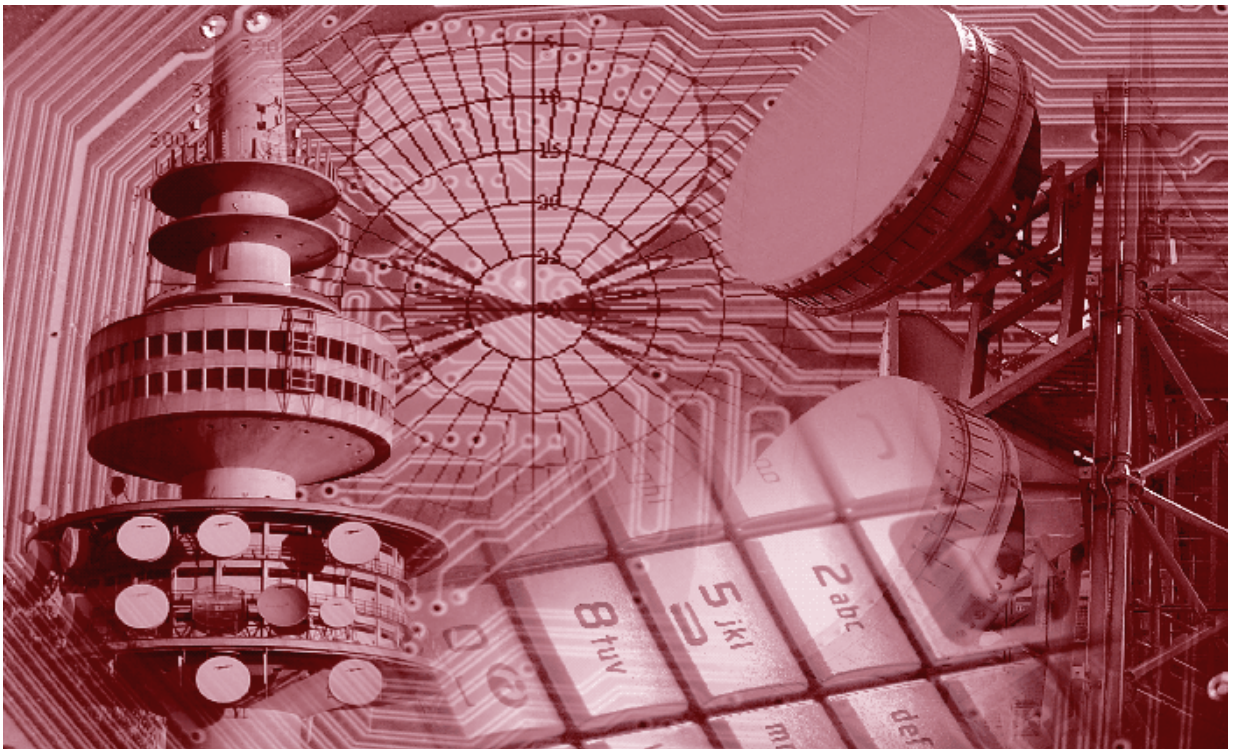


LS of South Africa Training Academy Courses



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1 Introduction

LS of South Africa Radio Communication Services (Pty) Ltd, as part of the LS telcom group of international companies, was founded in 1999 to address spectrum management and radio network planning requirements in Africa, with a particular focus on South Africa. Over the years our scope of products and services expanded to include broadcasting, RF engineering, spectrum monitoring and RF planning in regulatory, commercial and military environments.

Radio spectrum engineering and management skills in South Africa and in the SADC region are rapidly declining as it is a specialised field for which very few courses are available in South Africa and Southern Africa.

There is a demand for specialised skills programs in this field of engineering hence the decision to bridge the skills gap by offering training to all interested client in the radio communication industry. Our training facility is of a highly specialised nature and a private sector initiative. The training programs offered are not commonly offered by tertiary educational institutions.

Facilitators in their respective fields of expertise provide academic and practical training (where possible) in the field of broadcast, telecommunications and spectrum management. The course documentation is all written in English and the facilitators will provide the training in English.

The objective of the training programs developed by LS is to contribute towards the development of skills of upcoming radio technicians, engineers and policy makers in South Africa and SADC. The following training programs have been developed and can be offered:

- Spectrum Management
- DVB-T2 Technology
- FM Broadcast Engineering
- FM Radio 101
- Microwave Link Planning
- Broadcast Planning
- Radio Network Planning

2 Courses Descriptions

2.1 DVB-T2 Technology

2.1.1 Training Focus

This four day course offers classroom training to delegates interested in understanding the underlying principles that make up the DVB-T2 terrestrial television broadcast system.

Attention is given, but not limited to, COFDM modulation, network topologies (SFNs/MFNs), capacity considerations, a case study and monitoring approaches.

2.1.2 Course Outcomes

- Introductory principles of DVB-T2 with specific comparison to its predecessor DVB-T.
- Basic elements of DVB-T2.
- Technical overview of DVB-T2 technology and aims to provide delegates with knowledge of the inner workings of the system, how data is structured and also how to calculate the system payload capacity.
- Practical aspects of DVB-T2 network roll-out through a case study (South Africa) and network monitoring approaches.
- Visit operational sites in order to experience examples of installed DVB-T2 network infrastructure.
- Delegates will have an opportunity to evaluate the knowledge they gained through short daily written tests.

2.1.3 Prerequisites

- Basic understanding of broadcast principles is advisable.

2.1.4 Audience

- Delegates with a desire to understand the DVB-T2 technology.
- Delegates who are involved with broadcast network deployment, regulation or operations.

2.1.5 Course Structure

Day 1	<ul style="list-style-type: none">▪ Introduction to DVB-T2▪ DVB-T1 background▪ DVB-T2 Parameter Overview and System Block Diagram▪ Input Processing (modes, formats, T2-MI)▪ Bit Interleaved Coding and Modulation (BICM)
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Day 2	<ul style="list-style-type: none"> ▪ DVB-T2 Frame Structure (Superframe, Frame, OFDM Symbol, FEC Block) ▪ OFDM Generation (Pilot Carriers, Carrier Modes, Guard Interval, FFT Modes) ▪ Anatomy of the DVB-T2 signal and Capacity Example (Bit Rate Calculation)
Day 3	<ul style="list-style-type: none"> ▪ Case Study: South Africa (network topology, head end, distribution, transmission network, monitoring) ▪ Measurement and monitoring principles
Day 4	<ul style="list-style-type: none"> ▪ Visit to DTT Site

2.1.6 Cost

Refer to section 3 of this document titled "Training Calendar".

2.2 FM Broadcast Engineering

2.2.1 Training Focus

This eight day course (covering theoretical and practical elements) offers classroom training to delegates with limited knowledge and experience of FM Broadcasting Transmission principles and operation of equipment as well as broadcast networks. Alternatively, delegates can opt for a 5-day theory course.

Attention is given to broadcasting basics such as Electromagnetic waves, transmission principles and modulation. The course also covers hardware such as transmitters, combiners, feeder cables and antennas.

The core elements of operating a broadcast network such as preventative maintenance, fault-finding, FM measurement techniques, monitoring and operational issues are also covered as well as visits to operating stations.

2.2.2 Course Outcomes

- Introductory principles of FM Broadcasting theory
- Workable knowledge of FM Transmitters, combiners and antennas
- Able to do basic FM measurement techniques
- Knowledge of Linking of sites and studios as well as monitoring and remote control
- Workable knowledge of Preventative maintenance and fault-finding
- Understand Operational issues
- Visit operational sites
- Delegates will have an opportunity to evaluate the knowledge they gained through short daily written tests.

2.2.3 Prerequisites

- Basic understanding of broadcast principles is advisable
- Workable knowledge of Mathematics

2.2.4 Audience

- Delegates with a desire to understand FM transmission and to operate FM transmitters as well as FM broadcast networks.

2.2.5 Course Structure

Day 1	Electromagnetic waves, Wave transmission and RF Principles
Day 2	Modulation and Stereophonic Broadcasting
Day 3	FM transmitters, Combiners and Antennas
Day 4	Introduction to measurements, Preventative Maintenance and Fault-finding
Day 5	Linking of sites, Telemetry and Operational issues
Day 6	Practical Measurements
Day 7	Practical Measurements
Day 8	Site Visit

2.2.6 Cost

5 Day Theory Option

Refer to section 3 of this document titled "Training Calendar".

8 Day Theory and Practical Option

Refer to section 3 of this document titled "Training Calendar".

2.3 FM Radio 101

2.3.1 Training Focus

This one-day course offers classroom training to delegates interested in understanding the underlying principles of FM sound broadcasting.

Attention is given but not limited to the basics of FM modulation, analogue and digital audio, basic transmission infrastructure and the Nautel VS Series FM transmitters.

The training is presented at the offices of LS of SA, Johannesburg.

2.3.2 Course Outcomes

- Delegates will have a solid understanding of the fundamentals of FM sound broadcasting
- Delegates will gain confidence to set up and operate the Nautel VS Series FM transmitters

2.3.3 Prerequisites

- The delegate/s should preferably work at an existing radio station – preferably within a technical and/or production capacity.
- Some basic knowledge of the technical workings of a radio station are required, along with an understanding of terminologies applicable to studio and/or transmission working environments
- Whilst not essential, some basic electronics knowledge could be helpful.

2.3.4 Audience

- Delegates with a basic understanding of broadcast principles.
- Delegates with a desire to further their understanding of FM Sound Broadcasting
- Delegates who are involved with broadcast network deployment and day-to-day operations at a radio station.

2.3.5 Course Structure

One day course

- Some FM and audio basics
- The architecture of a modern FM transmitter broadcast chain
- Overview of the typical components at a transmitting station
- Set up of the transmitter for normal operation
- Content generation (with practical exercises)
- Working with the user interface(s) – (with practical exercises)
- Practical transmission demonstrations into a low power test (dummy) load
- Maintenance and Troubleshooting guidelines

2.3.6 Cost

Refer to section 3 of this document titled "Training Calendar".

2.4 Spectrum Management

2.4.1 Training Focus

The spectrum management function is a task normally undertaken by the national communication regulator of a country. This function includes amongst others the licensing of spectrum, spectrum allocations, development of channel plans and the frequency coordination within the country and with its neighbouring countries. This three-day training program covers various aspects of spectrum management. It includes information on the history, important international organisations that play important roles all around the world including the ITU. There will be an overview on the spectrum usage and applications throughout the available frequency spectrum. The latest hot topics around the world related to spectrum management will be discussed. The course also include information on frequency occupation and spectrum efficiency of certain technologies.

2.4.2 Course Outcomes

- The course will empower the participants to visualise the spectrum usage and application over the complete frequency spectrum.
- After the course is completed the participants will have a much clearer understanding of the regulatory function and the difficulty of the engineering and administrative tasks that the regulator need to undertake daily.
- The course will also clearly indicate all the role players that need to be consulted during the different regulatory tasks and functions.

2.4.3 Prerequisites

No formal prerequisites are required but keen interest in the functions of the regulator is required. People with an engineering background will appreciate certain technology aspect more while people with other backgrounds might appreciate the negotiation skills that are required more.

2.4.4 Audience

The target audience include spectrum managers, regulators and policy makers. It includes information for non-engineering persons and people with a key interest in spectrum management.

2.4.5 Course Structure

Day 1	Introduction to Spectrum Management <ul style="list-style-type: none">▪ Definitions of Spectrum Management▪ Why was Spectrum Management introduced?▪ What are the main components of Spectrum Management?
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	<p>Radio Communication Systems</p> <ul style="list-style-type: none"> ▪ Principle of Radio Communication ▪ Classification of Systems ▪ Common Parameter of Radio Communication Systems <p>Historical Overview of Spectrum and Propagation</p> <ul style="list-style-type: none"> ▪ The History of the Radio Spectrum ▪ Characteristics of Radio Spectrum, how is it classified ▪ Propagation effects <p>Modulation Schemes</p> <ul style="list-style-type: none"> ▪ Analogue Modulation ▪ Digital Modulation ▪ Analogue vs. Digital Modulation ▪ Error correction and coding ▪ Spread Spectrum
Day 2	<p>ITU and International Spectrum Management Organisations</p> <ul style="list-style-type: none"> ▪ The role of the ITU in Spectrum Management ▪ The Radio Regulations ▪ Table of Frequency Allocations ▪ International Spectrum Management Organizations <p>Spectrum Licensing</p> <ul style="list-style-type: none"> ▪ Spectrum Management and Frequency Planning ▪ Reasons for Spectrum Licensing ▪ Licenses types ▪ Methods to select the Licensee <p>Frequency coordination ITU notification</p> <ul style="list-style-type: none"> ▪ Frequency Assignment Options ▪ Reasons for frequency Coordination? ▪ Harmonized Coordination Methods ▪ Best or Preferred Frequencies <p>The Spectrum Resource: Overview of Frequency Bands</p> <ul style="list-style-type: none"> ▪ Frequency Bands (ELF to EHF) ▪ Applications, Characteristics and allocations

Day 3	<p>Spectrum Efficiency</p> <ul style="list-style-type: none"> ▪ What contributes to Engineering efficiency? ▪ What contributes to Economic efficiency? ▪ Which factors influencing spectrum efficiency ▪ Example efficiencies of different technologies ▪ What are the characteristics of an efficient frequency plan <p>Latest Developments in Radio Technology</p> <ul style="list-style-type: none"> ▪ Dealing with the spectrum “capacity crunch” ▪ Mesh networks. ▪ Multi Technology planning ▪ Machine to machine (M2M) communications ▪ Sensor networks ▪ Power line telecommunications (PLT) and its use of the radio spectrum ▪ Multiple and distributed antenna networks ▪ Can we use micrometer and nanometer wavelengths? ▪ What might future wireless networks look like ▪ Low capacity data networks – Sigfox and LoRa <p>Regulatory and White Space</p> <ul style="list-style-type: none"> ▪ Status of white space in Africa ▪ What is white space in general radio spectrum terms? ▪ Why is white space becoming increasingly relevant? ▪ White space and cognitive radio interlinked? ▪ What does a white space database look like? ▪ What services might be offered in white space? ▪ What are the policy options for regulators? <p>The digital Dividend</p> <ul style="list-style-type: none"> ▪ The problems of analogue television and the benefits of DTT ▪ The 'double whammy' digital dividend ▪ How much spectrum can be released? ▪ 700 and 800 MHz and international harmonization

2.4.6 Cost

Refer to section 3 of this document titled “Training Calendar”.

2.5 Microwave Link Planning

2.5.1 Training Focus

This two-and-a-half day training course provides trainees with a strong background in microwave transmission and link planning for modern point to point Digital Microwave Radio

The course also covers in detail all important aspects of radio propagation, such as multi-path fading, free space loss, reflection and refraction

Microwave links are required to perform as the backhaul of the network of all the mobile technologies today, with an ever increasing demand for capacity. If designed appropriately the links can deliver this performance. The course offers both theoretical know-how and practical knowledge of planning microwave links. Topics covered are microwave devices, typical antennas, feeder cable, path profiles, line of sight, antenna diversity, modulation schemes and frequency bands.

2.5.2 Course Outcomes

After completion of this course, participants will:

- Understand essentials of microwave transmission and link design for point to point systems
- Become familiar with equipment used and understand different network topologies
- Be able to improve and optimize network performance and quality
- Understand how to use a microwave link planning tool (CHIRplus_FX)

2.5.3 Prerequisites

Microwave link planning experience

2.5.4 Audience

Entry to mid-level Microwave link planners

2.5.5 Course Structure

Day 1	<p>Introduction</p> <ul style="list-style-type: none">▪ Standardization institutes▪ Basics and definitions▪ Point-to-Point microwave link description, frequency bands <p>Wave Propagation and related Microwave Link Parameters</p> <ul style="list-style-type: none">▪ Free spaces calculation▪ Atmospheric attenuation, rain attenuation (influence of polarization), diffraction, tropospheric scatter, multipath fading
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	<p>Path Profile Planning</p> <ul style="list-style-type: none"> ▪ Terrain data (DTM and DEM layer, Morpho Maps) ▪ LOS and Fresnel Zone (Near and far field predictions) ▪ Map and field survey <p>Antennas</p> <ul style="list-style-type: none"> ▪ Antenna technique ▪ Antenna parameters (Patterns and gain, beam width, Cross polarization discrimination) ▪ Passive repeaters/reflectors
Day 2	<p>Power Budget</p> <ul style="list-style-type: none"> ▪ Free space loss ▪ Link budget over the entire radio link ▪ Fade margin and availability (Link outage and unavailability) ▪ Adaptive modulation ▪ Diversity types (Space and Frequency diversity) <p>Frequency Planning</p> <ul style="list-style-type: none"> ▪ Ranges for radio links (Frequency, antenna depending on link distances) ▪ Frequency plans (creation, evaluation, national and international plans) ▪ Upper and lower band planning <p>Interference</p> <ul style="list-style-type: none"> ▪ General description (definition, passive and active) ▪ Determination of interference criteria (C/I, T/I) ▪ Particular scenarios (Onsite interference, High Low Clash) ▪ Interference analysis for FWA networks
Day 3 (Half Day)	<p>Link Planning in CHIRplus_FX</p> <ul style="list-style-type: none"> ▪ Loading prediction maps ▪ Create sites ▪ Define a frequency planning from ITU-R F.385-10 Annex 1 (band, channel spacing) ▪ Create link (determine availability, capacity, modulation rate) ▪ Link calculations and analysis (availability, interference, channel assignment)

2.5.6 Cost

Refer to section 3 of this document titled "Training Calendar".

2.6 Broadcast Planning using CHIRplus_BC

2.6.1 Training Focus

This four day course teaches delegates the basic broadcast planning parameters and equip them with the necessary knowledge to perform the necessary tasks of a terrestrial broadcaster, signal distributor or regulator.

2.6.2 Course Outcomes

- Delegates will be able to use CHIRplus_BC on day to day tasks
- Delegates will have a clear understanding of RF planning principles and interference theory on FM networks, Analogue and Digital Television networks.

2.6.3 Prerequisites

- A basic understanding of RF will be beneficial.

2.6.4 Audience

- Any regulatory delegate in the broadcasting department.
- Any delegate in the field of broadcasting terrestrially
- Any signal distributor in the broadcasting field
- Any person interested in the broadcasting field

2.6.5 Course Structure

Day 1	<ul style="list-style-type: none">▪ Introduction to LS telcom and LS of South Africa▪ Broadcast Software technologies▪ Basic Broadcast planning▪ Broadcast Antennas▪ Wave propagation phenomena▪ Wave propagation models▪ Examples and Exercises on CHIRplus_BC
Day 2	<ul style="list-style-type: none">▪ System setup and system administration▪ Database handling▪ Database parameters▪ Transmit parameters▪ Broadcast planning & field strength calculations▪ Interference Theory▪ FM network analyses

Day 3	<ul style="list-style-type: none"> ▪ Frequency identification ▪ Steps to follow during frequency identification ▪ FM frequency identification ▪ Analogue TV and DTT frequency identification ▪ FM interference analysis ▪ Analogue TV interference analysis ▪ Examples and Exercises on CHIRplus_BC
Day 4	<ul style="list-style-type: none"> ▪ DTT interference analyses (Self interference) ▪ MFN / SFN networks ▪ Inter service interference analyses (DTT to Analogue) ▪ Compatibility DTT vs. other services (e.g. LTE) ▪ Practical DTT planning session

2.6.6 Cost

Refer to section 3 of this document titled "Training Calendar".

2.7 Radio Network Planning

2.7.1 Training Focus

The training course will give the participant a good understanding of radio network planning as addressed detailed in the “Course Outcomes” section.

2.7.2 Course Outcomes

The three day course will address the following topics:

- Introduction Radio Network Planning
- Coverage Planning
- Cell Structure Planning
- Traffic Planning
- Frequency Planning

2.7.3 Prerequisites

Basic engineering understanding of radio network planning is advisable.

2.7.4 Audience

Delegates with a desire to understand radio network planning.

2.7.5 Course Structure

Day 1	Introduction Radio Network Planning <ul style="list-style-type: none">▪ Cellular Networks▪ Targets for Radio Network Planning▪ Planning Sequence
Day 2	Coverage Planning <ul style="list-style-type: none">▪ Coverage▪ Link Budgets▪ Basics of Wave Propagation▪ Statistics of the Radio Channel▪ Field Strength Predictions▪ Measurement Techniques

	<p>Cell Structure Planning</p> <ul style="list-style-type: none"> ▪ Cell Layouts ▪ Omni Cells ▪ Sector Cells ▪ Macro, Micro, Pico Cells ▪ Site Configuration
Day 3	<p>Traffic Planning</p> <ul style="list-style-type: none"> ▪ Basics of Traffic Theory ▪ Capacity of Carrier Frequency ▪ Traffic Density ▪ Traffic Forecast ▪ Traffic Measurements <p>Frequency Planning</p> <ul style="list-style-type: none"> ▪ Interference ▪ Regular reuse pattern ▪ Frequency assignment with planning tools

2.7.6 Cost

Refer to section 3 of this document titled "Training Calendar".

3 Training Calendar

LS of SOUTH AFRICA TRAINING ACADEMY

2016 TRAINING CALENDAR

SPECTRUM MANAGEMENT			
TRAINING COURSE	DURATION	PRICE PER DELEGATE (EXCL VAT)	DATE
Spectrum Management	3 days	R 10,200.00	27.- 29.07.2016
Spectrum Management	3 days	R 10,200.00	23.- 25.08.2016
Spectrum Management	3 days	R 10,200.00	03.- 05.10.2016
Spectrum Management	3 days	R 10,200.00	14.- 16.11.2016

BROADCAST			
TRAINING COURSE	DURATION	PRICE PER DELEGATE (EXCL VAT)	DATE
DVB-T2 Technology (Theory and Practical)	4 days	R 15,600.00	04.- 07.07.2016
DVB-T2 Technology (Theory and Practical)	4 days	R 15,600.00	16.- 19.08.2016
DVB-T2 Technology (Theory and Practical)	4 days	R 15,600.00	26.- 29.09.2016
DVB-T2 Technology (Theory and Practical)	4 days	R 15,600.00	07.- 10.11.2016
Broadcast Planning using CHIRplus BC	4 days	R 13,600.00	12.- 15.07.2016
Broadcast Planning using CHIRplus BC	4 days	R 13,600.00	12.- 15.09.2016
Broadcast Planning using CHIRplus BC	4 days	R 13,600.00	31.10 - 03.11.2016

DIGITAL MOBILE AND MICROWAVE			
TRAINING COURSE	DURATION	PRICE PER DELEGATE (EXCL VAT)	DATE
Microwave Link Planning	2.5 days	R 8,000.00	10- 12.08.2016
Microwave Link Planning	2.5 days	R 8,000.00	19.- 21.09.2016
Microwave Link Planning	2.5 days	R 8,000.00	24.- 26.10.2016

RADIO COMMUNICATION			
TRAINING COURSE	DURATION	PRICE PER DELEGATE (EXCL VAT)	DATE
FM Broadcast Engineering (Theory)	5 days	R 16,000.00	18.- 22.07.2016
FM Broadcast Engineering (Theory and Practical)	8 days	R 25,600.00	18.- 27.07.2016
FM Broadcast Engineering (Theory)	5 days	R 16,000.00	29.08.- 02.09.2016
FM Broadcast Engineering (Theory and Practical)	8 days	R 25,600.00	29.08.- 07.09.2016
FM Broadcast Engineering (Theory)	5 days	R 16,000.00	10.- 14.10.2016
FM Broadcast Engineering (Theory and Practical)	8 days	R 25,600.00	10.- 19.10.2016
FM Broadcast Engineering (Theory)	5 days	R 16,000.00	21.- 25.11.2016
FM Broadcast Engineering (Theory and Practical)	8 days	R 25,600.00	21.- 30.11.2016
FM Radio 101	1 day	R 3,000.00	08.07.2016
FM Radio 101	1 day	R 3,000.00	04.08.2016
FM Radio 101	1 day	R 3,000.00	22.09.2016
FM Radio 101	1 day	R 3,000.00	20.10.2016

Notes:

1. Price quoted is per delegate attending course.
2. The prices quoted do not include airline tickets, accommodation, meals and any local travel in South Africa or the country where the course is represented.
3. Training courses to be presented at 131 Gelding Ave, Ruimsig, Roodepoort but course can also be held at the premises of the client in South Africa or abroad.
4. FM Broadcast Engineering course can be customised to suite the needs of the client: Client to choose from the modules as indicated in the course structure. Prices to be determined based on modules chosen.

LS of SOUTH AFRICA TRAINING ACADEMY

2017 TRAINING CALENDAR

SPECTRUM MANAGEMENT			
TRAINING COURSE	DURATION	PRICE PER DELEGATE (EXCL VAT)	DATE
Spectrum Management	3 days	R 10,800.00	13- 15.02.2017
Spectrum Management	3 days	R 10,800.00	03- 05.04.2017
Spectrum Management	3 days	R 10,800.00	24- 26.07.2017
Spectrum Management	3 days	R 10,800.00	27- 29.09.2017
Spectrum Management	3 days	R 10,800.00	13- 15.11.2017

BROADCAST			
TRAINING COURSE	DURATION	PRICE PER DELEGATE (EXCL VAT)	DATE
DVB-T2 Technology (Theory and Practical)	4 days	R 16,500.00	06- 09.03.2017
DVB-T2 Technology (Theory and Practical)	4 days	R 16,500.00	05- 08.06.2017
DVB-T2 Technology (Theory and Practical)	4 days	R 16,500.00	11- 14.09.2017
DVB-T2 Technology (Theory and Practical)	4 days	R 16,500.00	16- 19.10.2017
Broadcast Planning using CHIRplus_ BC	4 days	R 14,400.00	27- 30.03.2017
Broadcast Planning using CHIRplus_ BC	4 days	R 14,400.00	03- 06.07.2017
Broadcast Planning using CHIRplus_ BC	4 days	R 14,400.00	18- 21.09.2017
Broadcast Planning using CHIRplus_ BC	4 days	R 14,400.00	20- 23.11.2017

DIGITAL MOBILE AND MICROWAVE			
TRAINING COURSE	DURATION	PRICE PER DELEGATE (EXCL VAT)	DATE
Microwave Link Planning	2.5 days	R 8,500.00	06- 08.02.2017
Microwave Link Planning	2.5 days	R 8,500.00	08- 10.05.2017
Microwave Link Planning	2.5 days	R 8,500.00	01- 03.08.2017
Microwave Link Planning	2.5 days	R 8,500.00	09- 11.10.2017

RADIO COMMUNICATION			
TRAINING COURSE	DURATION	PRICE PER DELEGATE (EXCL VAT)	DATE
FM Broadcast Engineering (Theory)	5 days	R 17,000.00	20- 24.02.2017
FM Broadcast Engineering (Theory and Practical)	8 days	R 27,100.00	20.02- 01.03.2017
FM Broadcast Engineering (Theory)	5 days	R 17,000.00	19- 23.06.2017
FM Broadcast Engineering (Theory and Practical)	8 days	R 27,100.00	19- 28.06.2017
FM Broadcast Engineering (Theory)	5 days	R 17,000.00	21- 25.08.2017
FM Broadcast Engineering (Theory and Practical)	8 days	R 27,100.00	21- 30.08.2017
FM Broadcast Engineering (Theory)	5 days	R 17,000.00	23- 27.10.2017
FM Broadcast Engineering (Theory and Practical)	8 days	R 27,100.00	23.10 - 01.11.2017
FM Radio 101	1 day	R 3,200.00	17.02.2017
FM Radio 101	1 day	R 3,200.00	12.05.2017
FM Radio 101	1 day	R 3,200.00	28.07.2017
Radio Network Planning	3 days	R 9,500.00	13- 15.03.2017
Radio Network Planning	3 days	R 9,500.00	22- 24.05.2017
Radio Network Planning	3 days	R 9,500.00	17- 19.07.2017
Radio Network Planning	3 days	R 9,500.00	02- 04.10.2017

4 Terms and Conditions

Group Discount

Register 6 and more delegates for one training course and receive 5% discount.

Training Time Schedule

If not marked differently the training starts at 9:00 am and ends at 5:00 pm.

Course Fee

1. The fees are per delegate. Each price is quoted in South African Rand and exclude Value Added Tax (VAT) for South African customers.
2. The course fee must be paid in full (unless expressly agreed otherwise) latest 10 working days prior to the course start date in order to guarantee a seat.
3. Delegates are not allowed to attend courses if payment has not been made.
4. The course fee includes course material, refreshing beverages, snacks and lunch during training courses.
5. Travelling costs, accommodation and living expenses for the delegates are not included.
6. Prices are exclusive of all taxes, fees, levies, customs duties raised outside South Africa.
7. All additional costs for training at locations other than at the LS of South Africa Training Academy will be borne by the client.
8. All prices are subject to change without prior notification.

Banking Details

LS Multi Copter Projects and Services (Pty) Ltd

Account number: 1129250199

Bank: Nedbank Ltd

Branch: Northern Gauteng

Branch Code: 198765

Swift Code: NEDSZAJJ

Application

1. A Learner Admission Application form must be completed and returned to the LS of South Africa Training Academy latest 21 working days prior to the training course start date.
2. Once delegate is notified of his/her acceptance to enrol, the delegate must complete the registration form and return it by e-mail to the LS of South Africa Training Academy latest 15 working days prior to start date of the course.

Minimum number of attendees

LS of South Africa Training Academy reserves the right to change the course date or cancel the course if the number of delegates is insufficient.

Language

The courses will be held in English unless stated otherwise. The course documentation is in English.

Certificates

Certificates of participation will be awarded to all those who complete a course.

Location

The scheduled courses are held at the LS of South Africa Training Academy in Ruimsig, Johannesburg, South Africa, unless stated otherwise.

Data Protection

As an attendee you agree that we keep and process your personal data to manage and administer the training course and to keep you informed of future training courses on offer.

Cancellation Policy

1. Cancellations may be made free of charge up to 13 working days prior to the start of the training course.
2. After this time, a cancellation charge of 80% of the course fee applies. Withdrawals must be confirmed in writing prior to the course start date, otherwise the full amount will be due.
3. Substitutions may be applied for in writing 5 working days prior to the course starting date.

Disclaimer

1. The LS of South Africa Training Academy reserves the right to change or cancel any part of its published programme due to unforeseen circumstances.
2. Your registration alone does not constitute a binding agreement and requires our written approval which regularly can be assumed by our invoice.