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CommScope Enterprise Fiber Solutions [SP4400U]

This course covers fiber safety, transmission theory, cable structure and design, connectors and pre-terminated solutions, splicing and testing. It provides a thorough fiber grounding for anyone involved or about to be in Fiber Optic specification, design, installation, testing and maintenance especially in the enterprise market.



Study time: 8 hours

Webcast duration: 3h:45m

Assessment duration: 40m

[Languages](#)

US \$195 - Buy Now

Audience:

The primary audience is CommScope partners, consultants and end users involved in detailed fiber specification, design, installation and project management who wish to understand the technology to a high level.

Pre-requisite experience:

No pre-requisite knowledge is required for this course although knowledge of enterprise design or installation will be a useful background.

Objectives:

- Understanding fiber optic cabling technology and the theory behind it
- Ensure you, and those you are responsible for, understand the safety aspects
- Introduce CommScope cables and connectivity
- Overview the product portfolio with a specific look at Uniprise enterprise products
- Review design methodology for links and channels and review the supporting documentation and tools
- Understand indoor installation practices for splicing, pre-terminated products.
- Detailed look at the cleaning and testing requirements common to fiber optic systems and required for warranty support

Key Topics:

- **Introduction and Fiber Optic Safety** – laser classification, common causes of accidents, laser precautions, tool safety, cable reel handling, chemicals.
- **Transmission Theory** – types, LazrSPEED, TeraSPEED, propagation, formulae, numerical aperture, TIR, Refraction, Attenuation – intrinsic and extrinsic, macro and microbending, dB, dispersion, spectral width, MFD, chromatic dispersion, singlemode, multimode.
- **Fiber Types and DMD** – manufacturing fiber optic, consolidation, measurement process, nano scaling, mixing fibers, mode conditioning cords, multimode vs singlemode. LEDs, Lasers, DMD, TIA942, High Resolution DMD, EMBc, Preforms, MCVD, Launch correspondence, cost, Zero Water Peak (ZWP), ITU specifications, WDM.
- **Cable Design and Installation** – Environmental considerations, physical characteristics, identification, cable protection, loose tube, stranded dielectric, buffer tubes, OSP cable, self supporting, tight buffer, breakout cables, distribution cables, duplex cables, indoor armored, tracking, applications.
- **Connectors and Hardware** – connector technology, LC, SC, STII, keyed LC, other types of connector, adhesive termination, polishing, inspection, couplers and adapters. Fiber panels, splice options, wall mount, RFE floor enclosures.
- **Pre-terminated Fiber Solutions** – Applications, modules, cords, panels, MPO, gender, duplex polarity, ordering, implementation, installation MPO inspection, cleaning.
- **Splicing** – Safety, why splice? Fiber preparation, good cleaving, splicer types, principals of splicing, steps, PAS, V-groove, loss, tips for success, ARC.
- **Fiber Solutions Design and Testing** – Inspection, troubleshooting high loss, loss budgets, power budgets, insertion loss, loss calculations, test standards, CommScope guidelines and warranty requirements for testing, use of mandrels, Encircled Flux, OLTs Tier 1 testing, Testing MPO, documentation, OTDR tier 2, how it works, events, dead zones, loss and distance, ghosting, cords, testing correctly.

Course Benefits

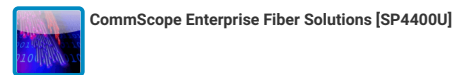
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Related downloads

- [CommScope Infrastructure Academy ID Badges and Certification](#)

Related Courses

Re-certification courses



CommScope Enterprise Fiber Solutions [SP4400U]

Associated learning



CommScope Enterprise Fiber Solutions [SP4400]



CommScope OSP Fiber Design and Engineering [SP4410]



Uniprise Certified Installer [SPUCI]



Fiber to the Antenna (FTTA) [SP6170]

How will I learn?

You will study this course online in a self-paced format. The course is made up of a number of webcast lessons and online multiple choice assessments giving immediate feedback. It is supported by a number of videos and downloadable support documentation.

Successful completion will require:

Any level of pass in the accumulative overall assessment score.

Is this the right course for me?

If you specify, design, install or supervise fiber optic infrastructures of any kind and want to know more about how it works, which products to select how it fits together and how to inspect test and maintain it, then this course is for you.

Upon successful completion you will:

Receive a certificate and added to the CommScope student base.

BICSI CECs: 3 Event ID: OV-COMMS-IL-0416-4

This course qualifies for SCTE Recertification Units (8 hours = 1 RU).

Certificate valid for 3 years


Study time: 8 hours

Webcast duration: 3h:45m

Assessment duration: 40m

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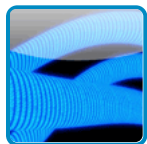
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CommScope OSP Fiber Design and Engineering [SP4410]

Recommended for Design and Installation students wanting to understand OSP fiber technology and solutions in more depth. The course covers OSP safety, Right of Way considerations, cable installation methodology, Splicing and Connectorization. The SP4400 is the ideal pre-requisite to the SP4410 to qualify as a Fiber Specialist.



Study time: 5 hours

Webcast duration: 3h:02m

Assessment duration: 40m

[Languages](#)

US \$95 - Buy Now

Audience:

The primary audience is CommScope partners, consultants and end users involved in detailed OSP fiber specification, design, installation and project management who wish to understand the associated best practices. For enterprise SYSTIMAX partners wishing to add this as a specialization to their Design and Engineering qualification it's the second stage to becoming recognized as a fiber specialist.

Objectives:

- Understand the specific challenges and considerations that OSP fiber installations present
- Introduce the standards that relate to OSP installations
- Explore OSP installation procedures beyond that covered in the Fiber foundation course SP4400

Key Topics:

- **OSP safety** - OSHA, MSDS, Safety Considerations such as First Aid, CPR, Eye protection, Hand and Electrical tool precautions.
- **OSP Ladders** - PPE, lighting, confined space safety, Marking and APWA codes, fiber handling precautions.
- **Right of Way Permits** - Routes and Maps, Eminent Domains - Railways, Easements, Avoiding Damages, Deviation risks.
- **Overview of cable placement including**- Environmental considerations, Using underground conduit, pulling techniques such as Mid-Point, pulling in stages. Direct Buried, depths, Using Plowed Cable in Conduit (CIC), Trenching, Plowing and Boring considerations, Aerial installation, bend radius, pulling equipment and tools. NESC and EN50174-3 codes for OSP power separation, lifting and tensioning Ariel cables, stationary reel and moving reel techniques.
- **OSP to ISP Conversions** - OSP splice Enclosures (OFE-CLS) OSP to ISP Code and cable marking requirements (how far inside buildings can OSP cables run). ANSI-TIA-569 and EN50174-3 requirements for building access. Installation checklists for Underground installations and OSP to ISP transition at the EF/ER.
- **OSP Fiber preparation for Fusion splicing and Termination including** - Stranded and Central tube OSP cable jacket preparation, Fusion Splicing, Direct Connector Termination.

How will I learn?

You will study this course online in a self-paced format. The course is made up of a number of webcast lessons and online multiple choice assessments giving immediate feedback. It is supported by a number of videos and downloadable support documentation.

VIDEOS are provided in the download area and include:

- Stranded and Central Tube OSP cable jacket preparation
- ST/SC/LC fiber termination for MMF and SMF
- Fusion Splicing preparation and completion
- OSP OFE-CLS Splice enclosure termination
- OSP OFE-CLS Splice enclosure termination

Course Benefits

- Learn at your own pace
- Effective learning
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Related downloads

- [CommScope Infrastructure Academy ID Badges and Certification](#)

Related Courses

Pre-requisite courses



CommScope Enterprise Fiber Solutions [SP4400U]



CommScope Enterprise Fiber Solutions [SP4400]

Associated learning



Fiber to the Antenna (FTTA) [SP6170]



SYSTIMAX Installation and Maintenance - 'In House Training' [FC3361]



SYSTIMAX Installation and Maintenance [ND3361]



SYSTIMAX Design and Engineering [SP3321.]

Successful completion will require:

Any level of pass in the accumulative overall assessment score.

Is this the right course for me?

If you specify, design, install or supervise fiber optic OSP infrastructures of any kind and want to know more about the installation, termination and best working practices, which products to select how it fits together, then this course is for you.

Upon successful completion you will:

Receive a certificate and be added to the CommScope student base. CommScope PartnerPRO™ students who are already qualified in the SP3321 SYSTIMAX Authorized SYSTIMAX Engineering (ASE) ID badge will have this specialist course icon appended. If you also have a pass in a current SP4400 CommScope Enterprise Fiber Solutions course you will be recognized as a fiber specialist.



SYSTIMAX MasterClass [SP3351.]



Uniprise Certified Installer [SPUCI]



Uniprise Enterprise Network Design [SPUEND]

BICSI CECs: 2 Event ID: OV-COMMS-IL-0215-11

This course qualifies for SCTE Recertification Units (8 hours = 1 RU).

Certificate valid for 4 years

Study time: 5 hours

Webcast duration: 3h:02m

Assessment duration: 40m

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SYSTIMAX Design and Engineering [SP3321]

The firm focus is generic best design practices and aspects of design specific to the large range of SYSTIMAX cabling products such as: GigaSPEED® UTP and FTP, VisiPatch™, modular copper and fiber terminated solutions, imVision® hardware. Design to both standards and extended SYSTIMAX standards are included together with testing and warranty requirements.



Study time: 30 hours

Webcast duration: 14h

Assessment duration: 1h 40m

[Languages](#)

US \$850 - Buy Now

Audience

This course is intended for anyone who will be directly involved in the Design and Engineering of SYSTIMAX Structured Cabling Systems. The primary audiences are SYSTIMAX PartnerPRO™, SYSTIMAX Solutions technical support personnel, account managers, Consultants and 'end users' involved in SYSTIMAX Specification.

Pre-requisite experience

No pre-requisite knowledge is required for this course. Previous exposure to enterprise infrastructure environments and a general understanding of IT and LANs will all be helpful. This course will take new students to a high design level. This detailed foundation course is further complimented with a series of specialist courses that deal with design in areas such as 'In Building' Wireless, Data Center, Intelligent Building Automation systems, Security, imVision Infrastructure management solution and Redwood Building Performance lighting platform.

Objectives:

- Provide a foundation of essential knowledge to support the design of a SYSTIMAX solution
- Understand Data Communications fundamentals
- Review basic transmission principals
- Overview industry standards
- Introduce SYSTIMAX products & warranty
- Understand architectural design issues
- Learn about horizontal design copper and fiber
- Design a fiber and copper riser system
- Know what to consider for campus designs
- Select optimum SYSTIMAX products for the design
- Order all necessary termination hardware
- Understand the test requirements for registration
- Take students to the required design level to complete SYSTIMAX warranties

Key Topics

Course Benefits

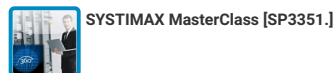
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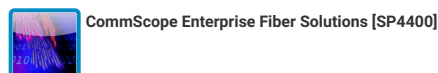
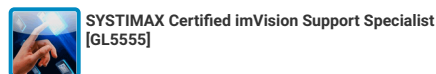
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Related Courses

Re-certification courses



Associated learning



The focus of SP3321 is on the design of each SYSTIMAX subsystem. Designs for PowerSUM, GigaSPEED® XL, Xpress® and X10D (U/UTP & F/UTP), VisiPatch™ VP360, LazrSPEED®, TeraSPEED™ and 360imVision® hardware are all included.

The course will begin by overviewing SYSTIMAX design tools then move on with transmission techniques for copper and fiber, basic data communications fundamentals and industry standards. In the SYSTIMAX specific design lessons SYSTIMAX products and components are reviewed in terms of selection and use. The commercial aspects and advantages of product choice are covered in detail. Industry standards such as ISO/IEC 11801, EN 50173, EN50174, TIA/EIA-568, TIA569, TIA607 and many others are included in this course for review and impact on design.

Throughout the course, key design requirements for the SYSTIMAX performance and warranty for GigaSPEED X10D, XL, PowerSUM and fiber solutions are raised and discussed. In addition the imVision 360 iPatch Hardware design is detailed.

Lessons include:

- SYSTIMAX Design Tools
- Data Transmission
- Key Standards Development
- Data Communications Fundamentals
- Architectural Considerations
- Horizontal Designs
- Building Backbone Designs
- Campus Backbone and Entrance facility
- Administration Area Design
- SYSTIMAX iPatch 360 Hardware Design
- SYSTIMAX Safety Inspection and Testing
- SYSTIMAX Warranty, Assurance & Site Registration

How will I learn?

You will study this course online in a self- paced format. The course is made up of a number of webcast lessons and online multiple choice assessments giving immediate feedback.

Successful completion will require

Any level of pass in the accumulative overall assessment score.

Is this the right course for me?

If you are involved in design, project management, consultancy and warranting of SYSTIMAX enterprise projects and require a thorough understanding of both standards based design and SYSTIMAX extended design options, then this course is for you.

Upon successful completion you will:

Receive the course certificate. CommScope PartnerPRO™ students will receive an ID Badge and authorized certificate to register SYSTIMAX sites for the design aspect of the warranty.

BICSI CECs: 15 Event ID: OV-COMMS-IL-0215-1

Certificate valid for 2 years

Study time: 30 hours

Webcast duration: 14h

Assessment duration: 1h 40m



JDSU Get Fiber Smart [SP4700]



Cabling for Intelligent Buildings [SP7700]



CommScope Security Design and Engineering [SP7710]



CommScope Coax Cable Solutions [SPCCCS.]



SYSTIMAX Data Center Fundamentals [SP8800.]



SYSTIMAX Data Center Design and Engineering [SP8810]



SYSTIMAX Data Center Solutions [SP8820]




ION-E System Architecture and Hardware Overview [WR9633]



ITRACS Introduction to Data Center Infrastructure Management (DCIM) [WR9801]

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