Unitar Online Catalogue

Introduction to Geospatial Information Technology for Evidence Based Decision Making

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□□ :	Course
□□ :	Thiphu, Bhutan
□□ :	22 □□ 2018 to 2 □□□ 2018
□□ :	10 Days
□□□□ :	Satellite Imagery and Analysis
□□ :	https://unitar.org/unosat
□□ :	US$0.00
□□□□□ email:	khaled.mashfiq@unitar.org
□□□□□□□□□ :	+66970705376
□□ :	National Land Commission Secretariat

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Geographic locations and Information about these locations shows us where social environmental and economic conditions occur, where people at risk from natural disasters are located, how many people need assistance following a conflict and do not have access to good health care, education, freshwater or public transports.

Over the last two decades Geo-spatial Information Technology (GIT) has rapidly developed and is now being also called an “enabling technology” due to the benefit it offers across different application domains. GIT can help us to analyse and to better understand why and where things have happened in the past and it can also show us why and where they might happen in the future allowing us to make informed decision and better use of our resources.

To meet this challenge, UNOSAT is offering an introductory course in the use of Geo-Spatial Information Technology applications relevant to different application domains such as land-use, urban planning, forestry, environmental monitoring, hazard mapping and disaster risk reduction. The course is designed to accommodate selected participants from line ministries of the Royal Government of Bhutan with variety of backgrounds and professional experiences, with no previous GIS experience.

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The course will provide participants with a theoretical understanding of basic principles of GIS and Remote Sensing (RS), how to collect data using geospatial tools such as GPSs, smart phones and basic functionalities of GIS software needed to perform basic spatial analysis and thematic desktop and web maps will also be introduced.

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- Recall basic concepts and terminology related to Geospatial Information Technology (GIT)
- Identify, search, collect, organize geospatial data/information
- Apply basic methods and functionalities of GIS software (ArcGIS) to manage and analyse spatial data
- Perform geospatial disaster risk analysis
- Apply multi-criteria decision making techniques for hazard sensitive landuse zonation
- Undertake the process to create desktop maps for supporting smart actions

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This course is divided into 9 modules over 9 days. Each module is structured into 4 sessions of 1.5 hour each. The average workload per week is likely to be around 25-30 hours. Content as follows:

- Introduction to programme, GIS, remote sensing and software
- Map projection and coordinate systems, georeferencing maps, digitization in ArcMap
- Field data collection, gathering web data
- Digital image classification, landcover classification using satellite imagery
- Accuracy assessment, landcover change detection
- Map making
- GIS methodologies for DRM, Geospatial method for Landslide hazard assessment
- Introduction to land use planning, multi-criteria decision making for land zonation, individual assignment: network analysis for hospital location selection
- GIT extras, Q&A, Final exam, Roundtable: application of GIS in various thematic areas, way forward

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This is a full-time, face-to-face course with lectures and GIS lab exercises using GIS datasets and real case scenarios (60% lab exercises, 40% lectures and discussions). The course is designed in a way to have a balanced approach between theoretical and practical teaching methods consisting in Power Point presentations, live demos, videos, interactive sessions and GIS lab exercises. At the end of the course. UNITAR-UNOSAT will set up a community of practice platform to maximize the learning experience of participants and to provide all required technical backstopping and assistance to training participants during and after the training. Ad hoc live web map platforms will also be established by UNITAR-UNOSAT to support projects and activities undertaken by technical staff from different governmental organizations who will be attending UNITAR-UNOSAT training.

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The course is designed to accommodate participants from line ministries in Bhutan, with a variety of backgrounds and professional experiences and no previous GIS experience.