

## **Craft Skills Performance Objectives**

FM Transmission Engineering

Reviewed May 2018

## FM Transmission Course

### Course Goal:

To make the participants able to safely handle elementary and frequently needed services on broadcasting equipment at a small FM station.

### Who it's for:

This course is designed for technicians with at least six months experience in broadcast equipment operations. Fundamental understanding electronics required. It is also useful for experienced technicians as a refresher course. The course language is English.

This course will be delivered residentially over five days.

### *At the end of the course the student will be able to:*

- Explain the function of FM broadcasting components, and the regular care they require.
- Explain AC, DC, and RF signals in the transmission sequence.
- Mount common 3-pole mains plugs and sockets in a proper and safe way.
- Explain the importance of using proper types of cable and fuses.
- Demonstrate how to use metering and diagnostics of transmitter.
- Explain the importance of documentation and keeping records.
- Identify and perform preventative maintenance tasks and explain the importance of doing this regularly.
- Explain principles and concepts fundamental to the process of fault-finding.
- Demonstrate how to use workshop manuals and diagnostic trees.
- Explain how voltage, current and resistance relate to each other.
- Demonstrate how to use a multi-meter.
- Demonstrate self awareness and knowledge of where and how to ask for advice.

### *Major areas covered:*

- System Level Components: Studio-Transmitter Links (STL), Sound Processing, Stereo Encoder, Exciters, RF Amplifiers.
- Antenna, Coax Cable, Power Supplies, Lightning Protection, etc.
- Basic AC, DC, RF principles
- Electrical wiring
- Electrical safety
- Operator control and diagnostics
- Documentation/ records
- Preventive maintenance
- Fault finding
- Measuring techniques

### **Course Method:**

The course will be taught by' experienced practitioners who are also established tutors in their subject. The sessions comprise a mix of theoretical and practical work based on actual examples of the African situation. Case Studies, group discussion and role play, combined with written evaluation, and situation analysis is a feature of the learning method, which will invite a substantial degree of individual and group participation. Sessions will provide written documents and training handouts. The course, limited to ten members, will be taught in English.