

# FIBER OPTICS AND FUSION SPLICING

“TO ENABLE NOT ENCUMBER”

## COMPANY DATA

Based in Brentwood, Tennessee, The Sage Group has successfully trained professionals for over twenty-five years by positioning itself at the forefront of technological innovation and sharing industry-specific expertise with eager learners from coast to coast. The Sage Group maintains a strategic alliance with Nashville State Community College that permits it to offer courses that may be applied toward an Associate Degree in General Technology. In addition, The Sage Group provides professional IT Mentoring Services to assist companies and government agencies working on IT projects, reducing their need to engage cost prohibitive external sources.

## FIBER OPTICS AND FUSION SPLICING

This course introduces participants to the fiber optics industry along with its codes, standards, and regulatory requirements. Topics covered include the architecture, protocols, theory of operation, and metrics of the single and multimode fiber optic cables that are typically used in the telecommunications industry. Hands-on lab sessions in terminating mechanical splicing, inspecting, and testing fiber optic cable provide extensive skills practice.

## OBJECTIVES

After successfully completing the course, participants will be able to:

- Explain how light propagates through optical fiber
- Discuss modal and material dispersion
- Explain the differences between intrinsic and extrinsic loss factors
- Explain the different types of optical fiber and their uses
- Test a fiber optical cable
- Assemble a mechanical splice
- Inspect a fiber endface
- Discuss fundamentals of laser operation
- Discuss the electromagnetic spectrum and the portion used for fiber optics
- Discuss Fresnel reflections
- Explain refraction
- Discuss numerical apertures

- Define common fusion splicing terms
- Discuss reasons to perform fusion splice between two cables
- Compare mechanical splicing and fusion splicing
- Complete a fusion splice
- Use an Optical Time Domain Reflectometer (OTDR) to analyze a fiber and measure splice loss
- Troubleshoot problems that occur in fusion splicing

## FORMAT

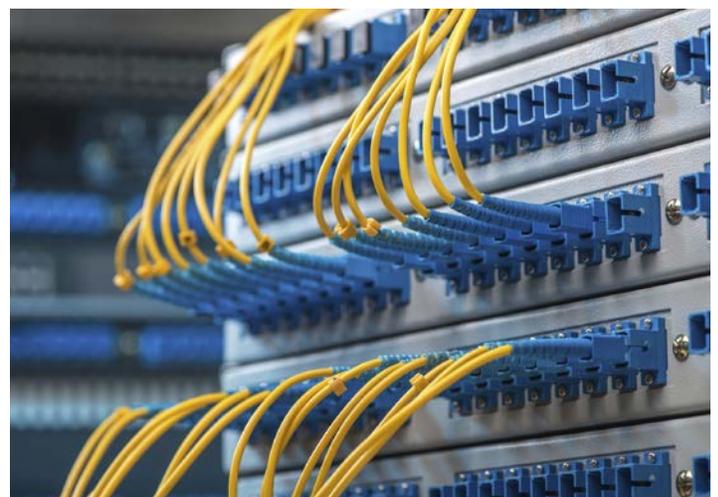
The 48-hour course may be delivered in a variety of formats, depending upon the client's request.

## SPECIAL FEATURES

- Experiential project labs
- Modular designed workbooks for quick scanning
- Interactive course delivery
- Hands on skill building

## BENEFITS

- Participants gain foundational understanding of fiber optics.
- Participants obtain real-world application of fiber optic processes.
- Participants are prepared for Fiber Optic Association certification.



THE SAGE GROUP

PHONE 877-697-2434  
FAX 877-697-2434  
WWW.THESAGEGRP.COM