BAS UNIVERSITY
TRAINING CATALOG

An educated customer is a happy customer.
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ABOUT BAS UNIVERSITY

BAS University (BASU) is the training arm for Automated Logic, offering hands-on, task-based learning opportunities for both owner/operator and field office personnel alike. Located on the Automated Logic - WHQ campus in Kennesaw, GA, on-campus courses include a tour of the manufacturing floor and the opportunity to meet Automated Logic staff. Frequently, members of the Product Office, R&D, Sales, and Tech Support will sit in on a class, or simply join students for lunch to further our commitment to hearing the voice of the customer.

While there are many benefits to attending courses on the main campus in Kennesaw, GA, learning can take place in many shapes, forms, and locations. Choose from:

- **BAS University Headquarters, Kennesaw, GA** - learn from BASU factory instructors who have gone through a rigorous, multi-step qualification process before being permitted to instruct students. Instructor-led training through BASU-WHQ is CEU eligible*.

- **Factory Certified Gold Partners in Training** - learn from factory certified instructors who are vetted using the same process as BASU factory instructors, and their classrooms are required to meet the same standard as BASU-WHQ. These locations will be indicated by the “Gold” label and certifications are instructor/course specific.

- **Bronze or Silver Partners in Training** - learn from a wide range of individuals who have gone through our Best Practices in Training course, have seen the course presented, and are using material developed by BASU. These locations will be indicated by either a “Bronze” or “Silver” label.

- **Reading help files** - all Automated Logic product has comprehensive written documentation. Authorized Automated Logic dealerships can access this information from accounts.automatedlogic.com

- **Watching online video tutorials** - many of the proprietary product features have associated video tutorials, and more are being added to the BASU LMS (Learning Management System) regularly. Authorized Automated Logic dealerships have access to the BASU LMS by selecting the BAS University LMS link from the accounts website > Training > Home page.

We’re so excited you’re turning to BAS University for your training needs! We believe educated customers are happy customers, and we want happy customers! Consequently, we’re constantly working toward growing our curriculum so we can help you grow your business through a well-educated, satisfied customer. We offer plenty of courses for both the end user and field office personnel alike, with many more to come. We’re looking forward to sharing our knowledge with YOU!

The BAS University Staff
DIRECTIONS

Automated Logic - WHQ, Kennesaw, GA

To ALC-WHQ from Hartsfield-Jackson Int’l Airport (ATL):

Take I-85 Northbound to I-75 Northbound. On I-75, take exit 269, Barrett Parkway. Turn left onto Barrett Parkway, going under I-75. Go through 4 traffic lights (approx. 1 mile), turn right onto Roberts Blvd., immediately past Carl Black Buick, Pontiac, GMC Dealership. Our building will be the first on the right, which is at the corner of Roberts Blvd and Cobb Place Blvd.

Automated Logic
1150 Roberts Blvd.
Kennesaw, GA 30144

BASU Training entrance is at the rear of the building.

TRANSPORTATION

Automated Logic - WHQ, Kennesaw, GA

Attendees are responsible for their own transportation arrangements.

Air travel should be booked into Atlanta’s Hartsfield-Jackson International Airport. Ground transportation is recommended to be a rental car. All major rental car companies have outlets at the airport and require a major credit card, and most have a minimum age requirement for the rental agreement.

Share-ride shuttles to Kennesaw include:
- A&M Shuttle 770.955.4565
- Atlanta Airport Superior Shuttle 770.457.4794
- Galleria Direct 770.457.4794
- Greater Atlanta Shuttle 678.455.0020
- Perimeter Connections 404.761.0260

CONTACT US

Automated Logic - WHQ, Kennesaw, GA

For questions about BAS University, please email us at training@automatedlogic.com

Alternatively, you may call our Training Coordinator at 770-795-5188.
CERTIFICATION TRACKS

BAS UNIVERSITY TRAINING CATALOG 2017

OWNER/OPERATOR

The Owner/Operator certification track is for customers who would like to learn how to use the capabilities and features of the WebCTRL® system to effectively manage and maintain their facility, regardless of industry type or size. All courses are available a la carte (note, some do require prerequisites), but the most balanced, comprehensive training will come by following the certification track that most closely resembles your job description.

ASSOCIATE

Owner/Operator

The Owner/Operator Associate certification program is designed for owner/operators who are new to a WebCTRL system. Participants will be able to connect to a live WebCTRL system to interact, setup, and maintain their building, and walk away with an understanding of schedules, trends, alarms, and other fundamental WebCTRL features to maximize their building automation purchase.

Required Courses

- WebCTRL - Basic (WC-200)
- Owner/Operator Associate Annual Renewal (TBD optional)
The Owner/Operator Master certification program is designed for owner/operators who want more than the intermediate, working knowledge of a WebCTRL system and would like to enhance their skills with the entire WebCTRL application suite including the EIKON® tool, SiteBuilder and ViewBuilder. Certified Owner/Operator Masters will know how to add new or edit existing equipment and areas to their system while creating custom programs and graphics. Networking standards, as well as how to troubleshoot advanced networking issues on their WebCTRL system are also included.

Required Courses
- Owner/Operator Practitioner Certificate
- WebCTRL - Intermediate (WC-300)
- Field Tech - Operator (FTO-200)
- Owner/Operator Practitioner Annual Renewal (TBD optional)

The Owner/Operator Practitioner certification program is designed for owner/operators who want more than the basic, working knowledge of a WebCTRL system and would like to learn about its progressive features, such as advanced reporting, advanced security, alarm actions, and WebCTRL add-ons. Upon completion of courses in this certification track, students will be able to diagnose and troubleshoot their WebCTRL system using WebCTRL alarms, trends, reports, and live logic pages.

Required Courses
- Owner/Operator Associate Certificate
- WebCTRL - Intermediate (WC-300)
- Field Tech - Operator (FTO-200)
- Owner/Operator Practitioner Annual Renewal (TBD optional)
FIELD TECHNICIAN

The Field Technician certification track is for field office personnel, whether from an independent dealership or an Automated Logic branch, seeking skills to better prepare them for obstacles they may face in the field. Courses in this certification track will prepare field technicians and field engineers to confidently install, commission, troubleshoot, and edit WebCTRL systems so that contracts are more likely completed on time, on budget, and with a satisfied customer.

ASSOCIATE

The Field Technician Associate certification track is designed for field technicians who are new to a WebCTRL system and HVAC. When certified, a Certified Field Technician Associate will be able to diagnose, troubleshoot, and edit issues with programming, graphics, networks, and system architecture. Topics covered include all applications that make up a WebCTRL system.

Required Courses
- WebCTRL - Basic (WC-200)
- Field Technician - Basic (FT-200)
- EIKON - Basic (EIK-200)
- ViewBuilder - Basic (VB-200)
- Networking - Basic (NW-200)
- Commissioning - Intermediate (COMM-300)
- Field Technician Associate Annual Renewal (TBD)
The Field Technician Practitioner certification track is designed for field technicians who require the skills to create custom programming and graphics, add complete mechanical systems to the WebCTRL system, and troubleshoot common networking issues using sniffer tools such as Wireshark®. Many advanced theories, tips, and strategies are discussed in these courses, including WebCTRL add-ons, WebCTRL security, and database integrity. Along with commissioning, troubleshooting, and fine-tuning a WebCTRL system, a Certified Field Technician Practitioner will be proficient with the integration of BACnet®, Modbus®, N2, and LON devices.

The Field Technician Master certification track is designed for field technicians who need to understand the most complex features, options, and theories associated with the Automated Logic product or systems required to use the Automated Logic product. Topics included are advanced programming and graphics, design engineering, complex networks, robust databases, and custom add-ons for a WebCTRL system. Special guest speakers and subject matter experts will appear in many of these classes.
The Design Engineer certification track produces a design engineer with the proactive skills to foresee potential issues prior to turning a project over to the field technician. Sometimes known as “cradle to grave” engineering, a design engineer may see a project from creation, requested changes, and final as-builds throughout the entire lifespan of the contract. With emphasis on building a solid foundation with standards, design engineers can work together with field technicians to ultimately deliver a quality product within a scheduled timeframe and projected budget.

The Design Engineer Associate certification track was developed for design engineers who are new to a WebCTRL system and HVAC. The Certified Design Engineer Associate will be able to design basic IP and ARC156 networks utilizing standards that allow for future growth. Engineers will create complete system databases with SiteBuilder while producing programs and graphics for areas and equipment. Utilizing Automated Logic’s Engineering Design Suite, associates will become fluent in selecting hardware, standard naming and numbering structure, and creating control drawings.

**Required Courses**
- WebCTRL - Basic (WC-200)
- EIKON - Basic (EIK-200)
- ViewBuilder - Basic (VB-200)
- Networking - Basic (NET-200)
- Design Engineering - Basic (DE-200)
- Design Engineer Associate Annual Renewal (TBD)
The Design Engineer Practitioner certification track is designed for design engineers who require the skills to create custom programming and graphics, design complex WebCTRL systems, and create control drawings. Many advanced theories, tips, and strategies are discussed in these courses, including WebCTRL add-ons, WebCTRL security, and database integrity. Other topics included are common networking issues, SQL databases, and deciphering Wireshark. Certified Design Engineer Practitioners will also gain the knowledge of customizing the Engineering Design Suite using the Administration tool.

**Required Courses**

- Design Engineer Associate Certificate
- EIKON - Intermediate (EIK-300)
- ViewBuilder - Intermediate (VB-300)
- Networking - Intermediate (NET-300)
- Third Party Integration (TPI-300)
- Design Engineer Practitioner Annual Renewal (TBD)

The Design Engineer Master certification track is the final path for design engineers. Topics included are advanced programming and graphics, design engineering, robust databases, third party integration, and cost saving strategies. No feature, option, or theory is off limits at this point. Special guest speakers and subject matter experts will likely make an appearance in these classes.

**Required Courses**

- Design Engineer Practitioner Certificate
- Design Engineer Master Annual Renewal (TBD)
ANNUAL RENEWAL

The courses listed have been identified as required for certification at the time of publication and will be reviewed and updated annually at a minimum.

Equally important to becoming certified is the necessity to stay current, whether by learning something new or by simply refreshing skills you’ve already learned.

If there is no new content relevant to your certification track, simply log in to the Building Automation System University (BASU) Learning Management System (LMS) and take the corresponding online exam to extend your certification through the end of the following year. If there is new content, whether due to new product, previously untaught content, or new supporting technology, an annual renewal course or courses will be added to each certification track.

In most cases, annual renewal courses will be in the form of a What’s New video, which will include the factory certification exam. Passing the factory certified annual renewal exam will extend your certification to the end of the following year. These online courses and the corresponding exams will be available online through the BASU LMS.

In some cases, however, especially for more advanced training or training requiring hands-on hardware, an in-person, instructor-led course may be necessary.

Regardless of how content is delivered, continuing your education by regularly completing the annual renewal courses will ensure you aren’t missing out on new, and sometimes powerful features of your building automation purchase, nor are you missing out on advances in supporting technology that could vastly change how you do business.

COURSE NAMES

Understanding the Course Listing section

Courses offered by BASU follow the below naming convention. In this example, this is a Basic (level 200 difficulty) EIKON course taught using EIKON v6.0.

The product version number will only be used when referencing a specific instance of a course. For example, EIK200 will be listed in the certification tracks, but would reference EIK-206.0 when the student takes the course.
# TRAINING FORMATS

## TRAINING FORMATS AVAILABLE

### BAS University

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## INSTRUCTOR LED

| Format  | Class | Classroom In-house | whether you visit BASU-WHQ in Kennesaw, GA, or visit another of our Gold Partners in Training locations, a live instructor will lead up to 12 students (course dependent) in task-based, hands-on exercises with minimal lecture in between. Using the situat-ed learning techniques of the Kirkpatrick Model, BASU Factory and Factory Certified Gold Partners in Training instructors behave as a “guide by your side” vs. a “sage on the stage.” This methodology fosters a collaborative learning environment where learners are not only successful in the classroom, but are positioned to maximize knowledge retention. |
|---------|-------|-------------------|
|         |       | Classroom On-site | exactly the same setup as the classroom in-house training, this option brings the classroom to you. Please see the On-site Training section of this catalog for pricing and details. |
|         |       | One-on-one Coaching | courses taught in this manner pair one student with one Factory or Factory Certified Gold Partners in Training instructor using remote access software. This connection allows the learner to take control of the instructor’s workstation from the convenience of their home or office, giving them an individualized virtual classroom experience from many miles or time zones away. |

## SELF-PACED

| Format  | Self-paced | Self-pace video tutorials | another distance learning option for some courses, the self-paced video tutorials allow the learner to watch and re-watch videos at their own pace. This option is a good option for those who would like a refresher on what they’ve learned elsewhere, or as a prerequisite to another course. Not recommended as the only means of learning something new. |

## HYBRID

| Format  | Virtual | Virtual Classroom | another distance learning option for some courses, the virtual classroom allows the learner to take up to 14 days to complete the instructor-led classroom equivalent of a 1-3 day course. Using video tutorials as the on-demand instructor, learners will execute the workbook tasks and upload assignments using the BASU LMS, asking questions through the discussion board where a dedicated Factory or Factory Certified instructor will facilitate. |
Best Practices in Training

This course is for learners looking to instruct Automated Logic’s factory certified 200 level courses and is a necessary step to participate in our Partners in Training program. The course includes situated learning techniques as supported by the four levels of the Kirkpatrick Model, as well as, learning professional presentation skills and techniques proven effective for adult education. *Course restricted to Automated Logic field office personnel; approval by BAS University required.*

Commissioning - Intermediate

This course is designed to challenge the field technician with all aspects of a WebCTRL system. Upon completion of this course, the learner will be able to install and commission a WebCTRL system, provide functional testing of a control program, and apply the most advanced techniques of troubleshooting. The learner will also be responsible for turning in complete check out reports, installing add-ons, and correcting an entire system of common errors, including some obscure "gotchas", using all the skills the learner acquired in WebCTRL, Eikon, ViewBuilder, SiteBuilder, and EquipmentBuilder.

EDS (Engineering Design Suite)

The Microsoft Visio® EDS add-on is a tool that allows you to streamline engineering tasks and the submittal process to make drawings for installing and commissioning, create project reports, and control your revisions. The add-on includes built-in components with data sheets, engineering calculators and conversions, Cv calculations for water and steam, a building riser manager, a valve schedule creator, and a searchable library in which you can add items. Data can be output to Microsoft Excel® in standalone spreadsheets or embedded in the Visio® EDS drawings. It provides automated creation of sequence of operation and your final drawing package.
EIKON - Basic

Learn the basics of EIKON programming. Learners who successfully complete this course will be able to identify the different types of microblocks, read a sequence of operations and translate to a program, simulate a program to find errors, and define microblock properties.

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<td>EIK-200</td>
<td>2 DAYS</td>
<td>CLASSROOM, VIRTUAL, ONSITE</td>
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EIKON - Intermediate

Whether a Field Technician or Design Engineer, learners will expand on knowledge from the EIKON - Basic course to learn how to create complex control programs and logic symbols. The learners will be able to identify programming as it is implemented within a complete system. The learners will also be able to utilize naming standards to create a library for quickly placing previously developed logic into new systems, thus making programming more efficient. Building a properties page, simulating a control program, major customization to EquipmentBuilder programs are among several other intermediate EIKON features offered in this course.

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<td>EIK-300</td>
<td>3 DAYS</td>
<td>CLASSROOM, ONSITE</td>
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Field Tech - Basic

There are many different skill sets in the life of a field technician - engineering, IT infrastructure, technical support, and computer programming to name a few. Field Tech - Basic training will prepare field technicians to confidently install, commission, troubleshoot, and edit a WebCTRL system utilizing EIKON, SiteBuilder, ViewBuilder, and WebCTRL. Tech - Basic training will prepare field technicians to confidently install, commission, troubleshoot, and edit a WebCTRL system utilizing EIKON, SiteBuilder, ViewBuilder, and WebCTRL.

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<tr>
<td>FT-200</td>
<td>2 DAYS</td>
<td>CLASSROOM, ONSITE</td>
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Field Tech Operator

Designed for WebCTRL system owners/operators, this course covers many of the same skills and techniques taught in the Automated Logic Field Technician Basic course, such as installing, basic commissioning, and troubleshooting a WebCTRL system. Upon successful completion of the course, learners will be able to apply these skills, as well as, edit a WebCTRL system utilizing EIKON, SiteBuilder, ViewBuilder, and WebCTRL.

HVAC Advanced for DDC for Technicians

Taught by Tempcon, Inc., this course is designed for DDC technicians with some experience in HVAC systems who need to enhance their understanding of the more complex, “built-up” HVAC systems and control strategies. This course will expand beyond the 2-year technical school HVAC course, so that learners may gain an excellent working knowledge of advanced HVAC and DDC control systems.

HVAC/DDC for non-technicians

Taught by Tempcon, Inc., this course is designed for non-technicians with basic knowledge of HVAC systems who need to enhance their understanding of the more complex HVAC systems and processes. Learners who successfully complete this course will be able to gain an excellent working knowledge of the processes, terminology, and systems found in more sophisticated institutional HVAC systems.
Networking - Basic
This course covers setup and troubleshooting techniques affiliated with basic Automated Logic networks. In addition, learners will build source trees, define and identify the fundamentals of IP, ARC156, and MS/TP networks, and how these concepts allow devices to communicate. Learners will also learn the basics of Wireshark captures, clippings, and BACnet Discovery. Upon successful completion of this course, learners will be able to properly setup and troubleshoot basic Automated Logic networks, including the use of Wireshark captures to capture IP traffic at the server, IP and ARC156 traffic at devices.

Networking—Intermediate
As part of successful course completion, learners will set up complex ALC networks, troubleshoot networks, and create a secure WebCTRL site. Learners will focus on troubleshooting a WebCTRL system by reading a Wireshark capture. This course is designed for individuals who need to design complex network systems as well as troubleshoot networks with Wireshark.

OEM Technician Training
This course is part of an initiative to increase service opportunities working directly with OEM manufacturers. Upon successful completion of this course, learners will be able to directly connect to OEM control modules for configuring standalone applications using Apploader and Virtual BACview. Learners will also be able to identify the levels of permission keys, which provide access to the programming and graphics for seamless native integration to an Automated Logic system.
Third Party Integration
Automated Logic has a large library of drivers to talk to the majority of today’s vendor protocols. The intermediate level course will cover third party integration fundamentals, procedures and configuration for the more commonly used third party vendor protocols, such as BACnet and Modbus. The learner will also utilize troubleshooting protocol diagnostic tools (Wireshark, DLCap, SeriCap, and NodeUtil) in order to troubleshoot common integration roadblocks. Upon successful completion of the course, the learner will be able to integrate and troubleshoot the Automated Logic product with third party devices that communicate the BACnet, Modbus, N2, and LonWorks protocols.

ViewBuilder—Basic
This course introduces Automated Logic-supplied area and equipment graphics. A complete ViewBuilder overview is covered, as well as, its tools, controls, images, and available symbols. Custom topics include the use of conditional expressions and programming floorplans. The learner will be able to successfully develop basic ViewBuilder graphics and provide common editing techniques to existing equipment and area graphics.

ViewBuilder—Intermediate
This course allows learners to create equipment graphics from a schematic drawing and technician pages. As an example, learners will be tasked to create one graphic for different types of similar equipment with the idea of creating a master graphic for all VAVs to shorten engineering time. In addition, learners will create a standard template for their company. Upon successful completion of this course, learners will be able to identify, define, and/or apply advanced conditional expressions, WebCTRL paths for system/equipment linking, complete customization of equipment graphics including HTML control, external links, document links, email links, and custom images and symbols for WebCTRL graphics.
WebCTRL—Basic

This course is a great place to start your WebCTRL journey! If you have little or no experience with the Automated Logic WebCTRL system or you’ve never attended a BASU course, this course is for you. From this course, you will be able to work with the WebCTRL user interface, create operators and privileges, develop schedules, troubleshoot with alarms and trends, and document with WebCTRL’s report features. Higher end topics are also included.

WebCTRL—Intermediate

This course covers more advanced features and scenarios associated with the WebCTRL product. Troubleshooting is heavily covered in this course with an emphasis on reading logic pages and using Automated Logic-supported add-on features to enhance the users’ experience. Upon successful completion of this course, the learner will be to configure and deploy complex options, such as advanced alarming, creating custom trends, location dependent security privileges, and setting up operators and privileges with groups.

WebCTRL Simulator Sales Tutorials

Created especially for field office sales personnel, the Sales Simulator video tutorial series will prepare sales professionals to conduct a demo using the Sales Simulator software. The focus of this training, approximately one hour and a half in length, is how to effectively conduct a WebCTRL demo using the WebCTRL Simulator.  
Course restricted to Automated Logic field office personnel; approval by BAS University required.
What’s New!

Are you current with the latest features? Automated Logic technicians and engineers that want to stay on top of the enhancements to the complete WebCTRL suite will enjoy seeing improvements to WebCTRL, Eikon, SiteBuilder, ViewBuilder, and other tools. Learners should plan to participate in this course with every new product release. Typical duration is less than one hour.

What’s New! Owner/Operator

Presented from the perspective of what’s typically important to a WebCTRL system owner/operator, this video tutorial will demonstrate what’s new since the previous release. Topics can include anything from changed features to new ones and is a great way to keep owner/operators informed with new product releases. Learners should plan to participate in this course with every new product release. Typical duration is less than one hour.

Wireless Sensors

In this short video tutorial series, learners will be presented with the different types of wireless sensors in the WS product line as well as be shown how to install and configure a variety of these sensors. Additionally, this course will review how to create control programs and graphics for these sensors using EIKON and ViewBuilder respectively. SensorBuilder® and SensorScan® will also be presented.