implementation of TVET initiatives. This training package represents a critical stride towards addressing the requisite skills while fostering opportunities to integrate sustainable economic development within the TVET framework.

Dr. Zahra Mohamed

Chief Executive Officer

Maldives National Skills Development Authority

EMPLOYMENT SECTOR COUNCILS			
#	Name	Designation	Organisation
01	Saudath Afeef	Director	Ministry of Youth, Sports and Community Empowerment
02	Mariyam Azza Ali Rauf	Human Resource Manager	WAMCO
03	Fathmath Sauda	Allied Health Professional	Allied Health Council
04	Mariyam Nuzla	General Manager	STO
05	Ali Shareef	Center for Foundation Sudies	Villa College
06	Aishath Shifana Wajeeh	Industry Expert	Industry Expert
07	Hamid Abdul Ghafoor	Industry Expert	Industry Expert
08	Ibrahim Nafiu	Secretary	Riverine Sports
09	Shakeeba Ali	Director General	Maldives National Skills Development Authority

National Occupational Standard has been endorsed by:
Fathmath Sauda Chairperson Social Sector Council
Maldives National Skills Development Authority Umar Zahir Office Building, 5th Floor, Orchid Ma higun, HulhuMale' , Republic of Maldives.

Date of Endorsement:	Date of Revision:

TECHNICAL SUPPORT			
#	Name	Designation	Organisation
01			
02			

TECHNICAL PANEL MEMBERS			
#	Name	Designation	Organisation
01	Fathimath Zimna	Lecturer	Maldives National University
02	Mohamed Eyman	Assistant GM/Head of quality Assuarence	Maldives Water and Sewerage Company PVT LTD
03	Dr. Ahmed Mohamed	Assistant Professor	Maldives National University
04	Mariyam Areesha	Senior laboratory technologist	Indhira Gandi Memorial Hospital

VERSION	DEVELOPER	DATE	STANDARD CODE
V2	Maldives Institue of Technology	02/05/2024	SOC-08L3-V2-24

Standard Review Process

To begin with School Laboratory Techniques occupation competencies were profiled through study of the occupations across the Maldivian workplaces aligned to the principles of "Functional Analysis", a methodology used for reviewing Competency Standards. Referred occupational profiling process compared existing competency units incorporated within the National Competency Standard of Level III in School Laboratory Techniques program.

Draft Review of the occupational standard is then compiled and submitted to the Technical Panel (TP) organised by the Maldives National Skills Development Authority (MNSDA). The Draft Standard is then edited based on comments from TP members under the direct observation of MNSDA. With series of reviewing and editings, TP approved standard is then tabled at Employment Sector Council (ESC) meeting for endorsement.

All the Standards of MNSDA are endorsed from the ESC before being published on its website.

Description of "School Laboratory Techniques"

The program centres on providing individuals with fundamental competencies crucial for effective School Laboratory Techniques processes. Participants will acquire practical insights into basic techniques and practices.

The certification serves as an entry point for individuals venturing into the field of School Laboratory Techniques in the Maldives, providing a robust foundation in the fundamental skills necessary to contribute to proficient lab techniques.

Recommended changes to the existing National Certificate III in School Laboratory Techniques Standard

Following are the changes recommended by the Technical Panel and Employment Sector Council of MNSDA for the National Certificate III in School Laboratory Techniques Standard.
1. *Strengthen soft skills and recommended to include common modules used in the current Competency Standards of MNSDA*
2. *The existing modules have been thoroughly updated and revamped to align seamlessly with modern, cutting-edge approaches, ensuring relevance and up-to-date content.*

Job opportunities upon completion of "National Certificate III in School Laboratory Techniques"

Upon successful completion of the National certificate III in School Laboratory Techniques, students can work in the following jobs.
1. *School Laboratory Technician*
2. *Education Support Assistant (Laboratory)*
3. *Science Lab Support Assistant manufacturer*

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)
Standard Number - Occupation with in an industry sector	Two digits 01-99
Common Competency	CM
Core Competency	CC
Unit Number - Occupation with in an Standard	Three digits 01-99
MNQF level of qualification	L1, L2, L3, L4 etc.
Version Number	V1, V2 etc.
Separator	-
Year of Last Review of standard, qualification	Two digits responding to the year of last review, example 23 for the year 2023
Qualification Code	Refers to Standard code in cover page

1. Endorsement Application for Qualification 01

2. NATIONAL CERTIFICATE III IN SCHOOL LABORATORY TECHNIQUES

3. Qualification code: SOC-08L3-V2-24	Total Number of Credits: 65

4. Purpose of the qualification

This qualification is to provide individuals with the necessary knowledge and skills to support and assist in laboratory environments within educational institutions. This qualification aims to equip learners with a foundation in laboratory safety, equipment handling, and basic scientific procedures. The holders of this qualification will be prepared to effectively assist teachers and students in conducting experiments, maintaining lab equipment, and ensuring a safe and organised learning environment for practical scientific education.

5. Regulations for the qualification	National Certificate III in School Laboratory Techniques 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

6. Schedule of Units

Unit No.	Unit Title	Code
Common Competencies		
01	Apply occupational health and safety requirements	SOC-02-CM01-V2-24
02	Apply work ethics and optimise professionalism	SOC-01-CM02-V2-24
03	Practice effective workplace communication	SOC-01-CM03-V2-24
04	Provide effective customer care	SOC-01-CM05-V2-24
05	Perform computer operations	SOC-01-CM06-V2-24
06	Provide first aid	SOC-02-CM02-V2-24
07	Respond to fire	SOC-02-CM03-V2-24
Core Competencies		
08	Apply laboratory safety rules and guidelines	SOC-08-CC01-V2-24
09	Apply laboratory maintenance	SOC-08-CC02-V2-24
10	Work safely in accordance with defined policies and procedures	SOC-08-CC03-V2-24
11	Apply quality systems and continuous improvement process	SOC-08-CC04-V2-24
12	Apply basic science and mathematics for school laboratory	SOC-08-CC05-V2-24
13	Prepare standard and stock solution	SOC-08-CC06-V2-24
14	Perform instrumental test/procedures	SOC-08-CC07-V2-24
15	Perform non-instrumental test/procedures	SOC-08-CC08-V2-24

7. Accreditation requirements	The training provider should have made arrangements to ensure students are provided with

	adequate theory and practicals for them to develop all the required knowledge and skills stipulated in the National Competency Standard.
8. Recommended sequencing of units	As appearing under the section 06

Unit No.	Unit Title	Code	Level	No. of credits	Credit hours	Contact hours
1	Apply occupational health and safety requirements	SOC-02-CM01-V2-24	III	04	40	20
2	Apply work ethics and optimise professionalism	SOC-01-CM02-V2-24	III	03	30	15
3	Practice effective workplace communication	SOC-01-CM03-V2-24	III	03	30	15
4	Provide effective customer care	SOC-01-CM05-V2-24	III	05	50	25
5	Perform computer operations	SOC-01-CM06-V2-24	III	03	30	15
6	Provide first aid	SOC-02-CM02-V2-24	III	05	50	25
7	Respond to fire	SOC-02-CM03-V2-24	III	03	30	15
8	Apply laboratory safety rules and guidelines	SOC-08-CC01-V2-24	III	05	50	25
9	Apply laboratory maintenance	SOC-08-CC02-V2-24	III	04	40	20
10	Work safely in accordance with defined policies and procedures	SOC-08-CC03-V2-24	III	06	60	30
11	Apply quality systems and continuous improvement process	SOC-08-CC04-V2-24	III	05	50	25
12	Apply basic science and mathematics for school laboratory	SOC-08-CC05-V2-24	III	05	50	25
13	Prepare standard and stock solution	SOC-08-CC06-V2-24	III	04	40	20
14	Perform instrumental test/procedures	SOC-08-CC07-V2-24	III	05	50	25
15	Perform non-instrumental test/procedures	SOC-08-CC01-V2-24	III	05	50	25
Total				65	650	325

Packaging of National Qualifications:

National certificate III in School Laboratory Techniques 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

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COMPETENCY BASED ASSESSMENT

The final assessment of the National Competency-Based Programmes conducted by the Maldives National Skills Development Authority (MNSDA) is a competency-based assessment.

The Competency-Based Assessment ensures that the students' performance meets the requirements specified in the National Competency Standards (NCS). This assessment approach is designed to verify that graduates are job-ready and meet established occupational competency requirements within their respective fields.

Eligibility for Final Assessment

To be eligible for the final Competency-Based Assessment, students must fulfil the following conditions:

- achieve a **minimum of 80%** attendance
- deemed competent in each of the units of the programme in the pre-assessment

Competency-Based Assessment Process

Upon submission of the Pre-assessment report by the training provider, MNSDA will check for all the necessary supporting documents and conduct Competency-Based Assessment through a National Assessor registered with MNSDA. It is important to note that any trainer involved in the training process is **not permitted** to conduct the assessment to maintain impartiality and integrity of the process.

The final Competency-Based Assessment conducted by MNSDA includes both:

- **Theory**: Evaluating students' knowledge and understanding of key theoretical aspects of the competency.
- **Practical:** Assessing hands-on skills and application of knowledge in real-world or simulated environments.

Once the assessment is completed, the National Assessor will send the Competency-Based Assessment Report to MNSDA.

Competency Status Requirement

For certification to be granted, the student must be officially declared **"Competent"** in each of the units of the programme by the National Assessor.

Conclusion

Competency-Based Assessment is a critical component in ensuring the quality and credibility of technical and vocational skills-based training. By adhering to the outlined procedure, MNSDA upholds the standards required to certify students who are fully prepared to meet industry demands.