



USING YOUR FOA TRAINING/CERTIFICATION TO FIND THE RIGHT JOB IN FIBER OPTICS

Category of Jobs:	What types of jobs in this field?	What FOA Training/Certifications for these jobs?	What other training for these jobs?
<p>Outside Plant</p> <p>Outside Plant Fiber Optic Installation – includes:</p> <p>Telecom</p> <p>Cellular Wireless</p> <p>CATV</p>	<p>Lay the cable, (direct burial or aerial), splicing (or pigtails) testing, troubleshooting, restoration while aloft on tower, pole, ladder buckets or working in trenches or manholes</p>	<p>CFOT</p> <p>CFOS/O –outside plant specialist course</p> <p>(CFOT+CFOS/O can be combined into one 40 hour course)</p> <p>Additional Specialist Certifications:</p> <p>CFOS/S – Splicing</p> <p>CFOS/T - Testing</p>	<p>Many FO installers are also Electricians</p> <p>Tower climbing techniques including fall protection procedures</p> <p>Training on specialized components & equipment must be provided by the manufacturer</p>
<p>Traffic Signals, Intelligent Highways</p> <p>Use fiber optic links as part of the latest communications technology to provide solutions to traffic management issues.</p>	<p>Design, install, maintain data and video transmission systems for traffic management or security systems</p>	<p>CFOT</p> <p>Can be combined with International Municipal Signal Association (IMSA) certification</p> <p>http://www.imsasafety.org</p>	<p>Network Management</p> <p>AutoCAD or other “Computer Aided Design” software</p>

		CFOS/D – Fiber Optic Design	Knowledge of required software systems
<p>Electrical Utilities/Smart Grid</p> <p>Contractors, utility employees working with OSP fiber, sensors and control equipment.</p> <p>Electrical utilities take advantage of fiber's immunity to noise. fiber optic sensors allow monitoring high voltage and current in their distribution systems.</p>	<p>Installation, troubleshooting, repair, and restoration of communications cables and related electronic equipment in both indoor and outdoor environments.</p>	<p>CFOT</p> <p>CFOS/O –outside plant specialist course</p> <p>(CFOT+CFOS/O can be combined into one 40 hour course)</p>	<p>Must be a licensed electrical contractor when working with high voltage transmission, switching & control circuits</p> <p>Climbing Utility Poles</p>
<p>Alternative Energy</p> <p>wind, solar, etc.</p>	<p>Every solar and wind system depends on fiber. Short lengths, singlemode, high speed data transfer and electrical isolation, harsh environmental conditions</p>	<p>CFOT</p> <p>CFOS/O –outside plant specialist course</p> <p>(CFOT+CFOS/O can be combined into one 40 hour course)</p>	<p>Many licensed electrical contractors also do low voltage work</p> <p>Manufacturer proprietary training – each system is different</p>
<p>Energy: oil & gas</p>	<p>Often working outside in a harsh environment:</p>	<p>CFOT</p> <p>CFOS/O –outside plant specialist course</p>	<p>Training on very specialized equipment, esp. the process control equipment</p>

<p>Fiber optics is used in various monitoring systems, links for data</p>	<p>Exploration – use portable FO sensors in the field – OSP with ruggedized cables and connectors</p> <p>Extraction – oil fields, off-shore derricks – monitoring and control of extraction processes</p> <p>Refining – industrial process control – classic industrial application</p>	<p>(CFOT+CFOS/O can be combined into one 40 hour course)</p> <p>CPCT – Premises cabling for refining, control applications uses a combination of fiber, copper & wireless</p>	
<p>Fiber-to-the-Home – bringing high-speed networking, digital television and telephone service to residences using fiber optics</p>	<p>Two types of jobs:</p> <p>Design & build the system to the premises</p> <p>Connecting up devices inside the customer premises</p>	<p>CFOT</p> <p>CFOS/O –outside plant specialist course</p> <p>(CFOT+CFOS/O can be combined into one 40 hour course)</p> <p>CFOS/H – Fiber-to-the-Home</p>	<p>A FTTX tech is required to set up services for phone, Internet and video inside the home.</p>
<p>Military – Both OSP & premises</p>	<p>The military uses fiber everywhere, on bases – setting up a FO networks on a base or a battlefield because it's hard to damage, tap or jam.</p>	<p>Outside Plant:</p> <p>CFOT</p> <p>CFOS/O –outside plant specialist course</p>	<p>Training on highly specialized equipment must be provided by the manufacturer of the equipment</p> <p>Security Clearance usually required</p>

	FO used on ships and planes – more reliable and lighter.	(CFOT+CFOS/O can be combined into one 5 day course) Plus a module on ruggedized components Premises: CFOT or CPCT Specialist Certification: CFOS/L - Covers all LAN applications that are designed entirely around optical fiber.	
Category of Jobs: Inside, called premises cabling	What types of jobs do they do?	What FOA Training/Certification program for this job?	What other training for this job?
Premises Cabling Installer uses FO in all these fields: IT/LANS/Networks Broadband cable Satellite Voice over IP Wireless Security CCTV Audio Visual Distributed antenna systems for cellular & wi-fi	Install, terminate & test various types of voice/data cables. Evaluating the communications system requirements Documentation You are often working on cable trays in the ceiling or under the floor	CFOT or CPCT (CFOT+CPCT combined as one 40 hour course) Specialist Certifications: CFOS/L - Covers all LAN applications that are designed entirely around optical fiber. CFOS/C - Connectors CFOS/T - Testing	All types of media, many types of applications Training on the electronic equipment that connects to the network must be provided by the manufacturer of the equipment Add material from manufacturers on specialized networking equipment

<p>Industrial</p> <p>Use FO to control factory control systems, factory robots – good for harsh environments, safety/no sparking, ground isolation, noise immunity</p>	<p>Both installation and maintenance</p> <p>Troubleshooting – electrical, mechanical, pneumatic</p>	<p>CFOT+CPCT combined as a 40 hour course</p> <p>CFOS/C - Connectors</p> <p>CFOS/T - Testing</p>	<p>Mechanical Engineering</p> <p>CAD robotic simulation software</p>
Other Applications Requiring Fiber Optic Expertise			
<p>Fiber Optic Network Design –</p> <p>For contractors, installers, architects and engineers, project managers and all others who are involved with projects that include fiber optics.</p>	<p>Conduct a design review component compatibilities, power budget, environmental requirements</p> <p>Codes & standards, permits, pole access, right.</p>	<p>CFOT or CPCT</p> <p>CFOS/D – Fiber optic design</p>	<p>Familiar with electrical power systems</p> <p>Online mapping services, experience with CAD systems.</p> <p>Installing Transmission equipment may require additional training from the manufacturer</p>
<p>FO Manufacturing:</p>	<p>Manufacture of optical components, assemblies and sub-assemblies.</p>	<p>CFOT</p> <p>CFOS/C. CFOS/T for making cable assemblies</p> <p>CFOS/S, CFOS/T for building splitters, couplers</p>	<p>Training on specialized components & equipment must be provided by the manufacturer</p>
<p>Remotely Operated Vehicles (ROV's)</p> <p>unmanned, underwater vehicle common in</p>	<p>It is tethered to a ship with an umbilical cable that uses fiber optics to carry video and data</p>	<p>CFOT</p>	<p>Perform maintenance on pumps, valves, filters</p>

<p>deep water industries such as oil, gas exploration</p>	<p>signals between the ROV and the ship.</p> <p>Maintain and repair FO systems and re-terminate submersible umbilicals</p>	<p>CFOS/S – splicing for cable repair</p> <p>CFOS/T - Testing</p>	<p>Video, lighting systems</p> <p>Utilize navigation aids to pilot ROV</p> <p>Workplace safety</p>
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