## NUMERACY SKILLS

**UNIT CODE:** TO/CU/TM/BC/02/5/A

**Relationship to Occupational Standards:**
This unit addresses the Unit of Competency: Demonstrate Numeracy Skills

**Duration of Unit:** 40 hours

**Unit Description**
This unit covers the competencies required to demonstrate numeracy skills. It involves calculating with whole numbers and familiar fractions, decimals, and percentages for work estimating, measuring, and calculating with routine metric measurements for work, using routine maps and plans for work, interpreting, drawing and constructing 2D and 3D shapes for work, interpreting routine tables, graphs and charts for work, collecting data and constructing routine tables and graphs for work and using basic functions of calculator



**Summary of Learning Outcomes**

1. Calculate with whole numbers and familiar fractions, decimals and percentages for work
2. Estimate, measure and calculate with routine metric measurements for work
3. Use routine maps and plans for work
4. Interpret, draw and construct 2D and 3D shapes for work
5. Interpret routine tables, graphs and charts for work
6. Collect data and construct routine tables and graphs for work
7. Use basic functions of calculator

**Learning Outcomes, Content and Methods of assessment**

| Learning Outcome | Content | Methods of assessment |
|---|---|---|
| 1. Calculate with whole numbers and familiar fractions, decimals and percentages | • Interpretation of whole numbers, fractions, decimals, percentages and rates<br>• Calculations involving several steps<br>• Calculation with whole numbers and routine or | • Written<br>• Practical test<br>• Observation |

| Learning Outcome | Content | Methods of assessment |
|---|---|---|
| for work | familiar fractions, decimals and percentages<br>• Conversion between equivalent forms of fractions, decimals and percentages<br>• Application of order of operations to solve multi-step calculations<br>• Application of problem solving strategies<br>• Making estimations to check reasonableness of problem solving process, outcome and its appropriateness to the context and task<br>• Use of formal and informal mathematical language and symbolism to communicate the result of a task | |
| 2. Estimate, measure and calculate with routine metric measurements for work | • Selection and interpretation of measurement information in workplace tasks and texts<br>• Identification and selection of routine measuring equipment<br>• Estimation and making measurements using correct units<br>• Estimation and calculation using routine measurements<br>• Performing conversions between routinely used metric units<br>• Using problem solving processes to undertake tasks<br>• Recording information using mathematical language and symbols | • Written<br>• Practical test<br>• Observation |

| Learning Outcome | Content | Methods of assessment |
|---|---|---|
| 3. Use routine maps and plans for work | • Identification of features in routine maps and plans<br>• Symbols and keys used in routine maps and plans<br>• Identification and interpretation of orientation of map to North<br>• Demonstrate understanding of direction and location<br>• Apply simple scale to estimate length of objects, or distance to location or object<br>• Give and receive directions using both formal and informal language | • Written<br>• Practical test<br>• Observation |
| 4. Interpret, draw and construct 2D and 3D shapes for work | • Identify two dimensional shapes and routine three-dimensional shapes in everyday objects and in different orientations<br>• Explain the use and application of shapes<br>• Use formal and informal mathematical language and symbols to describe and compare the features of two-dimensional shapes and routine three-dimensional shapes<br>• Identify common angles<br>• Estimate common angles in everyday objects<br>• Use formal and informal mathematical language to describe and compare common angles<br>• Use common geometric instruments to draw two | • Written<br>• Practical test<br>• Observation |

| Learning Outcome | Content | Methods of assessment |
|---|---|---|
| | dimensional shapes<br>• Construct routine three-dimensional objects from given nets | |
| 5. Interpret routine tables, graphs and charts for work | • Identify routine tables, graphs and charts in predominately familiar texts and contexts<br>• Identify common types of graphs and their different uses<br>• Identify features of tables, graphs and charts<br>• Locate specific information<br>• Perform calculations to interpret information<br>• Explain how statistics can inform and persuade<br>• Identify misleading statistical information<br>• Discuss information relevant to the workplace | • Oral<br>• Written<br>• Practical test<br>• Observation |
| 6. Collect data and construct routine tables and graphs for work | • Identify features of common tables and graphs<br>• Identify uses of **different tables and graphs**<br>• Determine data and variables to be collected<br>• Determine audience<br>• Select a method to collect data<br>• Collect data<br>• Collate information in a table<br>• Determine suitable scale and axes<br>• Draft and draw graph to present information<br>• Check that data meets the expected results and context<br>• Report or discuss information | • Written<br>• Practical test<br>• Observation |

| Learning Outcome | Content | Methods of assessment |
|---|---|---|
| | using formal and informal mathematical language | |
| 7. Use basic functions of calculator | • Identify and use keys for basic functions on a calculator<br>• Calculate using whole numbers, money and routine decimals and percentages<br>• Calculate with routine fractions and percentages<br>• Apply order of operations to solve multi-step calculations<br>• Interpret display and record result<br>• Make estimations to check reasonableness of problem solving process, outcome and its appropriateness to the context and task<br>• Use formal and informal mathematical language and appropriate symbolism and conventions to communicate the result of the task | • Written<br>• Practical test<br>• Observation |

Suggested Methods of Instruction

- Demonstrations
- Role playing
- Viewing of related videos
- Discussion
- Assignments

**Recommended resources**

- Calculators
- Basic measuring instruments