

2018 Year-at-a-Glance Ovation™ Training Schedule

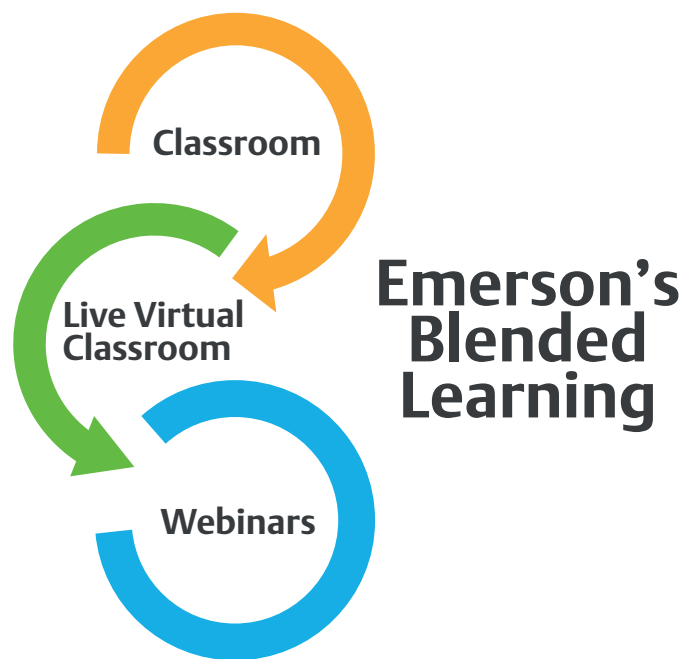


Ovation™ Training Offerings

The Ovation training curricula is designed to help students attend courses which address their job roles and responsibilities. Emerson offers the industry's broadest array of process automation products and services; a total solution for your plant automation needs. We are committed to providing our customers with an exceptional level of education that spans every aspect of our product portfolio. We work hard to ensure that our academic deliverables are as applicable to your everyday job functions and responsibilities as possible. Our course map is an instrumental tool for charting your path to success.

Blended Training

Emerson offers a blended training model. Customers can receive training in a traditional classroom, while at their plant site, or by watching online.



Published Webinars at www.ovationusers.com

Emerson develops and hosts technical and product related presentations. These webinars are published at www.ovationusers.com.

Many of these webinars are excellent precursors for Ovation training, e.g., the webinar 'Trending' prior to attending the database course, OV100.

Each month, additional webinars are added to support our customer's knowledge of our products. These webinars are hosted by the Training department and welcomes suggested topics. A sample of hosted webinars includes:

- Trending
- Threat Intelligence
- Patch Management
- Networking Basics
- Excitation

Core Ovation Courses

See course descriptions for more information on choosing your Core Course track.

Option One - Individual Courses

OR

Option 2 - Condensed Courses

OV100	Starting with Data Acquisition	P	C	R
OV200	Building & Maintaining Ovation Control	P	C	R
OV210	Building Ovation Graphics	P	C	
OV300	Ovation Troubleshooting	P	C	

OV215	Ovation Software Project	P	C	R
OV216	Ovation Hardware Project	P	C	

Specialty Courses - Based on DCS responsibility

OV10	Ovation Virtual Operator	V		
OV230	Ovation System Administration	P	C	
OV235	Ovation SIS Implementation			
OV245	Ovation Process Historian	P	V	C
OV246	Ovation Process Historian Report Building	V		
OV248	EDS	V		
OV265	Ovation Expert Transition	P		
OV270	Ovation with HART and Smart Devices	P	V	C
OV275	AMS Suite: Intelligent Device Manager	P	V	
OV280	Ovation SCADA System	V		
OV295	Serial Link Controller / RLC	P		
OV296	Third Party I/O and ELC	P		
OV296 /OV300	Third-Party ELC / Troubleshooting	P		

OV301	Ovation Best Practices	P	
OV320	Ovation Network Administration	P	C
OV340	Ovation Applications with Fieldbus	P	
OV340	Ovation Application with DeviceNet	P	
OV345	Ovation Applications with Profibus	P	
OV355	Ovation Applications with Wireless		
OV360	Ovation Security Administration	P	C
OV365	Power and Water Cybersecurity Suite	P	C
OV366	Security Incident Event Management Report Building	V	
OV367	Ovation Antivirus Management	V	
OV375	Steam Turbine Mechanical Hydraulics	P	

Advanced Courses - Based on advanced DCS responsibility

OV249	EDS Administration	V		
OV277	Machinery Health Monitor Vibration	P		
OV302	Advanced Database / Troubleshooting	P		
OV305	Advanced System Troubleshooting	P		
OV310	Advanced Ovation Graphics	P	C	
OV315	Performance Advisor	P		
OV330	Advanced Control Techniques	P	V	C
OV370	Ovation Turbine Control System	P	V	

OV371	DCS & Turbine Mechanical System	C	
OV375	Steam Turbine Mechanical Hydraulics	P	
OV376	Digital Generator Control	P	C
OV377	Ovation Excitation Systems	P	C
OV380	Ovation Boiler Control	P	C
OV400	Ovation (Base) Certification	P	V
OV420	Ovation (Admin) Certification		
OV430	Ovation (Security) Certification		

Ovation Course Descriptions

OV10 — Ovation Virtual Operator

This 2 - day virtual course will allow the student to remotely log into Ovation computers and receive the Ovation Operator course. The Emerson instructor will cover the Ovation applications folder including network architecture, graphics, point information, trending, alarm summary, point review, system viewer and signal diagrams. Dates offered will allow the attendees to choose either an A or B session in the weeks offered. **Offered as a Virtual Course. See page 11*

OV100 — Starting with Data Acquisition

Reviews the major components in an Ovation system (controllers, network switches, Operator Station and Engineer Station). The student is taught how to use Ovation tools to configure I/O modules and to modify and create digital and analog point records.

OV200 — Building & Maintaining Ovation Control

Provides proficiency in reading Ovation functional control schemes, tuning controls schemes to improve performance, and building/implementing new control schemes. Discusses creating effective control using algorithms. **Required Prerequisite: OV100**

OV210 — Building Ovation Graphics

Covers building Ovation system graphic diagrams and using the Ovation Graphics Builder. Course topics include layout and implementation of static and dynamic objects, linking to control, and creating perspective-type diagrams. **Required Prerequisites: OV100, OV200** **Offered as a Virtual Course. See page 11*

OV215 — Ovation Software Project

Contains and connects software topic segments from five different Ovation one-week courses: OV100, OV200, OV210, OV230 and OV300. The topics covered include Ovation application functions, Developer Studio architecture, point building, creating and modifying control sheets, creating and modifying graphics, backing-up MMI(s) including a domain controller. The course is not intended to replace the five one-week courses directed toward personnel who have the singular need for the detailed knowledge provided in the one-week courses.

OV216 — Ovation Hardware Project

The course is designed for personnel whose primary interest and/or job assignment is maintaining the Ovation hardware. Select topics from several courses are incorporated and expanded upon, including the replacement and set up of an Ovation controller & flash disk, and installing new I/O thermocouple/RTD modules and building several thermocouple and RTD points. Several power supply configurations will be discussed. Students will install a HART 4-20 mA analog Input I/O module and transmitter, and will install and configure an Ovation remote node controller with fiber connections. Hands-on exercises will require building control sheets and linking digital input and relay output modules. **Required Prerequisite: OV100** **Recommended Prerequisite: OV200**

OV230 — Ovation System Administration

This course is intended for those who maintain the integrity of the Ovation DCS. Students who attend this class will learn all the configuration parameters of the Ovation Developer Studio tree (ex. quality configuration, alarm configuration, point review configuration, right click menu configuration), as well as all right click functions (ex. control functions, search, engineer, backup\restore). Backups will be discussed in detail, and the student will perform a database restore.

Required Prerequisite: OV100

OV235 — Ovation SIS Implementation

Teaches students to recognize the terminology used with Ovation SIS. Describes the functions of the Ovation SIS network and its components. Describes the general architecture of Ovation SIS. Students will be able to monitor Ovation SIS using the data acquisition tools and configure an Ovation SIS network and SIS Controller. **Offered Upon Request*

OV245 — Ovation Process Historian (OPH)

Provides knowledge to setup and configure the Ovation Process Historian to retrieve real-time and historical data. Students will create, schedule, and generate various types of reports, including periodic, event-driven, and on-demand. The course includes basic troubleshooting skills to help students analyze and resolve problem conditions. **Required Prerequisite: OV100** **Offered as a Virtual Course. See page 11*

OV246 — Ovation Process Historian (OPH) Report Building

This course will teach students to configure and retrieve historical data using the Ovation Process Historian (OPH) and Crystal Reports. Students will learn how to use the OPH Report Manager to define alarm, SOE, point and operator event reports. Students will also learn how to configure demanded reports, triggered reports, and timed reports in the OPH Report Manager. Students will also use Crystal Reports to create new report formats for use in the OPH Report Manager.

Required Prerequisite: OV100 **Offered as a Virtual Course. See page 11*

OV248 — EDS™

This course is designed to give students a detailed understanding of an EDS. Upon completion of the course, students will be able to configure an EDS server to collect point data from an existing Ovation system. An EDS client will be properly configured, and the applications that make up the EDS terminal will be covered extensively. The course is designed for anyone using and managing the EDS. **Offered as a Virtual Course. See page 11*

OV249 — EDS™ Administration

This course is designed to give students a more in-depth understanding of the EDS server and feeders. Upon completion of the course, students will be able to configure an EDS server to collect point data from an existing Ovation system. An EDS client will be properly configured as well as an EDS feeder. The course is designed for anyone managing the EDS server & feeders. Report building from terminal and the Excel plug-in will also be incorporated into the 5-day training.

**Offered as a Virtual Course. See page 11*

OV265 — Ovation Expert Transition

This course will provide the user with proficiency in updating the Ovation interface after a change has been made to the ABB Bailey Infi 90. Students will learn the basic mechanics of using the Ovation OPC client and OPC90 server (Rovisys) applications. The course includes layout and implementation of the hardware and software required for the migration. Simple methods for troubleshooting faults will also be discussed. **Recommended Prerequisite: OV100**

OV270 — Ovation with HART and Smart Devices

Provides the skills to fully utilize the special features of I/O related to HART and smart field devices attached to their Ovation system. Items discussed include physical attachment of field devices to I/O modules, building of data points, analysis of data, and diagnosis of potential problems.

Required Prerequisite: OV100 **Offered as a Virtual Course. See page 11*

Ovation Course Descriptions

OV275 — AMS Suite: Intelligent Device Manager

This course provides thorough information on how to configure and use AMS Intelligent Device Manager with your Ovation DCS. Students will receive hands-on experience using Ovation and AMS Device Manager software to configure smart devices on your Ovation network. Students will also configure and examine Ovation PlantWeb alerts generated from the smart devices. The course is intended for plant personnel who will configure, troubleshoot, and administer AMS Device Manager on an Ovation network. **Required Prerequisite: OV100 Recommended Prerequisite: OV270** *Offered as a Virtual Course. See page 11

OV277 – Machinery Health Monitor Vibration

This course will cover general concepts regarding the Ovation Machinery Health Monitor I/O module for measuring and recording plant vibration data. The student will configure the I/O module, install multiple types of vibration inputs and monitor the feedback data. **Required Prerequisite: OV100**

OV280 — Ovation SCADA System

Teaches the basic components of an Ovation SCADA system. Items covered include SCADA servers, remote terminal units, scan blocks, lines, ports, configuration, protocol analyzers, and more. **Recommended Prerequisites: OV100, OV210** *Offered as a Virtual Course. See page 11

OV295 – Serial Link Controller / RLC

This course teaches the attending students how to create specialized I/O links to non-Ovation field devices using the serial link module. The course covers configuring and loading link controller modules, memory mapping and the Ovation addressing requirements. **Required Prerequisites: OV100, OV200** *Offered as a Virtual Course. See page 11

OV296 – Third Party I/O and ELC

This course will enable the student to configure, network, and troubleshoot Ethernet link controllers and third party I/O points. Topics covered include configuration of the ELC in Developer Studio, using the ELC configuration tool, simplex and redundant ELC's, networking, communication protocols, editing XML files, graphics, troubleshooting and building third-party I/O points. Students will configure the ELC to communicate to RTU's via both Ethernet and serial.

Required Prerequisite: OV100

OV296/OV300 - Third-Party ELC / Troubleshooting

This course will enable students to configure, network and troubleshoot Ethernet link controllers and third-party I/O points. Topics covered include configuration of the ELC in Developer Studio using the ELC configuration tool, simplex and redundant ELCs, networking, communication protocols, editing XML files, build monitoring graphics and building third-party I/O points. Students will configure the ELC to communicate to remote terminal units (RTUs) via both Ethernet and serial. Troubleshooting tools and techniques will also be discussed. **Required Prerequisite: OV100**

OV300 — Ovation Troubleshooting

Provides the skills and methods to troubleshoot and repair faults in the data acquisition and control functions of the Ovation system. Requires students to isolate faults anywhere in the signal path, from the field terminations to the I/O modules, through the controller, across the network and into the graphic display. Students will evaluate single- and multiple-problem scenarios. **Required Prerequisites: OV100, OV200, OV210-or-OV215, and OV216**

OV301 — Ovation Best Practices

This course applies to all who have responsibilities maintaining the Ovation DCS. Students who attend this class will learn methodologies to maintain a reliable, working system with regards to: Ovation database, OPH configuration techniques, network monitoring, control task monitoring, graphics practices, I/O reliability, patching, backups, antivirus, and engineering gather utilities. **Required Prerequisites: OV100, OV200, OV210-or-OV215, and OV216**

OV302 – Advanced Database / Troubleshooting

This course is designed for engineers and technicians that have used Ovation Developer Studio on a consistent basis. Troubleshooting is a primary role for technicians and engineers. Topics covered include controller failures, networking, algorithm troubleshooting, Ovation services, NTP problems, HART, 3rd party and remote I/O issues. **Required Prerequisites: OV100, OV200, OV300**

OV305 — Advanced System Troubleshooting

The OV305 course is designed to provide the end-user with advanced skills and methods in Ovation troubleshooting with emphasis on the OCR1100 controller, ELC and database. Additionally, systemic troubleshooting on the topics of network, security, group policy, multi-network and HMI's is also discussed.

Required Prerequisites: OV100, OV215, OV300

OV310 — Advanced Ovation Graphics

Uses application programs and advanced programming techniques, including the use of memory segments combined with pointer manipulation, to enhance advanced graphic programming skills. Builds several graphics utilizing pointers and memory segments. Teaches students to assess problematic graphics and solve them with available tools. **Required Prerequisite: OV210**

OV315 — Global Performance Advisor

The course describes the capabilities and limitations of a GPA, the hardware and software requirements to implement it, and provides hands-on exercises to install, use and backup the GPA and the information that is created. After the attendees have loaded the GPA on a workstation and have been provided the knowledge of how to create a workspace, a project and a functional block diagram, hands-on exercises will include building feed-water heater performance calculations, building steam turbine performance calculations, and building condenser calculations. Data agents, and communication on a local and enterprise systems, are described.

Recommended Prerequisite: OV200 *Offered Upon Request

OV320 — Ovation Network Administration

Provides an understanding of general networking concepts, as well as Ovation-specific network configurations for Fast Ethernet systems. Teaches hands-on knowledge of switch and router configuration for use in Ovation systems. Course intended for Ovation network administrators, system administrators, and those upgrading their Ovation Certification Program.

OV330 — Advanced Control Techniques

Builds off of previous control-building knowledge to teach implementation of control design. Continues topics from OV200. **Required Prerequisite: OV200** *Offered as a Virtual Course. See page 11

OV340 — Ovation Applications with Fieldbus

This course will provide students with a thorough knowledge of Fieldbus applications as applied to an Ovation system. Ovation Fieldbus module, segment design, device commissioning, FF algorithms, and basic troubleshooting are covered. Students will be provided with hands on experience implementing Fieldbus architecture. This course is intended for technicians who install and maintain Ovation Fieldbus devices. **Required Prerequisite: OV100, OV200 Recommended Prerequisite: OV275**

OV345 — Ovation Applications with DeviceNet

This course will provide students with a thorough knowledge of DeviceNet applications as applied to an Ovation system. Ovation DeviceNet module, segment design, device commissioning, point mapping and basic troubleshooting are covered. Students will be provided with hands-on experience implementing DeviceNet architecture. This course is intended for technicians who install and maintain Ovation DeviceNet devices. **Required Prerequisite: OV100**

OV350 — Ovation Applications with Profibus

This course will provide students with a thorough knowledge of Profibus applications as applied to an Ovation system. Ovation Profibus module, segment design, device commissioning, point mapping and basic troubleshooting are covered. Students will be provided with hands-on experience implementing Profibus architecture. This course is intended for technicians who install and maintain Ovation Profibus devices. **Required Prerequisite: OV100**

Ovation Course Descriptions

OV355 — Ovation Applications with Wireless

This course reviews the major components in an Ovation wireless system (wireless transmitters, gateways, and the components of the SmartPack™). The student is taught how to utilize the available configuration tools to set up an Ovation wireless interface and add transmitters to an existing network.

Required Prerequisite: OV100 *Offered upon request

OV360 — Ovation Security Administration

Guides students in the proper planning and installation of security for Ovation systems version 2.4 and later. Students will discuss and understand Ovation external and internal security concerns and apply appropriate safeguards. Covers installation and configuration of Ovation-compatible Windows Server 2012 domain controllers, Windows 7 service packs, and Windows security patches. Student will configure Ovation security using Ovation Security Manager.

OV365 — Power and Water Cybersecurity Suite (McAfee)

The Power and Water Cybersecurity Suite (PWCS) consists of a suite of security modules to assist Ovation customers in reducing the cost of complying with NERC CIP standards and provide enhanced control system protection. The security modules' functions include Patch Management, Application Control, Device Control, Anti-Virus, Rogue System Detection, and Vulnerability Assessment through the central Cybersecurity Dashboard. Additional modules include Security Incident & Event Management, System Backup & Recovery, Configuration Management, and Network Intrusion Detection. This course will discuss the configuration, implementation, and administration of these PWCS modules.

OV366 — SIEM Report Building

This course focuses on Security Incident Event Management (SIEM) reporting through the SIEM agent of the PWCS. The class centers around managing preloaded templates and on creating reports utilizing the report building feature of the SIEM. Students will be able to add, modify, delete and export reports upon completion of the class. **Recommended Prerequisites:** OV320, OV360

OV367 — Ovation Antivirus Management

This class is intended for those who have job responsibilities maintaining the antivirus solutions for the Ovation system. This two day virtual class will focus on installing endpoint software, obtaining and distributing virus definitions, upgrading antivirus versions, and configuring the AV servers. *Offered as a Virtual Course. See page 11

OV370 — Ovation Turbine Control System

Examines the Ovation steam turbine control system functions, including operation, graphics, and control logic, using tie-back simulators. Includes calibration and troubleshooting exercises on speed detector and valve positioner modules. **Required Prerequisite:** OV100, OV200 **Recommended Prerequisite:** OV375 *Offered as a Virtual Course. See page 11

OV371 — DCS and Turbine Mechanical System

This course is to enable the student to better understand the relationship between the Ovation DCS and turbine mechanical system. Control logic and Ovation graphics will be reviewed to enhance the student's familiarity with this equipment. Classroom discussion will entail the following: normal functionality, setup, calibration, testing, maintenance and trouble-shooting. Course content is primarily by lecture with minimal hands-on equipment when attended at the Pittsburgh training facility. *Offered upon request

OV375 — Steam Turbine Mechanic Hydraulics

This course is designed to identify the major hydraulic components, pumps, accumulators and other electro-hydraulic control elements of a steam turbine. Students will demonstrate knowledge on hydraulic logic valves, as related to directional, proportional and servo valves and trace components using hydraulic diagrams and drawings. Students will also demonstrate knowledge on types of oil used, acceptable temperatures, cleanliness and how to fill the tank.

OV376 — Digital Generator Control (DGC)

This course is for VME based excitation. The course is intended for engineers and I&C technicians that interface and maintain a DGC system and includes a review of the history and fundamentals of excitation, types of excitation, and the concepts of SCR bridges. The course discusses the DGC and its elemental components, maintenance and troubleshooting, data retrieval and analysis. No required prerequisites as this course does not require knowledge of Ovation DCS. Course content is primarily by lecture with minimal hands-on equipment when conducted at the Pittsburgh training facility.

OV377 — Ovation Excitation Systems

This course is for Ovation excitation. The course is intended for engineers and I&C Technicians that interface and maintain an Ovation excitation system and includes a review of the history and fundamentals of excitation, types of excitation, and the concepts of SCR bridges. The course discusses excitation and its elemental components, maintenance and troubleshooting, data retrieval and analysis. No required prerequisites as this course does not require knowledge of Ovation DCS. Course content is primarily by lecture with minimal hands-on equipment.

OV380 — Ovation Boiler Control

Reviews standard control logic used in Ovation systems for a typical, coal-fired, drum-type boiler. Examines typical analog and digital logic building blocks and how they combine to create a functional unit. Explores theory concerning the air, water, steam, and fuel systems, as well as the modes and operation of coordinated control. **Required Prerequisite:** OV100, OV200

OV400 — Ovation (Base) Certification

Offered as a stand-alone web-based exam or implemented with a pre-testing review at the Training Center, the OV400 measures the student's proficiency in areas related to database building, control implementation, control graphic linkage and troubleshooting on a system-wide basis. Earning Ovation certification acknowledges the competency of the individual on Ovation product lines and enhances their abilities in addressing, assessing and repairing problematic situations within the Ovation system. In both offerings, a multi-point examination is administered and participants are required to achieve a grade score of 80% or greater to successfully gain certification.

Required Prerequisite: OV100, OV200, OV210, OV300-or-OV215, OV216 Contact the Training Registrar for additional information

OV420 — Ovation (Admin) Certification

Offered as a stand-alone web-based exam or implemented with a pre-testing review at the Training Center, the OV420 measures the student's proficiency in areas that address the overall Ovation system configuration while maintaining the integrity of the system software. It assesses the students understanding of networking concepts and that of switch and router configurations. Achieving admin certification acknowledges the competency of the individual in maintaining the integrity of the Ovation system concerning user access and capabilities. In both offerings, a multi-point examination is administered and participants are required to achieve a grade score of 80% or greater to successfully gain certification. **Required Prerequisite:** Ovation (Base) Certification Achievement and OV230, OV320, OV245 *Offered upon request. Contact the Training Registrar for additional information

OV430 — Ovation (Security) Certification

This certification course measures the student's proficiency in applying security packages as well as managing, enhancing, and updating the cybersecurity of the Ovation Control System. Achieving the Security Certification acknowledges the competency of the individual who has demonstrated an understanding and ability in maintaining services such as Patch Management and Malware Prevention. A multi-point examination is administered and participants are required to achieve a score of 80% or greater to successfully gain certification. **Required Prerequisite:** OV360, OV365 *Offered upon request. Contact the Training Registrar for additional information

Simulator Course Descriptions

Courses for Plant Instructors

Sim-001 – Simulator Instructor Station

This course is for instructors who will use an Ovation embedded simulator to train plant operators. The course teaches instructors how to use the Ovation simulator instructor station software. This course also provides hands-on experience using all instructor station features. Course topics include: navigating the instructor station; loading a snapshot and running the simulator; saving snapshots of simulator conditions; backtracking to past simulator conditions; monitoring Ovation points; activating and deactivating malfunctions and other simulator events; recording and replaying instructor and operator events; and creating and running training exercises. The course is limited to four instructors and is conducted using the customer's simulator.

Sim-011 – Simulator Instructor Training

This course teaches instructors the process of planning, preparing, validating, executing, and evaluating simulator training sessions. Hands-on exercises apply the process to plan, prepare, and validate simulator training sessions for unit startup, unit shutdown, unit abnormal operations, and DCS graphics familiarization. This course is limited to four instructors and is conducted using the customer's simulator. The course applies only to simulators that have Ovation simulator instructor station software. **Recommended prerequisite for instructors: Sim-001**

Courses for Plant Operators

Sim-021 – Simulator Training for New Operators

This course applies the customer's Ovation embedded simulator to develop the operating skills of new plant operators. The trainee operates the simulator as the real plant, in accordance with the customer's procedures. The customer's instructor controls the conduct and content of the training. The Emerson trainer helps the customer's instructor use the course materials, manipulate the simulator instructor station and generally conduct the training. The course is divided into ten discrete simulator training sessions that focus on essential Ovation graphics operations, unit startup, unit shutdown and unit operations in response to select abnormal conditions. The course is flexible and accommodates specific plant, simulator, and operating procedures. This course is limited to four operators and three instructors and is conducted at the customer's site using the customer's simulator. The course applies only to simulators having Ovation simulator instructor station software. **Required prerequisite for operators: Sufficient knowledge of plant systems, controls, principles, and procedures to understand and perform the operations with some instructor assistance.** **Recommended prerequisite for instructors: Sim-001 and Sim-011**

Sim-031 – Simulator Training for Experienced Operators

This course applies the customer's Ovation embedded simulator to exercise, refresh, and test the operating skills of experienced plant operators. The trainee operates the simulator as the real plant, in accordance with the customer's procedures. The customer's instructor controls the conduct and content of the training. The Emerson trainer helps the customer's instructor use the course materials, manipulate the simulator instructor station, and generally conduct the training. The course is patterned after one operational cycle of the real plant — unit startup, power generation and shutdown. The trainee encounters a variety of abnormal conditions that require responsive action. The course is flexible and accommodates specific plant, simulator, and operating procedures. This course is limited to four operators and three instructors and is conducted at the customer's site using the customer's simulator. The course applies only to simulators having Ovation simulator instructor station software. **Required prerequisite for operators: Sufficient knowledge of plant systems, controls, principles, and procedures to understand and perform the operations with little or no instructor assistance.** **Recommended prerequisite for instructors: Sim-001 and Sim-011**

2018 Ovation Windows Training Schedule

*All courses are held at the Pittsburgh Training Center unless otherwise noted

Code & Course Name	Prices	Duration	Course Dates		
OV10 Ovation Virtual Operator Please choose Session A or Session B	\$ 1,981	2 Days	A. Mar 26-27 B. Mar 28-29 VIRTUAL	A. Sep 4-5 B. Sep 6-7 VIRTUAL	
OV100 Starting with Data Acquisition	\$ 3,729	5 Days	Jan 8-12	Jan 22 – 26 HOUSTON	Feb 5-9
			Mar 5-9	Apr 9-13	May 7 – 11 CHARLOTTE
			Jun 4-8	Jul 9-13	July 30 – Aug 3 CHICAGO *
			Aug 13-17	Sep 10-14	Oct 8-12
			Oct 22- 26 RIVERSIDE	Nov 5-9	Dec 3-7
OV200 Building & Maintaining Ovation Control	\$ 3,729	5 Days	Jan 15-19	Jan 29 – Feb 2 HOUSTON	Feb 12-16
			Mar 12-16	Apr 16-20	May 14-18 CHARLOTTE
			Jun 11-15	Jul 16-20	Aug 6 - 10 CHICAGO
			Aug 20-24	Sep 17-21	Oct 15-19
			Oct 29- Nov 2 RIVERSIDE	Nov 12-16	Dec 10-14
OV210 Building Ovation Graphics	\$ 3,729	5 Days	Jan 22-26	Feb 19-23	Apr 23-27
			Jun 18-22	Jul 30- Aug 3 *	Aug 27- Aug 30 (4 days)
			Sep 24-28	Oct 22-26	Dec 17-20 (4 days)
OV215 Ovation Software Project	\$ 7,456	10 Days	Feb 12-23	Mar 5-16 CHICAGO	June 18-29 RIVERSIDE
			Jul 30 - Aug 10 *	Sep 24- Oct 5 HOUSTON	Oct 29 - Nov 9
			Dec 3-14 CHARLOTTE		
OV216 Ovation Hardware Project	\$ 3,729	5 Days	Mar 19-23	May 21-24 (4 days)	Nov 12-16
OV230 Ovation System Administration	\$ 3,729	5 Days	Mar 12-16	May 21-24 (4 days)	Aug 20-24
			Oct 8-12	Dec 17-20 (4 days)	
OV245 Ovation Process Historian (OPH)	\$ 3,729	5 Days	Feb 5-9 VIRTUAL	Jun 25-29	Sep 24-28
OV246 Ovation Process Historian (OPH) Report Building	\$ 2,332	3 Days	Feb 13-15 VIRTUAL	Oct 2-4 VIRTUAL	
OV248 EDS™	\$ 2,332	3 Days	Oct 16-18 VIRTUAL		
OV249 EDS™ Administration	\$ 3,729	5 Days	Apr 9-13 VIRTUAL		
OV265 Ovation Expert Transition	\$ 3,729	5 Days	Apr 3-6 (4 days)		
OV270 Ovation with HART and Smart Devices	\$ 1,981	2 Days	Feb 20-21 VIRTUAL	Nov 13-14	
OV275 AMS Suite: Intelligent Device Manager	\$ 1,981	2 Days	Feb 22-23 VIRTUAL	Nov 15-16	

2018 Ovation Windows Training Schedule

*All courses are held at the Pittsburgh Training Center unless otherwise noted

Code & Course Name	Prices	Duration	Course Dates	
OV277 Machinery Health Monitor Vibration	\$ 1,981	2 Days	Apr 3-4	Oct 23-24
OV280 Ovation SCADA System	\$ 2,332	3 Days	Jun 26-28 VIRTUAL	
OV295 Serial Link Controller/RLC	\$ 2,332	3 Days	Mar 13-15	Sep 24-26
OV296 Third-Party I/O and ELC	\$ 3,191	4 Days	Feb 27 - Mar 2	Jun 19-22
OV296/OV300 Third-Party ELC /Troubleshooting	\$ 3,729	5 Days	Apr 30- May 4	Dec 10-14
OV300 Ovation Troubleshooting	\$ 3,729	5 Days	Jan 29 - Feb 2	Mar 19-23
			Aug 6-10	Oct 1-5
OV301 Ovation Best Practices	\$ 3,729	5 Days	Mar 12-16	Jun 4-8
			Oct 8-12	
OV302 Advanced Database/Troubleshooting	\$ 3,729	5 Days	Apr 9-13	Jun 11-15
OV305 Advanced System Troubleshooting	TBD	5 Days	Jun 25-29 MYRTLE BEACH	
OV310 Advanced Ovation Graphics	\$ 3,191	4 Days	May 7-10	Sep 17-20
OV315 Global Performance Advisor	\$ 3,729	5 Days	Sep 10-14	
OV320 Ovation Network Administration	\$ 3,729	5 Days	Feb 19-23	Apr 30-May 4
			Nov 26-30	
OV330 Advanced Control Techniques	\$ 3,729	5 Days	Apr 23-27 VIRTUAL	Aug 27-30 (4 days)
OV340 Ovation Applications with Fieldbus	\$ 2,332	3 Days	Jan 16-18	Oct 29-31
OV345 Ovation Applications with DeviceNet	\$ 1,981	2 Days	Aug 20-21	
OV350 Ovation Applications with Profibus	\$ 1,981	2 Days	Aug 22-23	Nov 1-2
OV360 Ovation Security Administration	\$ 3,729	5 Days	Feb 26-Mar 2	May 14-18
			Sep 17-21	Dec 10-14
OV365 (McAfee) Power and Water Cybersecurity Suite	\$ 3,729	5 Days	Jan 22-26	Mar 19-23
			Aug 27-30 (4 days)	Dec 3-7
OV366 SIEM Report Building	\$ 1,981	2 Days	Sep 12-13 VIRTUAL	
OV367 Ovation Antivirus Management	\$ 1,981	2 Days	Apr 17-18 VIRTUAL	Sep 4-5 VIRTUAL
OV370 Ovation Turbine Control System	\$ 3,729	5 Days	Jan 22-26	Oct 8-12 VIRTUAL
OV371 DCS and Turbine Mechanical System	Call for pricing	On Site	Call Training	

Color coding denotes Virtual Course. See details on page 11.

2018 Ovation Windows Training Schedule

Course	Prices	Duration	Course Dates	
OV375 Steam Turbine Mechanical Hydraulics	\$ 2,332	3 Days	Dec 4-6	
OV376 Digital Generator Control (DGC)	\$ 2,332	3 Days	May 1-3	Oct 2-4
OV377 Ovation Excitation System	\$ 2,332	3 Days	May 8-10	Dec 11-13
OV380 Ovation Boiler Control	\$ 3,729	5 Days	Jun 11-15	
OV400 Ovation Base Certification	\$ 3,191	4 Days	May 14-17 VIRTUAL	Aug 27-30

2018 Regional Location Training Schedule

Course	Prices	Duration	Course Dates	
Charlotte, NC				
OV100 Starting with Data Acquisition	\$ 3,729	5 Days	May 7-11	
OV200 Building & Maintaining Ovation Control	\$ 3,729	5 Days	May 14-18	
OV215 Ovation Software Project	\$ 7,456	10 Days	Dec 3-14	
Chicago, IL				
OV100 Starting with Data Acquisition	\$ 3,729	5 Days	Jul 30-Aug 3*	
OV200 Building & Maintaining Ovation Control	\$ 3,729	5 Days	Aug 6-10	
OV215 Ovation Software Project	\$ 7,456	10 Days	Mar 5-16	
Houston, TX				
OV100 Starting with Data Acquisition	\$ 3,729	5 Days	Jan 22-26	
OV200 Building & Maintaining Ovation Control	\$ 3,729	5 Days	Jan 29-Feb 2	
OV215 Ovation Software Project	\$ 7,456	10 Days	Sep 24-Oct 5	
Riverside, CA				
OV100 Starting with Data Acquisition	\$ 3,729	5 Days	Oct 22-26	
OV200 Building & Maintaining Ovation Control	\$ 3,729	5 Days	Oct 29-Nov 2	
OV215 Ovation Software Project	\$ 7,456	10 Days	Jun 18-29	
Myrtle Beach, SC Custom				
OV305 Advanced System Troubleshooting	TBD	5 Days	Jun 25-29	
OV306 Advanced Steam Turbine	TBD	5 Days	Jun 18-22	
OV307 Advanced Steam Boiler	TBD	5 Days	Jun 11-15	

2018 Simulator Training Schedule

*Course are available for GSE and Ovation-based simulators

Course	Prices	Duration	Course Dates
<i>Courses for Plant Instructors</i>			
Sim-001 – Simulator Instructor Station	Call for pricing	3 Days	Available Upon Request On-site Course/Maximum of 4 Students*
Sim-011 – Simulator Instructor Training	Call for pricing	5 Days	Available Upon Request On-site Course/Maximum of 4 Students*
Course		Duration	Course Dates
<i>Courses for Plant Operators</i>			
Sim-021 – Simulator Training for New Operators	Call for pricing	10 Days	Available Upon Request On-site Course/Maximum of 4 Students & 1 Instructor*
Sim-031 – Simulator Training for Experienced Operators	Call for pricing	10 Weeks	Available Upon Request On-site Course/Maximum of 4 Students & 1 Instructor*

Training Information

Registration

Contact the registrar at 1-800-445-9723 (option 5) or email pws.education@emerson.com

The registrar will need to know the following to complete registration:

- Student's contact information: first and last name, cell phone number and email address
- Course number and date
- Company and site name
- Company's Bill To Address and phone number
- Tuition payment details, e.g., Credit Card, PO, Project or Maintenance Contract

We recommend that students enroll as early as possible, as class sizes are limited. Please note that enrollment is accepted on a first-come, first-served basis, and payment is due upon registration. Each class is subject to cancellation if less than five students are registered by 10 business days prior to the class start date. Therefore, we recommend that students make refundable travel arrangements.

Should a schedule conflict arise, your reservation cancellation will be free of charge if written notice is received at least 21 calendar days prior to the start of class. Cancellations received between 1 and 20 calendar days prior to the start of class are subject to a charge equal to 50 percent of the list price. Please visit www.ovationusers.com for details on custom courses, registration, hotel accommodations, and additional information.

*Note for International Students: Registration and formal security clearances are required for all courses conducted at an Emerson location in the United States. Contact the registrar at 1-800-445-9723 for information and instructions.

Latest Schedule Updates

Updates as well as unpublished courses can be viewed from www.ovationusers.com. These updates are also communicated in the monthly Ovation Users eNewsletter. For more information about the courses scheduled for 2018, please contact the registrar or visit the Ovation Users' Group web site at www.ovationusers.com.

Software and Operating Systems

All Ovation courses will be taught on Ovation 3.5.1 or 3.6 unless otherwise noted.

Custom Courses

In addition to our standard course curriculum, the Emerson training team can develop customized training programs to meet your specific learning objectives. Courses can be modified from existing standard classes, or an entirely customized curriculum can be developed to help achieve your goals. These courses can also be taught at your location.

Our training specialists will work with you to ensure that custom courses meet all of your learning objectives and that the appropriate equipment is available. Once objectives are established, the training specialist will develop all classroom materials and manuals and will design and lab work to meet specific objectives for student skills and proficiencies.

On-site Training

To train a team of individuals, it is sometimes more economical and efficient for Emerson to conduct classes at your location. On-site instruction also allows the instructor to concentrate on details that are relevant to your site. All standard courses can be taught on-site, or you can customize courses that emphasize topics relevant to your specific applications. Ovation classroom equipment (workstations, network, and controllers) can be provided to your site to support the training courses.

Regional Training

Regional training courses are held periodically at several Emerson office locations across the country. Please reference page 10 for a listing of regional specific courses.

Ovation Virtual Classroom

The Ovation Virtual Classroom provides real-time learning from our certified subject-matter experts. Students can see and speak with a live instructor while participating in courses from their office or remote desktop computers that have full access to factory systems. Attending a course through the Ovation Virtual Classroom eliminates travel expenses, saves time, and provides a flexible way to achieve learning goals. View a demo of virtual training by visiting the training section of the Ovation Users' Group web site at www.ovationusers.com.

The contents of this publication are presented for informational purposes only, and while every effort is made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. All sales are governed by our software licensing agreement, and terms and conditions, which are available on request. We reserve the right to modify or improve the designs or specifications of our product at any time without notice.

© 2017 Emerson. All rights reserved.

The Emerson logo is a trademark and service mark of Emerson Electric Co. Ovation™, SureService™, and AMS are marks owned by one of the Emerson legal entities. All other marks are property of their respective owners.

www.Emerson.com

**Emerson Automation Solutions
Power & Water**

200 Beta Drive
Pittsburgh, PA 15238
USA

T: 1-800-445-9723
T: 1-412-963-4000
F: 1-412-963-3644

Emerson Automation Solutions

1 Pandan Crescent
Singapore 128461

T: (65) 6777-8211
F: (65) 6770-8015

**Emerson Automation Solutions
Power and Water Solutions Sp. z o.o.**

Szturmowa 2A
02-678 Warszawa
Poland

T: +48 22 45 89 100/101
F: +48 22 45 89 146