



## Training course outline

### ITU and Sudatel Telecommunications Academy (SUDACAD)

Title	Fiber To The Home (FTTH)
Modality	Face-to-face
Dates	19-23 June 2022
Duration	5 Days
Registration deadline	16 June 2022
Training fees	150\$
Description	This course features with an experienced FTTH instructor. The candidate will gain a broad base of knowledge and familiarity with FTTH architecture, network design, deployment technology, and operational skills. The course is intended for network designers, network planners, supervisors, and project managers that will be involved in deploying and maintaining FTTH and FTTB networks.
Code	22WS28056ARB-E

#### 1. LEARNING OBJECTIVES

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This training aims to focus on Optical Access Networks; specifically Fiber to the Home (FTTH) technologies, different key topics related to Optical Access Networks Fiber to the Home (FTTH) and will explain how the monumental growth of the Internet challenged Telecoms Service providers to provide Internet access.

#### 2. LEARNING OUTCOMES

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By the end of this training, participants should be able to:

- Understand the passive Optical Network (PON) architecture and its possible implementation.
- Identify the different varieties of PON architectures.
- Determine the differences between broadband Passive Optical Network (BPON), Gigabit Passive Optical Network (GPON) and Ethernet Passive Optical Network (EPON).
- Specify the required components that facilitate FTTx installations.
- Calculate the optical loss budget for a FTTx network.
- Test Fiber to the FTTx or fiber in the loop Networks.



### 3. TARGET POPULATION

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This training course targets Optical Fiber Network manufacturers, designers, installers, infrastructure operators, Internet service providers, telecommunications managers, supervisors, technicians, graduates and apprentices plus other personnel whose work is related to FTTH systems or other professionals who require an insight into FTTH technologies.

### 4. ENTRY REQUIREMENTS

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This course requires basic knowledge of fiber optic theory and terminology, as well as field experience, equivalent formal training such as the Fiber Optics 1-2-3 course or viewing the Light Brigade Staff Development DVD set.

### 5. TUTORS/INSTRUCTORS

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Name of tutor(s)/instructor(s)	Contact details
Eng. Atif Hamad Abdalla	<a href="mailto:atifhamad3@gmail.com">atifhamad3@gmail.com</a>

### 6. TRAINING COURSE CONTENTS

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- Introduction to FTTH.
- What is FTTH?
- Characteristics of FTTH.
- FTTH: Why & Where?
- What is PON?
- Characteristics of PON.
- What is FTTx?
- Characteristics of FTTx.
- P-t-P Ethernet.
- P-t-P Why & Where?
- How to install the techniques of P-t-P.
- Design the network configurations.
- What are the basic commercial aspects?
- What are the end user applications requirements?



## 7. TRAINING COURSE SCHEDULE (Khartoum Time)

Date for 1 <sup>st</sup> day	Time ; Start time	Topics
19/June/2022	09:00 - 09:30	<ul style="list-style-type: none"><li>Record attendance.</li><li>Setting the rules.</li></ul>
	09:30 - 11:00	<ul style="list-style-type: none"><li>Introduction.</li></ul>
	11:00 - 11:30	<ul style="list-style-type: none"><li>Break</li></ul>
	11:30 - 14:00	<ul style="list-style-type: none"><li>Access Technology Alternatives.</li></ul>

Date for 2 <sup>nd</sup> day	Time; Start time	Topics
20/June/2022	09:00 - 09:30	<ul style="list-style-type: none"><li>Record attendance.</li></ul>
	09:30 - 11:00	<ul style="list-style-type: none"><li>Introducing Optical Technology.</li><li>BB Technologies &amp; Architecture.</li></ul>
	11:00 - 11:30	<ul style="list-style-type: none"><li>Break</li></ul>
	11:30 - 14:00	<ul style="list-style-type: none"><li>PON.</li><li>FTTx .</li></ul>

Date for 3 <sup>rd</sup> day	Time; Start time	Topics
21/June/2022	09:00 - 09:30	<ul style="list-style-type: none"><li>Record attendance.</li></ul>
	09:30 - 11:00	<ul style="list-style-type: none"><li>P-t-P Ethernet.</li></ul>
	11:00 - 11:30	<ul style="list-style-type: none"><li>Break</li></ul>
	11:30 - 14:00	<ul style="list-style-type: none"><li>Installation Techniques.</li></ul>

Date for 4 <sup>rd</sup> day	Time; Start time	Topics
22/June/2022	09:00 - 09:30	<ul style="list-style-type: none"><li>Record attendance.</li></ul>
	09:30 - 11:00	<ul style="list-style-type: none"><li>Network Design Configurations.</li></ul>
	11:00 - 11:30	<ul style="list-style-type: none"><li>Break</li></ul>
	11:30 - 14:00	<ul style="list-style-type: none"><li>Basic commercial Aspects.</li></ul>



Date for 5 <sup>th</sup> day	Time; Start time	Topics
23/June/2022	09:00 - 09:30	<ul style="list-style-type: none"><li>Record attendance.</li></ul>
	09:30 - 11:00	<ul style="list-style-type: none"><li>End user applications requirements.</li></ul>
	11:00 - 11:30	<ul style="list-style-type: none"><li>Break</li></ul>
	11:30 - 14:00	<ul style="list-style-type: none"><li>Closing Ceremony.</li><li>Group Picture.</li></ul>

## 8. METHODOLOGY (Didactic approach)

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- Instructor-Led Class Lectures and presentations– Slides.
- Reviews and Revisions.
- Case Studies.

## 9. EVALUATION AND GRADING

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Participants will be evaluated according to:

- Active interaction in the group exercises and discussions.
- Planned Quizzes.
- Dedication in attending the sessions.

Grading will take into consideration attendance (30%) and a final overall exam (70%).  
IMPORTANT: a passing mark of 60% is required for obtaining a completion certificate.

## 10. TRAINING COURSE COORDINATION

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<b>Course coordinator:</b>  <b>Ms. Sara Elmakki</b> Planning & Development Dept., SUDACAD Mobile: +249 11 7947230 Tel: +249 183 490 999 Email: <a href="mailto:saraab@sudatel.sd">saraab@sudatel.sd</a>	<b>ITU coordinator:</b>  <b>Mr. Ahmed El Raghy</b> Senior Advisor ITU Arab Regional Office Tel: +202 3537 1777 Mobile: +201005281908 Fax: +202 3537 1888 Email: <a href="mailto:ahmed.elraghy@itu.int">ahmed.elraghy@itu.int</a>
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