



Simple Guide
For
Earthing Systems and Measurements

Training Programme
by
Faculty of Engineering
Multimedia University

Overview

This is a course intended to provide comprehensive coverage on the appreciation of the earthing system for safety, lightning protection and the right technique of testing the earth resistance value. Emphasis is placed on understanding the fundamentals, factors affecting earth resistance value and the methods of measurements of earth resistance. The resistance measurements will be discussed briefly, to enlighten and expose the participants to proper field measurement approach, A few samples of on-site measurement data to be discussed, and plotted, to obtain earth resistance value of earthing systems.

This 2-day course provides not only technical knowledge on the importance and factors affecting the performance of earthing systems, but also consists of the right technique of measurements of earth resistance value. A good understanding on the factors affecting earthing systems, which will be followed by step-by-step FoP measurement techniques will be presented. The issues of what constitutes an adequate set of earth resistance measurement data will be addressed.

Objective

- To understand the concept and purpose of earthing systems.
- To understand the factors affecting the earth resistance value.
- To acquire knowledge on the techniques used on the earth resistance measurements, as suggested in the standards.
- To educate the participants on a systematic approach of earth resistance measurement at field sites.

Target Audience

- o Electrical engineers and technicians
- o Practicing consultant engineers and contractors in the industry
- o Civil servants, executives, managers and sales personnel dealing with electrical engineering projects
- o Academicians and students
- o Non-electrical engineering personnel responsible for electrical systems in building sites and commercial buildings

Prerequisite

None.

Training Methodology

Online.

Course Duration

2 days.

Content/Outline

Basic Concepts

- Importance of Earthing Systems
- Recommended Earth Resistance Value

Factors Affecting Effective Earthing Systems

- Soil Resistivity
 - Types of soil
 - Moisture content
 - Soil temperature
 - Chemical content.
 - Installation of ground enhancement materials
- Earth Electrodes
 - Shape on electrode resistance
 - Selection of a material for an earth electrode
 - Corrosion due to interconnection with other metallic item
- Other Considerations
 - Corrosion and type of soil
 - Maintenance of the grounding system

Touch, Step and Transferred Potentials

Earth Resistance Measurements

- Fall of Potential Method
- FoP Plot

Data Plotting

Course Instructors

Assoc. Prof. Ir. Dr Normiza Mohamad Nor

NORMIZA MOHAMAD NOR received her degree in Electrical and Electronic Engineering from University of Wales, College of Cardiff, UK in 1996. She obtained the Ph. D degree in Electrical Engineering from the same university, in 2001.

She has actively involved in the consultancy work and research projects in the areas of earthing systems, high voltage and lightning protections. She has also delivered a number of seminars on the earthing and protection systems in Malaysia. She is now an Associate Professor of Electrical Engineering at the Multimedia University, Malaysia

Dr. Nurul Nadia Ahmad

NURUL NADIA AHMAD received B.Eng. degree in Electronic and Communications from University of Bristol, UK, in 1999, and the Ph.D. degree in Electronics and Electrical Engineering (Wireless Communications Group) from University of Southampton, UK, in 2005. Since 1999, she has been with Multimedia University, Malaysia.

Her research interests include signal and image processing, and wireless communications.

Administrative Details

Programme Logistics

Duration: 2 days

Date:

Please refer to the updated dates at <https://www.mmu.edu.my/foe/short-courses/>

Registration deadline:

Please refer to the updated dates at <https://www.mmu.edu.my/foe/short-courses/>

Your Investment

| Condition | | Price per Pax |
|----------------|-----------------------|---------------|
| Regular Fee | Students / MMU Alumni | RM500 |
| | Public | RM800 |
| | Public (Group >5 pax) | RM600 |
| Early Bird Fee | Students / MMU Alumni | RM300 |
| | Public | RM600 |
| | Public (Group >5 pax) | N/A |

Method of Payment

Please make payment via bank transfer only. Account details is as below:

Account name: Unitele Multimedia Sdn Bhd

Account number: 86-0090180-2

Bank: CIMB Islamic Bank Berhad

Payment must be made by the registration deadline.

Refund and Cancellation

Any refunds will be processed in 60 days. Should there be any cancellation, it may be due to the organizer not getting the minimum participants or the participant failing to attend the workshop due to unavoidable reason.

Disclaimer

Faculty of Engineering, Multimedia University reserves the right to change the instructors, date and to vary/cancel the programme should unavoidable circumstances arise. All effort will be taken to inform participants of the changes. Upon submission of the registration form, you are deemed to have read and accepted the terms.

Enquiries

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Registration Form

To register, please visit this link: <https://forms.gle/Nh7vZ6ZaNamKfgXf7>