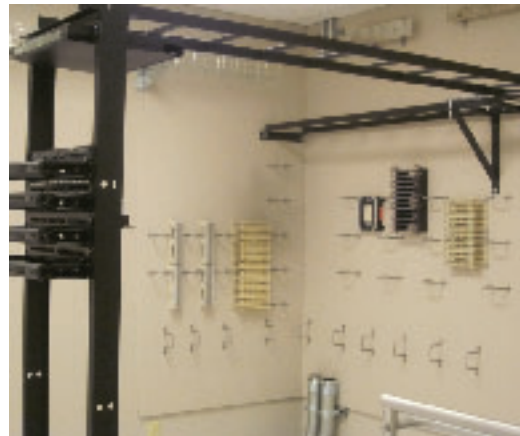




## **BICSI Lab** at Dayton Electrical Training Center

The Building Industry Consulting Service International (BICSI) is a professional association supporting the information technology systems (ITS) industry. ITS covers the spectrum of voice, data, electronic safety and security, project management, and audio and video technologies. It encompasses the design, project management, and installation of pathways, spaces, optical fiber- and copper-based distribution systems, wireless-based systems and infrastructure that supports the transportation of information and associated signaling between and among communications and information gathering devices.

BICSI certifications are considered the de facto certification for cable installers and designers. BICSI



*One section of a work station being installed in the BICSI lab for training certification.*

established its credential programs to provide a level of assurance to the industry and to consumers that an

individual has knowledge in a designated area of ITS design or installation. Candidates for BICSI credentials are required

to show industry experience and pass rigorous exams. Those who pass must adhere to strict standards of conduct and keep their knowledge current through continuing education.

With the opening of the new BICSI lab in Dayton, apprentices will no longer need to travel to another site to test

for certification. In addition, all apprentices in the Installer Technician program will now be able to graduate with certifications for: ITS Installer 1; ITS Installer 2 Copper; and ITS Installer 2 Optical Fiber. Certifications must be renewed every three years. After an Installer Technician Journeyman has completed three years of on-the-job experience, they qualify to test for ITS Technician.

The BICSI lab will house two complete work stations. BICSI is particularly excited about the new lab in Dayton because it was built with four wiring methods: under the floor, in the wall, above the ceiling and with cable trays. So the apprentices will have an

*Cont'd pg.2*

## **Blended learning** *for Apprentices*

Online learning has become a great asset to our educational system. The Internet provides an additional layer of instruction which can be individualized to help meet one's educational goals. Blended learning is blending several methods of instructional design together to obtain the maximum amount of learning and training including classroom hours (face-to-face time) with online homework and immersive activities. Beginning in 2014, first year electrical apprentices

will begin using blended learning incorporating Learning Management System (LMS) software to enhance their training.

The International Brotherhood of Electrical Workers (IBEW) and the National Joint Apprenticeship Training Committee (NJATC) for the electrical industry have offered online classes to Journeymen for several years. These Continuing Education Training (CET) courses include Electrical Safety Simulations, Photovoltaic Systems, Test Instruments,

Electrical Systems and Transformer Principles and Applications. Expanding offerings to include apprenticeship training is the next step. According to NJATC Executive Director Michael Callanan, "Alertness to technology is part of the day-to-day lives of our apprentices. Blended learning helps us to recognize where tomorrow's student is today. And it enables us to use technology to speak their language through 3D simulation and animation."

One of the key factors of the LMS is the assessment

reports available to the instructor. In the past, the instructor had to review all the written homework of the apprentices and this was very time consuming during class. The online LMS system provides all the individual homework scores along with classroom averages. This allows the instructor to analyze how well each student completed the assigned homework prior to class time. The assessment reports also measure how well the entire class completed the homework as a group. Consequently, these reports allow the

*Cont'd pg.3*

## BICSI *cont'd.*

opportunity to learn hands-on how to run cable utilizing all four methods. (Most labs only provide training in two or three methods).

BICSI has established strict guidelines for operating a lab. There are six pages of listed inventory that must be maintained in the facility including racks, cables, and tools (personal kits and community tools). Photos must be submitted to BICSI of every stage of construction and a final video of the entire lab is required prior to certification.

This lab would not be a reality without the hard work of JATC Training Director Dick Brooks and VP Chapel-Romanoff Technologies Dennis Severance. Working with the many vendors that support the apprenticeship program, the majority of materials were donated.

Sponsors include: Structured Innovations, Belden, Panduit, Klein Tools, Leviton, Hubbell, and Mohawk. According to Dennis Severance, "The

materials donated by these vendors are invaluable. We appreciate their commitment and support."



An extensive inventory is required to meet BICSI standards.

Hundreds of volunteer hours were contributed to construct the lab. Dan Flohre and Jeff Runyon have devoted



Tools and kits donated by Klein Tools.

their time and are also now both trained as instructors. Kenny Smith volunteered as well and will soon receive instructor training.

A big thanks goes to Mike Evans and Ben Dehart for their assistance in building the structure of the lab.

There are 100 BICSI labs and of those, 75 are IBEW/NECA/NJATC facilities.

As the leaders in the electrical industry, these organizations are instrumental in setting the standards, not just for the NFPA 70 National Electrical Code, but for BICSI as well.

The lab is scheduled for completion in January, 2014 and brings a state-of-the-art ITS training center to the Dayton area. For more information, please visit [www.daytonohiojatc.org](http://www.daytonohiojatc.org).

## What is BICSI?

*The Building Industry Consulting Service International (BICSI) provides information, education and knowledge assessment for individuals and companies in the ITS industry. They serve more than 23,000 ITS professionals including designers, installers, and technicians. These individuals provide the fundamental infrastructure for telecommunications; audio/video/life safety; and automation systems. Through courses, conferences, publications and professional registration programs, BICSI staff and volunteers assist ITS professionals in delivering critical products and services, and offer opportunities for continual improvement and enhance professional stature. BICSI membership spans nearly 100 countries.*

## What is an *Installer Technician?*

The electrical apprenticeship programs offer training in several fields: Inside Wireman, Outside Lineman, Residential Wireman, and



October, 2013

Your comments, suggestions and questions are welcome! Contact the Western Ohio Chapter - NECA.

e-mail: [wocneca@choiceonemail.com](mailto:wocneca@choiceonemail.com)  
website: [www.wocneca.org](http://www.wocneca.org)  
phone: 937-299-0384  
fax: 937-299-7322

Installer Technician. While the Inside Wireman is installing the conduit and power feeders on a project, the Installer Technician is working alongside, installing the network of low voltage cabling that is used for video, voice and data, or other low voltage signaling.

Installer Technicians work on a variety of systems:

- Entertainment (audio, video, multimedia and home and corporate theater)
- Communications (telephone, fax, modem, internet, local area networks, paging, intercoms, and public address systems)
- Life safety (access control, burglar and fire alarms, video surveillance, and nurse call)
- Control of indoor, outdoor and specialty lighting



- Control of heating, ventilation, and air conditioning (HVAC) and energy management
- Other forms of home and building security, control and automation.

The Installer Technician apprenticeship is a three-year training program that requires a minimum of 4800 hours on-the-job training with the supervision of a Journeyman. While in the training program, apprentices are also required to attend 480 hours of classroom related instruction.



## Blended learning *cont'd.*

instructor to tailor an evening's class prior to class time. Since the LMS will also provide visual media to reinforce the textbook, it is likely that less classroom time will be needed to cover homework; therefore, allowing more time to deliver electrical instruction and increased time in hands-on labs and other training activities.

Courses in the new blended learning concept were offered at the 24<sup>th</sup> Annual National Training Institute, July 27-August 2, 2013 at the University of Michigan in Ann Arbor. This new two-tiered approach to the training of IBEW apprentices includes online tests, workbooks, flash-based animations, simulations and more. The program relies on Internet technology to bring students and instructors together across long distances; helping them to learn at their own pace; and helping the instructor target lessons to get the maximum benefit out of class time.

Here's what blending learning brings to the education of the apprentices:

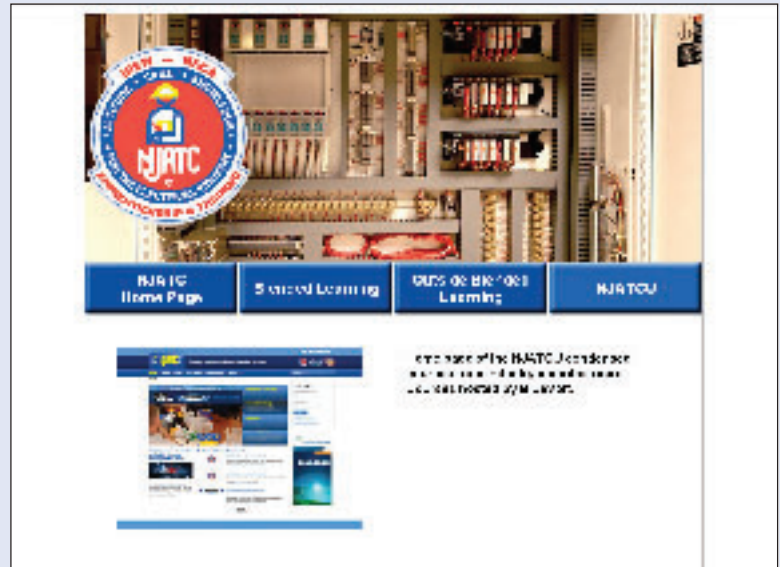
- Online discussions
- Online labs
- Easy access to reference materials
- Dynamic simulations (utilization of online simulators where expensive equipment is not available)
- Virtual safety scenarios
- Real-world scenarios
- Course access at one's convenience
- Reduction of physical class or space needs; commuting; parking
- Instant assessment feedback
- Reduction of homework review time in classes
- Flexibility for instructors to tailor classes according to their students needs.

As with any software product, there are multiple LMS software programs available. The wide variety of

available LMS programs are based on several factors such as: Open Source Programming; Proprietary; Licensing (annual or per user); Hosted vs. Owned; Business Orientation; etc. The NJATC selected the Moodle Learning Management System for its ease of

This will allow the NJATC to customize the software for the Training Center staff, instructors, and end-users.

Today most apprentices are computer savvy and are already using the Internet as an educational tool. They own smart phones, computers, and



The NJATC home page links directly to the Blended Learning training modules.

customization functions. Moodle's open-source programming structure is paramount for the NJATC Blended Learning approach.

use Facebook and Twitter to communicate. It's time to bring the latest technology to the table!

## Continuing education at NTI

The National Joint Apprenticeship and Training Committee's (NJATC) National Training Institute (NTI) is an annual event that offers a variety of educational training opportunities to meet the rapidly changing demands of the electrical industry. This year's NTI took place July 27-August 2 at the University of Michigan in Ann Arbor, Michigan. This is the largest electrical training seminar in North America. Nearly 2,000 electrical workers attend to learn about new industry trends, to see new products,

and to attend in-depth training seminars. Instructors are professional educators from the NJATC, and other colleges and universities throughout the United States. NTI is also home to one of the largest



electrical trades shows in the construction industry.

NTI is divided into several different functions, all taking place simultaneously. Professional Education Classes; Technical Training Classes; Outstanding Apprentice Graduate Program; a special series of seminars for JATC members, training directors, business managers, and electrical contractors; and a special series of seminars for the Outside Industry. The new Blended Learning concepts and LMS programs were included in training courses at NTI for JATC instructors. The

online classes are currently in beta testing. The program will be fully implemented for first year apprentices in the fall of 2014.

The NJATC was created in 1941 and has developed into what perhaps is the largest apprenticeship and training program of its kind. Over 350,000 apprentices have been trained to Journeyman status. This is truly a model program with no cost to taxpayers while training some of the most productive workers in the world. Skill, knowledge and attitude are the main focus in all the NJATC's training programs.



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  - Installer Technician



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**IBEW / NECA / LMCC Golf Outing**

This year the IBEW/NECA/LMCC Golf Outing was proud to sponsor The First Tee Greater Miami Valley. Over \$3,000 was raised!



*Executive Director Brian Parkhurst of The First Tee Greater Miami Valley.*



**WINNERS!** (from left) Jeremy Faulkner, Nick Simpson, Lee Olinger and David Yox all with CRT. Congratulations!

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