



AFRICAN ADVANCED LEVEL TELECOMMUNICATIONS INSTITUTE (AFRALTI)

WORKSHOP OUTLINE

Title:	ADVANCED OPTICAL FIBER ACCESS SYSTEMS
Dates:	6th-10th SEPTEMBER 2010
Venue:	Mbabane - Swaziland
Cost:	Participants ex AFRALTI Member States - US\$ 1,000.00 per person
	Participants ex Non Member States - US\$ 1,200.00 per person

TARGET AUDIENCE:

Engineering staff involved in planning optical communication networks

DESCRIPTION:

This advanced course on optical fibers shall provide participants with fiber network planning and installation techniques that are required in the field and planning activities. The course shall have theoretical as well as practical hands on equipment training involving cable terminations, measurements, splicing, protection and ducting techniques.

WORKSHOP OBJECTIVES:

This course will provide participants with the necessary technical know-how on optical fiber systems. In particular:

- To learn about Optical communication Technology.
- To learn about Transmission planning Techniques

- To learn about optical properties and parameters.
- To learn about various optical equipment and systems.
- To learn about optical communication Architectures.
- To learn about fiber splicing, and measurements.
- To learn fiber cable installation techniques

WORKSHOP TOPICS:

1. Introduction to optical fiber systems
2. Single Mode and Multimode fiber systems
3. Fiber System Design Overview
4. Optical components : Transmitters, Receivers, Amplifiers, Connectors, Couplers, Multiplexers, Media Converters
5. Modulation schemes for optical signals
6. Optical Transmission systems
7. SDH and DWDM Networks
8. Optical Multiplexers, ADM, OTN
9. Optical amplifiers
10. Optical Ring Networks
11. Fiber Access to The Home and Office (FTTH, FTTO)
12. Long Haul SDH and DWDM Fiber Systems
13. Submarine Optical fiber systems
14. Technical and Economic considerations of Optical systems
15. Practical Training
 - a. Cable network planning practices
 - b. Link budget analysis and planning
 - c. Fiber capacity planning and multiplex planning practice
 - d. Power measurements techniques with Optical Power Meter and OTDR
 - e. Mechanical and fusion splicing techniques
 - f. Cable laying and ducting practice
 - g. Preparation of technical specifications for optical transmission systems
16. Test and Evaluation

FACILITATOR BRIEF:

Eng. J. Baraza has a BSc and MSc in Telecommunication Engineering obtained from Coburg University of Applied Sciences in Germany. He has conducted research on Computer networks at the International Centre for Theoretical Physics, (ICTP) Trieste Italy. He has conducted research on optical fiber communication at University of Cape Coast in Ghana. He has over twenty years experience in telecommunication network planning, frequency planning and spectrum management. He is also experienced in Satellite, Microwave, Broadcasting, FM, VHF, HF and PMR systems. Eng. Baraza has extensive hands on experience in Radio propagation tests, installation of switching, power, radio, fiber and satellite equipments, Interference analysis and radio signal coverage prediction using software tools such as Pathlos, Witview, and Tornado. Eng. Baraza is ITU Counsellor on transmission network design and planning. He was a lecturer on Telecommunication Systems at Kenyatta University and is doing research at the same University.

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For more information, please contact us on :

Tel: +254 20 444 06 33/34, +254 710 207 061, + 254 733 444 421

Email: jane.mahui@afraiti.org or jane.mahui@ties.itu.int or andrew@afraiti.org