nc3 train the trainer

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COURSE DESCRIPTIONS

All classes include teaching strategies for effective delivery and integration ideas on how to seamlessly weave these certifications into your program's already existing curriculum. Share your ideas and learn new ones as you build a professional network of instructors from across the country.

Automotive Scanner Certification:
This course is designed to create Power Users, individuals who can efficiently and effectively utilize 90%+ of all available features, found on the various platforms of Snap-on diagnostic equipment. This includes diagnostic research and repair information such as ShopKey5, Scanner navigation with the Solus Edge, and Verus Edge, and then continues with Lab Scope operation found on Verus Edge. Details from basic navigation through effective use of the Fast-Track Troubleshooter, Component Test Meter, PID Triggers, and glitch capture techniques are thoroughly explained while each student demonstrates these techniques using his/her individual diagnostic tool supplied during the training. Individual hands-on attention is a cornerstone to this program. Learn by doing!

Mechanical & Electronic Torque Instruments Certification:
This course has two key objectives. First, students will develop a new appreciation for the complexities behind the proper tightening of fasteners. Second, students will be trained, tested, and certified on various torque instruments ensuring proper tool set-up and physical technique. This course begins on the relationship between tightening torque versus clamping pressure and how various external factors can greatly affect this relationship, and thus cause a fastened joint to fail prematurely. This concept is discovered by the students through a number of lab activities and demonstrations illustrating how external factors affect torque and clamping pressure. Students then demonstrate proficiency on a number of mechanical and electrical torque tools developed by Snap-on. Students will get instant "actual torque applied" feedback while using each tool on a calibration machine, so they can hone their technique and become both accurate and precise in the use of each tool.

Trane Residential Airflow Certification:
A student who successfully completes Trane Residential Certification 1 – Airflow will understand airflow requirements in a standard residential HVAC system; be able to properly measure characteristics of airflow; be able to measure the quantity of air moved by the system; and understand the use of tools and methods used in determining airflow.

Trane Residential Refrigeration Diagnostics:
A student who successfully completes Trane Residential Certification 2 – Refrigeration Diagnostics will be able to diagnose the functions of refrigerant cycle components; obtain critical data from the equipment; use critical data to create a probable cause list of a malfunction or failure; analyze the probable cause list to determine the actual fault; repair the fault and the confirm diagnosis; and understand the use of tools and methods used in refrigeration diagnostics.

Trane Residential Variable Speed Motors:
A student who successfully completes NC3 / Trane Residential Certification 3 – Variable Speed Motors will understand the advantages and applications of variable speed motors; know and use terminology related to various motor types; know the characteristics of PSC and ECM motors; know the characteristics of constant torque and true variable speed motors; understand blower operational characteristics with various motor configurations; be able to troubleshoot a freestanding motor (power not applied) and a motor in the air handler (power applied); know how to use tools for variable speed motor diagnosis and troubleshooting.

Trane Residential Air to Air Heat Pump:
A student who successfully completes NC3 / Trane Residential Certification 4 – Air-to-Air Heat Pump will understand the benefits of heat pump equipment and the application of heat pumps with dual fuel equipment; know the differences between heat pumps and air conditioning equipment; understand and apply proper charging techniques to achieve optimal performance; troubleshoot both electrical and refrigeration related faults within the heat pump system; command an understanding of how demand defrost works and the functions of the defrost control; and understand the diagnostic tool usage for heat pump equipment.

Precision Measurement Instruments Certification:
This course is designed to assist multiple technical training disciplines with the proper operation, calibration, and measuring techniques required for utilizing precision measurement equipment effectively. Both SAE and metric measuring instruments will be covered; including steel rules, feeler gauges, precision straight edge, calipers, inside and outside micrometers, angle measurement, small hole gauges, telescoping gauges and dial indicators.

Greenlee Voice, Data, Video Test and Termination Certification:
In this course, students will learn the proper use of tools, testers and applicable standards for terminating and performing wire verification testing on copper communications cabling in

addition to participating in numerous labs such as insulation displacement, modular plug and patch panel/wall jack terminations and coaxial “F type” terminations and the associated wire verification testing equipment to ensure proper termination.

Greenlee Fiber Optics:
In this course, students will learn the proper use of tools, testers and applicable standards for terminating and testing fiber optic communications cabling. They will aslo successfully complete a number of lab activities that include cutting, stripping and cleaning fiber optic cable as well as fusion splicing of fiber optic cable and installing splice-on connectors. They will also test and verify proper terminations using professional grade hand held test equipment including visual fault locators, optical light source/power meters and Optical Time Domain Reflectometers (OTDR).

Greenlee Wire Pathways:
This course focuses on the choosing the “right tool for the job” and it’s impact on tool life, workmanship and productivity of the worker. Students who complete this course will learn the advantages of the various types of tooling steels and the proper use of the latest professional hole making solutions used in the trades as well as demonstrating the proper use of professional tools for creating pathways for cabling through commercial and residential framing materials and ingress in to metal panels and control boxes.

Greenlee Conduit Bending:
Students who complete this course will be able to demonstrate proficiency by bending conduit using hand benders and ratchet mechanical benders. They will learn to apply bending theory to calculate, lay-out and perform a variety of the most common bends used in the electrical trade. There will also be the opportunity to advance to using the industry standard electric and hydraulic benders, as well as pvc heaters that emphasize productivity and more advanced techniques to make larger radius, segment bends.

Greenlee Wire Termination
This course focuses on identifying four circuit levels and the regulations concerning cutting, stripping and crimping electrical wire. Students will learn the advantages and proper use of the latest electrical wire termination tools for cutting, stripping and crimping electrical connectors on copper and aluminum wire.

Advanced Measuring Instruments Certification:
This course is designed to assist multiple advanced technical training disciplines with the proper operation, field verification, and measuring techniques of instruments utilized in precision machining and manufacturing. Both SAE and metric measuring instruments will be covered in topics including Primary standards, Flexible Measuring Instruments, Support and Layout, Surface Finishing and Hardness, Data Acquisition and Optical Comparator.

Wheel Service and Alignment Certification:

This course is designed to create Power Users, individuals who can efficiently and effectively utilize 90%+ of all available features, found on the RFV 2000 Wheel balancer, EHP System V Tire Changer, and Pro42 Alignment Software. Details from basic navigation through effective use of the Diagnostic software, calibration menus and use of all accessories are thoroughly explained while each student demonstrates these techniques using each piece of equipment during the training. The Pro42 software instruction is delivered utilizing a laptop loaded with the Pro42 alignment software for each student. The Pro42 class includes EZstream technology training for vehicles that require OBD connection to complete alignment, covers optional scan tool use also. This class also includes delivery techniques and recommendation for integration into existing under car courses. Individual hands-on attention is a cornerstone to this program. Learn by doing!

Pro-Cut Rotor Matching Master Technician Certification:
From the recognized leader in on-car brake lathing systems, the Pro-cut Rotor Matching Master Technician certification will teach technicians how to properly correct and avoid common brake problems associated with today's precisely engineered vehicles. Upon successful completion, technicians will be certified as Master Rotor Matching Technicians and develop a highly valuable skillset by being able to diagnose and repair one of the most common and misunderstood customer issues facing the automotive repair industry.

Dremel 3D Idea Builder Printer Certification:
The DREMEL Certification has been designed to expertly train instructors and students on the functionality, operations, troubleshooting and post-printing processes of the DREMEL Idea Building 3D Printer. NC3's DREMEL Certification was also created to jumpstart students' imaginations on future career choices and develop interest in manufacturing, engineering and other programs.

Battery Starting and Charging Certification:
Those who complete this course will be able to successfully to demonstrate a solid understanding of battery, starting, and charging diagnostics, jump-starting tools and service equipment.

Diesel Scanner Certification (Pro-Link Ultra):
This course is designed to create Power Users, individuals who can efficiently and effectively utilize 90%+ of all available features, found on the ProLink Ultra equipment. This includes Scanner navigation of all available heavy-duty application menus to include: Allison transmission, Caterpillar, Detroit Diesel, Mack Trucks, Cummins and OBDII applications. Details from basic navigation through effective use of Code structure techniques, vehicle applications, bi-direction testing are thoroughly explained while each student demonstrates these techniques using his/her individual diagnostic tool supplied during the training. This class also includes delivery techniques and recommendation for integration into existing Diesel courses. Individual hands-on attention is a cornerstone to this program. Learn by doing!

Advanced Diagnostics:

Participants will dive deeper into the functionality of the Verus Pro, including discussion about the use of ignition and transducer accessories used during the diagnostic process. The Verus Pro, in conjunction with ShopKey Pro will be applied to multiple diagnostic situations using various ATech training boards to simulate faulty vehicle systems. An interactive and hands-on approach to operating the Verus Pro scanner and lab scope along with integrated service information is used to guide participants through diagnostic scenarios. Emphasis will be placed on diagnostic strategy and utilizing a systematic procedure to tackle any diagnostic issue. Successful completion of Shopkey Pro and the Verus Pro Scanner and Lab Scope certification exams are required before taking Advanced Diagnostics.

Multimeter Certification:
This course is designed to create Power Users, individuals who can efficiently and effectively utilize 90%+ of all available features, found on the multimeter equipment. Through the use of a demonstration signal generator board, all of the electrical measurement features and options will be performed by the student. Learn how to perform initial safety and reliability checks on the meter using the meter itself, followed by common voltage, amperage, and resistances measurements with a focus of meter set-up and connection to avoid overload and blown fuses in the future. Next the advanced features of the meter are explored including recording values, temperature, frequency, and other special settings dependent on the actual meter model used in the training. When conducted for instructors, special attention is placed on meter curriculum integration within normal program courses, student activities, and other teaching strategies for implementing the meter program.

Please reference the separate FESTO Certifications flyer on the event website.