



**MZUZU UNIVERSITY**

Private Bag 201  
Luwingu  
Mzuzu 2  
Malawi.

**WATER AND SANITATION  
CENTRE OF EXCELLENCE and  
SMART CENTRE**



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## SHORT COURSE OPPORTUNITIES

Mzuzu University, located in northern Malawi, was established by an Act of Parliament in May 1997 and admitted its first students in January 1999. In 2009, the Mzuzu University Centre of Excellence in Water and Sanitation was established within the Faculty of Environmental Sciences. The Centre oversees African water and sanitation research, which is networking regional water and sanitation work and also training of professionals through Mzuzu University. The primary objective of the Centre is to improve the effectiveness of sanitation, hygiene practices, and water supply interventions serving Malawi and the surrounding countries. The Centre participates in applied research, water quality analysis, training, consultancies, outreach programs, and the practical application of research findings.

The Centre invites stakeholders for seven short courses focusing on a) Low-cost sanitation, b) Constructing safe and sustainable groundwater wells, c) Agricultural adaptations for climate change: rain water harvesting and irrigation water management approaches, d) Monitoring, Evaluation and Learning, e) Statistical Package for Social Scientists (SPSS) for Monitoring and Evaluation, f) Geographic Information System (GIS) Introduction, and g) Quantum GIS. Participants should expect to gain both practical and theoretical skills which will address water, hygiene, and sanitation needs of Malawi. There will be an emphasis on sustainable systems throughout all programs.

### **Low-cost sanitation**

#### **9, 10 and 11 January 2017 (3 full days)**

The focus of this workshop will be low-cost sanitation in support of ending open defecation in Malawi. The workshop will introduce participants to a variety of solutions suited to rural and peri-urban areas. A practical exercise will be included to build a corbelled latrine. The workshop will also cover how low-cost sanitation technologies, combined with sanitation marketing, can work alongside CLTS (Community-Led Total Sanitation) programs. This hands-on course has a maximum of 25 participants, though a waiting list will be formed as needed. Fee per participant is MK150,000.

### **Constructing safe and sustainable groundwater wells**

#### **12 and 13 January 2017 (2 full days)**

Water well construction is not for amateurs. The focus of the workshop will be minimum requirements for basic protection of the groundwater resource and for the health and safety of those that develop and use the resource. These guidelines are intended to address basic water

supply well construction, pumping equipment, and maintenance issues. Water supply wells include wells designed for domestic, municipal, community, industrial, commercial, irrigation and/or livestock water supply use in addition to aquifer storage (injection) and recovery wells. The course will cover both practical and theoretical skills and concepts. Fee per participant is MK100,000.

**Agricultural adaptations for climate change: rain water harvesting and irrigation water management approaches**

**16, 17, 18, 19 and 20 January 2017 (5 full days)**

Water for irrigation is increasingly becoming limited owing to increased demand from other uses such as domestic water, industries and the environment. If well managed, more irrigation water could be made available to facilitate the expansion of irrigated lands. Farmers, agricultural extension officers and irrigation officers need to be aware of irrigation water productivity and how increased yields can be achieved with less irrigation water. As well, rain fed crop production is critically important to food security and rural livelihoods in Malawi. However, rain fed crop production is constrained especially in areas characterized by unpredictable rainfalls. The challenge is to explore rain fed crop production system coping strategies to intense rainfalls of short duration associated with long periods of dry spells. Rain water harvesting provides an opportunity to increase resilience of rain fed crop production systems existing in climatic hostile environments. This short course is aimed at training participants on appropriate selection, design and management of agricultural adaptations for climate change harvesting systems to enhance crop production. The target group for this short course includes, but is not limited to: Irrigation officers, farmers and agricultural personnel implementing irrigation projects across the country. Fee per participant is MK250,000.

**Monitoring, evaluation and learning**

**16, 17, 18 and 19 January 2017 (4 full days)**

Attaining sustainable development results by organizations relies on systematic monitoring and evaluation. Monitoring and Evaluation (M&E) are the learning and innovation circles leading to more effective interventions. Development processes are complex. Systematically monitoring and evaluating processes helps managers to improve projects, programs and organizations. This course will provide a quantitative indicator-based system for M&E as well as qualitative tools (Outcome Mapping and Most Significant Change). The course will be proactive and participatory. The objectives include: Learn to monitor and evaluate projects, programs, and organizations; experience how M&E can be turned into learning; and ask and answer M&E questions. Target course audience: Participants involved with formulating, managing, or monitoring development interventions. The short course targets people who do the following: prepare, supervise, use or participate in evaluations; work as a desk officer, program manager, task manager for a national or a local government, for an international donor agency, or for a non governmental organization; and individuals wanting to further improve their M&E abilities and system. Fee per participant is MK200,000.

**Statistical Package for Social Scientists (SPSS) for monitoring and evaluation  
23, 24, 25 and 26 January 2017 (3 full days)**

This course will enable participants to use Statistical Package for Social Scientists (SPSS) for Monitoring and Evaluation. This course will cover: Data capture planning (understanding terms of reference and project log frame indicator); Preparation of SPSS structure for capturing survey/ research data; Frequencies: Frequencies, bar charts, histograms; Descriptive statistics: Measures of central tendency, variability, deviation from normality; Multiple response analysis; Cross-tabulation and Statistical tests; Manipulating Data: Listing cases, computing new variables, recoding variables; exploring data, selecting cases, sorting cases, merging files; Graphs: Creating and editing graphs and charts; Use of SPSS to carry out linear quantitative and qualitative regression analysis; and Presentation of data and interpretation of results. Target course audience: Professional Monitoring and Evaluation Officers, Program Officers; Project managers; and other professionals involved in the monitoring and evaluation process. Participants should bring a laptop for course exercises. Fee per participant is MK200,000.

**Geographic Information System (GIS) introduction**

**Session 1: 1, 2, 3, and 4 November 2016 (4 full days)**

**Session 2: 13, 14, 15 and 16 February 2017 (4 full days)**

GIS technology is very widely used in government, industry, non-profit, and academia to model our world. Spatial technology, computer hardware, and software tools are rapidly advancing for the better. To effectively use available technology GIS professionals, need to keep current on state-of-the-art spatial techniques. The courses will be hands-on, facilitated by GIS and Remote Sensing research scientists, and industry specialists. The courses are designed for professionals in planning, engineering, and other diverse disciplines interested in applying GIS principles and technology to their issues. No previous GIS knowledge is required but a working knowledge of computing systems is helpful. The course will cover the following: 1.) An introductory Course in ArcGIS; 2.) Advanced Spatial Analysis in ArcGIS; 3.) Designing GeoDatabases for GIS Applications; and 4.) Essential Image Processing Techniques for GIS Professionals. Fee per participant is MK200,000.

**Quantum Geographic Information Systems (GIS)**

**Session 1: 7, 8, 9 and 10 November 2016 (4 full days)**

**Session 2: 20, 21, 22 and 23 February 2017 (4 full days)**

This is an advanced Geographic Information System (GIS) course. The course will cover the following: 1.) An introduction to GIS using Quantum GIS; 2.) Quantum GIS; 3.) Visualizing Data; 4.) Selecting and Querying Data; 5.) Spatial Data Management; 6.) Creating Geometry; 7.) Tabular Data and Joins; 8.) Layouts; 9.) Spatial Analysis 2; and 10.) Linking to other software. Fee per participant is MK200,000.

**Notes:**

- The venue for all short courses will be Mzuzu University, Mzuzu, Malawi.
- Registration fees cover course fees, handouts, materials for practical exercises, morning and afternoon break, and lunch.
- Participants are responsible for transportation and making accommodation arrangements.
- Successful participants will receive a certificate of attendance/recognition and handout materials.
- Participants should come prepared for both theory and practical/field exercises.
- For registration please contact [mzuniwatsan@gmail.com](mailto:mzuniwatsan@gmail.com) .