

MODULE I

LAND SURVEY

LSM/OS/LM/CR/02/5/MA

CONDUCT TOPOGRAPHICAL SURVEY

SEPTEMBER-NOVEMBER 2025



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION
COUNCIL (TVET CDACC)**

PRACTICAL ASSESSMENT

INSTRUCTIONS TO THE CANDIDATE:

1. This unit of competence shall be assessed in two phases.
2. Each assessment session has the duration included in brackets.
3. The assessor will take photos and videos as you perform the tasks at critical points during the assessment.
4. Ensure all required resources for the assessment have been provided before beginning the assessment.

1. PRACTICAL SESSION 1 (6 HOURS)

Elements Covered

1. Conduct topographical survey reconnaissance;
2. Establish topographical survey control points.

Tasks

You are required to perform the following tasks;

- i. Identify and select a suitable site not exceeding 0.5Ha with point, linear and polygon features;
- ii. Establish two intervisible points P and Q spaced 20 meters apart on the ground;
- iii. Using a handheld GPS receiver, establish the coordinates of the marked points P and Q;
- iv. Record the established co-ordinates on the field note provided(foolscaps);
- v. Compute the bearing and distance between the two control points P and Q from the recorded coordinates;
- vi. Compare the computed distance with the measured distance between the control points P and Q and comment on the discrepancy.

2. PRACTICAL SESSION 2 (6 HOURS)

Elements Covered

1. Collect topographical features data;
2. Prepare topographical map.

Tasks

You are required to perform the following tasks;

- i. Using the two established control points in session 1, set up the total station at point P and orient it to Q;
- ii. Using the total station, observe and record topographical details for at least 20 spatially distributed points within the site forming point, linear and polygon features;
- iii. Key in the details/co-ordinates obtained in task (ii) into an excel worksheet and import them into ArcGIS/AutoCAD/Civil 3D software;
- iv. Display and visualize the detail points on the software and digitize them to form linear, point and polygon features as per the ground appearance;

- v. Prepare a topographical map of the site including contour lines and all other topographical features;
- vi. Export and print out a topographical map of the site on an A4 size printing paper.

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