



The
**Electrical
Board** of Missouri
and Illinois

EDUCATION COURSES 2010-11 SCHEDULE

THE INFORMATION BELOW IS TAKEN FROM OUR PRINTED EDUCATIONAL BROCHURES. IF YOU WOULD LIKE A PRINTED BROCHURE MAILED TO YOU, PLEASE EMAIL YOUR NAME AND ADDRESS TO annie@electricalboard.org OR CALL 636/305-6434.

WE HOPE THAT BY MAKING OUR CLASS SCHEDULE ACCESSIBLE VIA EMAIL, YOU CAN FORWARD THEM EASILY TO OTHERS IN YOUR COMPANY OR TO YOUR VALUED CUSTOMERS, WHO MAY BE LOOKING FOR THESE SEMINARS/CLASSES. WE ALWAYS HEAR FROM OUR ATTENDEES THAT THEY DID NOT KNOW THESE COURSES WERE AVAILABLE UNTIL THEY HEARD ABOUT IT THROUGH AN ELECTRICAL BOARD MEMBER OR PAST CLASS PARTICIPANT. BY WORKING TOGETHER, WE CAN LET MORE COMPANIES KNOW ABOUT THE ELECTRICAL BOARD'S EDUCATIONAL PROGRAM.

The
**Electrical
Board** of Missouri
and Illinois

SPONSORED BY  Ameren



**St. Charles Convention Center
St. Charles, Missouri**

EXPO SHOW HOURS

Tuesday • March 1, 2011

2:00 to 8:00 pm

Wednesday • March 2, 2011

11:00 am to 7:00 pm

FEATURING

200 Booths
Educational Seminars
Manufacturers of Electrical Equipment
Product Information/Literature

IAEI CODE CONFERENCE

Analysis of 2011 NEC

(Attendance at this Conference will fulfill the City of St. Louis requirements for continuing education provided the licensee attends the entire six hour session.)

All this in one place on March 1-2, 2011

If you miss EXPO 2011, it's a long wait until EXPO 2014!

There is no charge for attending the EXPO, but a fee is required to attend the seminars and IAEI Code Conference.

Call the EBMI office at **636.305.6434** for more information,
or visit our web site at www.electricalboard.org

MORE POWER TO YOU...

ELECTRICAL SHOCK AND ARC FLASH PROTECTION	PAGE 16
FUNDAMENTALS OF ELECTRICAL THEORY	PAGE 6
GROUNDING	PAGE 10
NEC CALCULATIONS	PAGE 12
PRACTICAL APPLICATIONS OF ELECTRICAL EQUIPMENT & DEVICES	PAGE 5
PROGRAMMABLE LOGIC CONTROLLERS	PAGE 9
PROTECTION OF ELECTRICAL SYSTEMS	PAGE 17
READING ELECTRICAL CONSTRUCTION DRAWINGS	PAGE 14
TRANSFORMERS	PAGE 15
UNDERSTANDING MOTOR CONTROLS	PAGE 7
UNDERSTANDING THE NATIONAL ELECTRICAL CODE	PAGE 11
VARIABLE FREQUENCY DRIVES	PAGE 8
VOICE/DATA COMMUNICATION SYSTEMS	PAGE 13
ELECTRICAL SAFETY SYMPOSIUM	PAGE 18
OSHA 10 HOUR CONSTRUCTION SAFETY AND HEALTH TRAINING	PAGE 18
ADVANCED SELLING THROUGH EFFECTIVE COMMUNICATION	PAGE 20
ENROLLMENT FORM	PAGE 19

ELECTRICAL BOARD ACCEPTS VISA & MASTERCARD

**PURCHASE YOUR 2011 NATIONAL ELECTRICAL CODE
BOOK FROM THE ELECTRICAL BOARD OFFICE AT
636/305-6434. ORDER FORM ON PAGE 20.**

To: Industry Associates

From: Charlie O'Connell, Chairman
The Electrical Board Education Committee

The Electrical Board of Missouri and Illinois (EBMI) is entering its **34th year** of providing educational courses on various electrical topics to the industry.

We offer courses that provide useful and practical information. Hopefully, these courses will assist participants with the knowledge enhancement process, which is so vital to the continued success of the individual, and increase their contribution to their firm.

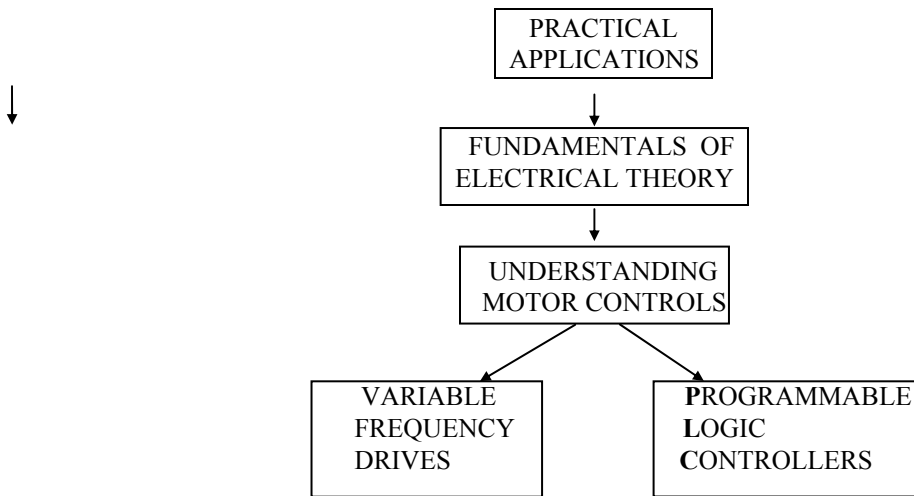
Our emphasis is on the **operation and applications** of the various electrical components being used in the industry. These courses are not intended as “manual skills training” for individuals but rather emphasize the theory, principles and applications associated with the various electrical components and systems that are discussed. Introduction of new and changing technologies will also be presented wherever possible.

The guide on the next page will assist in your selection of courses. It serves only to help direct someone to the proper course. An elementary course will provide information, which assists in understanding the more advanced topics.

If you have any questions concerning the courses, please call the Electrical Board office at 636/305-6434.

I UNDERSTAND THESE COURSES DO NOT ADDRESS WIRING SKILLS AND PROFICIENCIES, AND THAT THE ELECTRICAL BOARD, ITS OFFICERS AND INSTRUCTORS ARE HERE-BY RELEASED FROM ANY LIABILITY ARISING FROM ANY USE OR APPLICATION OF THE KNOWLEDGE GAINED FROM THESE SEMINARS/COURSES.

GUIDE FOR COURSE PARTICIPANTS



SEMINARS

- READING ELECTRICAL CONSTRUCTION DRAWINGS

CALL EBMI FOR MORE INFORMATION ON THESE SEMINARS
(636-305-6434)

- Arc Flash
- Electrical Safety Symposium
- Energy Efficiency Workshop
- Grounding and Grounding
- Electrical Services and the NEC as related to Utilities
- Protection of Electrical Systems
- 10 Hour OSHA Safety Training
- Renewable Energy Summit

COURSES

- GROUNDING
- NEC CALCULATIONS
- TRANSFORMERS
- UNDERSTANDING THE NATIONAL ELECTRICAL CODE
- VOICE/DATA COMMUNICATION SYSTEMS

REGISTRATION PROCEDURES & INFO

- 1) Complete and sign enrollment form on page 19 and fax this form to 636/305-6430. To guard against paperwork tied up in your company, we recommend that all registrations be faxed to EBMI or mailed. This will reserve a place in this class, but your registration form and payment must be forwarded!
- 2) Even if you call in your registration, all information on the registration form **MUST** be completed thoroughly by the staff, so be prepared to take the time to do so by phone if you decide not to fax the form.
- 3) An advanced rate is given **ONLY** if your **REGISTRATION FORM** is received 2 weeks prior of class. (Payment can follow later.) If form is not received two weeks prior to class, the late registration fee will be applied.
- 4) **Payment must be received by the first night of class**, unless you call EBMI in advance to indicate payment is being processed and is delayed. We realize some companies cannot process as quickly, so we will work with your company. We do accept Mastercard and Visa, but because we do not want these numbers listed on forms, we ask that you fax over your registration form first, then call us with your credit card information, 636/305-6434. We will forward a receipt to you.
- 5) Please understand that for reasons beyond our control, some classes may be cancelled and rescheduled, so your class may go one or two weeks past the nights shown in the booklet. Most of our instructors work full-time and assist us in the evening. Sometimes, they may be called out of town with business or the weather may deem it necessary to cancel class. We ask you to understand that the possibility for such changes might occur during your class and may cause you to go a few classes past the date scheduled in booklet.
- 6) Courses will be canceled one week prior to class start, if there is not sufficient enrollment. By canceling a week ahead, this allows others to transfer to another class if their 1st choice is not available. Each course has a minimum number of students that must be reached before we can offer it, so please make sure you send in your registration form early!!! Unfortunately, our class depends on advanced registration forms so we won't know if a class will run until closer to the start date. A 100% refund will be made for a class canceled by EBMI.
- 7) All students who attend 80% of the classes and do the necessary course work required for a passing grade, will receive a certificate of completion to show for their efforts. If they attend the classes, but do not pass the course, they will receive a certificate of attendance. If they are unable to attend the required number of classes, they will not receive a certificate. Each instructor will go over the required number needed on the 1st night of class, so please pay close attention.
- 8) **Jefferson County PEU requirements are that students must attend 100% of the actual classroom instructions.** They will allow a student to be absent 10% of the required hours, but only for reasons of personal illness, illness or death in their immediate family or hazardous road conditions. This is Jefferson County's rule, not EBMI's.

REFUND POLICY - If you withdraw before the class starts, we will refund the enrollment fee minus the registration fee. After the first night of class, you will receive 50% of enrollment fee. After the second night, 25% will be refunded. **No refunds will be made after the third night of class.** Substitutions can be made.

GRADING POLICY -Each student, provided they attend the required number of classes and perform coursework to pass the class, will receive a certificate of completion for this class. Many companies use this for reimbursement. However, if your company needs a letter showing the student's grade and attendance record, in addition to the certificate of completion or attendance, please check the attendance and grade information on registrations form. This must be done in advance of the class!! We must also be provided with contact name.

PRACTICAL APPLICATIONS OF ELECTRICAL EQUIPMENT & DEVICES

INFORMATION: This course provides a working knowledge of all segments of the electrical industry and how these segments interact in the construction and MRO markets. It gives a hands-on overview of electrical products and their applications for industrial, commercial and residential applications. It is ideal for warehouse, clerical and purchasing personnel (as well as entry level sales personnel) desiring an understanding of the electrical construction industry and its practical applications. It includes terminology and definitions put into laymen's terms for a basic understanding of our industry.

- | | |
|--|---|
| 1. Overview of the Electrical Industry | 5. Fastening & Supporting; Splicing & Terminating |
| 2. Distribution Equipment & Motor Controls | 6. Wiring Devices; Signaling Equipment; Lighting Controls |
| 3. Raceways, Boxes, Enclosures & Fittings | 7. Lamps & Lighting Fixtures |
| 4. Wire, Cables & Accessories | 8. Heating & Ventilating Equipment; Electricians' Tools |

TIME AND DATES:

Sept. Class
Tuesday
6:00-8:30 p.m.
8 Sessions
Begins Sep. 14, 2010
and ends Nov. 2, 2010

Feb. Class
Tuesday
6:00-8:30 p.m.
8 Sessions
Begins Feb. 1, 2011
And ends March 29, 2011
(Class will not be held Mar. 1st)

SEPT. LOCATION

Frost
2429 Schuetz
Maryland Heights, MO 63043

FEB. LOCATION

Frost
2429 Schuetz
Maryland Heights, MO 63043

INSTRUCTOR: Jay Ellington
CDG Engineers

COST: Advanced - registrations must be received 2-weeks prior to class start.

	<u>Advanced</u>	<u>Late</u>
Employees of non-member firms	\$ 260	\$ 310
Employees of Electrical Board member firms	\$ 200	\$ 250

Includes study manual, certificate of completion and registration fee of \$75
which is non-refundable.

ENROLLMENT FORM ON PAGE 19

FUNDAMENTALS OF ELECTRICAL THEORY

Course information: The course is designed and will be taught to provide a fundamental understanding of the principles, terms, physical laws and mathematical concepts used to explain electrical circuit behavior. Areas covered will be an overview of D.C. and A. C electrical theory and introduces the student to electrical components and magnetic concepts, Ohm's Law, Kirchhoff's current and voltage Laws, and the calculation of single phase and three phase power. This instruction will be done with a short lecture on subjects and the class labs done by the students working as teams to obtain results record same and analyze results. Electrical and jobs site safety will also be covered for the students well being on jobsites. Labs will be taken from new textbook "Electrical Principles and Practices" Workbook. The companion main text, "Electrical Principles and Practices, Third Edition" will be the knowledge reference for lectures, which will be short and focused. Homework will be taken from workbook and instructor written questions. Questions will be completion type with emphasis on analyze and calculations. These will be used to determine satisfactory completion of course.

1. Math/Algebra review
 - Basic Electrical Concepts
2. Basic Circuit Components
3. Circuits, Laws and Measurements
4. Multiple-load Circuits
5. Magnetism and Electromagnetism
6. Power in AC Circuits
7. Three Phase AC Circuits
8. Inductance
9. Capacitance
10. Transformers, Motors (AC, DC)

TIME AND DATES:

Sept. Class

Tuesday

6:00-8:30 p.m.

10 Sessions

Begins Sept. 14, 2010

ends on November 16, 2010

PLACE:

Electrical Board Office
900 S. Highway Dr.-Ste. 306
Fenton, MO 63026

INSTRUCTOR:

MILT MURRY

COST: Advanced - registrations must be received 2-weeks prior to class start.

	<u>Advanced</u>	<u>Late</u>
Employees of non-member firms	\$ 290	\$ 340
Employees of Electrical Board member firms	\$ 230	\$ 280

Includes study manual, certificate of completion and registration fee of \$75 which is non-refundable.

ENROLLMENT FORM ON PAGE 19

UNDERSTANDING MOTOR CONTROLS

PDH: 20 /PEU: 10

INFORMATION: This course is designed to teach a fundamental understanding of standard Motor Control terminology and equipment design. The basic operation of various motors will be presented. However, the major emphasis of this course will be to understand how and why to correctly control a motor. Considerable emphasis will be placed on relating the physical motor control components to symbols on drawings and how they interrelate in schematic or ladder diagrams. Components discussed in this course will include, but not be limited to, circuit breakers, disconnects, fuses, starters, relays, timers, limit-switches, push buttons, starting transformers and enclosures.

1. Basic Principles
2. Industrial Symbols & Line Diagrams
3. Short Circuit Protection Devices
4. Introduction to Logic as Applied to Line Diagrams & Motor Starters
5. Solenoids, AC/DC Contactors and Motor Starters, Timers
6. Operation of Control Devices, Reversing a Three-Phase Motor and Transformer
7. Solid State Control Devices
8. Programmable Controllers
9. Maintenance and Troubleshooting
10. Review and Final Exam

TIME AND DATES:

No September class

Feb. Class
Tuesday
6:00-8:00 p.m.
10 Sessions
Begins Feb. 1, 2011
and ends April 12, 2011
(Class will not be held Mar. 1st)

PLACE:

Electrical Board Office
900 S. Highway Dr.-Ste. 306
Fenton, MO 63026

INSTRUCTOR:

DAN FAUSKA
Crescent Electrical Supply

COST: Advanced - registrations must be received 2-weeks prior to class start.

	<u>Advanced</u>	<u>Late</u>
Employees of non-member firms	\$ 290	\$ 340
Employees of Electrical Board member firms	\$ 230	\$ 280

Includes study manual, certificate of completion and registration fee of \$75 which is non-refundable.

VARIABLE FREQUENCY DRIVES

PDH: 16 / PEU: 8

INFORMATION: This course is designed to provide a practical knowledge of Variable Frequency Drives and of the Drive Applications. The intent of this course is to familiarize student with the features of different types of drives, the limitations and how these drives should be applied. Explanation of drive and application terminology will also be covered. Basic troubleshooting, programming techniques and demonstrations will be offered throughout the course.

1. Types of Variable Speed Drives
2. What is an Variable Frequency Drive
3. Variable Frequency and the A.C.
4. Power Switching Devices
5. Protective Devices & Circuits
6. Application Considerations, Interface Capabilities, Set-up Adjustments
7. **Applications associated with HVAC and pumping Industries**
8. Programming, Troubleshooting and Preventive Maintenance

TIME AND DATES:

Sept. Class

Tuesday
6:00-8:00 p.m.
8 Sessions
Begins Sep. 14 2010
and ends Nov. 2, 2010

Feb. Class

Tuesday
6:00-8:00 p.m.
8 Sessions
Begins Feb. 1, 2011
and ends March 29, 2011
(Class will not be held Mar. 1st)

PLACE:

Control Technicians, Inc.
102 Trade Center Drive
St. Peters, MO 63376

INSTRUCTOR:

PAUL TUCKER
Control Technicians, Inc

COST: Advanced - registrations must be received 2-weeks prior to class start.

	<u>Advanced</u>	<u>Late</u>
Employees of non-member firms	\$ 290	\$ 340
Employees of Electrical Board member firms	\$ 230	\$ 280

Includes study manual, certificate of completion and registration fee of \$75 which is non-refundable

PROGRAMMABLE LOGIC CONTROLLERS & Smart Relays

PDH: 25

INFORMATION: This course provides an understanding of Programmable Logic Controllers (PLC), their selection and programming. It requires an understanding of hard-wired electrical controls, electrical ladder schematics and the fundamentals of PLC use. Student programming practice is also included.

- | | |
|--|--|
| 1. PLC Fundamentals &
Interfacing with the Real World | 5. Documenting the System |
| 2. Basic Program Concepts Review | 6. Application, Start-up Considerations
and Maintenance |
| 3. Complex Function Instruction
Concepts | 7. Programming Practice |
| 4. Programming the Controller | 8. Programming Practice |
| | 9. Programming Practice |
| | 10. Programming Practice |

TIME AND DATES:

Sept. Class
Thursday
6:00-8:30 p.m.
10 Sessions
Begins Sep. 16, 2010
and ends Nov. 18, 2010

PLACE:

Frost
2429 Schuetz
Maryland Heights, MO 63043

INSTRUCTOR:

JOE TAUSER
Joseph Tauser & Associates, Inc

COST: Advanced - registrations must be received 2-weeks prior to class start.

	<u>Advanced</u>	<u>Late</u>
Employees of non-member firms	\$ 415	\$ 465
Employees of Electrical Board member firms	\$ 355	\$ 405

Includes study manual, certificate of completion and
registration fee of \$100 which is non-refundable

ENROLLMENT FORM ON PAGE 19

GROUNDING

PDH: 10 / PEU: 5

INFORMATION: This course is intended to provide a clearer understanding on the subject of Grounding. The basic physics of grounding will be reviewed and compared to the National Electrical Code. We are recommending this course to electricians, electrical contractors, consulting engineers, utility and industrial maintenance personnel.

1. Definitions; Purposes; Physics; Electrical Systems
2. Grounding Electrical Systems; Main Bonding Jumpers
3. Grounding Electrode Systems; Equipment Grounding Systems; Clearing Ground Faults & Short Circuits
4. Separately Derived Systems
5. Grounding at more than One Building; Ground Fault Protection; Special Locations

TIME AND DATES:

Sept. Class

Thursday
6:00-8:00 p.m.
5 Sessions
Begins Sept. 23, 2010
and ends Oct. 21, 2010

Feb. Class

Thursday
6:00-8:00 p.m.
5 Sessions
Begins Feb. 24, 2011
and ends March 24, 2011

PLACE:

Electrical Board Office
900 S. Highway Dr – Ste. 306
Fenton, MO 63026

Electrical Board Office
900 S. Highway Dr. – Ste. 306
Fenton, MO 63026

INSTRUCTOR: KEITH COOPER, McClure Engineering

COST: Advanced - registrations must be received 2-weeks prior to class start.

	<u>Advanced</u>	<u>Late</u>
Employees of non-member firms	\$ 290	\$ 340
Employees of Electrical Board member firms	\$ 230	\$ 280

Includes study manual, certificate of completion and registration fee of \$75 which is non-refundable

**UNDERSTANDING THE
NATIONAL ELECTRICAL CODE
(Based on 2008 N.E.C.)**

PDH: 60 / PEU: 30

INFORMATION: This detailed course is designed to unlock the mystery, clarify the gray areas, and the how and where to apply the code. This class is based on the 2008 N.E.C. A study manual and workbook with questions are included in class fees.

Please bring your own 2008 Code Book. If you need a 2008 Code Book, add \$50 to the class fees below.

TIME AND DATES:

Sept. Class - FULL

Monday - 20 Sessions

6:00-9:00 p.m.

Begins Sep. 13, 2010

and ends Feb. 7, 2011

(Class will not be held on

Sept. 20th and Dec 27th)

Sept. Class - OPEN

Wednesday - 20 Sessions

6:00-9:00 p.m.

Begins Sep. 15, 2010

and ends Feb. 16, 2011

(Class will not be held on

Sept 22, Nov. 24 and Dec. 22)

PLACE:

Electrical Board Office

900 S. Highway Dr.-Ste. 306

Fenton, MO 63026

PLACE:

Electrical Board Office

900 S. Highway Dr – Ste. 306

Fenton, MO 63026

INSTRUCTOR:

Jerry Feagans - City of St. Louis

Marcellus Speight – St. Louis County

COST: Advanced - registrations must be received 2-weeks prior to class start.

	<u>Advanced</u>	<u>Late</u>
Employees of non-member firms	\$ 470	\$ 520
Employees of Electrical Board member firms	\$ 410	\$ 460

Includes study manual, workbook with questions, certificate of completion and registration fee of \$100 which is non-refundable

***** (A 2008 Code book is also required. If you need one, please add \$50 to the above class fees.)**

NATIONAL ELECTRICAL CODE CALCULATIONS

PDH: 36 / PEU: 18

INFORMATION: This detailed course is designed to unlock the mystery, clarify the gray areas in performing code calculations. This class is based on the 2008 N.E.C. A study manual with questions is included in class fees.

PRE-REQUISITE: YOU HAVE TAKEN A CODE CLASS IN THE LAST 3 CODE CYCLES (2002 – 2005 - 2008). ONLY CODE CLASSES WITH A MINIMUM 24 HOURS OF CLASS TIME WILL BE ACCEPTED. SUBMIT A COPY OF YOUR CERTIFICATE OF COMPLETION ALONG WITH YOUR REGISTRATION FORM.

A 2008 Code Book is required for this class. If you need a 2008 Code Book, add \$50 to the class fees below.

TIME AND DATES:

Feb. Class

Monday

6:00-9:00 p.m.

12 Sessions

Begins Feb. 21, 2011

and ends May 9, 2011

PLACE:

Electrical Board Office
900 S. Highway Dr.-Ste. 306
Fenton, MO 63026

INSTRUCTOR:

JERRY FEAGANS – City of St. Louis
MICHAEL SMITH- Wentzel Electric

COST: Advanced - registrations must be received 2-weeks prior to class start.

	<u>Advanced</u>	<u>Late</u>
Employees of non-member firms	\$ 370	\$ 420
Employees of Electrical Board member firms	\$ 310	\$ 360

Includes study manual, workbook with questions, certificate of completion and registration fee of \$100 which is non-refundable

***** (A 2008 Code book is also required, if you need one add \$50 to the above class fees)**

VOICE/DATA COMMUNICATIONS SYSTEMS

PDH: 25 / PEU: 12.5

INFORMATION: This course is designed to provide a practical knowledge of Local Area Network cabling applications. The EIA/TIA Commercial Building Wiring Standards will be explained and simplified, as well as pertinent requirements of the National Electrical Code. The terminology of Networking often obscured by “jargon” will be explained clearly and simply. State of the art cable termination equipment for both copper thru CAT 6a (10GIG) and fiber optics will be demonstrated. Wireless and CCTV will also be discussed.

1. Introduction to UTP cabling / Principles of Transmission / Design Considerations
2. EIA/TIA Standards – Category 5e, 6, and 6a (10GIG)
3. Introduction to Networks and Wireless Networks
4. Coaxial Cable applications / CCTV Changes in the Industry
5. CCTV continued, Live demo of IP based system / Design Considerations
6. Tools and Hardware Needed for the Job / Fire stopping
7. Introduction to Fiber Optics – Theories, Principles and Installation Practices
8. Fiber optic tools and termination equipment - Epoxy Field Polish vs. Pre-Polished Connectors
9. Continuation of Fiber Infrastructure and Terminations / Demo of Fusion Splicing
10. Copper and Fiber Optic Testing and Troubleshooting

TIME AND DATES:

Sept. Class
Monday
6:00-8:30 p.m.
10 Sessions
Begins Sep. 13, 2010
and ends Nov. 15, 2010

Feb.. Class
Monday
6:00-8:30 p.m.
10 Sessions
Begins Feb. 21, 2011
and ends April 25, 2011

PLACE:

Frost
2429 Schuetz
Maryland Heights, MO 63043

INSTRUCTOR:

JOHN MacARTHUR
Frost

COST: Advanced - registrations must be received 2-weeks prior to class start.

	<u>Advanced</u>	<u>Late</u>
Employees of non-member firms	\$ 350	\$ 400
Employees of Electrical Board member firms	\$ 290	\$ 340

Includes study manual, certificate of completion and registration fee of \$75 which is non-refundable

**READING ELECTRICAL
CONSTRUCTION DRAWINGS
(A Three Evening Seminar)**

INFORMATION: This course is designed as an introductory level understanding of electrical construction plans and drawings. This group could include but not be limited to Manufacturers Agents, Utility Personnel, Plant Maintenance, Building Design Professionals, Electrical Estimators and anyone else using electrical drawings.

1. Reading Scales; Floor Plans; Site Plans; Elevations; Symbols
2. Electrical Floor Plans; Wiring; One Line Diagrams; Schedules
3. Relaying; Controls; Details; Auxiliary Systems; Specifications

TIME AND DATES:

<u>Sept. Class</u>	<u>Jan. Class</u>
Wednesday, Sept. 1, 2010	Wednesday, Jan. 12, 2011
Wednesday, Sept. 8, 2010	Wednesday, Jan. 19, 2011
Wednesday, Sept. 15, 2010	Wednesday, Jan. 26, 2011
6:00 - 8:30 p.m.	6:00 - 8:30 p.m.

PLACE:

Electrical Board Office
900 S. Highway Dr.-Ste. 306
Fenton, MO 63026

INSTRUCTOR:

Craig Hansen
William Tao & Associates

COST: Advanced - registrations must be received 2-weeks prior to class start.

	<u>Advanced</u>	<u>Late</u>
Employees of non-member firms	\$ 220	\$ 270
Employees of Electrical Board member firms	\$ 160	\$ 210

Includes study guide, certificate of completion and
registration fee of \$50 which is non-refundable

TRANSFORMERS

PDH: 8 / PEU: 4

INFORMATION: This course will provide a basic understanding of transformer operation, calculations, installation, and NEC requirements.

- 1) Transformer selection, application and basic calculations.
- 2) Unit Substation and pad mount transformers.
- 3) Energy efficient and harmonic mitigation transformers.
- 4) Installation and application considerations for Transformers

TIME AND DATES:

<u>Sept. Class</u>	<u>Feb.. Class</u>
Thursday TBD	Thursday
6:00-8:00 p.m.	6:00-8:00 p.m.
4 Sessions	4 Sessions
Begins Sep. 23, 2010	Begins Feb. 10, 2011
and ends Oct. 11, 2010	and ends Mar. 10, 2011
	(No class to be held Mar 3 rd)

PLACE:

Eaton
62 Soccer Park Dr.
Fenton, MO 63026

INSTRUCTOR:

EATON EMPLOYEES

COST: Advanced - registrations must be received 2-weeks prior to class start.

	<u>Advanced</u>	<u>Late</u>
Employees of non-member firms	\$ 220	\$ 270
Employees of Electrical Board member firms	\$ 160	\$ 210

Includes study guide, certificate of completion and registration fee of \$50 which is non-refundable

ELECTRICAL SHOCK AND ARC FLASH PROTECTION (Half Day Seminar)

PDH: 4 / PEU: 2

INFORMATION: Arc Flash is a serious workplace hazard. Ed will discuss Shock Hazard and Arc Flash Analysis (NFPA 70E and IEEE 1584).

What is arc flash?
Discuss arc flash terminology.
Overview of various codes and standards.
Discuss how an arc flash affects daily work activities.
Compare arc flash evaluation methods.
NFPA Tables & IEEE Calculations.
Hazard Risk Categories.
Mitigation techniques – De-energize; Energized work permit;
How to reduce arc energy; Warning signage;
PPE for flash protection.

Shock Hazard Analysis: Safe Work Practices; Exposure voltage;
Boundaries; PPE for shock protection; Energized work permit

TIME AND DATES:

<u>Nov. Class</u>	<u>April Class</u>
Thursday, Nov. 4, 2010	(Tentative) Thursday, April 28, 2011
8:00 -12:00 noon (AM Session)	8:00 - 12:00 noon (AM Session)
(PM session offered ONLY if AM session fills up)	
12:30 – 4:00 pm (Pm Session)	

PLACE:

The Electrical Board Office
900 S. Highway Dr.-Ste. 306
Fenton, MO 63026

INSTRUCTOR:

ED SCHERRY
Scherry Engineering

COST: Advanced - registrations must be received 2-weeks prior to seminar start.

	<u>Advanced</u>	<u>Late</u>
Employees of non-member firms	\$ 140	\$ 190
Employees of Electrical Board member firms	\$ 80	\$ 130

Includes study guide, certificate of completion and registration fee of \$30 which is non-refundable

ENROLLMENT FORM ON PAGE 19
WE ACCEPT VISA & MASTERCARD

PROTECTION OF ELECTRICAL SYSTEMS (Full Day Seminar)

PDH: 8 / PEU: 4
INFORMATION:

Conductors: The installation of cables in wood and metal framing, shallow groves, behind panels that allow access and surface mounted; Installation of cables or conductors in the earth; Explain the effects of chemicals, water, direct sunlight and other conditions; Explain overcurrent protection and short circuit protection; Importance of clearances for feeders and service conductors; Explain why fill ratio is important and affects ampacity of conductors.

Equipment: Sizing equipment for available fault current; how to determine fault current and why it is important; selecting the correct overcurrent devices; importance of signage NFPA 70E commercial not dwellings; the separation of arcing parts from combustible material; explain working clearances; minimizing shock hazards for personnel .

TIME AND DATES:

Dec. Seminar
Thursday, Dec. 8th, 2010
8:00 am - 5:00 pm

April or May Seminar
CALL EBMI FOR date
8:00 am - 5:00 pm

PLACE:

The Electrical Board Office

900 S. Highway Dr.-Ste. 306
Fenton, MO 63026

INSTRUCTOR:

JERRY FEAGANS – City of St.
Louis
MICHAEL SMITH

COST: Advanced - registrations must be received 2-weeks prior to seminar start.

	<u>Advanced</u>	<u>Late</u>
Employees of non-member firms	\$ 160	\$ 210
Employees of Electrical Board member firms	\$ 100	\$ 150

Includes study guide, certificate of completion and registration fee of \$30 which is non-refundable

ENROLLMENT FORM ON PAGE 19
WE ACCEPT VISA & MASTERCARD

OSHA 10 HOUR Construction Safety & Health Training

Thursday –November 18, 2010 - 4:30 pm – 7:30 pm

Friday –November 19, 2010 - 7:30 am – 3:30 pm

\$125 for employees of Electrical Board firms/\$175 non-members

10 pdh's/4 peu's

presented by

Chris Burgoyne

OSHA Authorized Outreach Trainer

This class covers many common hazards in the construction industry. Students will leave the class with a working knowledge of the OSHA Act, selected 29 CFR 1926 subparts, and the organization of regulations. This material has been compiled in an easy to understand format and is taught by an OSHA authorized trainer. For more information or to hold this course at your facility, call the Electrical Board office at 636-305-6434.

5th Annual "ELECTRICAL SAFETY SYMPOSIUM"

4 pdh's/2 peu's

Thursday - October 21, 2010
7:45 am to 12:00 noon

at Ameren's Auditorium
1901 Chouteau, 63103

(Over 100 people attended last year)

A panel of industry associates will discuss several aspects of electrical safety. The committee has not yet finalized the topics to be discussed. Please call the Electrical Board office to receive a flier on this program.

**Call the Electrical Board Office (636-305-6434)
for more information on this program.**

REGISTRATION FORM

(PLEASE PRINT)

SEPTEMBER - DECEMBER 2010 JANUARY – MAY 2011

Advanced registrations must be received 2-weeks prior to first night to receive advanced rates! (This form can be faxed to The Electrical Board office to qualify.)

<u>CLASS NAME</u>	<u>REGISTRANT'S NAME</u>	<u>Advanced</u>	<u>Late</u>
_____	_____	\$ _____	\$ _____
_____	_____	\$ _____	\$ _____

CODE Class Participants ONLY: In addition, I need 2008 Code book @\$50.

WE ACCEPT



A STUDENT SHOULD UNDERSTAND THESE COURSES DO NOT ADDRESS WIRING SKILLS AND PROFICIENCIES, AND THAT THE ELECTRICAL BOARD, ITS OFFICERS AND INSTRUCTORS ARE NOT RESPONSIBLE FOR ANY LIABILITY ARISING FROM ANY USE OR APPLICATION OF THE KNOWLEDGE GAINED FROM THESE COURSES.

Students attending over 80% of classes and completing recommended course work will receive a certificate at the end of class. Students needing PEU's, please see Page 4 – Section 8. However, for reimbursement, many companies require other information. If so, please check below.

Do you need attendance record? Yes No
Do you need Grade? Yes No
Do you need PEU's for Jefferson County? Yes No

Signature _____
Authorized by (Please print) _____
Company _____
Address _____
City/State/Zip _____
Work Phone: _____ and/or Cell#: _____
Fax _____ e-mail _____

(Please make copies of this form for multiple enrollments)

TO REGISTER

PHONE (636) 305-6434 **MAIL** The Electrical Board
FAX (636) 305-6430 900 S. Highway Dr.-Ste. 306
E-MAIL bill@electricalboard.org Fenton, MO 63026

ADVANCED SELLING through Effective Communication!!!

Thursday – October 14th - 8:30 am – 3:30 p.m.

\$130 for employees of Electrical Board firms/\$180 non-members

presented by

6 pdh's

Greg LaConte
Professional Corporate Trainer
LaConte & Associates

Effective communication is truly the key to successfully selling yourself or your company to a client. Being thoroughly understood and understanding others will enhance all relationships both business and personal. This powerful seminar is for everyone -- sales, purchasing, operations, customer service, engineering, human resources, etc. It is all-inclusive! For more information, call the Electrical Board office at 636-305-6434.

ORDER FORM FOR CODE BOOKS

2008 NEC Softbound - ____ @ \$50 = \$ _____

2011 NEC Softbound - ____ @ \$75 = \$ _____

2011 NEC Tabs - ____ @ \$16.50 = \$ _____

2011 NEC Handbooks - ____ @ \$149 = \$ _____

- Please ship to address listed and I will add in shipping costs below. *
- There are no shipping costs if I pick up at EBMI office. Please call when available.

***Postage and Handling**

\$10 per item except tabs - ____ @ \$10 = \$ _____

TOTAL DUE

\$ _____

Name _____ Company _____

Address _____

City, State, Zip _____

Phone _____ e-mail _____

Fax this form to EBMI Office at 636-305-6430.