

Fiber Optics for Traffic Systems

COURSE OBJECTIVE: The **Fiber Optics for Intelligent Transportation Systems (ITS)** course is intended to provide a practical understanding of how fiber optics and fiber-optic technology are integrated into modern traffic systems.



Fiber Optics for ITS Level I involves two days of classroom training covering fiber optic theory, installation, splicing, testing and maintenance disciplines, and system design. In addition, the course includes four chapters on video transmission, real-time video, traffic control systems, and next generation systems that are key to the evolution from analog to digital ITS applications. This includes optical multiplexing (WDM, CWDM), bi-directional transmission, and bandwidth considerations for those using or considering multimode fibers.

Fiber Optics for ITS Level II involves two additional days of hands-on training on fiber optic splicing, cable preparation, OTDR operation, optical loss testing, and system design. Level I certification is required in order to be eligible for Level II certification.

Level I — 16 classroom hours	Level II — 16 hands-on hours
Introduction to Fiber Optics Fiber Theory and Optical Fibers Fiber Optic Cables Fiber Optic Connectors Fiber Optic Splicing Panels, Trays and Closures Installation Methods and Tools Testing and Test Equipment Maintenance and Restoration Fiber and Laser Safety Light Sources Detectors Repeaters and Regenerators Analog and Digital Transmission Passive Devices System Design Video Transmission Transmission Formats Data Transport Systems Real-time Video Multi-channel • High-density FM and Digital Transmission Traffic Control Systems Traffic Controllers Data Modem Protocols Next Generation Systems Legacy • Hybrid • All-IP System Standards	TRAINING LABS AND CERTIFICATION TESTING Station #1 – Splicing Fusion and Mechanical Restoration Scenarios Fiber Handling and Cleaving Terminating No-polish Connectors Station #2 – Cable Preparation Loose Tube Cables Indoor/Outdoor Cables Patch Panel Preparation Splice Closure Preparation Mid-entry Practices Station #3 – OTDR Operation Acceptance Testing Span Acceptance/Splice Loss Reflection Testing Emergency Restoration Troubleshooting Station #4 – Optical Loss Testing Link Loss Measurement Cleaning and Inspection Identifiers and Tracers Documentation Station #5 – Systems CCTV Video Systems Multi-drop Data Networks Measure Tx and Rx Power Variable and Fixed Attenuators

Course Location	Dates
Seattle, WA	November 17–20, 2008
Seattle, WA	January 20–23, 2009
San Jose, CA	February 9–12, 2009
Raleigh, NC	February 23–26, 2009
Washington, DC	March 16–19, 2009
Boston, MA	April 6–9, 2009
Seattle, WA	April 13–16, 2009
Chicago, IL	April 20–23, 2009
St. Louis, MO	May 11–14, 2009
Orlando, FL	May 18–21, 2009
Denver, CO	June 23–26, 2009
Seattle, WA	July 7–10, 2009
Anaheim, CA	Sept. 28 – Oct. 1, 2009
Atlanta, GA	October 5–8, 2009
Seattle, WA	November 16–19, 2009

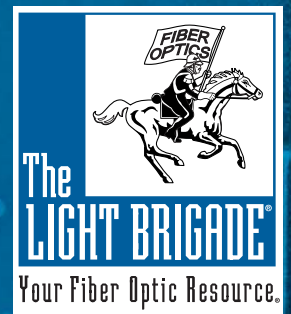
COURSE FEES

Fiber Optics for ITS Level I \$700

Fiber Optics for ITS Level II \$795

Certification (per Level)* \$125

* See page 15 for more details.



Attention IMSA Members

The Light Brigade and the International Municipal Signal Association (IMSA) are working closely to offer the Fiber Optics for ITS course at locations around the country.

IMSA members have two options for attending this course:

- ▶ Attend a scheduled public offering of the course at one of the locations listed on the left. Contact The Light Brigade directly to register.
- ▶ Host a private offering of the course at the location of your choice and on the dates of your choice. Contact your local IMSA chapter if you are interested in sponsoring a course near you.

IMSA members are eligible for a 15% discount on all Light Brigade training courses.



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