Institute of Strategic Research and

Studies for Nile Basin Countries

Advanced Training Program

On

"Geographic Information Systems"

6ᵗʰ – 17ᵗʰ May, 2018

Organized by

Institute of Strategic Research and Studies for Nile Basin

Countries, Fayoum University, Egypt

In Collaboration with

Egyptian Agency of Partnership for Development (EAPD)

1. Training Program Outline

1.1 Title

"Geographic Information Systems"

1.2 Duration

Two weeks from May 6th – 17th, 2018.

1.3 Invited Countries

Attention will be given to participants from the Nile Basin Countries. However, other African countries will also be considered.

2. Background of the Program

This training course aims at providing a practical, hands on approach to spatial database design and analysis and applying Geographical Information Systems (GIS) to the natural sciences. Background material in spatial statistics and GIS design issues will also be worked out. The platform used may be ArcGIS by ESRI, and Microsoft Excel, but the techniques developed may be applicable to other software. Open Source softwares may be used in some cases and open data also.

3. Training Program Objectives

The goal of this training course is to develop a critical understanding of, and competence in, geo-information science, and to develop capabilities for designing systems and tools for the acquisition, processing, transformation, analysis, storage, presentation and use of geo-information. The main objectives of the training program are:

1. Understand the meaning of GIS, its advantages, and how to use it.
2. How organizations can benefit from GIS.
3. Create GIS Base maps.
4. Integrate different types of geographic data.
5. Access information about geographic datasets and features.
6. Apply a systematic approach to analyzing data in order to find patterns and relationships.

4. Expected Outputs

- Train 20 trainees from Nile Basin Countries in the field of "Geographic Information Systems".
- Trainees will also be prepared to be trainers and knowledge transfer agents in their local communities.
- The trainees will receive a class-based training in addition to successful training program materials in their countries.
- The trainees understand important definitions and conceptual framework related to "Geographic Information Systems" through theoretical training

including communications, giving briefing and making presentations in the workplace, in-house-training, etc.

5. Admission Requirements

- **Academic Level and Background**

  Applicants for the postgraduate training program should have a Bachelor degree or equivalent from a recognized university in discipline related to the course, preferably combined with working experience in a relevant field.

- **English Language**

  As all courses are given in English, advanced level in English a prerequisite. The requirements when applying for fellowships may vary according to the regulations of the fellowship provider. The level of English of a student will be evaluated after the student is interviewed by the specialized professors.

- **Computer Skills**

  Applicants lacking computer experience are strongly advised to follow basic courses, at least ICDL course will be accepted. Computer experience should be clearly indicated, as it will be one of the main selection criteria.

6. Tentative Curriculum of the Program

A tentative curriculum will be covered by the following modules and workshops as follows:

1- Introduction to Geographic Information Systems

A full introduction about fundamental concepts of Geographic Information Systems (GIS). Elements of GIS, analysis of spatial information, real world applications, map creation and analysis will be included in the module, primary objective is to investigate interactive GIS application rather than develop expert user.

2- GIS Database and Design

Concepts of Geodatabase design and management in geographic information Systems (GIS), SQL Statements, geographic data management and functions, data entry, techniques of geographic information structure and indexing will be the main focus of that module. Students will also learn querying techniques, searches, spatial analysis, and creation and use of metadata real-world application.

3- Applications in Geographic Information Systems

The main theme of this module is applications in Geographic Information Systems. Data collection incorporation of local and global data and analysis of spatial information that can be used to investigate major application areas, national GIS policy will be major points to be taught within the frame of the module.

4- Administrative Issues in GIS

It addresses issues that are unique to a GIS operation such as implementation issues,

decision making procedures, strategies for success, legal issues, involvement of management, marketing within an organization, strategic planning and industry outlook.

5- Geographic Information Systems Internship

Trainees will receive internship in Geographic Information Systems settings. They will also gain experience in real workplace, complete assigned tasks by host organizations such as GIS data entry, data retrieval, GPS fieldwork, document or general GIS setting duties, they will also have arranged meetings with instructors to discuss work ethics, expectations, challenges and evaluation.

Time Schedule

Module Name	Day 1	Day 2
Introduction to Geographic Information Systems	- Basics of GIS, CAD, CAC - GIS definition & GIS history	- GIS Types and Geodatabase - Explore ARCGIS 10.2 - Add GIS Layers
GIS Database and Design	- Geodatabase Structure - Types of Geodatabase	- Elements of Geodatabase - Create Geodatabase - Import / Export GDB
Applications in Geographic Information Systems	- Create a GIS project - Data Capturing	- Agriculture GIS - Environmental GIS - Planning GIS
Administrative Issues in GIS	- GIS Implementation - GIS Management	- GIS Integration - GIS Strategic - GIS Evaluation
Geographic Information Systems Internship	- Data Entry - Data Retrieval	- Data Integration - GPS Training - Evaluation

7. Description of the Implementing Agency

Fayoum University was established in 1983 as a branch of Cairo University. In 2005 the university was separated as an independent university according to the Presidential decree number (48). Fayoum University includes 18 faculties and two institutes: Faculties of Education, Agriculture, Engineering, Social Work, Arabic Sciences (Dar Al Oloum), Science, Tourism & Hotels, Specific Education, Archaeology, Medicine, Arts, Computers & Information, Early Childhood Education, Nursing, Dentistry, Pharmacy, Law, and Sports Education, and Institute of Nursing and Institute of Strategic Research and Studies for Nile Basin Countries. The university embraces around 25 thousand students and about two thousands of teaching staff

members. The Institute of Strategic Research and Studies for Nile Basin Countries and the Faculty of Agriculture will take the main part in organizing this project.

The Institute of Strategic Research and Studies for Nile Basin Countries is a recently established institute; however, it's engaged in several activities including 7 postgraduate diplomas, MSc and very soon PhD program in several disciplines.

8. Related Information

Prospects of further plans and actions/ expected funding resources for the Project:
The Institute of Strategic Research and Studies for Nile Basin Countries is currently taking action to develop MSc and PhD programs targeting the development needs of Egypt as well as Nile Basin Countries.

9. Global Issues (Gender, Poverty, Climate Change, etc.)

Special consideration will be given to gender issues, i.e. share of female candidates in every course will be at a minimum of 40%. Poverty alleviation will be the focus of most of the materials and discussions.

10. Beneficiaries

Direct beneficiaries include 20 trainees from Nile Basin Countries working in hospital management and health care services; we will consider a significant variation while selecting the trainees. As well as many other indirect beneficiaries, based on variation of trainees, to have good results and a change in the target areas.

11. Qualification of the Applicants

The criteria should be considered to select the candidates:
1. The age should preferably be from 30-40.
2. The candidate must have at least a bachelor (BSc) degree in a discipline relevant to the subject of the training program.
3. The candidate should be working at the same discipline "Geographic Information Systems".
4. The candidate should be fluent in English Language.

12. Accommodations

Free Accommodation including food will be offered during the course, in addition to the recreational activities and field trips.

13. Regulations

Participants are required to:
- Observe strictly the course schedule.

- Not to extend the training period and return to their home country immediately after the completion of the course, according to the trip schedule designated by the course organizers.
- Not to leave Egypt during the course (Not to return to their country or go to another country except for the case of humanity).
- Not to bring any member of their family.
- Carry out such instructions and abide by such conditions as may be stipulated by both the nominating Government in respect of the training.
- Observe the rules and regulations of the training institutions or establishment in which participants undertake training.
- Refrain from engaging in political activities, or any form of employment for profit or gain.
- Discontinue the course, should he/she fall seriously ill and considered unable to continue the training or commit an import act.

14. Recreational & Social Activities

The weekends of the course duration will be assigned for scheduled cultural visits to important monuments in Cairo and Fayoum including Pyramids, Sphinx and the Egyptian Museum.

15. Departure Instruction & General Orientation

- **General instructions:**
  - **Pre-departure instructions for the participants:** Participants are requested to report in person to the Egyptian diplomatic mission in their own country in order to complete the necessary procedures and obtain pre-departure instructions.
  - **Visa:** Before leaving country of residence, participants should obtain a visa for entry to Egypt. Visas will be issued by the Egyptian diplomatic missions in their country.
  - **Air-ticket:**
    - Participants will be provided with a round trip air tickets from their home countries to Cairo International Airport.
    - Participants are requested to arrive in and to leave Egypt on the dates designated for the course.
    - The dates will be finally confirmed by the air-tickets sent to the participants.
    - All flight routes included in the provided air-tickets are final.
  - **Photographs:** For administrative purposes, participants are requested to bring along with them three (3) copies of a recent photograph (passport size).
  - **Airport:** At Cairo International Airport, an assistant will be present to meet and assist the participant, and to arrange his/her transportation from Cairo to Fayoum (about 95 km).

- **Incidental Expenses:** Participants are advised to carry some cash in US dollars for incidental expenses during their trip to Egypt and upon their arrival.
- **Climate:** Weather in Egypt in May is warm and it is considered a highly recommended time to come and visit Egypt. Average temperature during the day is about 25 - 30 °C and a low of 15-20 °C at night.
- **Currency:** Egyptian pound (LE) and it changes according to the prevailing rate.
- **Working days:** The official day-off in Egypt is Friday; however, most of the institutions and governmental offices including banks are closed on Friday and Saturday.

16. Correspondence

For inquires and further information, please contact:

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17. Deadline and other Instructions

- Deadline to submit completed application is Thursday 15th March 2018.
- Applications received after this date will not be considered.
- Completed applications are to be sent through the Egyptian Embassy in the participant's respected country. Also it can be sent via email to: inssr@fayoum.edu.eg & maa06@fayoum.edu.eg (along with the other required documents indicated above).

18. Required Documents

- Certified English translated scanned copy of Bachelor or Master degree/ diploma.
- Certified English translated scanned copy of Bachelor or Master transcript/ grades.
- CV/Resume in English.
- Proof of English proficiency, if any.
- Motivation letter.
- Copy of valid passport.