BC105 - Mobile Mapping using GPS and GIS Smart Apps Course

Course Duration: 5 Days
Training Fee: KSH 40,000 | USD 400
Course Registration: **Register Here>>**

1.0. Introduction

The use of mobile technologies for primary data collection has been on the rise following the technological advancements in the mobile phones industry such as the advent of better smartphones, advanced geographical mobile applications and many ways of collecting data. Field study is a data collecting method widely used in many academic disciplines such as geology, biology, archeology, agriculture, social sciences, forestry, and so on.

Data collection is renowned to be one of the most time-consuming, expensive and error-given tasks in any data inventory project. Hand-held computers hold the potential to reduce the logistic burden, cost, and error rate of paper-based methods for data collection.

1.1. Course Overview

Mobile GIS has emerged as one of the most efficient innovations to facilitate field work exercises such as field surveying and utility maintenance. In this course, we shall teach participants how to employ the mobile-based collection tools, with a focus on SuperPad, Collector for GIS, EpiCollect5 and ArcGIS Survey 123, which will equip the trainees with hands on skills to enable them collect various types of geotagged and attribute data accurately and quickly in the real time.

The learners will also learn how GIS and GPS data collected using mobile-based collection tools is sent to the cloud for storage and cataloguing. The learners will also be introduced to how this data can be downloaded to their laptops and PCs for manipulation and analysis and even map making, depending on the application.

1.2. Course Objectives

- To learn how to carry out real time field data collection using SuperPad Software and Kobo Toolbox application
- To learn how to upload collected data to the server, to download it, to import it to GIS Software for mapping and analysis.

1.3. Course Content/Outline

- Introduction to real time field data collection

- Designing digital data collection forms; data validation workflows
- Introduction to Mobile-based data collection tools including examples of popular mobile-based collection tools

ArcGIS Survey 123

- Overview of the Kobo Toolbox website and mobile application interfaces.
- Creating and publishing a survey in the Kobo Toolbox website.
- Conducting the survey; Opening the survey in the Kobo Toolbox mobile app to collect sample survey data.
- Analyzing collected survey data; View survey data results in the Kobo Toolbox website.
- Downloading the survey data from the Kobo Toolbox website.
- Importing the collected data to GIS software for visualization and creating of a simple map
- Sharing survey results in a web app to display the data in an interactive map.

1.4. Case Study: Field data collection of Restaurants in Karen and Creation of a Database

1.5. Expected Learning Outcomes

At the end of this course, learners should;

i. Have an overall understanding of mobile-based data collection tools;
ii. Be proficient in carrying out real time field data collection using SuperPad Software and Kobo Toolbox application;
iii. Be able to upload the data collected to the respective server;
iv. Be able to download the collected data from the server, import it into ArcGIS Desktop and perform analysis and mapping.

1.6. Training Material

- SuperPad Software
- Kobo Toolbox
- QGIS Software
- EpiCollect 5
- A laptop or PC
- Smart Phone/Tablet