

# 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 real-world application-based training.
- 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, 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.

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#### **Instructor-Led Courses (Series 100-300)**

Instructor-led courses allow students full-time access to an experienced engineer. Delivery is typically done in-house at the L&A Phoenix office. Optionally courses can be conducted at your site with an L&A supplied, or your own, training system. The L&A training system simulation is typically used, but options are available for client suppled simulation.

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

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	an overview of basic concept servers, stations, and controll displays and ALTIUS tools and the target audience for this class overall planning and implementi ALTIUS system with an existing This class is a hybrid of LA-100 detailed information. The topics	ss is the engineer charged with the ng of a Honeywell Experion / L&A
Duration	5 Days	
Delivery	Instructor Led	
Pre-requisites*	Working knowledge of Honeywell TPS – operation and configuration	
Topic Outline	Experion-LCN Implementation  Plan the System  Understand FTE  Enterprise Model Database  Configure the Server  Consoles/Stations  Integrate with the LCN (TPS)  CDA and SCADA Point Configuration  History, Group & Trend Config.  Distributed Server Architecture Alarm Settings/Tools	HMIWeb Display Builder  Objects & grouping of objects  Data References  Style Sheets (CSS)  Scripts  Shapes/Custom Properties  SafeView References  CSS Integration  ALTIUS Configuration  Shapes  Display Templates  Scripts & Script Holders  Context Menus  Navigation Menu  LoopWatch  LimitWatch  Widgets

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Delivery Cost / Options	In-House (L&A Office) - \$3,000 Per Person, Minimum of 4 persons to hold class.
	<ol> <li>On-Site - \$27,000, Maximum of 6 persons per class. All equipment (Experion Servers/Stations, and LCN equipment) to be supplied by client.</li> </ol>

## LA-200 HMIWeb / ALTIUS Implementation

Course Overview	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.  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),  The course consists of 2.5 days on the use of HMIWeb display builder and all AGL shapes (content from LA-201 and LA-202). The remaining 2.5 days focus on overall ALTIUS implementation. The material for the class consists of a training manual and the ALTIUS product documentation set. One goal of the course is to familiarize the student with the user guides supplied with the ALTIUS product.		
	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*	Working knowledge of Honeywell Experion – operation and configuration		
Topic Outline	HMIWeb Display Builder  Basics  Objects & grouping of objects  Data References Style Sheets (CSS) Scripts Shapes/Custom Properties Shapes/Custom Properties SafeView References CSS Integration  ALTIUS Configuration Shapes\Custom Properties Navigation Menu LoopWatch LimitWatch Widgets Widgets		
Delivery Cost / Options	In-House (L&A Office) - \$3,000 Per Person, Minimum of 4 persons to hold class.		
	<ol> <li>On-Site - \$27,000, Maximum of 6 persons per class. All equipment (Experion Servers/Stations, and SimC300) to be supplied by client.</li> </ol>		

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## LA-201 ALTIUS Builders Course (Main Process Shapes)

Course Overview	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.  *Following completion of the course access to LA-402 CBT for continued	
Duration	review and reference is included. 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	Shapes  o Analog Indicators o Analog Controllers o Control Valves o Digital Valves o Digital Alarms  o Rotating Equipment o Switches o Common o Miscellaneous o Digital Alarms	
Delivery Cost / Options	1) In-House (L&A Office) - \$1,500 Per Person, Minimum of 4 persons to hold class.  2) On-Site - \$13,500 Maximum of 6 persons per class. All equipment (Experion Servers/Stations, and SimC300) to be supplied by client.	

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#### LA-202 ALTIUS Builders Course (SIS Shapes)

Course Overview	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 reenforced with hands-on exercises using the in-house L&A training system.  *Following completion of the course access to LA-403 CBT for continued review and reference is included.		
Duration	1.5 Days		
Delivery	Instructor Led		
Pre-requisites*	LA-201		
Topic Outline	SIS Concept Overview SIS Shapes		
	SIS Common Features o Analog		
	o Digital		
	o Process		
	<ul> <li>Design Element</li> </ul>		
Delivery Cost / Options	1)In-House (L&A Office) - \$900 Per Person, Minimum of 4 persons to hold class.		
	On-Site - \$8,100, Maximum of 6 persons per class. All equipment (Experion Servers/Stations, and SimC300) to be supplied by client.		

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#### **LA-210 ALTIUS HMI Maintenance**

Course Overview	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.	
	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.	
	Content is a combination of LA-201 and LA-202 along with detail on Navigation Menu and associated alarm group configuration.	
	*Following completion of the cou LA-430 CBT for continued review	rse access to LA-402, LA-403, LA-420, and vand reference is included.
Duration	5 Days	
Delivery	Instructor Led	
Pre-requisites*	Working knowledge of Honeywell Experion – operation and configuration, including alarm groups; experience with HMIWeb Display Builder including style sheets and shapes with custom properties	
	properties	
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Topic Outline	Process Shapes  o Analog Indicators  o Analog Controllers  o Control Valves  o Digital Valves  o Digital Status  o Digital Alarms  o Rotating Equipment	Navigation Menu  Navigation Menu Overview  Navigation Menu Building  Menu Editor Auxiliary Functions  L&A Application Center Settings
	<ul><li>Switches</li></ul>	Alarm Groups
	<ul><li> Common</li><li> Miscellaneous</li></ul>	Alarm Groups  o Alarm Group Editor Basic Functions
		<ul> <li>Create a new alarm group</li> </ul>
	SIS Concept Overview	project
	SIS Common Features	<ul> <li>Modify an existing alarm group</li> </ul>
	SIS Shapes	project
	o Analog	<ul> <li>Add a new alarm group to</li> </ul>
	o Digital	the project
	o Process	<ul> <li>Add points to an existing</li> </ul>
	<ul> <li>○ Design Element</li> </ul>	alarm group  o Export alarm group project to Experion
Delivery Cost / Options	In-House (L&A Office) - \$3,000 Per Person, Minimum of 4 persons to hold class.	
	On-Site - \$27,000, Maximum of 6 persons per class. All equipment (Experion Servers/Stations, and SimC300) to be supplied by client.	

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#### **LA-220 ALTIUS Operator Training**

Course Overview	Experion\ALTIUS HMI solution components and tools, inclundary Navigation Menu, operating an	-on practice.	
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> <li>Station Introduction</li> </ul>	<ul> <li>Station Trends</li> </ul>	
	<ul> <li>Control using Station</li> </ul>	<ul> <li>Point Details and Groups</li> </ul>	
	<ul> <li>Experion Faceplates</li> </ul>	<ul> <li>Additional ALTIUS Tools</li> </ul>	
	<ul> <li>Operating Displays</li> </ul>	<ul> <li>Experion Summary Displays</li> </ul>	
	<ul> <li>Process Alarms</li> </ul>	<ul> <li>Additional Station Functions</li> </ul>	
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.		

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## **LA-221 ALTIUS Engineering Training**

Course Overview	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.  The target audience for this class is the engineer charged with the overall implementation and maintenance of the ALTIUS Hi-Performance HMI Solution.  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.	
Duration	3 Days	
Delivery	Instructor Led	
Pre-requisites*		
Topic Outline	ALTIUS Installation ALTIUS Configuration Shapes\Custom Properties Scripts & Script Holders Context Menus ALTIUS Maintenance / Troubleshooting	
Delivery Cost / Options	<ol> <li>In-House (L&amp;A Office) - \$1800 Per Person, Minimum of 3 persons to hold class.</li> <li>On-Site - \$13,500, Maximum of 5 persons per class. All equipment (Experion Servers/Stations, and SimC300) to be supplied by client</li> </ol>	

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## LA-300 Honeywell C300 Controller Database Configuration – Application

Course Overview	Provides users that a basic understanding of Control Builder and C300 configuration with more detailed knowledge through 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. Exercises are based on solving control requirements detailed in process descriptions and P&ID diagrams.		
		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> <li>Experion Architecture review</li> <li>Using Control Builder/Quickbuilder</li> <li>Asset Model</li> <li>I/O Module Types</li> <li>Data Acquisition Blocks</li> <li>Utility Blocks(FLAGA, NUMERICA, etc)</li> <li>DEVCTLA Block</li> <li>LOGIC Blocks</li> <li>TYPECONVERTA Block</li> <li>MESSAGEA Block</li> <li>TIMERA Block</li> </ul>	<ul> <li>FIRSTOUT Block</li> <li>PIDA Block</li> <li>FANOUT Block</li> <li>PID/FF / PIDER Blocks</li> <li>RATIOBIAS Block</li> <li>AUTOMANA Block</li> <li>OVRDSELA Block</li> <li>RATIOCTL Block</li> <li>SWITCHA Block</li> <li>SIGNALSELA Block</li> <li>AUXSUMMERA Block</li> <li>AUXCALC Block</li> <li>PUSHA Block</li> <li>TOTALIZERA Block</li> </ul>	
Delivery Cost / Options	In-House (L&A Office) - \$3,000 Per Person, Minimum of 4 persons to hold class.      On-Site - \$27,000, Maximum of 6 persons per class. All equipment (Experion Servers/Stations, and SimC300) to be supplied by client.		

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# 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. The course covers AM point types, CL programing with parameter lists 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> <li>AM documentation</li> <li>Performance monitoring</li> <li>AM point types</li> <li>AM Reg Control points</li> <li>Supervisory control requirements – UCN specific</li> <li>AM/CL concepts and implementation         <ul> <li>Editing CL code</li> <li>Compiling and fixing errors</li> <li>Linking CL programs</li> <li>Checking run-time errors</li> </ul> </li> </ul>	<ul> <li>Custom Data Segments         <ul> <li>Creating, compiling, attaching to points</li> <li>Available variable types</li> <li>Parameter lists</li> </ul> </li> <li>CL Packages         <ul> <li>Concepts</li> <li>Benefits</li> <li>Use implications</li> </ul> </li> <li>CL implementation specific to Reg Control points, Custom points, and Switch points</li> <li>Background CL concepts</li> </ul>
Delivery Cost / Options	In-House (L&A Office) - \$3 persons to hold class.	,000 Per Person, Minimum of 4

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## LA-302 Honeywell C300 Sequential Control Module Implementation

Course Overview	Provides users that have an understanding of Honeywell's Control Builder and Control Modules with knowledge of Sequential Control Modules.	
	Content covers SCM concepts, Steps and Transitions, Branching, Looping, and Handlers. Generic SCMs and Recipe Control are touched on. SCM real-world considerations and guidelines are included.	
	All topics outlined below will be re-enforced with hands-on exercises using the in-house L&A training system.	
Duration	4.5 Days	-
Delivery	Instructor Led	
Pre-requisites*	Control Builder and Control Module knowledge	
Topic Outline	<ul> <li>Purpose of SCMs</li> </ul>	<ul> <li>Branching</li> </ul>
	<ul> <li>SCM vs. TDC3000 CL</li> </ul>	<ul><li>Looping</li></ul>
	<ul> <li>SCM Structure</li> </ul>	<ul> <li>Handlers</li> </ul>
	<ul> <li>Operating Modes</li> </ul>	<ul> <li>Generic SCMs</li> </ul>
	<ul> <li>Use of Support CM</li> </ul>	<ul> <li>Recipe Control Modules</li> </ul>
	<ul> <li>Step Details</li> </ul>	<ul> <li>Configuration</li> </ul>
	<ul> <li>Transition Details</li> </ul>	Recommendations
Delivery Cost / Options	In-House (L&A Office) - \$3,0 persons to hold class.	000 Per Person, Minimum of 4

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#### **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 - <a href="https://lin-and-associates-inc.square.site/">https://lin-and-associates-inc.square.site/</a> 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 <a href="mailto:info@linandassociates.com">info@linandassociates.com</a>.

#### LA-400 ALTIUS Basics Overview

Course Overview	functions of ALTIUS. They will station within SafeView just like	a base understanding of the features and ll be covered at a high level from a working e a typical operator environment. The target ers who need a basic understanding of
Duration	~1.5 hours (continued content engagement for following 1-2 weeks)	
Delivery	CBT – Cerego <u>www.cerego.com</u>	
Pre-requisites*	None	
Topic Outline	<ul> <li>Navigation Menu</li> </ul>	<ul> <li>Faceplate Enhancements</li> </ul>
	<ul> <li>Display Shapes</li> </ul>	<ul><li>Widgets</li></ul>
	<ul> <li>Dashboard Shapes</li> </ul>	<ul><li>Mini Trends</li></ul>
	<ul> <li>Show-Hide Toolbar</li> </ul>	<ul> <li>Trend Builder</li> </ul>
	<ul> <li>Operating Limits</li> </ul>	<ul> <li>Point Search</li> </ul>
	<ul><li>LimitWatch</li><li>LoopWatch</li></ul>	○ History Compare

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## LA-402 ALTIUS AGL Builder (Main Process Shapes)

Course Overview	Library component (CDA, Explanations of shape's custo	es within the ALTIUS Advanced Graphic TPS, SCADA, Fieldbus, Common). om properties, configuration options, and es. Details and examples included using
Duration	~4 hours (continued content engagement for following 1-2 weeks)	
Delivery	CBT – Cerego <u>www.cerego.com</u>	
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	Shapes <ul><li>Analog Indicators</li><li>Analog Controllers</li><li>Control Valves</li><li>Digital Valves</li><li>Digital Status</li><li>Digital Alarms</li></ul>	<ul><li>Rotating Equipment</li><li>Switches</li><li>Common</li><li>Miscellaneous</li></ul>

#### 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 <u>www.cerego.com</u>	
Pre-requisites*	LA-402	
Topic Outline	SIS Concept Overview SIS Common Features	
	SIS Shapes	
	<ul><li>Analog</li><li>Process</li></ul>	
	<ul> <li>Digital</li> <li>Design Element</li> </ul>	

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## 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 <u>www.cerego.com</u>	
Pre-requisites*	LA-401	
Topic Outline	ALTIUS Overview     Installation and Configuration     ALTIUS Displays     Shape Libraries Overview     Common Shape Functions     Display templates     Style Sheets     Script Holders     Right-click menus	Safeview configuration ALTIUS Tool Configuration Navigation Menu LoopWatch LimitWatch Widgets ALTIUS Maintenance 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 <u>www.cerego.com</u>
Pre-requisites*	Basic knowledge of Honeywell Experion Safeview and Alarm Groups
Topic Outline	Navigation Menu Overview     Navigation Menu Building
	Menu Editor Auxiliary Functions
	L&A Application Center Settings
	C Lan Application Center Settings

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# 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 <u>www.cerego.com</u>
Pre-requisites*	Knowledge of Experion EMDB and Alarm Groups
Topic Outline	Alarm Group Editor Basic Functions
	Create a new alarm group project
	Modify an existing alarm group project
	<ul> <li>Add a new alarm group to the project</li> </ul>
	<ul> <li>Add points to an existing alarm group</li> </ul>
	<ul> <li>Export alarm group project to Experion</li> </ul>

## **LA-450 ALTIUS Operations**

Course Overview	Provides ALTIUS users with a detailed understanding of the operation of the features and functions of ALTIUS. Operation will be covered from a working station within SafeView just like a typical operator environment using screen captures and videos. The target audience will be the endusers (operators).	
Duration	~4 hours (continued content engagement for following 1-2 weeks)	
Delivery	CBT – Cerego <u>www.cerego.com</u>	
Pre-requisites*	Basic knowledge of Experion Station functions	
Topic Outline	<ul> <li>Operations Overview</li> <li>Navigation Menu</li> <li>Display Shapes</li> <li>Dashboard Shapes</li> <li>Show-Hide Toolbar</li> <li>Operating Limits</li> <li>LimitWatch</li> <li>LoopWatch</li> </ul>	<ul> <li>Faceplate Enhancements</li> <li>Widgets</li> <li>Mini Trends</li> <li>Trend Builder</li> <li>Point Search</li> <li>History Compare</li> </ul>

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#### **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)

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