

Lin & Associates' Training Offerings

Take Vendor Training to the next level.

- The Automation Vendors do a good job of teaching the mechanics of their DCS systems. Let us take your competency to the next level with actual real-world application.
- Our training methodology is designed for Engineers and system configurators - developed and taught by Engineers who have actual DCS project experience. When our instructors are not teaching, they are actively executing DCS projects.
- Train new hires, improve your current workforce skills, or help your team adapt to new technology. With our In-House; On-site; remote Instructor-led; and on-demand, self-paced CBT comprehensive training portfolio, we can help to develop your most valuable asset – your workforce.

Lin and Associates has designed several courses focused on the training requirements of our clients' various job functions. We have implemented a variety of delivery options for ultimate flexibility.

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Instructor-Led Courses (Series 100-300)

Instructor-led courses allow students full-time access to an experienced engineer. Delivery can be done in any of three options: in-house at an L&A office; at your site with an L&A supplied, or your own, training system; or remote, web-based with students at home or at their site. The L&A training system simulation is typically used, but options are available for client supplied simulation.

To view the schedule of available training dates and to purchase your seat please visit the L&A Training Marketplace - <https://lin-and-associates-inc.square.site/>

If you would like to request a specific training class that is not currently available please contact your L&A representative or reach out to L&A at info@linandassociates.com.

LA-150 Honeywell Experion with TPS / ALTIUS Implementation Overview

Course Overview	<p>Provides users already LCN knowledgeable but new to Experion with an overview of basic concepts and implementation of Experion servers, stations, and controller interfaces, along with HMIWeb displays and ALTIUS tools and functions.</p> <p>The target audience for this class is the engineer charged with the overall planning and implementing of a Honeywell Experion / L&A ALTIUS system with an existing Honeywell TPS.</p> <p>This class is a hybrid of LA-100 and LA-200 for those who need less detailed information. All topics outlined below will be re-enforced with hands-on exercises using the in-house L&A training system.</p>	
Duration	5 Days	
Delivery	Instructor Led	
Pre-requisites*	Working knowledge of Honeywell TPS – operation and configuration	
Topic Outline	<ul style="list-style-type: none"> Experion-LCN Implementation <ul style="list-style-type: none"> o Plan the System o Understand FTE o Enterprise Model Database o Configure the Server o Configure Consoles/Stations o Integrate with the LCN (TPS) o CDA and SCADA Point Configuration o History, Group & Trend Config. o Distributed Server Architecture o Alarm Settings/Tools 	<ul style="list-style-type: none"> HMIWeb Display Builder <ul style="list-style-type: none"> o Objects & grouping of objects o Data References o Style Sheets (CSS) o Scripts o Shapes/Custom Properties o SafeView References o CSS Integration ALTIUS Configuration <ul style="list-style-type: none"> o Shapes o Display Templates o Scripts & Script Holders o Context Menus o Navigation Menu o LoopWatch o LimitWatch o Widgets

Delivery Cost / Options	<p>1) In-House (L&A Office) or web-based remote - \$3,000 Per Person, Minimum of 4 persons to hold class. Remote students require a good internet connection and ideally, a dual monitor setup</p> <p>2) On-Site - \$27,000, Maximum of 6 persons per class. All equipment (Experion Servers/Stations, and LCN equipment) to be supplied by client.</p>
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LA-200 HMIWeb / ALTIUS Implementation

Course Overview	<p>Provides the user with an understanding of ALTIUS installation, set-up, configuration, and maintenance, along with the shapes used to build and configure Honeywell Experion/ L&A ALTIUS displays.</p> <p>The target audience for this class is the engineer charged with the overall implementation of the ALTIUS Advanced HMI solution, along with the creation and modification of displays using the ALTIUS Advanced Graphics Shape Libraries (AGL),</p> <p>The course consists of 3-days on the use of HMIWeb display builder and all AGL shapes (content from LA-201 and LA-202). The remaining 2 days focus on overall ALTIUS implementation. All topics outlined below will be re-enforced with hands-on exercises using the in-house L&A training system.</p>	
Duration	5 Days	
Delivery	Instructor Led	
Pre-requisites*	Working knowledge of Honeywell Experion – operation and configuration	
Topic Outline	<p>HMIWeb Display Builder</p> <ul style="list-style-type: none"> o Basics o Objects & grouping of objects o Data References o Style Sheets (CSS) o Scripts o Shapes/Custom Properties o SafeView References o CSS Integration 	<p>ALTIUS Configuration</p> <ul style="list-style-type: none"> o Shapes\Custom Properties o Scripts & Script Holders o Context Menus o Navigation Menu o LoopWatch o LimitWatch o Widgets
Delivery Cost / Options	<p>1) In-House (L&A Office) or web-based remote - \$3,000 Per Person, Minimum of 4 persons to hold class. Remote students require a good internet connection and ideally, a dual monitor setup</p> <p>2) On-Site - \$27,000, Maximum of 6 persons per class. All equipment (Experion Servers/Stations, and SimC300) to be supplied by client.</p>	

LA-201 ALTIUS Builders Course (Main Process Shapes)

Course Overview	<p>Provides users detailed knowledge of base shape libraries within the ALTIUS Advanced Graphic Library (AGL) component (CDA, TPS, SCADA, Fieldbus, Common). Covers shape custom properties, configuration options, and associated stylesheet references. Details and examples available using different point types. All topics outlined below will be re-enforced with hands-on exercises using the in-house L&A training system.</p> <p><i>*Following completion of the course access to LA-402 CBT for continued review and reference is included.</i></p>
Duration	2.5 Days
Delivery	Instructor Led
Pre-requisites*	Working knowledge of Honeywell Experion – operation and configuration; experience with HMIWeb Display Builder including style sheets and shapes with custom properties
Topic Outline	<p>Shapes</p> <ul style="list-style-type: none"> ○ Analog Indicators ○ Analog Controllers ○ Control Valves ○ Digital Valves ○ Digital Status ○ Digital Alarms ○ Rotating Equipment ○ Switches ○ Common ○ Miscellaneous
Delivery Cost / Options	<p>1) In-House (L&A Office) or web-based remote - \$1,500 Per Person, Minimum of 4 persons to hold class. Remote students require a good internet connection and ideally, a dual monitor setup</p> <p>2) On-Site - \$13,500 Maximum of 6 persons per class. All equipment (Experion Servers/Stations, and SimC300) to be supplied by client.</p>

LA-202 ALTIUS Builders Course (SIS Shapes)

Course Overview	<p>Review of base shape libraries within the ALTIUS Advanced Graphic Library component with focused attention on the SIS shape library. Explanations of shapes' custom properties, configuration options, and associated stylesheet references. All topics outlined below will be re-enforced with hands-on exercises using the in-house L&A training system.</p> <p><i>*Following completion of the course access to LA-403 CBT for continued review and reference is included.</i></p>		
Duration	1.5 Days		
Delivery	Instructor Led		
Pre-requisites*	LA-201		
Topic Outline	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> <p>SIS Concept Overview</p> <p>SIS Common Features</p> </td> <td style="width: 50%; border: none;"> <p>SIS Shapes</p> <ul style="list-style-type: none"> ○ Analog ○ Digital ○ Process ○ Design Element </td> </tr> </table>	<p>SIS Concept Overview</p> <p>SIS Common Features</p>	<p>SIS Shapes</p> <ul style="list-style-type: none"> ○ Analog ○ Digital ○ Process ○ Design Element
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Delivery Cost / Options	<p>1) In-House (L&A Office) or web-based remote - \$900 Per Person, Minimum of 4 persons to hold class. Remote students require a good internet connection and ideally, a dual monitor setup</p> <p>2) On-Site - \$8,100, Maximum of 6 persons per class. All equipment (Experion Servers/Stations, and SimC300) to be supplied by client.</p>		

LA-210 ALTIUS HMI Maintenance

<p>Course Overview</p>	<p>Provides users already possessing good Experion familiarity with detailed knowledge required to effectively update/modify operating and SIS displays and to update/modify the correlating Navigation Menus and their alarm groups.</p> <p>The target audience for this class is the engineer charged with the creation and modification of displays using the ALTIUS Advanced Graphics Libraries (AGL) and with updating the Navigation Menu and alarm groups.</p> <p>Content is a combination of LA-201 and LA-202 along with detail on Navigation Menu and associated alarm group configuration.</p> <p><i>*Following completion of the course access to LA-402, LA-403, LA-420, and LA-430 CBT for continued review and reference is included.</i></p>		
<p>Duration</p>	<p>5 Days</p>		
<p>Delivery</p>	<p>Instructor Led</p>		
<p>Pre-requisites*</p>	<p>Working knowledge of Honeywell Experion – operation and configuration, including alarm groups; experience with HMIWeb Display Builder including style sheets and shapes with custom properties</p>		
<p>Topic Outline</p>	<table border="0"> <tr> <td style="vertical-align: top;"> <ul style="list-style-type: none"> Process Shapes <ul style="list-style-type: none"> o Analog Indicators o Analog Controllers o Control Valves o Digital Valves o Digital Status o Digital Alarms o Rotating Equipment o Switches o Common o Miscellaneous SIS Concept Overview SIS Common Features SIS Shapes <ul style="list-style-type: none"> o Analog o Digital o Process o Design Element </td> <td style="vertical-align: top; padding-left: 20px;"> <ul style="list-style-type: none"> Navigation Menu <ul style="list-style-type: none"> o Navigation Menu Overview o Navigation Menu Building o Menu Editor Auxiliary Functions o L&A Application Center Settings Alarm Groups <ul style="list-style-type: none"> o Alarm Group Editor Basic Functions o Create a new alarm group project o Modify an existing alarm group project <ul style="list-style-type: none"> o Add a new alarm group to the project o Add points to an existing alarm group o Export alarm group project to Experion </td> </tr> </table>	<ul style="list-style-type: none"> Process Shapes <ul style="list-style-type: none"> o Analog Indicators o Analog Controllers o Control Valves o Digital Valves o Digital Status o Digital Alarms o Rotating Equipment o Switches o Common o Miscellaneous SIS Concept Overview SIS Common Features SIS Shapes <ul style="list-style-type: none"> o Analog o Digital o Process o Design Element 	<ul style="list-style-type: none"> Navigation Menu <ul style="list-style-type: none"> o Navigation Menu Overview o Navigation Menu Building o Menu Editor Auxiliary Functions o L&A Application Center Settings Alarm Groups <ul style="list-style-type: none"> o Alarm Group Editor Basic Functions o Create a new alarm group project o Modify an existing alarm group project <ul style="list-style-type: none"> o Add a new alarm group to the project o Add points to an existing alarm group o Export alarm group project to Experion
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<p>Delivery Cost / Options</p>	<ol style="list-style-type: none"> 1) In-House (L&A Office) or web-based remote - \$3,000 Per Person, Minimum of 4 persons to hold class. Remote students require a good internet connection and ideally, a dual monitor setup 2) On-Site - \$27,000, Maximum of 6 persons per class. All equipment (Experion Servers/Stations, and SimC300) to be supplied by client. 		

LA-220 ALTIUS Operator Training

Course Overview	<p>Provides the user with an overview of operation using the Experion\ALTIUS HMI solution. The training covers all HMI components and tools, including station functions and layout, Navigation Menu, operating and system displays, use of faceplates and widgets, alarm indication and handling, trend functionality, operating limits, and LoopWatch.</p> <p>All topics reinforced with hands-on practice. <i>(Typically, part of an overall implementation project)</i></p>
Duration	1 or 2 Days (depending on the extent of the difference between the existing HMI and the new HMI)
Delivery	Instructor Led
Pre-requisites*	Good understanding of existing HMI and current operation
Topic Outline	<ul style="list-style-type: none"> ○ Station Introduction ○ Control using Station ○ Experion Faceplates ○ Operating Displays ○ Process Alarms ○ Station Trends ○ Point Details and Groups ○ Additional ALTIUS Tools ○ Experion Summary Displays ○ Additional Station Functions
Delivery Cost / Options	1) On-Site - \$3,500 Maximum of 4 persons per class. All equipment (Experion Servers/Stations, and database) to be supplied by client preferably 1 station per person.

LA-221 ALTIUS Engineering Training

Course Overview	<p>The purpose of this training is to provide the engineer with an overview on how to install, configure, and maintain the ALTIUS Hi-Performance HMI solution. All major functions of the product are covered.</p> <p>The target audience for this class is the engineer charged with the overall implementation and maintenance of the ALTIUS Hi-Performance HMI Solution.</p> <p>The material for the class consists of ALTIUS product documentation and a supplemental training manual. One goal of the course is to familiarize the student with the user guides supplied with the ALTIUS product.</p>
Duration	2.5 Days
Delivery	Instructor Led
Pre-requisites*	
Topic Outline	<p>ALTIUS Installation ALTIUS Configuration</p> <ul style="list-style-type: none"> ○ Shapes\Custom Properties ○ Scripts & Script Holders ○ Context Menus ○ Navigation Menu ○ LoopWatch ○ LimitWatch ○ Widgets <p>ALTIUS Maintenance / Troubleshooting</p>
Delivery Cost / Options	1) On-Site - \$3,500 Maximum of 4 persons per class. All equipment (Experion Servers/Stations, and database) to be supplied by client preferably 1 dual-screen station per person.

LA-300 Honeywell C300 Controller Database Configuration – Application

Course Overview	Provides users that have previously taken the Honeywell EXP-50 or EXP-2001 course an application-based class. Content covers the use and application of the 25+ most commonly used function blocks as employed within commonly used control strategies. All topics outlined below will be re-enforced with hands-on exercises using the in-house L&A training system.
Duration	5 Days
Delivery	Instructor Led
Pre-requisites*	Honeywell Course EXP-50 or EXP-2001; or familiarity with Honeywell C300 controller, Control Builder, and function block basics
Topic Outline	<ul style="list-style-type: none"> ○ Experion Architecture review ○ Using Control Builder/Quickbuilder ○ Asset Model ○ I/O Module Types ○ Data Acquisition Blocks ○ Utility Blocks(FLAGA, NUMERICA, etc..) ○ DEVCTLA Block ○ LOGIC Blocks ○ TYPECONVERTA Block ○ MESSAGEA Block ○ TIMERA Block ○ FIRSTOUT Block ○ PIDA Block ○ FANOUT Block ○ PID/FF / PIDER Blocks ○ RATIOBIAS Block ○ AUTOMANA Block ○ OVRDSELA Block ○ RATIOCTL Block ○ SWITCHA Block ○ SIGNALSELA Block ○ AUXSUMMERA Block ○ AUXCALC Block ○ PUSHA Block ○ TOTALIZERA Block
Delivery Cost / Options	<p>1) In-House (L&A Office) or web-based remote - \$3,000 Per Person, Minimum of 4 persons to hold class. Remote students require a good internet connection and ideally, a dual monitor setup</p> <p>2) On-Site - \$27,000, Maximum of 6 persons per class. All equipment (Experion Servers/Stations, and SimC300) to be supplied by client.</p>

LA-301 Honeywell Application Module Control Language (AM/CL) Implementation

Course Overview	Provides a detailed understanding of Application Module (AM) concepts, functions, and implementation with emphasis on Control Language (CL) and Custom Data Segments (CDS). The AM is a powerful control component in the Honeywell TPS system. This course covers AM point types, control language, and custom data segments, as well as AM performance monitoring. All topics outlined below will be re-enforced with hands-on exercises using the in-house L&A training system. The course manual contains numerous programming examples to supplement the learning content.
Duration	5 Days
Delivery	Instructor Led
Pre-requisites*	TDC 3000 implementation experience
Topic Outline	<ul style="list-style-type: none"> ○ AM documentation ○ Performance monitoring ○ AM point types ○ AM Reg Control points ○ Supervisory control requirements – UCN specific ○ AM/CL concepts and implementation <ul style="list-style-type: none"> ○ Editing CL code ○ Compiling and fixing errors ○ Linking CL programs ○ Checking run-time errors ○ Custom Data Segments <ul style="list-style-type: none"> ○ Creating, compiling, attaching to points ○ Available variable types ○ Parameter lists ○ CL Packages <ul style="list-style-type: none"> ○ Concepts ○ Benefits ○ Use implications ○ CL implementation specific to Reg Control points, Custom points, and Switch points ○ Background CL concepts
Delivery Cost / Options	1) In-House (L&A Office) or web-based remote - \$3,000 Per Person, Minimum of 4 persons to hold class. Remote students require a good internet connection and ideally, a dual monitor setup

Computer Based Training Courses (Series 400)

Lin & Associates has designed a self-paced on-demand set of courses to assist our ALTIUS “Hi-Performance HMI Solution” users. These courses are designed to provide the necessary details around each of the ALTIUS components and how to utilize them to get optimal performance and functionality out of your HMI.

Updates made to on-demand content is immediately communicated to current licensed learners. The benefit of this platform is that as the ALTIUS components are updated with new features or improvements learners are notified and provided with the updated training material.

Access to course content is on a per learner basis for an annual rate of \$200 USD. To purchase an access please visit the L&A Training Marketplace - <https://lin-and-associates-inc.square.site/> If you would like to request a specific training class that is not currently available please contact your L&A representative or reach out to L&A at info@linandassociates.com.

LA-400 ALTIUS Basics – TBD

Course Overview	Provides ALTIUS users with a base understanding of the features and functions of ALTIUS. They will be demonstrated from a working station within SafeView just like a typical operator environment. The target audience will be the end-users (operators).	
Duration	~1.5 hours (continued content engagement for following 1-2 weeks)	
Delivery	CBT – Cerego www.cerego.com	
Pre-requisites*	None	
Topic Outline	<ul style="list-style-type: none"> ○ Navigation Menu ○ Faceplate Enhancements ○ Mini Trends ○ Trend Builder ○ LoopWatch ○ Operating Limits 	<ul style="list-style-type: none"> ○ LimitWatch ○ Alarm Indication in displays ○ Widgets

LA-402 ALTIUS AGL Builder (Main Process Shapes)

Course Overview	Review of base shape libraries within the ALTIUS Advanced Graphic Library component (CDA, TPS, SCADA, Fieldbus, Common). Explanations of shape's custom properties, configuration options, and associated stylesheet references. Details and examples included using different point types.
Duration	~4 hours (continued content engagement for following 1-2 weeks)
Delivery	CBT – Cerego www.cerego.com
Pre-requisites*	Honeywell courses: EXP-03-CT or EXP-03; or proficiency with building displays that use shapes and style sheets within HMIWeb Display Builder
Topic Outline	<p>Shapes</p> <ul style="list-style-type: none"> ○ Analog Indicators ○ Analog Controllers ○ Control Valves ○ Digital Valves ○ Digital Status ○ Digital Alarms ○ Rotating Equipment ○ Switches ○ Common ○ Miscellaneous

LA-403 ALTIUS AGL Builder (SIS Shapes)

Course Overview	Review of SIS shape library within the ALTIUS. Explanations of shape's custom properties, configuration options, and associated stylesheet references. Includes contrast between Gen1 and Gen2 shapes and concepts. Details and examples using different point types are included.
Duration	~2.5 hours (continued content engagement for following 1-2 weeks)
Delivery	CBT – Cerego www.cerego.com
Pre-requisites*	LA-402
Topic Outline	<p>SIS Concept Overview</p> <p>SIS Common Features</p> <p>SIS Shapes</p> <ul style="list-style-type: none"> ○ Analog ○ Digital ○ Process ○ Design Element

LA-410 ALTIUS Engineering Configuration Overview – TBD

Course Overview	Provides engineers with an overview of how to install, configure, and maintain the ALTIUS Hi-Performance HMI solution. All major functions of the product are covered. The course is available for all ALTIUS users and is targeted at those who need to modify and maintain existing ALTIUS installations.	
Duration	~3 hours (continued content engagement for following 1-2 weeks)	
Delivery	CBT – Cerego www.cerego.com	
Pre-requisites*	LA-401	
Topic Outline	<ul style="list-style-type: none"> ALTIUS Overview <ul style="list-style-type: none"> ○ Installation and Configuration ALTIUS Displays <ul style="list-style-type: none"> ○ Shape Libraries Overview ○ Common Shape Functions ○ Display templates ○ Style Sheets ○ Script Holders ○ Right-click menus 	<ul style="list-style-type: none"> Safeview configuration ALTIUS Tool Configuration <ul style="list-style-type: none"> ○ Navigation Menu ○ LoopWatch ○ LimitWatch ○ Widgets ALTIUS Maintenance <ul style="list-style-type: none"> ○ File Replication ○ Patches and ALTIUS updates

LA-420 ALTIUS Three-Tier Navigation Menu

Course Overview	Review of the features, functions, and configuration of the ALTIUS Navigation Menu. Content includes the Menu's function within a Safeview station, and how to build a new menu or modify an existing menu using the ALTIUS Menu Editor. The course will discuss the Menu's relationship to Experion Alarm Groups and how those groups are configured using the ALTIUS Alarm Group Editor.
Duration	~1.5 hours (continued content engagement for following 1-2 weeks)
Delivery	CBT – Cerego www.cerego.com
Pre-requisites*	Basic knowledge of Honeywell Experion Safeview and Alarm Groups
Topic Outline	<ul style="list-style-type: none"> ○ Navigation Menu Overview ○ Navigation Menu Building ○ Menu Editor Auxiliary Functions ○ L&A Application Center Settings

LA-430 ALTIUS Alarm Group Editor

Course Overview	Review of the features and functions of the ALTIUS Alarm Group Editor. The course will discuss the relationship of Experion Alarm Groups with the functionality of the ALTIUS Navigation Menu, and how those groups are configured using the ALTIUS Alarm Group Editor. The course will show how an alarm group project with a hierarchy that matches the layout of the associated Navigation Menu is created and modified. Also, how the groups are incorporated into the Experion Server.
Duration	~1.5 hours (continued content engagement for following 1-2 weeks)
Delivery	CBT – Cerego www.cerego.com
Pre-requisites*	Knowledge of Experion EMDB and Alarm Groups
Topic Outline	<ul style="list-style-type: none"> ○ Alarm Group Editor Basic Functions ○ Create a new alarm group project ○ Modify an existing alarm group project <ul style="list-style-type: none"> ○ Add a new alarm group to the project ○ Add points to an existing alarm group ○ Export alarm group project to Experion

Honeywell Process Solutions Training

*Multiple training courses within the Experion system. Some of the ALTIUS courses require prerequisites from Honeywell. Please see the training catalog supplied on the website (<https://www.honeywellprocess.com/en-US/training/Pages/default.aspx>)