

PROFESSIONAL TECHNICAL TRAINING CATALOG

MINIMIZE RISK, MAXIMIZE PRODUCTIVITY



George E. Booth Co., LLC

PRODUCTS AND SERVICES for
PROCESS MEASUREMENT & CONTROL



CORE COURSE

BASIC INSTRUMENTATION

4 DAYS

Basic course with classroom & hands on training designed to familiarize students with level, flow, pressure & temperature instruments & control valves. Provides review of technologies, terminology & symbols needed to work in the field, understand P&IDs & perform basic wiring techniques. Includes basic troubleshooting workshop & loop check outs. Also covers vortex shedding, electromagnetic & Coriolis flow meters, pressure, D/P & temp transmitters, set up & commission of state-of-the-art instruments, use of on-board HMI displays to configure & verify health & outputs of instruments.

BASIC INSTRUMENTATION FOR OPERATORS

2 DAYS

Basic course designed to familiarize students with level, flow, pressure & temperature instruments. Provides review of technologies, terminology, & symbols needed to work in the field and understand P&IDs. Also covers vortex shedding, Electromagnetic & Coriolis flow meters, pressure, D/P & temperature transmitters, set up & use of HMI displays and verification of instrument health.

FLOW SCHOOL

4 DAYS

Intermediate & Advanced course covering numerous flow technologies' theory & application. Provides in-depth training on magnetic & Coriolis flow meters. Advanced phase takes a deep look at vortex, magnetic, ultrasonic, & Coriolis flow meters. Also covers D/P transmitters, vortex shedding flow meters, electromagnetic flow meters, thermal dispersion flow meters, volumetric vs. mass flow, field tooling, E+H field care, density & viscosity measurements.

LEVEL SCHOOL

4 DAYS

Intermediate & Advanced course covering numerous level technologies' theory & application. Provides in-depth training on Time of Flight (ToF) technologies including radar types & ultrasonic level transmitters. Advanced phase looks deeper at each level measuring technology, implementing proper techniques of configuration & troubleshooting. Also covers D/P transmitters, capacitance probes, vibratory & conductivity level switches, configuration, field tooling, envelope curve filters, guided radar curves & filters, mapping, inventory management, troubleshooting & repair.

VALVES 101

1 DAY

Basic course designed to familiarize students with numerous valve types & proper applications. Includes in-depth training on valve controls & their application in process control industries. Also covers proper valve & top work installation, set up & commission valve controls, how to configure & document positioner, configuration using handheld devices & PC's, how to diagnose & correct problems with control valves & top works.

VALVES 201

2 DAYS

Intermediate to Advanced course with both classroom and hands on training to familiarize students with quarter-turn valves (ball, butterfly), globe and ball control valves. Provides in-depth training on the components included in each valve-type and how each valve and actuator is constructed. A more advanced hands-on lab will include dismantling and reassembling valves and actuators in the proper order, with tips on sizing, troubleshooting and repair.

CALIBRATION

3 DAYS

Intermediate course designed to familiarize students with numerous pressure & temperature technologies & the skills needed to set up & maintain such equipment. Includes in-depth demonstrations & hands-on training exercises with pressure & temperature transmitters, D/P transmitters for level & flow, diaphragm seals, RTD/thermocouple sensors, displays & relays, communication tools & methods, calibration & calibration reports.

FIELD DEVICE TOOLING

1 DAY

Intermediate course for Field Device Tooling (FDT) software which will start by providing basic concepts & layout of FDT frames followed by detailed instruction on proper DTM maintenance to keep software running smoothly. Lab work focuses on proper connection to field devices using different CommDTMs with different hardware & providing the proper field device documentation before the release of the devices back to service. Also includes DTM Updates, advanced DTM troubleshooting, getting started point-to-point, saving instrument data, FDT networking demo.

LOOP CHECKOUT & TROUBLESHOOTING

2 DAYS

Intermediate & Advanced course starting with basic control loop fundamentals & process control theory. Followed by a detailed look at instrument loop drawings & a review of Pipe & Instrument Drawings. Covers review of loop calculations needed to checkout & troubleshoot control loops with hands-on PTU exercises and test equipment required. Basic & advanced lab troubleshooting exercised designed to cover multiple methodologies. To ensure that the student can best benefit from this training, they should be familiar with basic instrument configuration as a prerequisite for this class.

• **Please see website for pricing**

Courses are a combination of classroom & hands-on training on the Process Training Unit; a full scale, working process skid with on-line instrumentation and controls.

Courses provide non-manufacturer specific training with focus on the technologies & application.

Breakfast & lunch will be provided.



SPECIALTY COURSES

CORIOLIS MASS FLOW

1 DAY

Intermediate course providing review of Coriolis principle then proceeding with in-depth training on density & concentration measurements, field tooling, entrained air, zero points, mass flow installation, set up & commission of Coriolis flow meters, use of on-board & PC-based instruments to set up & verify health of interfaces & signals, troubleshooting & repair.

TIME OF FLIGHT

1 DAY

Advanced course providing a review of numerous Time of Flight (ToF) technologies then proceeding with in-depth training on a variety of radar types, guided wave radar, ultrasonic level transmitters, envelope curves, envelope curve evaluations, ToF configurations & troubleshooting.

FREE SPACE & GUIDED WAVE

1 DAY

Intermediate course focused on the fastest growing level technologies on the market that reveals the pros & cons of the two types side by side. After a short overview of ToF Technology & how it performs basic measurements, we will go over proper installation & applications for each.

The lab sessions will use multiple methods of configuration & troubleshooting diagnosing envelope curves with local HMI & FDT software.

RADAR

1 DAY

Advanced course for Free Space Radar Level. Following a quick review of ToF Technology & how it performs basic measurements, we will go over proper installation & applications. Lab sessions will use multiple methods of configuration and troubleshooting with local HMI & FDT software. Classroom will focus on troubleshooting & properly diagnosing open space envelop curves with proper instrument documentation.

GUIDED RADAR SCHOOL

1 DAY

Advanced course for Guided Radar Level. Following a quick review of ToF Technology & how it performs basic measurements we will go over proper installation & applications. Lab sessions will use multiple methods of configuration and troubleshooting with local HMI & FDT software. Classroom will focus on troubleshooting & properly diagnosing guided wave envelope curves with proper instrument documentation.

INTERFACE LEVEL MEASUREMENT

1 DAY

Advanced course available only at our partner's, TriNova Gonzalez, Louisiana location on their separator training module. In-depth theoretical & hands-on training on both Capacitance & Guided Wave technologies. Advanced Interface configuration including optimization techniques for accurately determining interface level in 2 fluid applications, specifically on oil & water combinations. Concludes with Interface measurement troubleshooting techniques.

LIQUID ANALYSIS

2 DAYS

Intermediate course providing a review of numerous analytical technologies followed by an in-depth training on theory, calibration & maintenance of pH, conductivity, and chlorine monitors.

AIR DRYER

1 DAY

Basic course designed as an overview of the importance of drying compressed air. A hands-on class that covers the basics of desiccant air dryers, troubleshooting the dryer, & rebuilding valves. This class is also designed to give maintenance workers & engineers a clear understanding for specifying the proper dryer for the proper application.

APPLICATION ENGINEERING

1 DAY

Intermediate course designed to assist engineers in selection & sizing of industrial instrumentation. Covers a brief overview of industrial instrumentation & automation used in process facilities, touching on basic measurements & communication. Includes in-depth training on area classifications & proper device selection of basic measurement types of flow, level, pressure & temperature. Ends with comprehensive study of proper sizing of measurement devices under various process conditions.

PROCESS ANALYTICAL TECHNOLOGIES & SYSTEMS

3 DAYS

This Course includes an overview of Gas Chromatography technology & analyzer hardware including support gases, valves (sample Injection, column switching, calibration/validation), column technologies, detector technologies and analyzer oven considerations (multiple, single with internal secondary, etc.). Also includes an overview of Spectroscopic Technologies to include (but not limiting discussions on) X-ray - UV - VIS - NearIR - MidIR - FarIR and Laser-based analyzers (both direct measurement and Raman -shift measurement). Analyzer Application Fundamentals are discussed by type of analyzer and process considerations. Implementation discussions of Process Analyzers reviews project and infrastructure requirements for process analyzer applications including economic justification, basic sample conditioning requirements, calibration and validation techniques, commissioning, training, required maintenance techniques and suggested intervals.



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TECHNICAL EVALUATIONS

ONLINE EVALUATION

30-45 MIN/TECH

A fast and FREE online Placement Exam to help students or managers select the proper Technical Training. Can be customized to your specific industry, per request, at no charge. Covers basic instrumentation & fundamentals. Report generated analyzing proficiency at this level. Results delivered in 2-3 business days.

SKILLS ASSESSMENT

4-8 TECHS/DAY

At our PTU, an instructor will administer progressive written evaluations that will uncover opportunities for improvement in the technician's knowledge of theory. Then students will be asked to perform four practical tasks which will test skill in each of the following disciplines: Installation, Configurations, Loop Check Out & Troubleshooting. The written and lab portions take each about 3 hours. Results delivered same day.

ONSITE INTERVIEWS


UP TO 16/DAY

At your site, these interviews offer an invaluable piece of the puzzle. Offering an opportunity to receive one-on-one input from technicians & managers to help us develop a clear picture of the individual's and organization's needs. We identify individual technician's skill gaps and potential to develop customized continuing education plans.*Extra travel charge may be incurred if >50 miles from our site. Results delivered in one week.

CONTACT US

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