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**IMPORTANT INFORMATION  
FOR THE 2009 NTI!!**

**Register on-line at <http://register.njatc.org>**

**Plus you can track NTI Technical  
Course enrollment at [www.nti.njatc.org](http://www.nti.njatc.org)**

## 2009 National Training Institute

The National Joint Apprenticeship and Training Committee's National Training Institute (NTI), an annual week of training, offers a variety of educational and training opportunities to meet the rapidly changing demands of the electrical industry. The NTI is divided into several different functions, all taking place simultaneously: Professional Education Classes ("I Group"), Technical Training Classes ("T Group"), Outstanding Apprentice Graduate Program ("A Group"), a special series of seminars for JATC Members and Training Directors ("C Group" and "SC Group"), and a special series of seminars for Electrical Contractors ("EC Group") that take place throughout the week at different locations on the campus of the University of Michigan. Please join us for the 20<sup>th</sup> Annual National Training Institute August 1-7, 2009.

New to NTI for 2009:

- ***NJATC and the University of Michigan announce relocation of the National Training Institute***

The National Joint Apprenticeship and Training Committee for the Electrical Industry (NJATC), co-sponsored by the National Electrical Contractors Association (NECA) and the International Brotherhood of Electrical Workers (IBEW), and the University of Michigan (U-M) jointly announced today that the NJATC's annual National Training Institute (NTI) is moving to the University of Michigan's main campus in Ann Arbor, Michigan in 2009. NTI has grown into the most comprehensive training program in the electrical construction industry. Serving all sectors of the electrical construction market, NTI offers hands-on state-of-the-art technical training, advanced educational theories and practices for the classroom, and cutting-edge workshops and seminars for Apprenticeship Committee members and NECA contractors. NTI was jointly established in 1990 by the NJATC and the University of Tennessee. The U-M will proudly host the NTI for the first time July 31 – Aug. 7, 2009. This will be the NTI's 20th anniversary, marking a true milestone in training for the organized electrical construction industry. Joining the U-M in this effort will be the Ann Arbor Convention & Visitors Bureau, as well as numerous merchants and service providers from the Ann Arbor area. The NJATC expects total participation in the 2009 NTI to be well in excess of 2,000 industry representatives. It is estimated that this will annually produce \$4.5 to 5 million in new revenue for the economy of Ann Arbor. In selecting a new home for the NTI, of major concern was the commitment to and support of organized labor. The U-M currently employs IBEW members fulltime in the electrical division of its maintenance department. Additionally, the University retains the services of NECA contractors employing IBEW members to complete all of its electrical construction projects. IBEW President, Edwin D. Hill, NECA CEO, John M. Grau, and U-M President, Mary Sue Coleman are delighted to announce this new tripartite alliance dedicated to the training and betterment of all members of the NECA/IBEW electrical construction family.

- ***NJATC and NECA Announce Continuation of the "EC Group" at NTI***

The NJATC and NECA are proud to announce that at this year's NTI, "EC Group" (Electrical Contractor) will continue to be offered. The "EC Group" is a separate NTI group designed especially for electrical contractors and their key personnel. The special group will be offered classes and presentations that deal specifically with business development opportunities in the electrical industry. Many of the presentations and course offerings will be offered by the award-winning NJATC Training Partners.

According to NJATC Executive Director Michael Callanan, this joint effort between the NJATC and NECA addresses a critical void that has been overlooked for too long. "For years we focused exclusively on technical training," says Callanan. "The EC Group will enable us to present business development issues, along with the technical training. NJATC Training Partners will continue to offer the necessary technical training classes for our industry's trainers but will also provide additional presentations designed specifically for our NECA contractors and their staff." The NJATC will work with NECA National and the Management Education Institute to prepare a meeting agenda that is guaranteed to address significant business development opportunities for our contractors.

Registration information and a more detailed list of the "EC Group" presentations and agenda will be mailed to all NECA contractors will be forthcoming. **Contractors should use the NJATC site to register for this group.** Please mark your calendar and plan to be in attendance at the 20th Annual NTI.

## How to Register... ON-LINE

This year, the NJATC is proud to continue to provide an easier way to register for the National Training Institute. We have created an on-line registration system that will allow instant registration in an easy fashion. The following instructions are here to provide an overview of this system. If you have any questions about using this system, please contact Tim Strickland or Melissa Parsly directly at 865-380-9044.

On-line registration is divided into two roles: a “Sponsor” and a “Student”. A Sponsor is the Training Director, or Administrator that is approving and paying for a registration. A Student is the individual attending the Institute. A Sponsor may also attend the Institute by submitting a registration as well.

Due to the nature of registration, it is required that a Sponsor be the primary contact for the NJATC. We have set the Registration System up so that a Sponsor must log on and manage their Students. The Sponsor adds each student they wish to send to the Institute to the Registration System. Once a Student has been added to a Sponsor’s record, either the Sponsor or the Student can go through the Registration Process.

Once a Student has been registered, either by the Student or by the Sponsor, they must then be approved by the Sponsor. After each student has been approved, the Sponsor may then pay for the registration. Options for payment online are via Credit Card or if you have an account with the NJATC, you may choose NET 30 Terms.

### **Sponsor**

If you registered for NTI last year, please use the same username and password. Open your internet browser and go to <http://register.njatc.org>. There, you will be presented with options. Please select NTI Registration. This will take you to a logon screen to enter your username and password.

You will be taken to the Sponsor Management Console. This is where you will Add, Edit, Register, Approve, and Pay for each Student. At first you will see a table with a Participant Table. You are not listed here until you register. To do so click the link to the right that reads “You are not registered: Register Yourself.”

Then you can add additional Students or click Register by the Student already listed. You will need their First Name, Last Name and Gender. Simply click the “Add New” button on the bottom right of the table and fill in at least the required information and submit. Once all of the Students have been added to the console, you may either register each Student yourself, or give the username and password generated for each Student to that individual so that they may register themselves. If you choose to register them, simply click the “Register” button next to a Student to begin the process. (See Student Section for detailed instructions on the registration process.)

After a Student has registered, you will be notified by email to approve the registration. You may click the “Approve” button to see all of the registration information for that Student. At the bottom of the screen is a “Yes” or “No” button to approve the registration. Please note that once a registration is approved it cannot be modified. A registration must be approved to be paid. If you want to change a class or housing for a participant, please contact the NJATC.

Finally, after you have approved all of the Students in the console or at any point you decide to pay for some of the Students, add a check into the selection box for each Student to be paid. Now select the “Pay” button on the bottom left of the console. You will be given a summary of everyone’s registration cost and given the two options to pay.

After all Students have been paid, your registration is complete.

### **Student**

As a student you must have a Sponsor create your username and password prior to attempting to register. Once your Sponsor has provided this information, open your internet browser and go to <http://register.njatc.org> to register. After you have submitted your registration, you may login at any time to see the status and to get a summary of your registration.

### **Registration Steps:**

1. Logon at <http://register.njatc.org>
2. Completely enter your Personal Information
3. Teaching Experience
4. Years you have attended NTI
5. Select any Current Titles (click next)
6. Choose the desired GROUP from the dropdown list

### **GROUPS**

“**I Group**” is for those participants registering for instructor training. There are four years of instructor training groups. If you are an instructor and have never attended the National Training Institute or have no professional education experience, you **MUST** register as a 1<sup>st</sup> Year “I Group” participant. All other “I Groups” are taken in consecutive order. For example, 1<sup>st</sup> & 2<sup>nd</sup> Year “I Group” is the prerequisite for 3<sup>rd</sup> Year “I Group”. There is an advanced professional education course which is also considered a part of “I Group”. This course may only be taken one time and is available to any NTI participant who has completed all four years of the Instructor Training Program. Course 52 is recommended for NTI Graduates. Course 52 will be offered in the morning only.

*3<sup>rd</sup> Year, 4<sup>th</sup> Year and Advanced Standing “I Group” participants will need to register for one (1) 100 Level Technical Course.*

**“T Group”** is for those participants who will be taking technical training courses ONLY. There are many different technical courses offered at NTI. You can select two (2) 100 Level (half day) Courses OR one (1) 200 Level (all day) Course for the standard NTI registration fee. Any participant can register for 300 Level Technical Courses which are offered before NTI and do not interfere with other training classes. **There will be an additional fee for the 300 Level courses.** You will find a comprehensive description of all technical training opportunities beginning on page 17.

**“C Group”** is for JATC Committee Members, Local Union and Chapter Officers, and all Training Directors. The format for “C Group” is a combination of general session presentations and small group breakout sessions where you choose your own area of interest. This year’s “C Group” program should be the most comprehensive meeting of apprenticeship and training matters ever offered. Every JATC should be represented by management and labor and no Training Director should miss NTI - particularly the “C Group” sessions.

\* **SPECIAL NOTE:** Committee Members or Training Directors who want to attend some “C Group” sessions and a 100 Level Technical Course may do so. To do so you must register as a “C Group” participant. In the Housing Drop-down Menu you will pick your housing selection that included a 100 Level Technical Session. By choosing this option, you WILL miss some “C Group” presentations. You will be required to add \$175.00 to your “C Group” fee in order to register for a Technical Course.

**“SC Group”** is an abbreviated part of “C Group”. “SC Group” participants can attend the Trade Show and the Welcome Reception on Sunday and “C Group” sessions on Monday and Tuesday. As another option “SC Group” participants can attend sessions on Thursday and Friday and attend the Thursday night Graduation Ceremony and the Dinner and Concert which follow. “SC Group” is intended for those individuals who cannot attend the entire week of NTI, but still recognize the importance of the “C Group” seminars and sessions.

**“EC Group”** is two and a half days of presentations and seminars. The NJATC and NECA are working collaboratively on the “EC Group” (Electrical Contractor). The “EC Group” is a separate NTI group designed especially for electrical contractors and their key personnel. The special group will be offered classes and presentations that deal specifically with business development opportunities in the electrical industry. Some of the presentations and course offerings will be offered by award-winning NJATC Training Partners. “EC Group” participants can attend the Trade Show and attend the Welcome Reception on Sunday. “EC Group” sessions will be Sunday afternoon and all day Monday and Tuesday. **Registration for this group is done through the NJATC’s website (<http://register.njatc.org>).**

**“A Group”** is a program for Outstanding Apprentice Graduates. This is an opportunity for JATCs to send their Outstanding Apprentice Graduates to the NTI as a reward for their exceptional work. “A Group” will gain exposure to new technologies of the trade. There will be several times throughout the week that the “A Group” will be recognized for their accomplishments. The format for the “A Group” is a morning session exclusively for this group and then an afternoon special technical training session chosen by the NJATC.

## 7. Choose a Housing Option from the dropdown list

Determine if you will be registering as an ON-CAMPUS participant or an OFF-CAMPUS participant. If you are registering as an **ON-CAMPUS** participant you will be given the choice of Mosher-Jordan Residence Hall or the Cambridge House.

### **ON-CAMPUS Housing at University of Michigan**

#### **Mosher-Jordan Dormitory**

Mosher-Jordan Hall will be one location for On-Campus housing during the National Training Institute. Mo-Jo went through a full renovation before students arrived for the Fall 2008 semester. This beautiful facility can accommodate up to 425 occupants. There will be 2 participants per dorm room. **This is not an apartment dorm.** All rooms have 2 beds, 2 desks, and 2 closets. The bathrooms are common (shared) bathrooms and there are 4 per floor.

#### **Cambridge House**



The building's neo-Tudor style architecture lends it an air of tradition and history. Adjacent to the Michigan Union on Central Campus, Cambridge House is just steps away from University classrooms, meeting rooms, administrative buildings, and local restaurants. For your convenience, located in the Michigan Union, you will find the Michigan Union Bookstore, access to ATM machines, the University of Michigan Credit Union, Amer's coffee shop, Wendy's, Subway and Villa Pizza restaurants and a UPS store. When it opened in 1920, Cambridge House was originally located in the Michigan Union and named the Michigan Union Hotel. In 1963, Cambridge House was added to the Michigan Union and the hotel was moved and renamed. Today, Cambridge House Residence Hall, with air-cooled rooms and **private baths**, is also attached to the West Quad Residence Hall.

**Wireless Internet:** Any participant bringing a laptop computer will be giving a unique username and password to gain access to the Universities wireless network. This will enable you to check email and do assignments that may require internet access.

All participants registering as **OFF-CAMPUS** are responsible for making their OWN housing arrangements. For participants wishing to stay OFF-CAMPUS, the hotels listed have agreed to provide a special NTI discounted room rate. **Please note all arrangements for OFF-CAMPUS lodging must be made directly by the participant with the hotel.** The NJATC has negotiated these special room rates for you. Room availability may be limited, so we suggest that you make your reservations early. In past years, hotels have filled up far in advance.

## NTI Recommended OFF-CAMPUS Housing

### Briarwood (South Campus)

#### **Courtyard by Marriott**

3205 Boardwalk Drive  
Ann Arbor, MI 48108  
734-995-5900

**Rate \$119**

#### **Fairfield Inn**

3285 Boardwalk Drive  
Ann Arbor, MI 48108  
734-995-5200

**Rate \$105**

#### **\*Four Points Sheraton**

3200 Boardwalk Drive  
Ann Arbor, MI 48108  
734-996-0600

**Rate \$115**

#### **\*Kensington Court**

Hilton Boulevard  
Ann Arbor, MI 48108  
734-761-7800

**Rate \$120**

#### **Holiday Inn Express**

600 Briarwood Circle  
Ann Arbor, MI 48108  
(877) 863-4780

**Rate \$102**

#### **\*Holiday Inn Hotel & Suites**

3155 Boardwalk Drive  
Ann Arbor, MI 48108  
734-213-1900

**Rate \$103**

### Downtown (Central Campus)

#### **\*Bell Tower Hotel**

300 South Thayer Street  
Ann Arbor, MI 48104  
734-769-3010

**Rate \$125**

#### **\*Dahlmann Campus Inn**

615 East Huron  
Ann Arbor, MI 48104  
734-769-2200

**Rate \$125**

### North Campus

#### **\*Holiday Inn North**

3600 Plymouth Road  
Ann Arbor, MI 48105  
734-769-9800

**Rate \$101**

#### **\*Full Service Hotel**

8. Based on your Group, select any classes you wish to attend (repeat for multiple class options)
9. Choose any activities you and your guests would like to attend
10. If you have any guests attending, click the "Add" button to add all guests (click next)
11. Review your registration
12. Print the page for your records (or save the PDF by clicking the PDF logo)
13. Click "Submit"

Once you submit your registration, an email is sent to your Sponsor letting them know you have completed your registration. They must then logon and "Approve" and "Pay" for your registration. At

any time you may log-in and view your status. Until a registration is approved, you may re-register. Once a registration is approved, you may no longer edit the registration.

We recommend viewing your summary on a regular basis in case a class has been cancelled. If a class is cancelled, it would be removed from your registration summary. At this time you should contact your sponsor to ensure a replacement is chosen.

### **“I Group” Reminders:**

#### **PORTFOLIO Assignments**

All “I Group” Participants were given a portfolio assignment during the 2008 NTI. Each Instructor should be continually working on their portfolio throughout the year. Each Instructor can download the assignment from the NJATC website at [www.njatc.org](http://www.njatc.org) under the NTI tab. All NTI Instructors **MUST** remember to bring their portfolio to NTI 2009. There will be a portfolio session on Sunday August 2 at 10:00 a.m.

#### **Pre-NTI Assignments**

All Second, Third, and Fourth Year “I Group” Participants **MUST** complete an assignment before arriving at NTI 2009. Each Instructor can download the assignment from the NJATC website at [www.njatc.org](http://www.njatc.org) under the NTI tab. Your NTI Professor will be referring to these assignments on the first day of class. Please come prepared. You do not want to start off your NTI week behind on your assignments. This is not the same as the Portfolio Assignments.

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## NTI FEE STRUCTURE

This is the fee schedule for this year's National Training Institute. Below you will find a chart outlining participant registration fees which should help in determining the amount due for your registration. This will be calculated automatically when you register On-line:

Housing	Participant Group	2009 COST	HOUSING LOCATION	INCLUDED IN FEE
ON-CAMPUS	"I Group" "T Group" "A Group"	\$725.00 prior to June 20 \$825.00 June 21- July 22 \$975.00 after July 22	U of M Dormitories	Housing, Trade Show, Welcome Reception, NTI Participant Gifts, 5 Lunches, Morning and Afternoon Breaks, Graduation Ceremony and Completion Party. Professional Education Training and/or Technical Course.
OFF-CAMPUS	"I Group" "T Group" "A Group"	\$550.00 prior to June 20 \$650.00 June 21- July 22 \$800.00 after July 22	Any Recommended Hotel from list	Trade Show, Welcome Reception, NTI Participant Gifts, 5 Lunches, Morning and Afternoon Breaks, Graduation Ceremony and Completion Party. Professional Education Training and/or Technical Course.
ON-CAMPUS	"C Group" Participant (No Technical)	\$550.00 prior to June 20 \$650.00 June 21- July 22 \$800.00 after July 22	U of M Dormitories	Housing, Trade Show, Welcome Reception, NTI Participant Gifts, 5 Lunches, Morning and Afternoon Breaks, Graduation Ceremony and Completion Party.
<b>Additional C-Group Options:</b> If you wish to take a Technical Course add \$175.00 to the Appropriate Fee.				
OFF-CAMPUS	"C Group" Participant (No Technical)	\$375.00 prior to June 20 \$475.00 June 21- July 22 \$625.00 after July 22	Any Recommended Hotel from list	Trade Show, Welcome Reception, NTI Participant Gifts, 5 Lunches, Morning and Afternoon Breaks, Graduation Ceremony and Completion Party.
<b>Additional C-Group Options:</b> If you wish to take a Technical Course add \$175.00 to the Appropriate Fee.				
OFF-CAMPUS	"EC or SC Group" Participant	\$250.00 prior to June 20 \$350.00 June 21 July 22 \$500.00 after July 22	Any Recommended Hotel from list	Trade Show, Welcome Reception, NTI Participant Gifts, 3 Lunches, and Morning and Afternoon Breaks.
ON-CAMPUS	Spouse	\$275.00 prior to June 20 \$375.00 June 21- July 22 \$525.00 after July 22	U of M Dormitory – Moser-Jordan	Housing, Trade Show, Welcome Reception, NTI Family Gifts, Graduation Ceremony and Completion Party. <b>NO BREAKS OR LUNCHESES PROVIDED.</b>
ON-CAMPUS	Adult or Guest (16 and up)	\$275.00 prior to June 20 \$375.00 June 21 - July 22 \$525.00 after July 22	U of M Dormitory – Moser-Jordan	Housing, Trade Show, Welcome Reception, NTI Family Gifts, Graduation Ceremony and Completion Party. <b>NO BREAKS OR LUNCHESES PROVIDED.</b>
ON-CAMPUS	Child (5-15 Years)	\$175.00 prior to June 20 \$275.00 June 21 - July 22 \$425.00 after July 22	U of M Dormitory - Moser-Jordan	Housing, Trade Show, Welcome Reception, NTI Family Gifts, Graduation Ceremony and Completion Party. <b>NO BREAKS OR LUNCHESES PROVIDED.</b>
OFF-CAMPUS	Spouse, Child Adult or Guest (All Guest)	\$100.00 prior to June 20 \$200.00 June 21 - July 22 \$250.00 after July 22	Any Recommended Hotel from list	Trade Show, Welcome Reception, NTI Family Gifts, Graduation Ceremony and Completion Party. <b>NO BREAKS OR LUNCHESES PROVIDED.</b>

### MEALS

There will be a light breakfast available to all registered participants upon arrival at their morning classes. Mosher-Jordan's cafeteria will be open for breakfast. **NOTE: THERE ARE NO BREAKFASTS OR LUNCHESES SCHEDULED FOR FAMILY PARTICIPANTS!** The only evening meals provided by the NJATC for NTI participants will be the Sunday evening Welcome Reception and the Thursday evening Graduation Completion Party. All other evening meals will be on your own.

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## PROFESSIONAL EDUCATION COURSE DESCRIPTIONS

### FIRST YEAR (“I Group”)

#### **Course # 10: PRINCIPLES OF LEARNING**

How people learn, remember, and apply related theory. Basic principles of learning. Kinds, definition, nature, effect, reinforcement, habit formation, transfer of learning, use of senses, retention, and motivation of the learner. Emphasis will be placed on establishing student/instructor relationships and developing an effective learning environment for adult learners.

#### **Course # 11: ELEMENTS OF TRADE TEACHING**

Nature of trade education and the trade teaching process. Goals of NJATC and trade teaching. Uniqueness of trade education, apprenticeship, and trade instructors. Nature of the subject matter taught, how it is identified, skills, knowledge, and attitudes. Process of teaching related trade subjects: establishing lesson objectives, preparing to teach, presenting new content, providing for application and practice, evaluation of learning and teaching. Managing the learning environment. Role of the related trade instructor and characteristics of good trade instructors.

### SECOND YEAR (“I Group”)

#### **Course # 20: PLANNING AND PRESENTING RELATED INFORMATION**

Process of teaching related lessons with the emphasis being placed on application and putting theory into practice. Developing competency-based lesson plans using NJATC curriculum materials. Planning lessons that use the senses so learners will retain and use related information. Workshop in planning and presenting information lessons.

#### **Course # 21: USING INSTRUCTIONAL TECHNOLOGY**

Overview of training aids available through NJATC. Review of the teaching process and use of audio and visual materials to aid in retention of related information. Emphasis is placed on computer applications in developing training material and its use in presenting related information. Workshop in the preparation and use of audio and visual training aids.

### THIRD YEAR (“I Group”)

#### **Course # 30: PERFORMANCE EVALUATION**

Justification and review of using performance-based evaluations. Relationship between job analysis, teaching, and evaluation. Principles and practices of developing written and performance tests. Developing performance standards based on trade practices. Making observations while using checklists. Workshop in test construction.

#### **Course # 32: TEACHING AND MANAGING IN A TECHNICAL LABORATORY**

This third year course builds on information presented in the first and second year courses in which participants gained knowledge about the teaching and learning process. The focus of this course is on preparing instructors to establish a laboratory learning environment and an instructional program where apprentices can develop essential knowledge and skills required to competently perform selected electrical tasks in a simulated work environment. Information

will be presented on the major topics of: laboratory learning environments, learning approaches used in technical laboratories, preparing for instruction in technical laboratories, delivering laboratory instruction, managing laboratory learning, managing student behavior, and maintaining a safe and efficient laboratory.

#### **FOURTH YEAR (“I Group”)**

##### **Course # 42: CREATING AN ACTIVE LEARNING ENVIRONMENT**

This course takes the instructor deeper into the instructional design processes that make training more successful. Students will learn to apply adult learning principles to the NJATC curriculum. Students will also learn about the instructional design effective instructional strategies for a variety of training situations. Special emphasis will be placed on the design and use of “Active Learning Strategies” in both the classroom and laboratory settings.

##### **Course # 41: DISCUSSION METHODS**

A planned discussion led by a trained discussion group leader can be an extremely effective tool for instructing or teaching others how to perform a given set of tasks. However, discussions also can be very useful tools for: gathering data and information; problem-solving; testing comprehension; setting policy and strategy; and of course, changing opinions and individual points of view.

Facilitating or leading a planned discussion touches many skill domains, including: group dynamics; team building; interpersonal communications; active listening; and presentation methods. From the outset, it is important to note that leading an effective discussion involves preparation and advanced planning. For example, initial topic selection and handling is critical to a successful discussion and quite often, requires detailed research into the background of the topic. Another key component of a successful discussion involves preparing solid, thought-provoking questions. Effective discussion leaders recognize the importance of preparing themselves to ask good questions; not only as a means of encouraging group interaction, but also as a tool for keeping the discussion moving and on track.

The intent of this course is to equip all participants with a solid working knowledge of discussion leadership methods and techniques. This course is highly experiential and interactive. In particular, all participants will have multiple opportunities to practice leading discussion groups, as well as functioning as a discussion group participant. Professional educators for this course will focus on instructing participants in the finer points of discussion leadership, but just as important, demonstrate and model these methods and techniques.

#### **ADVANCED PROFESSIONAL EDUCATION TRAINING (“I Group”)**

##### **Course # 52: SPECIAL TOPICS IN TRAINING**

This Seminar is divided into six (6) specific topic areas, all of which relate to the professionalism and expertise of the trade/skill based educator. The five general topics covered for this class are:

1. Introduce Course and Change Model
2. Managing Change
3. Conflict Management
4. Special Needs Learners

5. Active Training Programs
6. Contemporary Instructional Issues

A typical session begins with an instructor-led discussion of the topic and culminates with student-led case study resolution, practical exercise, seminar type discussion or other evidence of learner skill and ability.

**“I Group” participants, except 1<sup>st</sup> and 2<sup>nd</sup> Year, must sign-up for a 100 Level Technical Course.**

### **MASTER INSTRUCTOR & TECHNICAL COURSE DESCRIPTIONS**

The following are descriptions of the Technical Courses being offered at the 2009 National Training Institute. Participants enrolled in Instructor Training (“I Group”), except 1<sup>st</sup> and 2<sup>nd</sup> Year “I Group” participants, **MUST** select a 100 Level Course in addition to their regular Professional Education classes. All “I Group” participants may register for a 300 Level Course as long as it is not conducted from August 3 through August 8.

In 2007, an important shift occurred in the way we provide technical training at our National Training Institute (NTI). While not intended to diminish the importance of technical training, the NJATC believed this directional change was necessary and timely. All of the “I Group” technical training at NTI will be directly related to the curriculum and coursework that our JATC instructors teach. For example, rather than taking a general fire alarm technical class, our instructors will now take “Teaching the NJATC Fire Alarm Installation Course.” Instead of taking a general NEC<sup>®</sup> Code or Safety class, our instructors will now take “Teaching the NJATC Applied Codeology Course” or “Teaching the NJATC Electrical Safety-Related Work Practices – Based on NFPA 70E<sup>®</sup> Course.”

These courses address the relevant technical aspects of the material and, most importantly, utilize the same textbooks and workbooks our instructors teach from and are designed to ensure that the instructor is fully familiar with the learning objectives of each lesson. There is a special emphasis placed upon teaching the “best practices” and other instructor exercises that can be employed to ensure that the learning objectives of the class are sufficiently conveyed.

In addition to this change, in 2007 we also introduced a new NJATC Master Instructor Certification Program. The purpose of the Master Instructor Certification Program (MICP) is to recognize those JATC instructors who have demonstrated a superior technological mastery of specific subject material and have completed the National Training Institute’s Four Year Professional Education program. Several Master Instructor Certifications will be available encompassing all four of our National Apprenticeship curriculums. For those instructors who have previously completed their Professional Education Program, they only need additional coursework in the specific area of their intended certification(s). Technical classes needed to meet the certification requirements can be taken at either NTI, or any of the NJATC Regional or Host classes. It is the NJATC’s sincere hope that collectively, these progressive changes will help ensure that our instructors will be better prepared and more comfortable with the course material they teach in their local JATCs.

**Any IBEW member, signatory contractor, or their employee may register for any technical training course.**

**Technical Training Only Participants (“T Group”)** can select either one (1) 200 Level classes or any two (2) 100 Level classes. All “T Group” participants are eligible to enroll in 300 Level classes. Please be sure that any course you select, you have met any prerequisite listed. **NOTE: IF YOU ARE SIGNING UP FOR A COURSE WITH A PREREQUISITE, A COPY OF THE CERTIFICATE FROM THE PREREQUISITE COURSE ALONG WITH YOUR NTI REGISTRATION CONFIRMATION, MUST BE FAXED TO Melissa Parsly at 865.380.9795.** Also, be sure to look at both the course description and the table to verify the exact days that a course is being offered since courses may end at different times throughout the week. *Please note there are several classes that begin on Saturday or Sunday.*

## WHAT IS A...

### 100 LEVEL COURSE?

A 100 Level Course is a course that lasts from 12 - 24 hours. Most 100 Level courses last 16 hours and are offered in four-hour increments Monday, Tuesday, Thursday and Friday. These classes are offered both in the morning and afternoon. When you register for one of these courses, you will be scheduled in either the morning or afternoon session depending on the other class that you are scheduled to attend. Individuals attending the NTI for technical training only may register for two (2) 100 Level Technical Courses. Individuals registering for **Instructor Training (“I Group”)** or **Advanced Professional Education** MUST register for one (1) 100 Level Course, **except 1<sup>st</sup> and 2<sup>nd</sup> Year “I Group” participants.** This 100 Level Course is included in your NTI registration fee. Those attending as **Outstanding Apprentice Graduates (“A Group”)** will be assigned their technical training course; DO NOT select a technical training course.

### 200 LEVEL COURSE?

A 200 Level Course is a course that lasts from 32-36 hours and is offered Monday through Friday. Individuals registering for 200 Level Courses will only be able to attend that particular course during the NTI week. The only Participants that may register for a 200 Level Course are those participants registered for Technical Training ONLY (“T Group”). “I Group”, “A Group”, and “C Group” **CANNOT** register for a 200 Level Class.

### 300 LEVEL COURSE?

A 300 Level Course is a Technical Training Course that can last from 4-24 hours. These classes are offered at various times over a two-week period. These courses are offered before and after the week of NTI. Any IBEW member, signatory contractor or their employee may register for any 300 Level Technical Training Course. When registering for any 300 Level Course, be sure to review the course description and table carefully to assure that you have met any prerequisites listed and that there are no time conflicts with any other training that you may be taking. **ALL 300 LEVEL CLASSES HAVE A FEE. ANYONE ENROLLING IN A 300 LEVEL TECHNICAL CLASS MUST PAY THE ASSOCIATED TECHNICAL COURSE FEE IN ADDITION TO THEIR REGULAR NTI REGISTRATION FEE, EXCEPT:** Any participant taking a 300 Level Course that ends prior to Sunday, August 2, 2009 and will not be attending any other NTI event except the Trade Show (You CAN attend the NTI Trade Show at no additional charge), can register as OFF-CAMPUS and pay only the fee associated with the 300 Level Course of their choosing. These participants, attending ONLY a 300 Level Course, DO NOT have to pay the OFF-CAMPUS registration fee, UNLESS they plan to attend the Welcome Reception or any other NTI event other than the Trade Show.

## Master Instructor Courses

**Third and Fourth Year “I Group” and Advanced Professional Education participants must register for ONE 100 Level Master Instructor Course. “T Group” participants may register for TWO 100 Level courses or ONE 200 Level course.**

Course Title	Course #	Days & Hours	Min.	Max.
<b>INSIDE MASTER INSTRUCTOR 100 LEVEL COURSES</b>				
AC and DC Theory Lessons, How to Teach NJATC	T-101	M T R F (16 Hours)	5	30
Codeology Course, How to Teach NJATC	T-105	M T R F (16 Hours)	15	35
Conduit Fabrication, How to Teach NJATC	T-107	M T R F (16 Hours)	5	20
Fiber Optic Certification Course, How to Teach NJATC	T-109	Sa M T R F (24 Hrs)	6	16
Health Care Systems Curriculum, How to Teach NJATC	T-111	M T R F (16 Hours)	15	35
Overcurrent Protection - Codes & Practices 3, How to Teach NJATC	T-117	M T R F (16 Hours)	15	35
Semiconductor and Digital Electronics Theory, How to Teach NJATC	T-127	M T R F (16 Hours)	5	20
Test Instruments (American Technical Publishers & Fluke Corp)	T131	M T R F (16 Hours)	10	20
Traffic Signal Curriculum – 2 <sup>nd</sup> Year, How to Teach NJATC	T-133	M T R F (16 Hours)	8	16
Transformers and Motor Theory, How to Teach NJATC	T-137	M T R F (16 Hours)	5	20
Instrumentation and Calibration Basics-Using the Fluke-744 Hart Calibrator	T-157	M T R F (16 Hours)	12	18
Lightning Protection Installation Training (Harger Lightning & Grounding)	T-159	M T R F (16 Hours)	6	20
<b>INSIDE MASTER INSTRUCTOR 200 LEVEL COURSES</b>				
Code Calculations Course, How to Teach NJATC	T-205	M T R F (32 Hours)	15	35
Electrical Safety-Related Work Practices based on 70E, How to Teach	T-207	M T R F (32 Hours)	15	50
Fire Alarm Systems Introduction (Hands-On), How to Teach NJATC	T-209	M T R F (32 Hours)	10	32
Grounding, How to Teach NJATC	T-211	M T R F (32 Hours)	15	35
Instrumentation, How to Teach the NJATC (Fundamentals of)	T-213	M - F (36 Hours)	6	12
Photovoltaic Systems, How to Teach the NJATC Course (Installing)	T-219	M T R F (32 Hours)	8	16
Transformers Course (For Inside Wireman)	T-233	M T R F (32 Hours)	5	30
<b>OUTSIDE LINE MASTER INSTRUCTOR 100 LEVEL COURSES</b>				
Outside Curriculum - AC/DC Theory, How to Teach NJATC	T-113	M T R F (16 Hours)	8	16
Outside Curriculum – 1 <sup>st</sup> Year Safety/OSHA, How to Teach NJATC	T-115	M T R F (16 Hours)	8	16
Rigging Curriculum, How to Teach NJATC	T-125	M T R F (16 Hours)	8	16
Traffic Signal Curriculum – 2 <sup>nd</sup> Year, How to Teach NJATC	T-133	M T R F (16 Hours)	8	16
Transformer Applications and Connections, How to Teach NJATC	T-135	M T R F (16 Hours)	8	16
<b>TELECOMMUNICATIONS MASTER INSTRUCTOR 100 LEVEL COURSES</b>				
CCTV Course, How to Teach NJATC Installer/Technician	T-103	Sa M T R F (24Hrs)	6	16
Fiber Optic Certification Course, How to Teach NJATC	T-109	Sa M T R F (24 Hrs)	6	16
Telephony, How to Teach NJATC Installer/Technician	T-129	Sa M T R F (24Hrs)	6	14

Course Title	Course #	Days & Hours	Min.	Max.
<b>TELECOMMUNICATIONS MASTER INSTRUCTOR 200 LEVEL COURSES</b>				
Audio Technology Course, How to Teach NJATC Installer/Technician	T-201	M T R F (32 Hours)	6	16
Local Area Networks Course, How to Teach the NJATC	T-215	M T R F (32 Hours)	6	14
Security Systems Course, How to Teach NJATC Installer/Technician	T-223	M T R F (32 Hours)	6	12
<b>RESIDENTIAL MASTER INSTRUCTOR 100 LEVEL COURSES</b>				
Conduit Fabrication, How to Teach NJATC	T-107	M T R F (16 Hours)	5	20
Residential Code Lessons, How to Teach NJATC	T-119	M T R F (16 Hours)	5	20
Residential Fire Alarms and Security Systems Lessons, How to Teach the	T-121	M T R F (16 Hours)	5	20
Residential Wiring Practices Lessons, How to Teach NJATC	T-123	M T R F (16 Hours)	5	20
<b>RESIDENTIAL MASTER INSTRUCTOR 200 LEVEL COURSES</b>				
Residential Advanced Technology Lessons, How to Teach NJATC	T-221	M T R F (32 Hours)	5	12

### “T Group” Technical Courses (Additional)

“T Group” Participants may register for TWO 100 Level courses or ONE 200 Level course selected from the Master Instructor courses or any of the following Technical courses.

Course Title	Course #	Days & Hours	Min.	Max.
<b>CABLE SPLICING 100 LEVEL COURSES</b>				
Introduction to Cable Splicing (NJATC)	T-155	M T R F (16 Hours)	5	12
The Technology of Medium & High Voltage Cable Splicing & Terminations	T-163	M T R F (16 Hours)	6	24
<b>CABLE SPLICING 200 LEVEL COURSES</b>				
Cable Splicing – Module I, How to Teach NJATC	T-203	M - F (36 Hours)	5	10
<b>INSIDE &amp; RESIDENTIAL</b>				
Understanding AC Theory Course	T-237	M T R F (32 Hours)	5	30
Understanding DC Theory Course	T-239	M T R F (32 Hours)	5	30
Understanding Digital Electronics	T-241	M T R F (32 Hours)	5	20
Understanding Semiconductors Course	T-243	M T R F (32 Hours)	5	20
<b>SAFETY 100 LEVEL COURSES</b>				
First Aid/CPR & AED TTT	T-151	M T R F (16 Hours)	6	20
<b>SAFETY 200 LEVEL COURSES</b>				
OSHA 500	T-217	M - F (36 Hours)	15	35
<b>VOICE, DATA AND VIDEO 100 LEVEL COURSES</b>				
AMP ACT I – Installing Premises Cabling Systems	T-139	M T R F (16 Hours)	9	18
AMP ACT II – Certifying and Troubleshooting Premises Cabling Systems	T-141	M T R F (16 Hours)	9	12
Datacom Cabling Test and Certification TTT (Fluke Network)	T-147	M T R F (16 Hours)	6	18

<b>VOICE, DATA AND VIDEO 200 LEVEL COURSES</b>				
AMP ACT I – Installing Premises Cabling Systems TTT *	T-225	M T R F (32 Hours)	3	9
Fiber Optic Installation – Hands-On Training for Instructors	T-229	M T R F (32 Hours)	6	16
TS LAN 500 Hands On Fiber Optic Training Course for Local Area	T-235	Sa M T R F (40 Hrs)	6	12
<b>NECA &amp; TRAINING PARTNER SPONSORED 100 LEVEL COURSES</b>				
Arc Welding Principles, Processes, and Applications (Lincoln Electric)	T-143	M T R F (16 Hours)	5	10
AutoCAD LT 2010 Level I (Ronald A. Williams, Ltd)	T-145	M T R F (16 Hours)	10	20
Digital Video Production and Multi-Media Presentations (ATP)	T-153	M T R F (16 Hours)	5	TBD
Fiber Optic Communication Network Design	T-149	M T R F (16 Hours)	6	16
Techniques for Integrating Digital Images & Media into Presentation Software (ATP)	T-161	M T R F (16 Hours)	5	20
Understanding and Applying AC Drives	T-165	M T R F (16 Hours)	12	20
<b>NECA &amp; TRAINING PARTNER SPONSORED 200 LEVEL COURSES</b>				
Basic Estimating of Electrical Construction (NECA-MEI)	T-227	M T R F (32 Hours)	8	20
Thermographic Applications for Predictive Maintenance – Fluke Corp.	T231	M T R F (32 Hours)	10	18

### 300 Level Courses

These special courses are available to All Groups (Be sure to check times for conflicts.) The Registration Fee for these courses are NOT included in your normal NTI Registration Fee. The special fee for a 300 Level course is in addition to your NTI Registration.

Course #	Course Title	Days & Hours	Min./Max.	Normal Price	NTI Special Price
T-301	OSHA 502*	7/30-8/1 (20 Hrs)	15/35	\$495.00	\$445.00
T-303	Coyne Instructor Trainer Refresher*	8/1 Sa (8 Hours)	3/20	\$220.00	\$110.00
T-305	Coyne Pediatric Basic Life Support*	8/2 Su (4 Hours)	3/20	\$220.00	\$110.00
T-307	PowerPoint for Instructional Use*	7/31-8/1 (12 Hrs)	15/25	N/A	\$225.00
T-309	AMP ACT I Instructor Update	8/1 Sa (8 Hours)	3/12	N/A	\$195.00
T-311	Craft Certification Performance Evaluation Training	7/30-7/31 (12 Hrs)	10/20	\$150.00	\$125.00
T-313	Premises Cabling Installation/FOA CPCT Certification	7/30-7/31 (16 Hrs)	6/16	N/A	\$275.00
T-315	Data Center Technology and Standards Overview	8/1 Sa (8 Hours)	6/18	N/A	\$125.00

\* Prerequisite applies. See Course Description for additional information

If you are registering for a class that has a prerequisite, the NJATC must have a copy of your applicable completion certificate before you can register for the higher level class.  
**Be sure to FAX a copy of your completion certificate for any required course work to: Melissa Parsly at 865.380.9795.**

**100 LEVEL COURSES**

(All 100 Level Courses are 16 Hours unless specified)

**T101****AC and DC Theory Lessons, How to teach the NJATC**

This Train-The-Trainer course is offered to introduce local JATC instructors to the proper methods used for teaching AC and DC Theory using the NJATC curriculum, assorted classroom instructional aids, and hands-on demonstration labs where required. This course concentrates on teaching basic AC and DC Theory using the NJATC *AC Theory* and *DC Theory* textbooks and Instructor Guides. This class assumes the student has a basic understanding of AC and DC Theory and is designed primarily to satisfy the requirements of the NJATC Master Instructor Certification.

**T103****CCTV, Installer/Technician, How to Teach the NJATC****24 Hours**

This course is designed to prepare students to teach Lessons 1 through 22 of the NJATC Installer/Technician CCTV Curriculum, using the associated NJATC workbook, text, assorted classroom instructional aids and selected lab equipment where required to illustrate and demonstrate specific CCTV systems applications. Topics covered in this course will include basic terminology and definitions, video technology, lenses and optics, camera types and characteristics, signal transmission methods, monitors and displays, recording methods, switchers and multiplexers, video motion detectors, camera mountings and housings, PTZ mechanisms, lighting characteristics, remote monitoring and control, Lessons 15 through 22 are technician level lessons and will be lightly covered to introduce the topics. At the conclusion of this training, it is intended that students will be ready to teach the NJATC Installer/Technician CCTV Curriculum. *Please note this course starts on Saturday at 8:00 a.m. for all students, then it will split into AM and PM sessions M, T, R, F. If you sign up for this course, you must be in attendance on Saturday.*

**T105****Codeology Course, How to Teach NJATC**

This course is intended for instructors teaching the NJATC's Codeology curriculum and for those looking to master the NJATC's Code-related curriculum. The course will cover key concepts contained in the *Codeology* textbook and curriculum and the manner in which these lessons should be covered with students. Although not provided, the Codeology PowerPoint CD (J207CD) and NJATC Course Presentation Software (A2CDK) will be demonstrated as part of this course. **Participants must bring a copy of the 2008 NEC®.**

**T107****Conduit Fabrication, How to Teach the NJATC**

The Conduit Fabrication course uses the new 2008 NJATC *Conduit Bending and Fabrication* text. The class will provide a comprehensive overview of conduit bending and fabrication procedures along with instructional delivery methods. All of the Conduit workbook lessons will be reviewed along with the lab manual exercises. The class will utilize the new NJATC conduit trainer so that the instructor can become familiar with its design and purpose. Also covered in the course is the functionality of the Course Presentation Software. This software allows the instructor to cover the lessons in a presentation format with a multimedia projector. All conduit lessons will be reviewed in this manner.

**T109****Fiber Optic Certification Course, How to Teach NJATC****PREREQUISITES: NONE****LENGTH: 24 HOURS**

This course provides the knowledge and hands-on skills to design, install, test, and certify fiber optic networks the right way using the NJATC *Fiber Optic Certification* text and workbook. Included are the latest training on standards and technology including ATM & Gigabit Ethernet. This course includes over 50% hands-on training with OTDRs, Power Meters/Light Sources, Microscopes and Continuity Checkers. The hands-on training also includes connectorization, cabling handling, splicing and safety. Upon completion of this course, the attendee will be familiar with the installation, design, maintenance, and operation of fiber optic systems. *Please note this course starts on Saturday for all students, then it will split into AM and PM sessions, M,T,R,F. If you sign up for this course, you must be in attendance on Saturday.*

**T111****Health Care Systems Curriculum, How to Teach the NJATC**

It is important that electrical installations meet the requirements of all applicable codes and standards. Not surprisingly, electrical installations in health care facilities require a more careful and focused approach than many other types of electrical installations due to unique requirements and the life safety implications. The "How to Teach the NJATC's Health Care Systems curriculum will focus on the following topics: general requirements for health care facilities; electrical wiring and protection; patient care locations; protection techniques and methods; essential electrical systems for health care facilities; and, essential electrical systems.

**T113****Outside Curriculum – AC/DC Theory, How to Teach the NJATC**

Teaching the Outside Curriculum and not comfortable with the AC and DC theory lessons? This course is for you. This course will review basic theory concepts and how to present them to your students in an easy to understand format. First and Second Year theory lessons will be reviewed and discussed. This course will be taught by an Outside Industry instructor.

**T115****Outside Curriculum – 1<sup>st</sup> Year Safety/OSHA Lessons, How to Teach the NJATC**

Safety plays an important part of the Outside Line Construction Industry and is also an important part of the NJATC curriculum. This course will cover the safety and OSHA lessons that are part of the new Outside Line Construction Curriculum and help you as an instructor emphasize the importance of understanding and following all safety rules and regulations. There are many lessons throughout the three-year program, and this course will focus on those lessons presented in the new First Year material. Lesson topics reviewed are: Safety Awareness – On the Job; Safety Meetings; Tail-Board Discussions; First Aid; Safety, and Health; Understanding Electricity; Electrical Hazard Awareness; Energized and Non-Energized Parts; Rubber Gloves and Sleeves, Care and Use; Protective Line Devices, Care and Use; and, Introduction to OSHA.

**T117****(Overcurrent Protection) Codes & Practices-3 Course, How to Teach the NJATC**

This course is intended for instructors teaching Code and Practices-3, Third Year Inside instructors, those looking to master the NJATC's Code-related curriculum, as well as those looking for a greater understanding of a wide range of overcurrent protection-related topics. The course will cover key overcurrent protection and electrical safety concepts contained in Code and Practices-3 and the manner in which these lessons should be covered with students. Key topics include overcurrents, overload, short circuits, protective devices, current limitation, component protection, conductor protection, motor circuit protection, transformer protection, selective coordination, electrical safety and much more. In addition, although not provided, the Overcurrent PowerPoint<sup>®</sup> CD (J233CD) and NJATC Course Presentation Software (A3CDK) will be demonstrated and used as part of this course. **Participants must bring a copy of the 2008 NEC<sup>®</sup>.**

**T119****Residential Code Lesson, How to Teach the NJATC**

This Train-The-Trainer course is offered to introduce local JATC instructors to the proper methods used for teaching the National Electrical Code<sup>®</sup> in residential applications using the NJATC Residential Curriculum and assorted classroom instructional aids. This course concentrates on teaching basic residential code issues using the NEC<sup>®</sup> and the Electrical Systems textbook, accompanied by the 25 lessons in the Residential Code–2 Workbook, which are customarily taught in the Second and Third Years of a Residential Apprenticeship Program as companion lessons to the Residential Wiring Practices lessons. Topics will include specific NEC<sup>®</sup> issues and requirements related to wiring materials and methods, services, calculations, special installations and overcurrent protection.

**T121****Residential Fire Alarms and Security Systems Lessons, How to Teach the NJATC**

Teaching the NJATC Residential Fire Alarms and Security Systems Lessons Train-The-Trainer course is offered to introduce Local JATC Instructors to the proper methods used for teaching Residential Fire Alarm and Security Systems using the NJATC Curriculum and assorted classroom instructional aids, all built around the NJATC's Guide to Residential Fire Alarm and Carbon Monoxide Systems and Heathkit's Security, Access Control and Surveillance

textbooks. This course concentrates on teaching Residential Fire Alarm and Security Systems using both textbooks, accompanied by the 6 apprentice Fire Alarm Lessons and 6 apprentice and 4 optional or Journeyman Security Systems lessons found in the Third Year of the Residential Curriculum. Topics will range from Residential Fire Alarm and Security System basics, including carbon monoxide warning equipment, to advanced systems like Closed Circuit Television Surveillance Systems and Residential Access Control Systems.

**T123****Residential Wiring Practices Lessons, How to Teach the NJATC**

This Train-The-Trainer course is offered to introduce local JATC instructors to the proper methods used for teaching residential wiring using the NJATC Residential Curriculum and assorted classroom instructional aids. This course concentrates on teaching residential wiring using the *Electrical Wiring Residential* textbook, accompanied by the 24 lessons found in the NJATC Residential Wiring Practices Workbook, which are customarily taught in the Second and Third Years of a Residential Apprenticeship Program as companion lessons to the Residential Code-2 lessons. Topics will include general and specific residential installation practices including device wiring methods; circuit interrupters; lighting and receptacle branch circuits for specific areas of typical dwelling units; fire alarm and security systems; swimming pools and spas; service entrance equipment; home automation systems; standby power systems; overcurrent protection; special purpose outlets; and, television and telephone systems.

**T125****Rigging Curriculum, How to Teach the NJATC**

This course will provide the student with an explanation and practical application of rigging vectors and how they are used in the new Outside Line Construction Curriculum. The use of vectors to analyze rigging situations as in the NJATC Outside Lineman course will be covered in detail. You will learn to use vectors to analyze and predict the load tension on structures and equipment of various rigging techniques used in the Outside Line Construction Industry and discuss the rigging hardware/equipment that is used in the First Year Outside/Traffic Signal Curriculum.

**T127****Semiconductor and Digital Electronic Theory Lessons, How to Teach the NJATC**

This Train-The-Trainer course is offered to introduce local JATC instructors to the proper methods used for teaching Theory using the NJATC curriculum, assorted classroom instructional aids, and hands-on demonstration labs where required. This course concentrates on teaching basic Semiconductor and Digital Theory using the NJATC Electronic and Digital Trainers and the Theory textbooks and Instructor Guides. This class assumes the student has a basic understanding of Semiconductor and Digital Theory and is designed primarily to satisfy the requirements of the NJATC Master Instructor Certification.

**T129****Telephony, Installer/Technician, How to Teach the NJATC****24 HOURS**

This course is designed to prepare students to teach Lessons 1 through 14 of the NJATC Installer/Technician Telephony Curriculum, using the associated NJATC workbook, text, assorted classroom instructional aids and selected lab equipment where required to illustrate and demonstrate specific telephony systems applications. Topics covered in this course will include basic terminology and definitions, understanding a telephone system, basic circuitry and wiring, signal types, ISDN, Electronic Key and PBX systems. At the conclusion of this training, it is intended that students will be ready to teach the NJATC Installer/Technician Telephony Curriculum. *Please note this course starts on Saturday at 8:00 a.m. for all students, then it will split into AM and PM sessions M, T, R, F. If you sign up for this course, you must be in attendance on Saturday.*

**T131****Test Instruments (American Technical Publishers & Fluke Corporation)**

This hands-on training course will introduce JATC instructors to a variety of test instruments, their application, functionality, and various troubleshooting techniques. Instructors will learn new techniques and hone existing knowledge using test instruments on equipment that is covered in the NJATC *Test Instrument* textbook and *Test Instruments Applications Manual*. Common test instrument activities will be blended with practical applications and instructional tips to provide a fun, enjoyable skill-building experience. All participants will take home many ideas for teaching test instruments using the latest equipment and curriculum material.

**T133****Traffic Signal Curriculum Overview, How to Teach the NJATC**

This class will review all three years of the Traffic Signal curriculum and focusing on all job-related lessons. Traffic signal hardware and equipment, traffic signal cabinets, phasing, traffic flow, intrusive vehicle detection, preemption, and cabinet print reading are just a few of the topics that will be touched upon. There will be limited hands-on demonstration with a traffic signal cabinet and display board. This class is recommended for anyone teaching the traffic signal course, whether for an outside or inside program. This class will address the traffic signal issues as they relate to your classroom.

**T135****Transformer Applications and Connections, How to Teach the NJATC**

This 16-Hour course will teach Linemen what they need to know in order to perform their job effectively. Even though the class is primarily focused on the outside industry, anyone with an interest in teaching transformer theory will benefit from this class. Students will receive an introduction to transformers and its parts and functions and will have the opportunity to build a small transformer in class. Included will be simplified electricity which covers magnetism, AC and DC circuits and electron theory, transformer operation and electrical systems. Also included will be transformer connections, delta, wye, rotation, troubleshooting and floating neutral. Safety tips will be a critical portion of this course. **There will be a final test at the end of the week.**

**T137****Transformers and Motor Theory Lessons, How to Teach the NJATC**

Teaching the NJATC Transformer and Motor Lessons Train-The-Trainer course is offered to introduce local JATC instructors to the proper methods used for teaching Theory using the NJATC curriculum, assorted classroom instructional aids, and hands-on demonstration labs where required. This course concentrates on teaching basic Transformer and Motor Theory using the NJATC Transformer Trainer and the Theory textbooks and Instructor Guides. This class assumes the student has a basic understanding of Transformer and Motor Theory and is designed primarily to satisfy the requirements of the NJATC Master Instructor Certification.

**T139****AMP ACT I – Installing Premises Cabling Systems (Tyco)**

This course offers a unique opportunity for Journeymen to learn the latest connecting techniques for both copper and fiber premises/network cabling. The course includes an overview of cabling systems, the ANSI/EIA/TIA and ISO/IEC industry standards, cable system administration and documentation, and **actual hands-on termination** exercises for UTP, STP and Fiber cable. This course is approximately **85% hands-on** and is taught using a systems approach instruction method where the students build and test cable assemblies and then learn how the cable assemblies are utilized in a complete cabling system. UTP and STP hands-on termination exercises include assembling CAT 6 UTP and CAT 6 STP links. Optical Fiber hands-on termination exercises include terminating the following connectors: Epoxy SC, ST LightCrimp XTC no epoxy / polish, CORELINK mechanical splice, MTRJ (a small form factor connector), LightCrimp Plus SC no epoxy / no polish and the LightCrimp Plus LC (a small form factor connector). Tooling will be provided for classroom purposes and each student will receive a course manual and a connector assembly kit for the hands-on section of the course. **Successful completion of the course and course examination will designate the student as an AMP NETCONNECT Registered Installer.** *This course also qualifies the student to receive 14 BICSI CECs towards the renewal of the BICSI Installer or RCDD certification.*

**T141****AMP ACT II – Certifying and Troubleshooting Premises Cabling Systems (Tyco)**

This course features approximately **75% hands-on training** with the appropriate tools and test equipment. Students will obtain the experience necessary to certify and document UTP/copper and fiber optic cable plants. **Each student will also obtain the experience of troubleshooting common problems with installed premise cable plants.** Students receive a course manual that contains extensive documentation including course notes, copies of the presentation slides, certification exercises, troubleshooting exercises and network system parameter charts. This is a unique opportunity for Journeymen to learn how to certify the performance of an installed cable plant and to learn how to troubleshoot them if they do not perform as expected. Successful completion of this course and course examination will designate the student as an **AMP NETCONNECT Registered Certifier and Troubleshooter.** *This course also qualifies the student to receive 14 BICSI CECs toward the BICSI Installer or RCDD certification.*

**T143**

**Arc Welding Principles, Processes, and Applications** (*Lincoln Electric*)

This 16-hour course will provide the necessary information, lesson materials, and demonstration skills for a practical welding program at your Training Center. Safety, stick welding, TIG welding, MIG welding, and Flux-cored welding will be presented with the emphasis on how to present and demonstrate these topics in your own program. A selection of presentation mediums (transparencies, slides, videos, books, and printed handouts) will be utilized to present the classroom information. Welding demonstrations and safety practices will be demonstrated for each process. Over half of the class time will be hands-on practice with instruction. Certification requirements will also be addressed.

**T145**

**AutoCAD LT 2010 Level I** (*Ronald A. Williams, Ltd*)

This hands-on course is designed to enable the user to effectively use the basic AutoCAD LT functions. Upon completion, you will be familiar with the 2D features of LT, be able to identify its power and limitations, confidently create, edit, manipulate, and dimension CAD drawings. Familiarity with Windows 2000 operating systems is recommended. Topics include: file commands; display commands; CAD tools and set-up; basic drawing commands; editing commands; layers; and, CAD construction techniques. This is a good course for instructors, Journeymen, and contractors who work with blueprints and need to be skilled in computer aided drafting techniques.

**T147**

**Datacom Cabling Test and Certification, Train-the-Trainer** (*Fluke Networks*)

This 16-Hour course will help the low voltage trainer effectively deliver the following: Understanding the current TIA 568-B certification standards for copper and fiber; testing of copper and fiber cabling systems properly with a cable tester and OTDR; and, increasing field productivity by mastering advanced tester diagnostics. This course includes extensive hands-on testing of copper and fiber links with some of the most common certification test tools in the industry including the DTX Cable Analyzer and OptiFiber OTDR. At the end of the course, the attendees will take a certification exam and receive Certified Cabling Test Technician (CCTT) certificates from Fluke Networks. In addition, a copy of the class content will be provided on CD for each trainer to utilize in his local low voltage program.

**T149**

**Fiber Optic Communication Network Design**

**PREREQUISITES: BASIC KNOWLEDGE IN FIBER OPTICS & INSTALLATION**

This 16-Hour course is for instructors who currently teach fiber optics or plan to do so in the future. It will provide an education in fiber optic design practices to prepare them for designing fiber optic networks themselves or teaching a program to others using the FOA-developed curriculum which will be provided to each student. The course will consist of classroom presentations and case study examples of network design processes.

**T151**

**First Aid/CPR & AED TTT** (*Coyne First Aid*)

This course prepares the student to teach a basic CPR/First Aid training class. After completion of this course, the student will be certified to teach a First Aid/CPR course that has been officially accepted by the U.S. Department of Labor - Occupational Safety and Health Administration (OSHA). This course will cover the essential steps of CPR and basic First Aid procedures for the following: wounds/bleeding, shock, fractures, burns, eye injuries, seizures, drug overdoses, temperature related problems, and many other job related emergencies.

**T153**

**Digital Video Production and Multi-Media Presentations** (*American Technical Publishers*)

Video can serve as a powerful instructional media to increase interest and training effectiveness. This presentation will provide an overview of fundamental video production procedures and techniques used for developing video clips. Procedures will be demonstrated using a digital video camera, standard desktop computer, and popular software. An emphasis throughout the presentation will be on tips and techniques for producing professional quality video for use in a typical training program lesson. Hands-on activities will include video clip and inserting into a PowerPoint® presentation.

**T155****Introduction to Cable Splicing (NJATC)**

This is an introductory course into medium voltage Cable Splicing. This course will provide instruction on the different types of cable, specialty tools and materials used in medium to high voltage work (typically 2,000 - 35,000 volts). Cable end preparation is covered and general safety practices will be discussed. This is a hands-on course and all participants will construct hand taped 5-kV and/or 15-kV straight splices and terminations.

**T157****Instrumentation and Calibration Basics - Using the Fluke-744 Hart Calibrator, How to Teach (Fluke Corporation)**

This hands-on training course will introduce JATC instructors to the Fluke-744 Process Calibrator utilized in the current NJATC Fundamentals of Instrumentation curriculum. Instructors will learn the elements of calibration and maintenance of temperature and pressure transmitters. In addition, instructors will participate in hands-on classroom exercises that reinforce many of the key Fluke-744 functions and will learn extended functions including limit switch testing, indicator calibration, and advanced documenting features.

**T159****Lightning Protection Installation Training (Harger Lightning & Grounding)**

This course will provide the basic requirements of how to properly install a complete lightning protection system including the requirements of the nationally recognized standards for lightning protection NFPA 780.

**T161****Techniques for Integrating Digital Images & Media into Presentation Software (American Technical Publishers)**

Designed for experienced PowerPoint users, this course focuses on integrating digital media into presentation software and instructional applications that can increase interest and training effectiveness. Participants will gain a better understanding of digital media development, creation, modification, and optimization. In addition, knowledge of the proper procedures and time-saving tips needed to successfully develop digital content for use in a variety of training environments will be covered.

**T163****The Technology of Medium & High Voltage Cable Splicing & Terminations (Tyco Energy)**

This course will provide the student with a complete understanding of this technology. The Student will gain a thorough knowledge of the theory and applications of medium voltage termination and splicing of both heat shrink and cold-applied technology. The topics covered will be cable theory, stress in cables, stress at end of cable when shield is removed when terminating, hands-on installation of materials, why cables are spliced and more. There will be various hands-on exercises and periodic tests to determine comprehension level.

**T-165****Understanding and Applying AC Drives (Square D)**

This course teaches the student an overview of AC Drives from basic principles of operation and set-up to a variety of Drives packaging and application possibilities with hands-on labs to experience programming via keypad or PC. Drives issues with motors, load types, braking and noise will be discussed. Drives communications using Ethernet will be discussed and Bluetooth Communications will be demonstrated. PowerPoint presentations along with motor demo cases and a number of different model Drives will be used to teach the function and features commonly used in Drive applications. Students are encouraged to bring their own laptops to use. This is an ideal course for instructors who teach motor control to the apprentice or Journeymen, or anyone who works with AC Variable Speed Drive Equipment.

**200 LEVEL COURSES****(All 200 Level Courses are 32 Hours unless specified)****T201****Audio Technology Course, How to Teach the NJATC Installer/Technician**

This is a combined course designed to prepare students to teach Lessons 1 through 9 of the NJATC Installer/Technician Paging and Voice Evacuation Systems Curriculum and Lessons 1 through 14 of the NJATC Installer/Technician Sound Reinforcement Curriculum using the associated NJATC workbook, text, assorted classroom instructional aids and selected lab equipment where required to illustrate and demonstrate specific paging and sound reinforcement applications. Topics covered in this course from paging will include basic terminology and definitions, introduction to distributed sound systems, constant voltage and self amplified systems, mixers, and amplifiers, telephone and VoIP interface devices, speaker and horn installation, design and layout, applicable NEC requirements and sound masking. The sound reinforcement portion will expand on the role of sound system reinforcement and include topics on how sound is measured, sound indoors and outdoors, how to read and interpret specifications, microphones, amps, preamps, mixing consoles, loudspeakers, signal processing equipment, cabling, test equipment, and an overview of MIDI and sound synchronization. At the conclusion of this training, it is intended that students will be ready to teach both the NJATC Installer/Technician Paging and Voice Evacuation Systems Curriculum and the NJATC Installer/Technician Sound Reinforcement Curriculum.

**T203****Cable Splicing – Module I, How to Teach the NJATC****36 HOURS**

This is the first module of the NJATC's four module hands-on cable splicing course. This course will provide instruction in the different types of cable, specialty tools and materials used in medium to high voltage work (typically 2,000 - 35,000 volts). Cable end preparation is covered and general safety practices will be discussed. This is a hands-on course and all participants will construct several hand taped 5-kV and 15-kV straight splices and terminations. Materials are presented from several different manufacturers of cable splicing materials. This course is the prerequisite for all the other modules of the NJATC's cable splicing course. **Please note this class will meet ½ day on Wednesday.**

**T205****Code Calculations Course, How to Teach the NJATC**

The object of this course is to gain a more complete understanding of the NEC by preparing and using detailed calculations in accordance with the 2008 National Electrical Code. Specific training methods used in presenting the NEC material will be stressed during the presentations. The course will showcase the new 2008 NJATC textbook and Instructors Guide for the NJATC Code Calculations based on the 2008 NEC. **Note: A battery-operated scientific calculator, notebook, writing material and highlighter is recommended. Participants must bring a copy of the 2008 NEC®.**

**T207****Electrical Safety-Related Work Practices Based on 70E, How to Teach the NJATC**

More and more programs and contractors are reporting an increasing trend of customers and project managers requiring 70E training for electrical workers. This course is intended for instructors teaching the NJATC's Electrical Safety-Related Work Practices based on 70E curriculum, Third Year Inside instructors, those looking to master the NJATC's safety-related curriculum, as well as those looking for a greater understanding of a wide range of electrical safety-related topics. The course will cover key concepts contained in the *NJATC's Electrical Safety-Related Work Practices based on 70E* textbook and associated curriculum and the manner in which these lessons should be covered with students. Although not provided, the PowerPoint® CD (S444CD) and NJATC Course Presentation Software (A3CDK) will be demonstrated and used as part of this course.

**Participants must bring a copy of the 2008 edition of NFPA 70E with them.**

**T209****Fire Alarm Systems Introduction (Hands-On), How to Teach the NJATC**

This course is intended to prepare students to instruct NJATC Fire Alarm Systems Startup. The course is designed to closely follow NECA 305 and prepare students/instructors for field installation. At the conclusion of this training, it is

intended that students have knowledge of installation, basic troubleshooting and programming of fire alarm controls and field devices.

### T211

#### **Grounding, How to Teach**

This course is intended for instructors teaching the NJATC's Grounding curriculum, Third Year Inside instructors, those looking to master the NJATC's Code-related curriculum, as well as those looking for a greater understanding of a wide range of grounding-related topics. The course will cover key grounding and bonding concepts contained in the NJATC Grounding Workbook and the manner in which these lessons should be covered with students. The course is primarily based on the authoritative text *Soares Book on Grounding and Bonding* and clearly explains the fundamentals and practice of grounding in easily understood language. Dozens of color illustrations and photos of actual installations clarify and simplify the fundamental principles of grounding and bonding. Participants will have a better understanding on the application of Code rules, aiding Code users in learning how to study the Code, and how to install according to electrical safety Code rules. Although not provided, the Soares Grounding and Bonding PowerPoint® CD (S36805CD) and NJATC Course Presentation Software (A3CDK) will be demonstrated and used as part of this course. **Participants must bring a copy of the 2008 NEC®.**

### T213

#### **Fundamentals of Instrumentation Course, How to Teach the NJATC**

**36 HOURS**

#### **PREREQUISITES: UNDERSTANDING & KNOWLEDGE OF THE FLUKE 744**

This course format includes classroom instruction and a high level of participant-interactive exercises. Exercises involve the complete step-by-step process of the progressions needed to complete the installation and calibration of measurement devices to applicable standards utilized in the Instrument and Controls (I&C) field of work. Classroom participation includes lesson objectives intended to develop the participant's working knowledge of measurement and control concepts, measurement devices, and control fundamentals. Interactive computer based training (CBT) aids, PowerPoint® presentations, and lesson plans are presented to the participant as instructional aids for classroom participation in their respective Training Center. This course will present the 2nd edition of the NJATC textbook, *The Fundamentals of Instrumentation* with additional subject matter. **Please note this class will meet ½ day on Wednesday.**

### T215

#### **Local Area Networks Course, How to Teach the NJATC Installer/Technician**

This course is designed to prepare students to teach Lessons 1 through 30 of the NJATC Installer/Technician Local Area Networks Curriculum, using the associated NJATC workbook, text, assorted classroom instructional aids and selected lab equipment where required to illustrate and demonstrate specific telephony systems applications. Topics covered in this course will include basic terminology and definitions, Ethernet basics, OSI model, networking PCs, security, network operating systems, legacy and new technologies and topologies, TCP/IP, IP addressing, protocols, DSL, wireless, RAID and basic troubleshooting. At the conclusion of this training, it is intended that students will be ready to teach the NJATC Installer/Technician Local Area Networks Curriculum.

### T217

#### **OSHA 500**

#### **PREREQUISITES: OSHA 30 HR CONSTRUCTION CARD OR EQUIVALENT**

**36 HOURS**

More and more programs and contractors are reporting an increasing trend of customers and project managers requiring OSHA cards to work on projects. This course prepares and authorizes instructors to conduct OSHA 10-Hour or OSHA 30-Hour construction courses and issue OSHA 10-Hour or OSHA 30-Hour cards to their students. During the comprehensive coverage of the material, including OSHA's requirements for course content, instructor-friendly audio-visual material and NJATC-developed curriculum and lesson plans are featured. **Please note this class will meet ½ day on Wednesday.**

### T219

#### **Installing Photovoltaic Systems Course, How to Teach the NJATC**

This 32-Hour course is intended for instructors teaching the NJATC course Installing Photovoltaic Systems, and provides an overview of curriculum materials including course textbook, student workbook, lab manual, instructor guide and presentation materials. The course format includes classroom instruction and hands-on interactive

exercises, as well as methods to evaluate course instruction and student learning objectives. Lesson plans in the workbook parallel chapters in the text, and cover fundamentals of PV systems and equipment, and code-compliant installation requirements. Sample lab exercises cover variations on equipment and procedures that are used to meet learning objectives. Emphasis is also placed on how to achieve National Instructor and Practitioner Certification in the field.

### **T221**

#### **Residential Advanced Technology Lessons, How to Teach the NJATC**

This course is offered to introduce local JATC instructors to the proper methods used for teaching advanced residential systems using the NJATC curriculum, assorted classroom instructional aids and selected lab equipment where required to illustrate and demonstrate specific advanced residential systems applications. This course concentrates on teaching Residential Advanced Technology Systems using Heathkit's® series of Residential Advanced Technology Systems textbooks (*Residential Cabling Technologies, Residential Audio and Video Systems, Security, Access Control and Surveillance, Automating and Integrating Residential Systems*) accompanied by the 29 lessons found in the NJATC Residential Advanced Technology Workbook. These are the advanced residential technology lessons that are customarily taught in the Third Year of a Residential or Installer/Technician Apprenticeship Program.

### **T223**

#### **Security Systems Course, How to Teach the NJATC Installer/Technician**

This course is designed to prepare students to teach Lessons 1 through 15 of the NJATC Installer/Technician Security Systems Curriculum, using the associated NJATC workbook, text, assorted classroom instructional aids and selected lab equipment where required to illustrate and demonstrate specific security and access control systems applications. Topics covered in this course will include basic terminology and definitions, security systems overview, magnetic contacts, motion sensing, glass break sensors, control panels and key pads, security system design, introduction to access control; access cards, codes and biometrics; doors, gates, turnstiles and their locking mechanisms; sensor technology, computers and communication and EAC system design. At the conclusion of this training, it is intended that students will be ready to teach the NJATC Installer/Technician Security Curriculum.

### **T225**

#### **AMP ACT I (AN AMP ACT<sup>SM</sup> COURSE) Train-the-Trainer (TYCO)**

##### **PREREQUISITES: AMP ACT I**

This course covers termination and installation practices according to the TIA/EIA Standards, cable pulling and handling, installation issues such as rough in of closets, boxes and outlets, administration issues such as documentation and labeling. Students will receive information on tooling requirements and student materials required to facilitate the course at their local JATC Training Center. Each TTT student will receive a student course manual, an instructor manual with lesson plans and all of the visual aids (overhead slides) required to conduct the course.

**Please note this class will meet ½ day on Wednesday.**

### **T227**

#### **Basic Estimating of Electrical Construction (NECA-MEI)**

This course is intensive classroom instruction in the fundamentals of estimating electrical construction. It is for those with little or no experience in estimating or those seasoned estimators looking to sharpen their skills. Materials include textbook, *Manual of Labor Units*, reference books, sample drawings, and specification and worksheets for each student. This course is a must for those who find themselves frustrated by the current bid market and continue to question their efforts in compiling a "competitive" bid. The principles taught will help you eliminate careless mistakes which cost your company its very existence. **Note: The following items are necessary and should be brought by each attendee of this course: one engineer scale, one architect scale, rotameter with 1/4" and 1/8" scale, counter, calculator, and a set of colored pencils or highlighters.**

### **T229**

#### **Fiber Optic Installation – Hands On Training for Instructors**

This 32-hour course is for instructors who currently teach fiber optics or plan to do so in the future. It will provide an education in fiber optic installation practices as well as extensive labs to develop skills in installation practices and better understand how to teach them. It will also prepare them for the FOA CFOT certification exam and certification

as an FOA instructor. The focus will be on preparation for teaching apprenticeship or Journeyman classes using the complete FOA curriculum they receive as part of the course or any other curriculum they choose.

**T231****Thermographic Applications for Predictive Maintenance** (*Fluke Corporation*)

This course covers the theory and applications of infrared thermography in the preventive maintenance, quality assurance, condition monitoring and non-destructive testing of material fields. This class focuses on qualitative thermography and how to collect data and follow proven and published inspection procedures. Upon completion students will be able to capture clear thermograms and make basic inferences and diagnosis. Level I material includes infrared theory, heat transfer concepts, operation of thermal imaging equipment and specific recommendations on how to make quality thermal images that are clear, concise and easy to interpret.

**T233****Transformers Course (For Inside Wireman)**

The Transformer course uses the NJATC *Transformers Principles and Applications* text. This text and new workbook will enter the curriculum in 2008. This course provides a comprehensive overview of transformer operations, maintenance, installation, and troubleshooting. All curriculum lessons will be reviewed along with the supplemental CD that is included with the text. Instruction delivery methods and techniques will also be covered. Topics from the book include: Transformer Connections, Harmonics, Power Generation/Distribution, Reactors, Isolation Transformers, Autotransformers, Buck-Boost Transformers, Maintenance, and Troubleshooting. Also covered in the course is the functionality of the Course Presentation Software. This software allows the instructor to cover the lessons in a presentation format with a multimedia projector. All Transformer lessons will be reviewed in this manner.

**T235****TSLAN 500 Hands-On Fiber Optic Training Course for Local Area Networks****40 HOURS**

This is a five-day hands-on course that prepares craftsmen for all aspects of fiber optic cable installation in a local area network environment. Both multimode and single-mode fiber types are covered. Cable placement, fusion and mechanical splicing, cable termination (connector installation and pigtail splicing), and acceptance testing are taught with extensive hands-on practice. Students build, test, and troubleshoot complete single-mode and multimode systems in this class. Also covered is the use of equipment, hardware and procedures pertaining to building distributed and campus applications. **Please note this course starts on Saturday at 8am for all students. If you sign up for this course, you must be in attendance on Saturday all day.**

**T237****Understanding AC Theory**

This course uses the NJATC *AC Theory* text. AC Theory is the core of the electrical construction world and all electricians must have a complete understanding of the subject. AC theory is required before the student can study courses such as instrumentation, transformers, etc. Due to the large amount of information, the course is broken down into two courses. This course will provide instructional techniques for the basic topics of AC Theory. Also covered in the course is the functionality of the Course Presentation Software. This software allows the instructor to cover the lessons in a presentation format with a multimedia projector. All AC Theory lessons will be reviewed in this manner.

**T239****Understanding DC Theory Course**

This course uses the new NJATC *DC Theory* textbook. This class is designed to help instructors understand DC Theory and to gather instructional delivery methods. DC Theory is arguably one of the most important subjects an apprentice will study throughout the apprenticeship and is also theory that is used on a daily basis. This course will provide the instructor with the knowledge to present DC Theory thoroughly in the classroom. The course will cover each lesson and all lab experiments associated with the lesson. Also covered in the course is the functionality of the Course Presentation Software. This software allows the instructor to cover the lessons in a presentation format with a multimedia projector. All DC Theory lessons will be reviewed in this manner. This course will also cover the NJATC errata process and will explain how to use additional tools on the NJATC website.

**T241**

**Understanding Digital Electronics Course**

This course uses the NJATC textbook on *Digital Electronics*. The book includes real-world examples along with detailed theory. This class is designed to help instructors understand Digital Electronics and to gather instructional delivery methods. Today, Digital Electronics is replacing nearly everything that use to be based on analog electronics. This course will provide the instructor with the knowledge to present Semiconductors thoroughly in the classroom. Also covered in the course is the functionality of the Course Presentation Software. This software allows the instructor to cover the lessons in a presentation format with a multimedia projector. All Digital Electronics lessons will be reviewed in this manner.

**T243**

**Understanding Semiconductors Course**

This course uses the NJATC *Semiconductors* text. This class is designed to help instructors understand Semiconductors and to gather instructional delivery methods. Today, semiconductor electronics is the backbone in nearly every electronic device we use. This course will provide the instructor with the knowledge to present Semiconductors thoroughly in the classroom. Also covered in the course is the functionality of the Course Presentation Software. This software allows the instructor to cover the lessons in a presentation format with a multimedia projector. All Semiconductor lessons will be reviewed in this manner.

**300 LEVEL COURSES**

**T301**

**OSHA 502**

**PREREQUISITES: OSHA 500**

**COST: \$ 445.00**

**DATES: 7/30 (8AM – 5PM), 7/31 (8AM-5PM), 8/1 (8AM – 12N)**

**LENGTH: 20 HOURS**

This course is for anyone who holds a current OSHA 500 authorization and wants to meet their upgrade requirement. In addition to now including Disaster Response content, this course emphasizes the recent changes to OSHA 29 CFR Part 1926 Construction Standards and updates on OSHA policies and procedures.

**Participants must hold a current OSHA 500 card to take this class.**

**T303**

**Coyne Instructor Trainer Refresher (Coyne First Aid)**

**PREREQUISITES: CPR/First Aid**

**COST: \$110.00**

**DATES: 8/1/09 (8am-5pm)**

**LENGTH: 8 Hours**

The all new course materials incorporate the latest International Guidelines for Cardiopulmonary Resuscitation, public access defibrillation, and our new teaching methodology. The first aid section has also been updated. Due to these extensive improvements, all instructor trainers who have not yet been updated in the new protocols are encouraged to attend.

**T305**

**Coyne Pediatric Basic Life Support (Coyne First Aid)**

**PREREQUISITES: CPR/First Aid**

**COST: \$110.00**

**DATES: 8/2/09 (8am-12 noon)**

**LENGTH: 4 Hours**

This course is directed towards providing basic life support to children (infants - 12 years of age). This course takes approximately 4 hours and is a continuation of the CPR/First Aid training provided by Coyne First Aid. Every program should have a trainer qualified to teach pediatric basic life support.

**T307**

**PowerPoint® for Instructional Use**

**PREREQUISITES: BASIC COMPUTER KNOWLEDGE**

**COST: \$225.00**

**DATES: 7/31 (8AM-5PM), 8/1 (8AM-12N)**

**LENGTH: 12 HOURS**

This course is for individuals who have basic computer knowledge, but need to sharpen PowerPoint skills for instructional use. PowerPoint® can help you organize, powerfully illustrate, and professionally deliver your ideas.

This course will explore the usefulness and techniques of PowerPoint® in the instructional setting. Some of the course components are working with templates, multi-media, office suite, using toolbars, automations and styles, and how to build an interactive presentation.

**T309****AMP ACT<sup>SM</sup> I – Installing Premises Cabling Systems Instructor Update (TYCO)****PREREQUISITES: AMP ACT<sup>SM</sup> I Train-the-Trainer****COST: \$195.00****Dates: 8/1/09 (8AM-5PM)****LENGTH: 8 Hours**

This course is for all AMP ACT<sup>SM</sup> I instructors that have not taught the course in the past year. The instructor is brought up to date on the entire course lesson plan. Instructors receive a new instructor's manual, lesson plan, a set of the course slides on a CD, and many helpful hints on how to make their instruction just as effective and informative as possible. This is an 8-hour, one-day class.

**T311****Craft Certification Performance Evaluation Training****COST: \$150.00****Dates: 7/30/09 (1PM-5PM)****LENGTH: 12 Hours****7/31/09 (8AM-5PM)**

This 1 ½ Day/12-Hour Training will prepare individuals to perform the Craft Certification Incremental (Level 1-5) Performance Evaluations, as well as the 4-Hour (Level 6) Performance Evaluation. Hands-On Evaluations are used to evaluate an individual's skills in electrical system layout and installation. The course focuses on the processes necessary to perform a satisfactory performance evaluation and will provide certification to individuals who need to perform these evaluations. After completing this course, the only additional step an individual will need to be able to conduct evaluations will be to document their Certification Booth through the submission of the Booth Verification Form and submission of specific digital documentation photographs of their completed booth(s). This Class is **NOT** for administering the written Craft Certification Exams.

**T313****Premises Cabling Installation/FOA CPCT Certification****COST: \$275.00****Dates: 7/30/09 (8AM-5PM)****LENGTH: 16 Hours****7/31/09 (8AM-5PM)**

This 2-day course is for instructors who currently teach premises cabling (also called low voltage or structured cabling) or plan to do so in the future. It will cover material appropriate to teach a premises cabling course covering copper and fiber optic cabling and wireless, prepare for the new FOA CPCT (Certified Premises Cabling Technician) exam. The FOA is offering a new premises cabling certification that updates traditional structured cabling courses to the reality of cabling installations today. Cabling is no longer just Cat 5/5e/6 UTP cabling. Cabling networks generally include fiber optic backbones and wireless access points, and even UTP cabling to the desk top is declining in importance as more users become mobile using wireless. The new FOA curriculum and certification reflect these changes.

**T315****Data Center Technology and Standards Overview (TYCO)****Dates: 8/1/09 (8AM-5PM)****COST: \$125.00****LENGTH: 8 Hours**

With the implementation of the ANSI/TIA-942 standard, there are now basic concepts in place regarding how data centers should be designed. This one day course provides an overview of the technology, associated industry standards, and basic concepts regarding data centers. It also provides awareness for the prospective data center designer or customer, or the appropriate architecture and design considerations required to create an efficient and fully functional data center.

## GRADUATION CEREMONY

MEMBERS OF THE 2009 GRADUATING class are required to wear **appropriate attire** to the Graduation Ceremony (coat and tie for the men, semi-formal for the women). A coat and tie will be provided for the yearbook picture at registration. Please Remember - **NO COAT, TIE, DARK SOCKS, AND DRESS SHOES AT GRADUATION---NO DIPLOMA!**

## PHOTO SESSIONS

**ONLY GRADUATING PARTICIPANTS** of the Institute are to have their individual picture taken During the Trade Show. Hours for having your picture taken will be posted at the Trade Show entrance.

## GROUP PHOTO

We will take the group photo, including family members, at the Hill Auditorium on Sunday evening August 2, 2009 prior to the Opening Ceremony. Buses will start transporting participants from the class areas and hotels at 5:00 p.m. to the Hill Auditorium.

## 2009 NTI Tours and Activities

### Monday, August 3

#### Shopping Trip to Birch Run/Prime Outlets

\$20.00 per person – 45 person minimum

Depart University of Michigan at 8:30 a.m. with shopping from 10:00 a.m.-4:00 p.m. Return to University of Michigan at 5:30 p.m.

*The largest outlet center in the Midwest: Prime Outlets - Birch Run features 145 of your favorite brand name stores and is a shopping destination for guests from all over the state of Michigan, as well as Indiana, Ohio and Ontario, Canada.*

### Tuesday, August 4

#### Matthaei Botanical Gardens

\$16.00 per person (includes entrance) – 45 person minimum

Depart University of Michigan at 10:00 a.m. and return at 2:00 p.m.

*The Matthaei Botanical Gardens exist to inspire and enrich people's lives through contact with plants and nature; recognize the restorative value of nature and beautiful gardens; engage scientists and artists in research, teaching, and outreach activities; apply ecological principles in our horticulture and land stewardship; advance sustainable practices and the conservation of biodiversity, particularly that of the Great Lakes Region.*

#### Detroit Tigers Game

\$50.00 per person (includes entrance, soda, hot dog) – 45 person minimum

Depart University of Michigan at 5:30 p.m., game time starts at 7:05 p.m. Bus will return to the University of Michigan after the game.

*The Detroit Tigers take on the Baltimore Orioles at beautiful Comerica Park in downtown Detroit.*

## Wednesday, August 5

### **Greenfield Village and Ford Rouge Tour**

\$56.00 per person (includes village and tour entrance fees) – 45 person minimum

Depart University of Michigan at 12:30 a.m. and return at 7:30 p.m.

*Entering Greenfield Village is like stepping into an 80-acre time machine. It takes you back to the sights, sounds and sensations of America's past. There are 83 authentic, historic structures, from Noah Webster's home where he wrote the first American dictionary to Thomas Edison's Menlo Park laboratory to the courthouse where Abraham Lincoln practiced law.*

*More than a walk along an assembly line, the Ford Rouge Factory Tour is an excursion where environmental innovation and industrial production combine.*

### **Greektown Casino**

\$18.00 per person (each person will receive a \$20.00 players card at the casino)

Depart University of Michigan at 12:30 p.m. and return at 7:30 p.m.

*Greektown Casino now has 100,000 square feet of total gaming space! That's more than 2,600 slot machines. We feature the most exciting slots, video poker machines, poker room and table games in Detroit.*

### **Detroit Princess Riverboat Cruise**

\$61.00 per person (includes meal and gratuity) – 45 person minimum

Depart University of Michigan at 5:30 p.m. and return at 10:30 p.m. (Greektown trip passengers can ride the Detroit People Mover to the Riverboat Cruise dock.)

*Enjoy a wonderful meal and beautiful skylines as you cruise the Detroit River on a marvelous vessel while listening to 'The Prolifics' Motown Revue*

## Thursday, August 6

### **Shopping/Lunch in Frankenmuth**

\$36.00 per person (includes lunch at the Bavarian Inn)

Depart University of Michigan at 8:30 a.m. and return at 5:30 p.m.

*There are a great number of things for you and your family to do in Frankenmuth. With festivities year round, the town welcomes visitors with Bavarian hospitality regardless of the season. Enjoy Michigan's "Little Bavaria".*

**NTI Graduation will be at 6:00 p.m. at the Hill Auditorium with Completion Party to follow (outdoors) on Ingall's Mall (more information to follow).**

**Technical Course  
cancellations will be  
on June 20<sup>th</sup> if minimum  
enrollment has not  
been met.**