



**African Advanced Level Telecommunications Institute (AFRALTI)**

**Online Training Course on  
Broadcast Spectrum Management**

**1 – 26 November 2021**

**TRAINING COURSE OUTLINE**

**COURSE DESCRIPTION**

<b>Title</b>	<b>Broadcast Spectrum Management</b>
<b>Objectives</b>	<p>The objectives of the training course are to:</p> <ul style="list-style-type: none"><li>• Understand of the management of the RF spectrum used for broadcasting services as per ITU Radio Regulations and Radio Frequency Allocation tables;</li><li>• Understand of the allocation of the Radio Frequency (RF) spectrum for the Digital Terrestrial Television broadcasting as per Geneva 2006 Agreement and its uptake to the UK, Kenya and Tanzania as the case studies;</li><li>• Understand of the valuation methodologies of the Digital Dividend RF spectrum; and</li><li>• Understand of the background of the TV and Radio Broadcasting.</li></ul>
<b>Dates</b>	1 – 26 November 2021
<b>Duration</b>	20 Days
<b>Registration deadline</b>	30 October 2021
<b>Training fees</b>	USD960
<b>Course code</b>	21OI26519AFR-E

**DESCRIPTION OF THE TRAINING COURSE**

This course “**Broadcast Spectrum Management**” presents mainly Radio Frequencies (RF) used for broadcasting services as per ITU Radio Regulations and transition from analogue to digital terrestrial television broadcasting in the Very High Frequency (VHF) band III (174-230MHz) and Ultra High Frequency (UHF) bands IV&V (470-862MHz) that was decided by the Regional Radiocommunications Conference (RRC) for Broadcasting Areas in Region 1 held in Geneva in 2006.

## LEARNING OUTCOMES

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After completing this course, the participant will be able to:

- Allocate and assign the RF spectrum used for different Broadcasting services as per ITU Radio Regulations;
- Allocate and assign the RF spectrum for the Digital Terrestrial Television Broadcasting services as per Geneva 2006 Agreement;
- Carry out valuation of the Digital Dividend RF spectrum and license it at market value; and
- Learn lessons of experience on Digital Broadcasting Migration from the U.K, Kenya and Tanzania as the three Country Case Studies.

## TARGET POPULATION

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This training is targeted at personnel from regulators, broadcasters, digital signal distributors, policy makers in the government and academia who are interested in understanding well the Broadcast Spectrum Management.

## ENTRY REQUIREMENTS

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Officers responsible for Broadcasting Spectrum Planning and Management.

## TUTOR/INSTRUCTOR

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NAME OF TUTOR(S)/INSTRUCTOR(S)	CONTACT DETAILS
Dr John Mpapalika	Email: <a href="mailto:mpapalikaj2016@gmail.com">mpapalikaj2016@gmail.com</a> Tel: +255 762 545 228
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## TRAINING COURSE CONTENTS

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- Introduction to Broadcasting and Radio Frequency Spectrum – Basic knowledge on the subject matter.
- Applicable ITU Radio Regulations for Broadcasting Services - as per STK 61 and GE 89 Agreements
- Radio Frequency Bands Used for Broadcasting Services – Discussion on Bands in different services (Radio, TV, and Satellite)
- The Transition of Terrestrial Television Broadcasting from analog to Digital as per Geneva 2006 agreement.
- Application of the Digital Dividend RF Spectrum and its Channelisation Plan – Digital Dividend I & II

- The Uptake of the Digital Terrestrial Television Broadcasting – case studies (UK, Kenya and Tanzania)

## TRAINING COURSE SCHEDULE

Week / Session	Topic	Exercises and interactions
<p><b>WEEK 1</b></p> <p><b>Introduction to Broadcasting and Radio Frequency Spectrum.</b></p> <p><b>Applicable ITU Radio Regulations for Broadcasting Services.</b></p>	<p>Read week 1 topics:</p> <ul style="list-style-type: none"> <li>• Definition of terms</li> <li>• Light Spectrum</li> <li>• Electromagnetic spectrum</li> <li>• Radio waves</li> <li>• Propagation of Radio waves</li> <li>• The Spot of Gold / Sweet Spot RF Spectrum</li> </ul> <p>• Applicable ITU RF Spectrum Allocations for Broadcasting Services as per STK 61 and GE 89 Agreements</p> <p>Participate in <b>forum</b> and <b>live discussions</b> on Tuesday and Thursday</p>	<p>Do all <b>quizzes</b> in week 1</p>
<p><b>WEEK 2</b></p> <p><b>Radio Frequency Bands Used for Broadcasting Services.</b></p>	<p>Read week 2 topics:</p> <ul style="list-style-type: none"> <li>• Allocated Radio Frequency Spectrum</li> <li>• TV and Radio Frequency Bands</li> <li>• TV services in the VHF and UHF Bands</li> <li>• RF Spectrum Used for Broadcasting Satellite Services</li> <li>• The Fixed Satellite Service Frequency Bands</li> </ul> <p>Participate in <b>forum</b> and <b>live discussions</b> on Tuesday and Thursday</p>	<p>Do all <b>quizzes</b> in week 2</p>
<p><b>WEEK 3</b></p> <p><b>The Transition of Terrestrial Television Broadcasting from analogue to Digital as per Geneva 2006 agreement.</b></p>	<p>Read week 3 topics:</p> <ul style="list-style-type: none"> <li>• Definition</li> <li>• Map of the ITU Regions for Allocations of the Radio Frequencies</li> <li>• Broadcasting area in Region 1</li> <li>• The Transition of Terrestrial Television Broadcasting from analogue to Digital in the Very High Frequency (VHF) band III (174 -230 MHz) and Ultra High Frequency (UHF) bands IV &amp; V (470 -862 MHz) as Per Geneva 2006 Agreement</li> </ul>	<p>Do all <b>quizzes</b> in week 3</p>

	Participate in <b>forum</b> and <b>live discussions</b> on Tuesday and Thursday	
<b>WEEK 4</b>  <b>Application of the Digital Dividend RF Spectrum and its Channelisation Plan.</b>   <b>The Uptake of the Digital Terrestrial Television Broadcasting.</b>	Read week 4 topics: <ul style="list-style-type: none"> <li>• Definition of Digital Dividend</li> <li>• Which are the Digital Dividend I and II bands</li> <li>• Channelisation plan for Digital Dividend I</li> <li>• Channelisation plan for Digital Dividend II</li> </ul> <ul style="list-style-type: none"> <li>• The case of UK</li> <li>• The case of Kenya</li> <li>• The case of Tanzania</li> </ul> Participate in <b>forum</b> and <b>live discussions</b> on Tuesday and Thursday	Do all <b>quizzes</b> in week 4  Submit end of course <b>assignment</b> .

### METHODOLOGY (Didactic approach)

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This course shall be conducted fully online. There will be Instructor led training, lectures, case studies, quizzes and assignment. All participants must do all the quizzes and pass in order to get a certificate from ITU. The tutor will deliver live lectures through ZOOM on every Tuesday and Thursday from 1500 Hours to 1700 Hours EAT. This will be opportunity for participants to interact directly with the tutor, ask questions and discuss different topics covered online in that week.

### EVALUATION

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Centres of Excellence shall grant certificates of achievement based on assessment tests undertaken during, and at the end of each training. In this regard, Centres of Excellence shall develop assessment tools for this training. The tools should include the following:

- Regular assessments quizzes

Only candidates who have successfully completed all the assessments shall be awarded the ITU certificate, the passmark is 60%.

### TRAINING COURSE COORDINATION

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AFRALTI Coordinator:  Mr. Jonathan P. Mwakijele Head of Management, Policy and Regulatory Unit, AFRALTI, Nairobi, Kenya Tel : +254 718 860 897 Email: <a href="mailto:Jmwakijele@afralti.org">Jmwakijele@afralti.org</a>	ITU coordinator:  Mr. Emmanuel Niyikora Programme Officer ITU Area Office for West Africa, Dakar Tel : +250 788312939 Email: <a href="mailto:emmanuel.niyikora@itu.int">emmanuel.niyikora@itu.int</a>
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### REGISTRATION AND PAYMENT

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## ITU Academy portal account

Registration and payment should be made online at the ITU Academy portal.

To be able to register for the course you **MUST** first create an account in the ITU Academy portal at the following address:

<https://academy.itu.int/index.php/user/register>

## Course registration

When you have an existing account or created a new account, you can register for the course online at the following link: <https://academy.itu.int/training-courses/full-catalogue/broadcast-spectrum-management-0> You can also register by finding your desired course in our training catalogue <https://academy.itu.int/index.php/training-courses/full-catalogue>

## Payment

### 1. On-line payment

A training fee of USD 960 per participant is applied for this training. Payment should be made via the online system using the link mentioned above for training registration at <https://academy.itu.int/training-courses/full-catalogue/broadcast-spectrum-management-0>

### Payment by bank transfer

Where it is not possible to make payment via the online system, select the option for offline payment to generate an invoice using the same link as above. Download the invoice to make a bank transfer to the ITU bank account shown below. Then send the proof of payment/copy of bank transfer slip and the invoice copy to [Hcbmail@itu.int](mailto:Hcbmail@itu.int) and copy the course coordinator. **All bank transaction fees must be borne by the payer.**

**Failure to submit the above documents may result in the applicant not being registered for the training.**

### 2. Group payment

Should you wish to pay for more than one participant using bank transfer and need one invoice for all of them, create an account as **Institutional Contact**. **Institutional Contacts** are users that represent an organization. Any student can request to be an institutional contact or to belong to any existing organization.

To do this, head to your profile page by clicking on the **“My account”** button in the user menu. At the bottom of this page you should see two buttons:

- a. If you want to **become an institutional contact**, click on the **“Apply to be an Institutional Contact”** button. This will redirect you to a small form that will ask for the organization name. After you fill the name of the organization you want to represent, click on **“continue”** and a request will be created. An ITU Academy manager will manually review this request and accept or deny it accordingly.
- b. If you want to **belong to an existing organization**, click on the **“Request to belong to an Institutional Contact”** button. This will redirect you to a small form that will ask you to select the organization you want to join from an organization list. After you select the correct organization, click on **“continue”**, a request will then be created. The Institutional Contact that represents that organization will manually accept or deny your request to join the organization.

## ITU BANK ACCOUNT DETAILS:

Name and Address of Bank:	UBS Switzerland AG Case postale 2600 CH 1211 Geneva 2 Switzerland
Beneficiary:	Union Internationale des Télécommunications
Account number:	240-C8108252.2 (USD)
Swift:	UBSWCHZH80A
IBAN	CH54 0024 0240 C810 8252 2
Amount:	USD 960
Payment Reference:	CoE-AFR 26519 – P.40590.1.07

#### 4. **Other method of payment**

If due to national regulations, there are restrictions that do not allow for payment to be made using options 1 & 2 above, please contact the ITU coordinator for further assistance.