

# 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 - <u>https://lin-and-associates-inc.square.site/</u>

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 concepts servers, stations, and controlle displays and ALTIUS tools and f The target audience for this class overall planning and implementin ALTIUS system with an existing This class is a hybrid of LA-100	s is the engineer charged with the ng of a Honeywell Experion / L&A Honeywell TPS system. and LA-200 for those who need less s outlined below will be re-enforced
Delivery	Instructor Led	II TDS exerction and configuration
Pre-requisites*	working knowledge of Honeywe	II TPS – operation and configuration
Topic Outline	<ul> <li>Experion-LCN</li> <li>Implementation <ul> <li>Plan the System</li> <li>Understand FTE</li> <li>Enterprise Model</li> <li>Database</li> <li>Configure the Server</li> <li>Configure</li> <li>Consoles/Stations</li> <li>Integrate with the LCN (TPS)</li> <li>CDA and SCADA Point Configuration</li> <li>History, Group &amp; Trend Config.</li> <li>Distributed Server Architecture</li> <li>Alarm Settings/Tools</li> </ul> </li> </ul>	<ul> <li>HMIWeb Display Builder</li> <li>Objects &amp; grouping of objects</li> <li>Data References</li> <li>Style Sheets (CSS)</li> <li>Scripts</li> <li>Shapes/Custom Properties</li> <li>SafeView References</li> <li>CSS Integration</li> <li>ALTIUS Configuration</li> <li>Shapes</li> <li>Display Templates</li> <li>Scripts &amp; Script Holders</li> <li>Context Menus</li> <li>Navigation Menu</li> <li>LoopWatch</li> <li>LimitWatch</li> <li>Widgets</li> </ul>



Delivery Cost / Options	<ol> <li>In-House (L&amp;A Office) - \$3,000 Per Person, Minimum of 4 persons to hold class.</li> </ol>
	<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
Duration	using the in-house L&A training system. 5 Days
Delivery	Instructor Led
Pre-requisites*	Working knowledge of Honeywell Experion – operation and configuration
Topic Outline	HMIWeb Display BuilderALTIUS Configuration• Basics• Shapes\Custom Properties• Objects & grouping of objects• Scripts & Script Holders• Data References• Navigation Menu• Style Sheets (CSS)• LoopWatch• Shapes/Custom Properties• LimitWatch• Shapes/Custom Properties• Widgets
Delivery Cost / Options	<ol> <li>In-House (L&amp;A Office) - \$3,000 Per Person, Minimum of 4 persons to hold class.</li> <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>



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



#### 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 re- enforced 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	
	○ Digital	
	<ul> <li>Process</li> </ul>	
	<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.	
	2)On-Site - \$8,100, Maximum of 6 persons per class. All equipment (Experion Servers/Stations, and SimC300) to be supplied by client.	



#### LA-210 ALTIUS HMI Maintenance

Course Overview	detailed knowledge required and SIS displays and to upo Menus and their alarm groups The target audience for this cl creation and modification of di Graphics Libraries (AGL) and and alarm groups. Content is a combination of L Navigation Menu and associa *Following completion of the court	ass is the engineer charged with the isplays using the ALTIUS Advanced with updating the Navigation Menu A-201 and LA-202 along with detail on ted alarm group configuration. <i>rse access to LA-402, LA-403, LA-420, and</i>
	LA-430 CBT for continued review	and reference is included.
Duration	5 Days	
Delivery	Instructor Led	
Pre-requisites*	configuration, including alarr	neywell Experion – operation and m groups; experience with HMIWeb yle sheets and shapes with custom
Topic Outline	Process Shapes Analog Indicators Analog Controllers Control Valves Digital Valves Digital Status Digital Alarms Rotating Equipment Switches Common Miscellaneous SIS Concept Overview SIS Concept Overview SIS Common Features SIS Shapes Analog Digital Process Design Element	<ul> <li>Navigation Menu <ul> <li>Navigation Menu Overview</li> <li>Navigation Menu Building</li> <li>Menu Editor Auxiliary</li> <li>Functions</li> <li>L&amp;A Application Center</li> <li>Settings</li> </ul> </li> <li>Alarm Groups <ul> <li>Alarm Group Editor Basic</li> <li>Functions</li> <li>Create a new alarm group</li> <li>project</li> <li>Modify an existing alarm group</li> <li>project</li> <li>Add a new alarm group to the project</li> <li>Add points to an existing alarm group</li> <li>Export alarm group project to Experion</li> </ul> </li> </ul>
Delivery Cost / Options	persons to hold class. 2) On-Site - \$27,000, Maxin	\$3,000 Per Person, Minimum of 4 num of 6 persons per class. All rvers/Stations, and SimC300) to be
	supplied by client.	



### LA-220 ALTIUS Operator Training

Course Overview	Provides the user with an over Experion\ALTIUS HMI solution. The components and tools, including Navigation Menu, operating and system and widgets, alarm indication and operating limits/Qualitative View, and All topics reinforced with hands-on pre (Typically, part of an overall implement	The training covers all HMI station functions and layout, tem displays, use of faceplates handling, trend functionality, LoopWatch.	
Duration	1 or 2 Days (depending on the exter 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>	Station Trends	
	<ul> <li>Control using Station</li> </ul>	Point Details and Groups	
	• Experion Faceplates •	Additional ALTIUS Tools	
		Experion Summary Displays	
	• Process Alarms •	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 st	tation per person.	



## 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	
Delivery Cost / Options	<ol> <li>In-House (L&amp;A Office) - \$1800 Per Person, Minimum of 3 persons to hold class.</li> </ol>	
	<ol> <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>	



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

Course Overview	C300 configuration with mor application-based class. Content covers the use and ap used function blocks as empl strategies. Exercises are base detailed in process descriptions All topics outlined below will be	re-enforced with hands-on exercises
Duration	using the in-house L&A training 5 Days	system.
Delivery	Instructor Led	
Pre-requisites*		XP-2001; or familiarity with Honeywell
r ie-iequisites	C300 controller, Control Builder	
	Cool controller, Control Builder	
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>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	persons to hold class. 2) On-Site - \$27,000, Maximu	3,000 Per Person, Minimum of 4 um of 6 persons per class. All ers/Stations, and SimC300) to be



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

Course Overview	<ul> <li>Provides a detailed understanding of Application Module (AM) concepts, functions, and implementation with emphasis on Control Language (CL) and Custom Data Segments (CDS).</li> <li>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.</li> <li>All topics outlined below will be re-enforced with hands-on exercises using the in-house L&amp;A training system. The course manual contains numerous programming examples to supplement the learning content.</li> </ul>
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</li> <li>Editing CL code</li> <li>Compiling and fixing errors</li> <li>Linking CL programs</li> <li>Checking run-time errors</li> </ul>
Delivery Cost / Options	<ol> <li>In-House (L&amp;A Office) - \$3,000 Per Person, Minimum of 4 persons to hold class.</li> </ol>



## LA-302 Honeywell C300 Sequential Control Module Implementation

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



#### **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 \$600 USD. To purchase an access please visit the L&A Training Marketplace - <u>https://lin-and-associates-inc.square.site/</u> 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 <u>info@linandassociates.com</u>.

Course Overview	Provides ALTIUS users with a base understanding of the features and functions of ALTIUS. They will be covered at a high level from a working station within SafeView just like a typical operator environment. The target audience will be the end-users who need a basic understanding of ALTIUS.	
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> <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>

#### LA-400 ALTIUS Basics Overview



#### 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 <u>www.cereqo.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       • Rotating Equipment         • Analog Indicators       • Rotating Equipment         • Analog Controllers       • Switches         • Control Valves       • Common         • Digital Valves       • Miscellaneous         • Digital Status       • Digital Alarms	

#### 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 • Analog • Process • Digital • 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 <u>www.cerego.com</u>	
Pre-requisites*	LA-401	
Topic Outline	<ul> <li>ALTIUS Overview</li> <li>Installation and Configuration</li> <li>ALTIUS Displays</li> <li>Shape Libraries Overview</li> <li>Common Shape Functions</li> <li>Display templates</li> <li>Style Sheets</li> <li>Script Holders</li> <li>Right-click menus</li> </ul>	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	<ul> <li>Navigation Menu Overview</li> <li>Navigation Menu Building</li> <li>Menu Editor Auxiliary Functions</li> <li>L&amp;A Application Center Settings</li> </ul>	



## 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	<ul> <li>Alarm Group Editor Basic Functions</li> </ul>
	<ul> <li>Create a new alarm group project</li> </ul>
	<ul> <li>Modify an existing alarm group project</li> </ul>
	$_{\odot}$ Add a new alarm group to the project
	$_{\odot}$ Add points to an existing alarm group
	<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 end-users (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>



#### 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)