MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2013/2014

THIRD YEAR FIRST SEMESTER EXAMINATIONS FOR THE
DEGREE OF BACHELOR OF ARTS IN URBAN & REGIONAL
PLANNING WITH INFORMATION TECHNOLOGY

(CITY CAMPUS)

PUR 316: SURVEYING

Date: 18ᵗʰ November, 2013   Time: 9.00 - 11.00 a.m.

INSTRUCTIONS:

- Answer Question ONE and any other TWO questions.
- Sketch maps and diagrams should be used whenever appropriate.

PUR 316: Surveying (City campus)

Answer question ONE and any other two

Sketch maps and diagrams should be used whenever appropriate

1. Planning students drew a survey plan for Maseno university football pitch use this information to answer the following questions

   a) Explain the methods they could possibly use to establish the boundary of the area (8 marks)

   b) Discuss the types of errors in this exercise (6 marks)

   c) Describe the methods they used to reduce the errors (8 marks)

   d) Explain why surveying is an important technical discipline (4 marks)

   e) Describe simple and differential leveling (4 marks)

2. a) A student counted 188,186,187,188,186,187 paced in six trials of walking along a course of 500-ft known length on level ground. Then 211,212,210 and 212 paces were counted in walking four repetitions of an unknown distance AB. Calculate the pace length and the length of AB (4 marks)

   b) In taping from A to B, a tree on-line necessitated setting an intermediate point C offset 4.5 ft to the side of the line AB. Line AC was then measured as 368.92 ft along uniform 4% slope. Line CB on horizontal ground was measured as 285.10 ft. Find the horizontal length of AB (6marks)

   C) A triangular piece of land is bounded by 40.5 m of barbed wire fencing on one side, 60.5m concrete wall on another side, and 105.5m of road frontage on the third side. Calculate the interior angles formed by the boundary lines (4 marks)

   d) Two points on the opposite sides of a lake, D and E, are 355.5m and 276.2 m respectively, from the third point, F, on the shore. The lines joining points D and E with point F intersect at an angle of 70°. Derive the distance DE (6marks)

3. a) Describe the process of carrying out simple leveling   (10 marks)

   b) Explain the application of leveling   (10 marks)

4.   Discuss the application of surveying in planning activities.   (20 marks)
5.   Explain the contribution of GIS and GPS to surveying   (20 marks)

6.   Describe the evolution of surveying technology   (20 marks)