

Duration: 4 days + 1 day follow up
 Target: Operator level and below
 Prerequisite: Basic Literacy & Numeracy [ABET 4]
 NQF Info: NQF Level 2
 Qualification: National Certificate In Plastics Manufacturing NQF Level 2
 Credits: 15
 Certification: MERSETA accredited
 PFSA Certification.

Unit Standard:

- Identify, describe, compare, classify, explore shape and motion in 2 and 3 dimensional shapes in different context (9008)
- Describe, represent and informally analyse shape and motion in 2 and 3 dimensional space (7479)
- Demonstrate understanding of rational and irrational numbers and number systems [7480]
- Work with a range of patterns and functions and solve problems (9007)

Course Objective:

To know the properties of geometric shapes; natural forms, cultural products and processes as representations of shape, space and time. Also real and abstract problems by the understanding of numbers.

Outcomes: At the end of the course the learners will be able to:

- Describe and represent the properties of geometric shapes.
- Estimate and determine the perimeter, surface area and volume of regular (prism and cylinder) and irregular objects.
- Apply ratio and proportion in various spatial contexts as related to area and volume with respect to reductions and enlargements, & develop conjectures based on geometric properties.
- Use symmetry, translation, reflection, rotation and transformation in analysing and describing artifacts.
- Justify and explain certain mathematical relationships among objects.
- Solve real and abstract problems in 2-dimensions by constructing and interpreting geometrical and trigonometric models.
- Use and analyse computational tools and strategies, and make estimates and relevant approximations.
- Use calculators, & demonstrate understanding of mathematical relationships and principles involved in rational numbers.
- Work with decimals and convert them to common fraction form, & use scientific notation for small and large numbers.

Contents:

- Rational and irrational numbers
- Measurements, scientific notation and ratio
- Geometric shapes in relation to volume and area, symmetry, translation, reflection, rotation and transformation

Assessment and Certification:

- Assignments to be submitted within two weeks following training. One follow up day is required to give feedback on assessed assignments.
- PFSA Certificate of Competence is issued to successful candidates
- Relevant credits may be awarded to successful learners upon MERSETA due approval process.

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