

BANGLADESH TECHNICAL EDUCATION BOARD



***Leather and Leather Goods Industry
Skills Council***

Bangladesh

NATIONAL COMPETENCY STANDARDS

for

MACHINE OPERATION (LEATHER GOODS)

**Sponsored by the TVET Reform Project
June 2010**

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Introduction

These Competency Standards were developed by the Standards and Curriculum Development Committee (SCDC) that was established under the sub-sector Industry Skills Council (ISC) and with the assistance of the Technical and Vocational Education Reform project. This project is funded by the European Union, the International Labour Organization and the Government of Bangladesh.

The competency standards are the foundation on which new competency based curriculum will be developed that responds better to the needs of industry for skilled workers. The members of the SCDCs are primarily from industry but with representatives from the Bangladesh Technical Education Board (BTEB), Directorate of Technical Education (DTE), Bureau of Manpower Employment and Training (BMET), NGO, and Private Training providers. Persons who will successfully complete the new TVET programs based on these competency standards will receive a qualification in the new National Technical and Vocational Qualification Framework (NTVQF).

Members of the SCDC for the occupation: Machine Operator

- Mr. A.K.M. Afzalur Rahman, Chairman SCDC & Consultant
Managing Director, Landmark Footwear Ltd., House No. 407/8 Road No. 7 (Westside), DOHS, Baridhara, Dhaka
- Mr. Syed Jafar Iqbal, Member SCDC
Center of Excellence for Leather Skill Bangladesh Limited (COEL), House No. 6, Road No. 137, Block-SE(D), Gulshan-1, Dhaka
- Mr. Tonmoy Hasan Chowdhury, Member SCDC
Center of Excellence for Leather Skill Bangladesh Limited (COEL), House No. 6, Road No. 137, Block-SE(D), Gulshan-1, Dhaka
- Mr. Amal Kanti Deb, Member SCDC
Lecturer (Technical), Bangladesh college of Leather Technology, Hazaribagh, Dhaka
- Engr. Md. Shahadat Hossain, Member SCDC
Curriculum Specialist, Bangladesh Technical Education Board (BTEB), Dhaka
- Mr. Md. Mukter Hossain, Member SCDC
Instructor, Machine Tools Operator, BK-TTC, Dhaka

TVET Reform Project:

- Ms. Rosemary Brown, Advisor, component-2
- Dr. Md. Wazed Ali, Programme Officer, component-2
- Mr. Md. Abul Kashem, Secretary, component-2

Endorsed by

Industry Skills Council

Date:

Bangladesh Technical Education Board
(BTEB)

Date:

Proposed Bangladesh NTVQF with Job Classifications

NTVQF LEVELS	EDUCATION SECTORS			Job Classification
	Pre-Vocation Education	Vocational Education	Technical Education	
NTVQF 6			Diploma in engineering or equivalent	Middle Level Manager /Sub Assistant Engr. etc.
NTVQF 5		National Skill Certificate 5 (NSC 5)		Highly Skilled Worker / Supervisor
NTVQF 4		National Skill Certificate 4 (NSC 4)		Skilled Worker
NTVQF 3		National Skill Certificate 3 (NSC3)		Semi-Skilled Worker
NTVQF 2		National Skill Certificate 2 (NSC 2)		Medium - Skilled Worker
NTVQF 1		National Skill Certificate 1 (NSC 1)		Basic-Skilled Worker
Pre-Voc 2	National Pre-Vocation Certificate NPVC 2			Pre-Vocation Trainee
Pre-Voc 1	National Pre-Vocation Certificate 1 NPVC 1			Pre-Vocation Trainee

Note: Note: The final version of the National Technical and Vocational Qualification Framework (NTVQF) may exclude the Pre-Vocational Sector and Pre-Voc 1 and 2 Levels but they have been included to above table to show how the under-privileged are catered for by NTVQF.

*The pre-vocational levels prepare the participant for **training** while learning programs at the various levels of the NTVQF prepare the participant for the **workforce**.*

At the completion of the pre-vocational programs the participants would move into training programs at the NTVQF level 1.

Annex 1: NTVQF level Descriptors

NTVQF Level	Knowledge	Skill	Responsibility	Job Class.
6	<input type="checkbox"/> Comprehensive actual and theoretical knowledge within a specific study area with an awareness of the limits of that knowledge.	<input type="checkbox"/> Specialised and restricted range of cognitive and practical skills required to provide leadership in the development of creative solutions to defined problems	<input type="checkbox"/> Manage a team or teams in workplace activities where there is unpredictable change <input type="checkbox"/> Identify and design learning programs to develop performance of team members	Supervisor / Middle Level Manager /Sub Assistant Engr. etc.
5	<input type="checkbox"/> Very broad knowledge of the underlying, concepts, principles, and processes in a specific study area	<input type="checkbox"/> Very broad range of cognitive and practical skills required to generate solutions to specific problems in one or more study areas.	<input type="checkbox"/> Take overall responsibility for completion of tasks in work or study <input type="checkbox"/> Apply past experiences in solving similar problems	Highly Skilled Worker / Supervisor
4	<input type="checkbox"/> Broad knowledge of the underlying, concepts, principles, and processes in a specific study area	<input type="checkbox"/> Range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying the full range of methods, tools, materials and information	<input type="checkbox"/> Take responsibility, within reason, for completion of tasks in work or study <input type="checkbox"/> Apply past experiences in solving similar problems	Skilled Worker
3	<input type="checkbox"/> Moderately broad knowledge in a specific study area.	<input type="checkbox"/> Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools	<input type="checkbox"/> Work or study under supervision with some autonomy	Semi-Skilled Worker
2	<input type="checkbox"/> Basic underpinning knowledge in a specific study area.	<input type="checkbox"/> Basic skills required to carry out simple tasks	<input type="checkbox"/> Work or study under indirect supervision in a structured context	Medium Skilled Worker
1	<input type="checkbox"/> Elementary understanding of the underpinning knowledge in a specific study area.	<input type="checkbox"/> Limited range of skills required to carry out simple tasks	<input type="checkbox"/> Work or study under direct supervision in a structured context	Basic Skilled Worker
Pre-Voc 2	<input type="checkbox"/> Limited general knowledge	<input type="checkbox"/> Very limited range of skills and use of tools required to carry out simple tasks	<input type="checkbox"/> Work or study under direct supervision in a well-defined, structured context.	Pre-Vocational Trainee
Pre-Voc 1	<input type="checkbox"/> Extremely limited general knowledge	<input type="checkbox"/> Minimal range of skills required to carry out simple tasks	<input type="checkbox"/> Simple work or study exercises, under direct supervision in a clear, well defined structured context	Pre-Vocational Trainee

**National Competency Standards
for
MACHINE OPERATION**

S. No.	Unit Code and Title		UoC Level	Nominal Duration (Hours)
Generic (5 UoCs required)				200
1	GN 1001A1	Use basic mathematical concepts	1	40
2	GN 1002A1	Apply OSH practices in the workplace	1	30
3	GN 2003A1	Use English in the workplace	2	70
4	GN 2004A1	Operate in a self- directed team	2	30
5	GN 2005A1	Present and apply workplace information	2	30
Sector Specific (1 UoC required)				40
6	LLGSS20006A	Work in the Leather, Footwear and Leather Goods Industry	1	40
Occupation Specific - Complete ONE of the following THREE specialised electives				
Machine Operations (Leather Goods) (11 UoCs required)				440
7	LLGMO1008A1	Cut leather by hand	1	50
8	LLGMO1009A1	Sew Leather by hand	1	30
9	LLGMO2011A1	Cut synthetic materials by machine	2	30
10	LLGMO1012A1	Skive leather pieces	1	60
11	LLGMO1013A1	Cut leather by machine	1	50
12	LLGMO1016A1	Identify materials used in leather goods production	1	30
13	LLGMO2017A1	Split leather pieces	2	20
14	LLGMO1007A1	Embossing and stamping operations	1	30
15	LLGMO1010A1	Apply chemical finishes to leather products	1	30
16	LLGMO2014A1	Sew leather by machine	2	60
17	LLGMO1015A1	Perform table work	1	50
Total Nominal Learning Hours Machine Operations (Leather Goods)				680
Machine Operations (Footwear) (10 UoCs required)				480
7	LLGMO1007A1	Perform embossing and stamping operations	1	30
8	LLGMO1008A1	Cut leather by hand	1	50
9	LLGMO1015A1	Perform table work	1	50

10	LLGMO2011A1	Cut synthetic materials by machine	2	30
11	LLGMO1013A1	Cut leather by machine	1	50
12	LLGMO1018A1	Hand last shoe	1	60
13	LLGMO2019A1	Assemble shoe by hand	2	50
14	LLGMO3020A1	Last shoe by machine	2	60
15	LLGMO3021A1	Perform footwear finishing operations	3	40
16	LLGMO2023A1	Operate machine to sew upper	2	60
Total Nominal Learning Hours Machine Operations (Footwear)				720
Machine Operations (Tannery) (10 UoCs required)				710
7	LLGMO1024A1	Use drum or vessel to prepare or tan hides or skins	1	100
8	LLGMO2025A1	Trim leather	2	40
9	LLGMO3030A1	Operate machines with in a team to prepare hides or skins for tanning	3	110
10	LLGMO2026A1	Perform drying operations	2	60
11	LLGMO3022A1	Operate machines for making crust leather *	3	70
12	LLGMO3032A1	Work safely with industrial chemicals and materials	3	60
13	LLGMO2027A1	Finish leather	2	70
14	LLGMO3028A1	Operate machines for making finished leather	3	70
15	LLGMO3029A1	Prepare chemicals as per formula	3	70
16	LLGMO3031A1	Participate in environmentally sustainable work practices	3	60
Total Nominal Learning Hours (Tannery)				950

*** This Unit of Competency has yet to be written.**

List of Abbreviations used in this Competency Standard.

General

BMET - Bureau of Manpower Employment and Training
BTEB - Bangladesh Technical Education Board
DTE - Directorate of Technical Education
ILO - International Labour Organization
ISC - Industry Skills Council
NPVC - National Pre-Vocation Certificate
NTVQF - National Technical and Vocational Qualification Framework
SSDC - Standards and Curriculum Development Committee
TVET - Technical Vocational Education and Training
UoC - Unit of Competency

Occupation Specific Abbreviations

MSDS - Material Safety Data Sheet
OSH - Occupational Safety and Health
PPE - Personal Protective Equipment
SOP - Standard Operating Procedures

GENERIC UNITS



National Technical and Vocational Qualification Framework for Bangladesh

Unit of Competency

Unit Code and Title	GN1001A1 - Use Basic Mathematical Concepts
Nominal Hours	40 hours
Unit Descriptor	This requires the knowledge and skill to apply mathematical methods such as addition, subtraction, multiplication, and division, among others, in the routine tasks of an organisation.
Elements of Competency	Performance Criteria
1. Identify calculation requirements in the workplace	1.1 Calculation requirements are identified from workplace information
2. Select appropriate mathematical methods for the calculation	2.1 Appropriate method is selected to carry out the calculation.
3. Use basic mathematical concepts to calculate workplace calculation.	3.1 Calculations are completed using appropriate methods such as addition, subtraction, multiplication and division.
Range of Variables	
Variable	Range
1. Equipment and tools may include but are not limited to	<input type="checkbox"/> Calculator <input type="checkbox"/> Computer with office software
2. Calculations may include but are not limited	<input type="checkbox"/> Addition <input type="checkbox"/> Subtraction <input type="checkbox"/> Division <input type="checkbox"/> Multiplication <input type="checkbox"/> Ratio on any types of real values (such as whole numbers, fractional numbers, percentages, numbers with exponents)

<p>3. Application may include but is not limited to</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Measurement <input type="checkbox"/> Volume <input type="checkbox"/> Weight <input type="checkbox"/> Mass <input type="checkbox"/> Density <input type="checkbox"/> Percentage <input type="checkbox"/> Length / Breadth / Thickness <input type="checkbox"/> Capacity <input type="checkbox"/> Time <input type="checkbox"/> Temperature <input type="checkbox"/> Budget, Pay/ Wages, Leave entitlements <input type="checkbox"/> Material usage <input type="checkbox"/> Speed <input type="checkbox"/> Costing
<p>4. Workplace information may include but is not limited to</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Project documents <input type="checkbox"/> Graphs <input type="checkbox"/> Charts <input type="checkbox"/> Tables <input type="checkbox"/> Spread sheets <input type="checkbox"/> Item price quotations <input type="checkbox"/> Equipment manuals
<p>5. Budget may include but is not limited to</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Budget of consumables <input type="checkbox"/> Calculation for software components <input type="checkbox"/> Hardware equipment <input type="checkbox"/> Maintenance budget of a set-up <input type="checkbox"/> Cost estimation
<p>6. Methods are basic mathematical functions and may include but are not limited to</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Addition <input type="checkbox"/> Subtraction <input type="checkbox"/> Multiplication <input type="checkbox"/> Division
<p>Evidence Guide</p> <p>1. Critical Aspects of Evidence</p> <ul style="list-style-type: none"> <input type="checkbox"/> The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency. <input type="checkbox"/> Must comply with Bangladesh Standards and Testing Institute http://www.bsti.gov.bd/list.html and any relevant international standards. <input type="checkbox"/> The graduates should be able to perform workplace related activities covering each of the elements of competency. The evidence will also collectively address the performance criteria considering the range of variables and the 	