Training Catalogue 2023

Invest in Your Future

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Qualifications for Enrollment

Educational Services will provide training, individuals who are not competitors of Emerson Automation Solutions or Spartan Controls in the field to which the training pertains. Certain courses have prerequisites and must be followed. The Technical Coordinator will confirm and contact you if a prerequisite has not been met, registration will be pending.

Course Scheduling, Locations, and Pricing

Delivery method, location for in person training, course length, dates for each session, classroom capacity limits, and prices are listed on the Spartan Controls website. **All prices are listed in Canadian dollars**. For the most up to date information, visit our website at www.spartancontrols.com/education.

Tuition Payment

Methods of payment include company purchase order, VISA, MasterCard or American Express. All tuition is subject to change without notice. Tuition prices are per student and taxes are extra. Transportation, personal expenses, and most meals are the responsibility of the student.

Continuing Education Units

Continuing Education Units (CEUs) are awarded for successful completion of most courses, with a minimum of 80% attendance rate.

Course Material

All materials presented are copyrighted. Audio and video recordings are prohibited and no material, or portion of any course may be reproduced in any manner without prior written approval. All necessary documentation and literature are included in the course tuition. The training materials were developed by Emerson Educational Services or Spartan Controls exclusive use.

General Information

Cancellations and Transfers

Spartan Cancellation:

A course offering may be cancelled with little notice. We apologize for the inconvenience and notification will be given to each student via email. In the event of a cancellation, Spartan's liability is limited to the tuition cost, not travel or accommodation expenses.

Student Cancellation:

If a student must cancel enrollment, we require a notification as soon as possible. At the discretion of the Education team, you may be subject to a 50% tuition charge. Full tuition is charged for failure to attend (no show). Substitutions are permitted until the first day of class.

Travel Details

Students are responsible for arranging their own accommodations. If you intend to buy airline tickets with penalty clauses, please call us to check the course status before booking. Out of town students should make the necessary arrangements to ensure they arrive early enough for an 8 am Mountain start time.

Waitlist

If you register for a course that is already full you may be asked if you would like to be included on a waitlist. Waitlists hold no guarantee's and your registration is not automatically transferred to the next session; you must register again for any upcoming sessions.

Courses

All dates and prices are subject to change. For updated information visit our website at <u>www.spartancontrols.com</u>. All courses start at 8 am Mountain time and end times are approximate. All courses are first come, first serve. When inquiring about a course or requesting a course this does not guarantee a seat in the class.

Our Team/Facility



Technical Trainers are subject matter experts with years of onsite field experience. They understand the student's roles and bring relatable scenarios to the course material.









At the Edmonton facility, Education Head Office, we have classrooms with state-of-the-art equipment boasting the latest in technology. Dedicated classrooms allow us to have all the equipment already setup for a hands-on experience.



"Very informative course. I deal with AMS and Delta V. daily. Instructors very professional and knowledgeable" – February 2023, 7309 student

"I have taken a couple of virtual courses from Spartan and have been very impressed by the overall quality provided for virtual courses." – February 2023, S900 virtual student

"I thought the course was very useful- I learnt a lot in the time given and i have already recommended it to my co-workers at our facility." – January 2023, \$100 student

"...the course material is relevant and will directly help me in succeeding in my career. The training was hands on and engaging, helping to stay focused and follow along." – January 2023, 7018 student

Our Services





We offer open registration classes which are posted on our external website. This experience allows customers from all over to join a class and network with other industry personnel.

For customer specific training, we can perform training at site or at any Spartan location in your area. Upon request, for some courses, material can be tailored and customized.





Virtual

Virtual training is available for some classes.

We try and offer a few throughout the year if travel is not available.

Our instructors are live and in some classes the students remote in, to complete labs and workshops virtually.

Blended Course Blended courses include in-class time (traditional classroom or virtual classroom) as well as an online component

ENGAGING, EXCITING AND INTERACTIVE

For more information, please visit

https://www.spartancontrols.com/education/course-offerings/

Our Locations

Alberta Locations

Calgary Corporate Head Office 305 - 27 Street SE Calgary AB T2A 7V2

Edmonton Education Head Office 8403 - 51 Avenue Edmonton AB T6E 5L9

Fort McMurray 985 Memorial Drive Fort McMurray AB T9H 0K4

Grande Prairie 11419 - 98 Avenue Grande Prairie AB T8V 5S5

Whitecourt Bay 2, 3505 - 38th Avenue Whitecourt AB T7S 0A2

British Columbia Locations

Burnaby 7500 Winston Street Burnaby BC V5A 4X5

Fort St. John 9603 - 112 Street Fort St. John BC V1J 7C7

Prince George 24, 556 North Nechako Road Prince George BC V2K 1A1

Saskatchewan Offices

Regina 475 Maxwell Crescent Regina SK S4N 5X9

Saskatoon 3915 Burron Avenue Saskatoon SK S7P 0E3

Midale 200 South Service Road Highway 39 Midale SK SOC 1S0





Need to find the course and our available dates?

Website Course Listings

Already know what you are registering for?

Registration Form

Payment Options



Purchase Order



Credit Card

*Currently there are no online payment options

*All payments will be manually processed the week of the course with our Education Coordinator

*Quotes can be created, upon request, for approval or to assist in PO generation

Course





Course #MSMT Introduction to Measurement Length: 0.5 Days

Description

If you are new to engineering or specifying instrumentation, then we invite you to join Spartan's specialists for an overview of measurement.

Course #OPMS Introduction to Overpressure Management Systems Length: 0.5 Days

Description

If you are new to engineering or specifying instrumentation, then we invite you to join Spartan's specialists for an overview of overpressure management systems.

Course #REGS Introduction to Regulators Length: 0.5 Days

Description

If you are new to engineering or specifying instrumentation, then we invite you to join Spartan's specialists for an overview of regulators.

Course #VFDs Introduction to Variable Frequency Drives Length: 0.5 Days

Description

Variable Frequency Drives (VFDs) are applied to pumps, fans, and other rotating equipment for Energy Savings and improved Process Control. Several factors must be considered and addressed to realize the expected benefits, maximize uptime, and ensure life-cycle efficiency & reliability.

Course #VLVS Introduction to Control Valve Selection Length: 1 Day

Description

If you are new to engineering or specifying instrumentation, then we invite you to join Spartan's specialists for an overview of control valve selection.

Course #1400 Valve Technician I

Length: 4.5 Days

This 4.5 day course explains how valves and actuators function and how they are installed and calibrated. It emphasizes installation, troubleshooting, parts replacement, and calibration of control valves, actuators, positioners, and digital valve controllers.

Course #1751 Fundamentals of HART based FIELDVUE Digital Valve Controllers Length: 2 Days

Description

This 2 day lecture/lab style course provides the skills necessary to install and mount a FIELDVUE digital valve controller onto sliding stem actuator/valve and rotary actuator/valve assemblies and configure and calibrate FIELDVUE instruments with the field communicator.

Course #1752 ValveLink Software for Configuration and Calibration of FIELDVUE Digital Valve Controllers Length: 2.5 Days

Description

This 2.5 day lecture/lab style course provides hands-on experience working with FIELDVUE digital valve controllers, and ValveLink software. Students will be able to execute ValveLink calibration and diagnostic routines and create an instrument database. The primary focus of this course is to provide a comprehensive experience in managing digital valve controllers using the ValveLink software.

Course #1759 ValveLink Software for Diagnostics of FIELDVUE - Digital Valve Controller

Length: 2.5 Days

Control Valve

Description

This 2.5 day course practical exercises and discussions to teach the student to interpret and analyze diagnostic data obtained using FIELDVUE digital valve controllers and ValveLink software. Students will perform diagnostic tests on a variety of valve/actuator combinations and use the data to determine bench set, dynamic error band, seat load, spring rate, and other pertinent parameters. Students will also perform comparison tests on valves/actuators containing assembly or operating flaws and use the data for troubleshooting purposes.

Course #S100 Valve Sizing & Selection Length: 1 Day

Description

This 1 day course uses lectures and examples to explain the correct procedure for sizing and selecting control valves using Fisher Specification Manager Software.

Course #S900 Fundamentals of Control

Length: 0.5 Days

Description

This half day course is an introduction for anyone in the process industry interested in the fundamentals of process instrumentation.

Full course synopsis are found on our <u>website</u>



ON DEMAND

Course #1200 ROC & FloBoss Engineering I Length: 4 Days

Description

This 4 day course provides an overall working knowledge of the ROC 300 series as well as the FloBoss 100, 400, and 500 series products. Students are presented with a comprehensive view of the hardware and software in the ROC family and then are taught how to configure a working unit. The FloBoss 107 will be used as the standard configuration platform for the workshops.

Course #S340 Bristol ControlWave Gas Measurement Application Tool Length: 3 Days

Description

This 3 day course covers the integration of Bristol Multi-Variable Sensors and the Standard Directive 17 Flow Computer application for gas measurement using the ControlWave micro.

Course #E100-M2CP

Bettis M2CP Actuator Maintenance

Length: 1 Day

Description

This 1 day course provides an overall working knowledge of the Bettis electric actuator. This program provides the fundamentals of electrical operation through the use of a M2CP modular control package. Each student will learn how to identify and troubleshoot the electrical as well as mechanical components. Students will learn how to differentiate actuator control problems from valve problems and they will learn the basic skills required to provide on-site operation, maintenance, and servicing for series 2000 model actuators.

Course# S910 Fundamentals of Isolation Length: 0.5 Days

Description

This half day course is an introduction for anyone in the process industry interested in the fundamentals of isolation valves or valve automation. Upon completion of this course, the attendee should understand the operation of isolation valves, actuators as well as a basic understanding of the design and application considerations pertinent to these products.



E100-RTS Bettis RTS Actuator Training E100-XTE Bettis XTE Actuator Training E100-EHO Bettis EHO Actuator Training

G100-GOH Bettis Gas over Hydraulic Training G100-SC Bettis Self Contained Training

Course #2031 Basic Vibration Analysis Length: 4.5 Days

Description

This 4 day course (the 0.5 is for the exam that will be held on the final day) is intended to enable students to operate single channel machinery analyzers, dump and load routes, recognize the difference between good and bad data, and compare vibration measurements against pre-established alert settings. Although this training course is not product specific, students will use Emerson's AMS technologies for demonstration purposes. The class shows the students how to use the vibration analyzer in conjunction with Emerson Machinery Health Management supported software to analyze basic vibration defects. This course complies with Category I Vibration Analyst per ISO standard 18436-2: Vibration condition monitoring and diagnostics.

Course #2032 Intermediate Vibration Analysis Length: 4.5 Days

Description

In this 4 day course (the 0.5 is for the exam that will be held on the final day), category II vibration analysts are taught to be able to select appropriate vibration measurement techniques; set up instruments for basic resolution of amplitude, frequency, and time; perform singlechannel impact tests; classify, interpret, and evaluate test results in accordance with applicable specifications and standards; recommend minor corrective actions; and understand basic single plane field balancing concepts. The course also features the use of the AMS 2130 Machinery Analyzer in conjunction with advanced machinery analysis techniques. Discussions on case histories on machinery faults are one of the focal points of this course. This course complies with Category II Vibration Analyst per ISO Standard 18436-2: Vibration condition monitoring and diagnostics.

Course #2035	PeakVue™ Mystery and Autocorrelation	Length: 3 Days
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Description

This 3-day course provides insight into advanced functionality of Emerson's unique PeakVue and PeakVue Plus technology and Autocorrelation. Machine vibrations generate both macro and microscopic vibrations, and microscopic vibrations generate stress waves that have frequency ranges determined by the mass of the impacting object.

The properties of these stress waves will be explained.

Autocorrelation will teach the power of correlated waveform analysis. The same time waveform used for autocorrelation is used by the FFT to generate the spectrum. The strengths of the autocorrelation data are complimentary to the strengths of the spectral data.

This course makes use of case studies from real-life examples of common faults and live demonstrations illustrating specific mounting procedures to reliably detect certain faults. Comparisons between PeakVue technology techniques and demodulation will also be demonstrated.

Course #2068 Introduction to AMS Machinery Manager Length: 4 Days

Description

This 4-day course was designed for the new users of AMS Machinery Manager. Students learn methods of database creation and vital features of route creation such as collecting reference data, analyzer/computer communication, and the basic concepts of analysis parameter sets, alarm limit sets, and fault frequency sets. An AMS 2130 Analyzer will be used to load routes and collect data on lab machinery for basic vibration analysis using export and diagnostic plotting.

Course #2074 Intermediate AMS Suite

Length: 4 Days

Description

This 4-day course teaches some of the more advanced machinery analysis techniques available in AMS Suite Machinery Health Manager Software. Course focuses more on analysis and reporting with the use of Vibration Analysis module, Reporting module, Exception Analysis, PeakVue™ technology and full version of RBMview.

Full course synopsis are found on our <u>website</u>

Course #2076 AMS 2140 Fundamentals Length: 2 Days

Description

This two-day hands-on course covers the basic operation of the AMS 2140 Machinery Health Analyzer. Students collect data on lab machines. Course materials are designed for personnel with experience in the field of vibration data collection and analysis, but little or no experience with AMS analyzers.

Course #2094 AMS 2140 Advanced Functions Length: 3 Days

Description

This 3 day course is intended for personnel with single-channel vibration analysis experience and little or no multi-channel experience. This class covers advanced signal processing using Emerson's patented PeakVue[™] technology for slow-speed analysis, coherence and cross-channel phase, operating deflection shapes (ODS), modal analysis, and other advanced techniques.

Course #S230 MLT/MLA Level I - Machinery Lubrication

Length: 3 Days

ON DEMAND

Description

Spartan, in collaboration with Des-Case, is proud to host a three-day course covering both the ICML Machinery Lubrication Technician and Machinery Lubricant Analysis Level I Body of Knowledge.

This practical machinery lubrication course is designed to educate attendees on a variety of topics in the field of machinery lubrication, including lubricant application, contamination control and oil analysis. The focus of the class is to create awareness of the important issues in lubrication and offer practical, effective solutions to the challenges facing today's maintenance professionals.

Length: 3 Days

Course #2375 Wireless Self Organizing Network Length: 2 Days

Description

This 2 day course explains how self-organizing wireless networks function and how they are installed, setup, configured, and integrated. It emphasizes planning, proper installation, and startup, configuration, maintenance, and integration. The course uses lectures and labs to maximize the hands on experience and teach the students.

Course #4210 Operation & Maintenance of Gas Chromatographs

Description

This 3 day course is appropriate for those who have either worked with a chromatograph for at least six months or completed the 'Introduction to Gas Chromatographs' course. It prepares participants to operate and repair a gas chromatograph. Students who complete this course will be able to effectively operate and repair a gas chromatograph.

Course #S210 Micro Motion Mass Flowmeter Length: 2 Days

Description

This 2 day course uses classroom lectures and hands on workshops to explain how to correctly commission, maintain, and apply Micro Motion mass flowmeters.

Course #S216 TruckVue Truck Unload

Length: 1 Day

ON DEMAND

Description

This 1 day course uses lectures and workshops to provide an overview of the Spartan Controls industrial computer based touch screen Truck Unloading system. This course is intended to cover the current TruckVue Server 2010-2012 systems and will not provide details on predecessor or ROC based offerings.

Course #7009 DeltaV Operate Implementation I Length: 4.5 Days

Description

During the 4.5day course, the student will be able to define system capabilities, define nodes, configure continuous and sequential control strategies, create process alarms, operate the system, troubleshoot the system and modify operator. This course access to a virtual DeltaV system to practice and review course complete with brief recorded demonstrations available after course.

Course #7012 DeltaV Operator Interface for Continuous Controls Length: 2 Days

ON DEMAND

Description

This 2-day course (14 hrs.) uses lectures and hands-on workshops to train operators for continuous process operation using the standard generic DeltaV Operate user interface (for the DeltaV Live user interface, please select course 7412).access operator main displays •manipulate various control module operating parameters to operate the process

access faceplates and detail displays

•understand process indications from graphics dynamos

•monitor and acknowledge different alarm conditions

•monitor process performance view real-time and historical trend data

•access historical data and event chronicle

For customized curriculum, designed around your site graphics and processes, please contact Educational Services

Course #7017 DeltaV Implementation II Length: 4.5 Days

Description

During the 4-1/2 day course, the student will be able to identify function block structures, interpret function block status values, design error masking, define nodes, configure class-based control modules using the Command-Driven algorithm.

Course #7018 DeltaV Hardware & Troubleshooting Length: 4 Days

Description

This course provides an overview of the DeltaV Control Network, M- and S-series hardware, and software applications. Upon completion, you will be familiar with the hard-ware and be able to perform troubleshooting techniques. This 4-day course focuses on the hardware components that make up the DeltaV system: M-series controllers and I/O, S-series controllers and I/O (including CHARMs), and DeltaV Smart Switches. Using a combination of lectures and workshops, you will learn how to use operator and diagnostic tools to identify and locate hardware-related fault conditions. Workshops provide the opportunity to disassemble and reassemble the M- and S-series hardware and return the system to an operating state. This course includes access to brief recorded demonstrations available after course completion so students can review exercises completed in class.

Course #7020 AMS Device Manager

Length: 3 Days

Description

Completing 3 days of AMS Device Manager hands-on instructor assisted training modules and exercises provides the quickest route to your productive use of this predictive maintenance application.

Course #7025 DeltaV Advanced Graphics

Length: 4.5 Days

ON DEMAND

Description

This 4.5 day course is for process control engineers responsible for configuring advanced functionality in the DeltaV user interface.

Full course synopsis are found on our website

Course #7027 DeltaV Systems Administration Length: 4.5 Day

Description

This 4.5 day course is designed for control system administrators, process control engineers and IT specialist responsible for managing, installing, and commissioning a DeltaV system.

Course #7026 DeltaV Cybersecurity

Length: 4.5 Days

Description

The 4.5 day DeltaV Cybersecurity course focuses on the DeltaV Security Manual and the practical implementation of the guidance provided within. Students will engage in activities to properly apply Emerson's Defense-in-Depth strategies so that students can have the skills to apply these same strategies on their DeltaV systems. Students are encouraged to read the DeltaV Security Manual before attending class.

Course #7028 DeltaV Virtualization Administration

Length: 3 Days

Description

This 3 day DeltaV Virtualization course focuses on the various software that is used in the management of a DeltaV Virtualization environment. Students will engage in workshops that will reinforce the material discussed to successfully run and maintain a Virtualized DeltaV system.

Course #7029 DeltaV Virtualization

Length: 4.5 Days

Description

This 4-1/2 day course focuses on the installation, configuration and system administration of a virtualized DeltaV distributed control system. Using a combination of lectures and workshops students will learn skill sets that enable them to properly plan, implement and maintain a robust DeltaV Virtual Studio (DVS) system intended for online (production) use. A key objective of this course is to prepare students for all aspects of owning a DVS system with special emphasis on providing highly available, reliable and secure access for end users of the DVS system.

Course #7032 Fieldbus Systems & Devices Length: 4 Days

Description

This 4-day/lab course provides maximum hands-on experience working with FOUNDATIONT fieldbus instruments such as: the FIELDVUE® Digital Valve, Rosemount Pressure and Temperature Transmitters. The student will use the DeltaV control system to commission fieldbus devices, assign FOUNDATIONT fieldbus function blocks to field devices, troubleshoot using diagnostics and Device Manager to manipulate device parameters.

Course #7039	AMS Device Manager with DeltaV	Length: 4 Days
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Description

This 4-day course is for instrumentation technicians responsible for all areas of managing and ensuring the reliability of instrumentation in the plant process including startup and commissioning, normal operations, maintenance, and troubleshooting. The hands-on workshops with AMS Device Manager along with DeltaV will address areas relating to the instrument technician's daily tasks.

ON DEMAND

Course #7305 DeltaV SIS Implementation Length: 4.5 Days

Description

This 4.5 day course is a on instructor led course. The course covers complete DeltaV SIS including hardware and software architecture. Students will be able to design a DeltaV SIS Network and Safety Instrumented Functions (SIFs). Additionally, students will be able to configure smart SIS instruments and their associated alerts, including partial stroke testing.

Course #7409	DeltaV Live Implementation I	Length: 4.5 Days
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Description

During the 4.5 day course, the student will be able to define system capabilities, define, configure continuous and sequential control strategies, create process, operate the system, troubleshoot the system and modify operator displays using the DeltaV Live Operator Interface introduced with DeltaV Version 14.3.

Course #7412 DeltaV Live Operator Training for Continuous Operation

Description

This 2-day course uses lectures and hands-on workshops to provide an in-depth overview of operating a continuous process using DeltaV Live .

For customized curriculum, designed around your site graphics and processes, please contact Educational Services.

Course #7425 DeltaV Advanced Graphics with LIVE

Length: 4.5 Days

Length: 2 Days

Description

This 4.5 day course is for process control engineers responsible for configuring graphics in the DeltaV Live operator interface. This course teaches basic options through advanced configuration topics.

Course #S009 Practical Process Control Length: 4 Days

Description

Spartan Controls' Practical Process Control course is the designed to provide a fundamental understanding of the tools available to solve process control problems and how to apply them appropriately for robust efficient control. Including both classroom and hands-on lab-based exercises, this course gives students the ability to put their learning to practice with industry-based examples. Learn how to model a process and tune a loop using a calculated approach to achieve the desired process response based on your control objective. This course will also provide you with the ability to diagnose a poorly performing loop to determine if the cause is related to instrumentation, tuning or other process interactions.

Course #S7203 DeltaV Advanced Controls Length: 4.5 Days

Description

This 5 day course is designed for system engineers who will be using DeltaV Advanced Control features. This is a condensed course with selected content from Courses 7201 and 7202. The principal technology that is utilized in each product will be discussed, and 50% of the course will be hands-on workshops. Students will log into DeltaV systems to apply the advanced control features to customized simulated process applications. Course will feature approximately 1 day on DeltaV Insight, and 3.5 days on DeltaV PredictPro (MPCPro).

Full course synopsis are found on our website

Course #S110 Overpressure Protection

Length: 1 Day

ON DEMAND

Safety Relief Valve

Description

This 1 day course uses lectures and examples to explain the correct procedure for sizing and selecting safety relief valves. On completion, the student should have an understanding of the applicable ASME, API and ANSI specifications which govern safety relief valves; Safety relief valve design and operation; different types of overpressure protection and their uses.

Course #S140 Safety Relief Valve Maintenance Length: 2 Days

Description

This 2 day course uses lectures and examples to explain the correct procedure for valve maintenance.

Full course synopsis are found on our website

Provincial



– Job Grants

Alberta

Overview

The Canada-Alberta Job Grant is a training program where an employer applies on behalf of their employee(s) for eligible training costs. Employers decide who gets training and what type of training may be needed for their employees.

Funding provided by the Government of Canada through the Canada Job Grant

https://www.alberta.ca/canada-alberta-job-grant.aspx

British Columbia

Overview

The <u>B.C. Employer Training Grant</u> is a cost-sharing grant program that provides employers throughout B.C. with skills training funding for their workforces, including prospective new hires. The grant funding helps employers respond to their changing labour needs and helps develop a skilled workforce with the right mix of skills. In turn, this helps British Columbians access the skills training needed to succeed in today's labour market, while increasing job security and supporting career advancement. Employers can apply as often as they need and receive 80% of the cost of training up to \$10,000 per employee, with a maximum annual amount per employer of \$300,000.

https://www.workbc.ca/find-loans-and-grants/industry-and-employers/bc-employer-training-grant

Saskatchewan

Overview

The Canada-Saskatchewan Job Grant is an employer-driven program that: •Helps businesses and non-profit organizations train new or existing employees for available jobs; and •Provides more opportunities for unemployed and underemployed workers to receive training. Through the program, the employer contributes one-third of the training cost, while the federal and provincial governments contribute the remaining two-thirds.

https://www.saskatchewan.ca/business/hire-train-and-manage-employees/apply-for-the-canadasaskatchewan-job-grant



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