

CERTIFIED FIBER OPTIC TECHNICIAN TRAINING



3-6 March 2008, Jacaranda Hotel

In Partnership with:



Equipment Supplied by:



LECTURE PROGRAMME FOR 2008

Day	Topic/ Activity
1	Monday 3 March 2008
	Registration and Official opening
	<p>Introduction to Fiber Optics</p> <ul style="list-style-type: none"> • What is Fiber Optics • Fiber Manufacturing methods (Video) • Fiber Advantages • Fiber Design • How Fiber Works • Fiber types • Refraction and Reflection • Numerical Aperture • Mode-Field Diameter • What is an Optical Network? • Optic Fiber Parameters • Cable Plant Hardware • Frequency • Wavelength Division Multiplexing • Attenuation • Scattering and Absorption • Dispersion • Transceivers • Amplifiers • Attenuators • Cable Types • Loose tube vs Tight buffer • Choosing a Cable • Cable Specifications • NEC Ratings • Cable Design Criteria
	<p>Safety</p> <ul style="list-style-type: none"> • Fiber Optic Installation Safety Rules
	<p>Hand-on</p> <ul style="list-style-type: none"> • Cable preparation and closure assembly techniques
2	Tuesday 4 March 2008
	<p>Slicing: Fusion, Mechanical and Termination Methods</p> <ul style="list-style-type: none"> • Choosing a Splice Type • Cable preparation techniques • Fusion splicing featuring time saving techniques • Splice Loss: Cause and Remedy • Fusion splicer maintenance and cleaning • Connectorization • Connectors Types • Polishing Techniques • Termination Procedures <p style="margin-left: 200px;">Practical Session using the following 3M products</p> <ul style="list-style-type: none"> • Fibrlok • Hot Melt Connectors • No Polish Connectors • Volition 45 • Patch Panel • 2552 Scotch Box

	<p>Hands-on</p> <ul style="list-style-type: none"> • Fibre splicing: Using a variety of Fujikura machines: Fujikura 50S, 17S and 20CS • Connectorization and polish technique
3	Wednesday 5 March 2008
	<p>Testing and Troubleshooting</p> <ul style="list-style-type: none"> • OTDR Link characterization and trace basics • Testing at Various Wavelengths • Link Distance Calculations • Power Budget Calculations • Testing and Systems Certification Tips • Documenting Test results • Testing mid-couplers, patch leads, and transceivers • Connector Verification • Troubleshooting Procedures • Types of fiber faults • Measurement Units (dB and watts) • Cleaning fiber optic connectors • Emergency restoration procedures <p>3M Connectors and patch lead cleaning and faultfinding</p>
	<p>Hands-on</p> <ul style="list-style-type: none"> • Visual Fibre Tracer • Visual Fault Locator, • Visual Connector, • Measuring Power, • Test Loss and OTDR Testing
	<p>Cable installation and Placement Techniques</p> <ul style="list-style-type: none"> • Installing cables in buildings (trays, conduits, vertical installation, etc) • Pulling practices for installing cable in ducts (centre-pulls & backing) • Aerial cable erecting techniques • Installation tools and equipment (support hardware, tension-monitoring, pulling grips, etc) • Handling cable drums/ reels • Working bend radius and tensiles loads for cable installation • Overhauling fibre optic cable • Blow fibers • Floating Cables
Day 4	Thursday 6 March 2008
	Wrap-up and Test issues
	Assessment
	Closing

Lead Course Trainer



Joe Botha – MBA. BBA.

At the incredibly young age of 49 has accumulated more than 30 years progressive telecom experience and veteran understanding. Been involved with the planning, installation, and troubleshooting of fibre optic services and networks since 1984. Holds both a BBA and MBA from the University of Natal. Currently lectures at the University of KwaZulu-Natal on topics such as; Telecommunication Networks, Management of Information Systems, E-Commerce, etc.