



# CITY OF RAPID CITY

Growth Management Department  
300 Sixth Street  
Rapid City, South Dakota 57701-5035

## MEMORANDUM

TO: Legal & Finance Committee

FROM: Marcia Elkins, Director *ME*  
Growth Management Department

Mark Rohlfing, Chief *MR*  
Fire Department

DATE: November 11, 2009

RE: ICC International Codes Training, Denver, CO

Staff requests City Council approval of the travel request for Bernard Hall, Chief Electrical Inspector and Lon Schnittgrund, Building Inspector I, and three Fire Department staff to be determined to attend the ICC International Codes Training seminar. The purpose of the seminar is to provide continuing education to the Building Inspections and Fire Department staff and to help comply with the educational requirements of the Insurance Services Organization. Participants will earn 3.5 Continuing Education Units for the five-day seminar.

The cost of travel is estimated at \$8,037.00 and includes the following expenses:

\$602.00	transportation costs for two City vehicles
\$860.00	Meals (2/28/10-3/6/10)
\$4,800.00	Lodging (6 nights) (BI: 2-single occupancy; Fire: 3-single occupancy)
\$1,625.00	Registration @ \$325 each
\$150.00	Parking fees (2 vehicles)
\$8,037.00	Total Travel Estimate

**Staff Recommendation:** Staff recommends approval of the travel request for Bernard Hall, Chief Electrical Inspector and Lon Schnittgrund, Building Inspector I, and three Fire Department staff to be determined to attend the ICC International Codes Training seminar in Denver, Colorado, March 1-5, 2010 (travel dates February 28, 2010 and March 6, 2010) in an estimated amount of \$8,037.00.



**CITY OF RAPID CITY  
TRAVEL REQUEST**

Person requesting travel Bernard Hall Department Growth Management

I hereby request permission to travel for the following purpose: (Give specific nature of business and interest of the City to justify cost involved.)

Colorado Chapter Educational Institute

List all other City employees, if any, making the trip for the same purpose: Lon Schnittgrund, 3 Fire Department staff to be determined

Place of meeting or destination: Marriott Denver Technological Center

Date of meeting March 1-5, 2010

Date trip to begin 2-28-2010 Date trip will end 3-6-2010

Method of transportation requested city vehicles

Estimated transportation cost	<u>2 vehicles</u>	\$	<u>602.00</u>
Meals			<u>860.00</u>
Lodging	<u>6</u> days x <u>5</u>		<u>4800.00</u>
Other costs - description	<u>Registration \$325 x 5</u>		<u>1625.00</u>
	<u>parking fees</u>		<u>150.00</u>
Total estimated cost of trip		\$	<u>8037.00</u>

Signed Bernard Hall Date March 1-3-2010 Date 11-3-09  
(person requesting travel) (Department Head)

When the cost of the trip will exceed \$500, per employee, this section must be signed.

In accordance with the provisions of Rapid City ordinances and travel regulations, consent is hereby given for travel as requested in the foregoing application. Maximum cost of trip authorized is \$ \_\_\_\_\_

Approved: \_\_\_\_\_ Date \_\_\_\_\_  
Mayor

When the cost of the trip will exceed \$1,500, per event, Council approval is required.

Approved by Common Council on \_\_\_\_\_ (Date)

White copy - Mayor

Yellow copy - Finance

Gold copy - Department copy

**CELEBRATING**

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**OF COMMITMENT TO EDUCATION**

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**COLORADO CHAPTER  
EDUCATIONAL INSTITUTE**

MARCH FIRST THROUGH MARCH FIFTH  
TWO THOUSAND AND TEN

MARRIOTT DENVER TECHNOLOGICAL CENTER  
[www.coloradochaptericc.org](http://www.coloradochaptericc.org)



COLORADO CHAPTER  
EDUCATION COMMITTEE  
P.O. BOX 961  
ARVADA, COLORADO 80001

# MARCH 2010 CURRICULUM

COURSE PATH	MARCH 1 MONDAY	MARCH 2 TUESDAY	MARCH 3 WEDNESDAY	MARCH 4 THURSDAY	MARCH 5 FRIDAY
<b>SPECIAL INTEREST</b>	181 Egress Behavior and Analytical Techniques	281 Outside the Box Plan Review	381 Accessibility 202	481 The Code: Sword or Shield	581 Existing Housing & the International Prop Maint Code
<b>ENERGY CONSERVATION AND GREEN BUILDING</b>	182 Building Science 101 and the Code	282 Residential Energy Plan Review and Inspection	382 Commercial Energy Plan Review and Inspection	482 Photovoltaic Solar Systems	582 ICC 700 Green Building Standard
<b>ENGINEERING PRINCIPLES</b>	183 Soils Identification and Foundation Design	283 Construction Defects, Failures, and Repairs	383 Top to Bottom Engineering	483 Design of Wood Frame Buildings for High Wind Loading	583 Wall Bracing Provisions of the 2009 IRC
<b>BASIC PLANS EXAMINATION</b>	184 Basic Means of Egress	284 Fire-Resistive Construction	384 Plan Review and Inspection of Firestop Systems	484 Building Areas, Fire Areas & Mixed Occupancies	584 2009 IBC Update
<b>ADVANCED PLANS EXAMINATION</b>	185 2009 IBC Practical Occupancy Classification	285 2009 IBC Occupancy Based Design	385 2009 IBC Types of Construction Options	485 2009 IBC Prescriptive Means of Egress Components	585 2009 IBC Performance Based Means of Egress
<b>FIELD INSPECTION</b>	186 Combination Inspect of Small Commercial Structures	286 Accessibility 101	386 Exterior Wall Systems	486 2009 IRC Update	586 Prestressed Concrete Special Inspection
<b>FIELD INSPECTION</b>	187 2009 IRC Update	287 2009 IBC Update	387 & 487 Moisture Control, Indoor Air Pollution and Mold in Buildings		587 Roofing Inspection
<b>TECHNICAL ASPECTS</b>	188 Leadership Essentials - Power of Positive Leadership	288 & 388 The Complete Permit Technician		488 Reading Plans	588 Residential Plan Review
<b>INTERNATIONAL PLUMBING CODE</b>	189 IPC Water Distribution and Backflow Prevention	289 Plumbing for Combination Residential Insp	389 2009 IPC Update	489 Basic Plumbing Inspection	589 Commercial Plumbing Inspection
<b>INTERNATIONAL MECHANICAL CODE</b>	190 2009 International Mechanical Code	290 2009 International Fuel Gas Code	390 HVAC Fabrication & installation Standards and Procedures	490 Residential HVAC Design	590 Grease Hoods
<b>NATIONAL ELECTRICAL CODE</b>	191 & 291 101 Essential NEC Rules		391 Changes to the 2008 National Electrical Code	491 NEC Article 680 & Nonmetallic Raceways	591 Lightning and Lightning Protection
<b>INTERNATIONAL FIRE CODE</b>	192 2009 IFC Update	292 Emergency Communications Systems	392 Fire Alarm System Wiring and NEC Requirements	492 Code & Design Standards for Combustible Dust	592 Benchmarking Your Department for Excellence
<b>INTERNATIONAL FIRE CODE</b>	193 Company Officer Fire Investigation	293 Introduction to Fire Code Plan Review	393 Fire Code Plan Review Fundamentals	493 Residential Sprinklers Using P2904	593 NFPA 13D and NFPA 13R

# OVERVIEW

The Colorado Chapter of the International Code Council, along with the Fire Marshal's Association of Colorado, the Colorado Association of Plumbing and Mechanical Officials and the Colorado Association of Permit Technicians invite you to attend the Colorado Chapter's Twenty-Fifth Annual Educational Institute.

## 2010 HIGHLIGHTS

Once again 65 full-day classes in 13 different course paths, with the "best of the best" instructors from all over the United States. Class offerings include a number of new classes as well as many revised and improved versions of our most popular offerings, all based on the 2009 editions of the International Codes.

- **New!** Classes on the 2009 International Codes including two offerings each of IBC and IRC updates.
- **New!** Two new classes on residential sprinklers.
- **New!** Classes in the Engineering Principals course path to include Construction Defects and Top to Bottom Engineering.
- **New!** A class on Thru-Penetration Fire Stops, the perfect companion to the Fire Resistive Construction class.
- **New!** A new class ICC 700-2008, ICC's National Green Building Standard.
- **New!** A new class that introduces basic building science concepts and how they relate to building and energy codes.
- **New Electrical Classes!** 101 Essential NEC Rules with Mike Holt and two new classes by John Travers!
- **Updated!** A weeklong Advanced Plans Examination series with Greg Keith emphasizing the technical and philosophical relationships between major nonstructural, fire and life safety provisions found in the IBC.
- **Back and Revised!** A second Special Interest course path focusing on energy conservation, sustainability and green building.
- **Back!** "Moisture Control & Indoor Air Pollution," with the latest information on mold thrown in, from the only person who can make these subjects thoroughly entertaining, Joe Lstiburek.
- **Back!** Classes on egress behavior, accessibility, exterior wall systems and residential plan review.
- **Back and Revised!** Classes on residential and commercial energy plan review and inspection with Eric Makela.
- **Back!** A full day class on photovoltaic solar systems

- **Back!** A comprehensive course path on HVAC requirements for residential and commercial applications.
- **Hot!** Check out our International Fire Code (IFC) course paths! Ten full-day classes of top notch instruction on the most current fire prevention topics, including a number of new courses.
- **Fellowship Breakfast!** Start your day with an inspirational message along with some Christian music.

## EXHIBITS: Monday, Tuesday & Wednesday in the Atrium

- This is your opportunity to learn about the latest building and construction products and services offered by manufacturers, trade associations and related companies exhibiting at the Institute. An Exhibitors Reception will be held Monday from 4:30 pm to 6:00 pm in the exhibit area.

## REGISTRATION:

- Registration applications can now be submitted online at [www.coloradochaptericc.org](http://www.coloradochaptericc.org). Credit cards will be accepted for payment of approved applications.
- One or more persons may attend any combination of classes for 5 days total for only \$325. Individual classes are offered at \$75 per day.
- In return for the fees noted above, registrants receive instruction, handout materials, lunch, and break refreshments.
- Register early! The most popular classes fill quickly and often need to be closed.
- **REGISTRATION DEADLINE IS FEBRUARY 12, 2010. Registrations or fees made or received after February 12<sup>th</sup> and faxed registrations cannot be accepted.**
- **CEUs.** Continuing education units will be offered, with individual certificates to be issued within 90 days.
- **PUBLICATIONS.** ICC will once again have an onsite bookstore offering code books and reference materials for viewing and purchase.

## LOCATION:

- Marriott Hotel, Denver Technological Center (DTC), 4900 S. Syracuse Dr., Denver, CO 80237, south of Denver at I-25 & Belleview (Exit 199).
- Room rates are \$139/night single or double until February 13<sup>th</sup>, 2010 or until the room block is filled.
- Reservations can be made by calling 1-800-228-9290 or local number 303-779-1100. Hotel reservations can also be made on-line by using the link on [www.coloradochaptericc.org](http://www.coloradochaptericc.org), the Colorado Chapter ICC's web site. Be sure to reference the **Colorado Chapter Educational Institute** when making your reservations, and be sure to obtain those reservations as soon as possible.

# COURSES AND INSTRUCTORS

All courses will be based upon the 2009 editions of the IBC, IECC, IFGC, IFC, IMC, IPC and the IRC, and the 2008 edition of the NEC. Code books will also be available for purchase. **PLEASE BRING THE APPLICABLE CODE BOOK(S) AND/OR REFERENCE MATERIALS.** The instructors listed below are scheduled to teach, however, substitutions may be made. All classes begin at 8:00 a.m. and end at 4:30 p.m. A 1-hour lunch break is provided at noon. Course descriptions are listed by day, Monday - Friday.

## 181: EGRESS BEHAVIOR AND ANALYTICAL TECHNIQUES

**Steve Gwynne, Hughes Associates, Inc.** Human behavior is a vital component of the evacuation process. Even if not explicitly stated, the codes employed during the design process make broad assumptions regarding evacuee behavior that directly influence the results produced. This course will provide an overview of human behavior in a fire. It will discuss the factors that affect this behavior, the responses that can be expected and the impact that it has on the assessment of egress performance.

## 182: BUILDING SCIENCE 101 AND THE CODE

**Robby Schwarz, EnergyLogic and Gil Rossmiller, Town of Parker.** This class is to introduce basic building science concepts and how they relate to building and energy codes in residential construction. Discussions will include moisture flow and how it relates to the new vapor retarder classifications in the 2009 IRC, the concept of system integration (House as a System), and does the code help or not? New requirements for duct testing and blower door testing will also be explored.

## 183: SOILS IDENTIFICATION AND FOUNDATION DESIGN

**Bill Koechlein, P.E., Koechlein Consulting Engineers.** This class provides a detailed discussion and examples of soils and foundation investigations and how they're implemented into current foundation designs.

## 184: BASIC MEANS OF EGRESS

**Gary Pringey, Colorado Code Consulting (CCC), LLC.** This class is a basic overview of the means of egress requirements included in Chapter 10 of the IBC. The presentation will include detailed discussions on the design of the means of egress in buildings. Subjects included in the class are the three parts of the means of egress including occupant loads, egress width, number of exits, travel distance, common path of egress travel and exit enclosures. Practical examples will be used to illustrate code requirements.

- 185: 2009 IBC PRACTICAL OCCUPANCY CLASSIFICATION**  
**Greg Keith, P.h.D.** This class is an interactive workshop that will discuss the characteristics of the various IBC occupancy classifications in detail. Subtle differences between occupancy, use and function will be addressed. Countless detailed code requirements are based on occupancy classification and it is imperative that those using the code understand this important first step to building design and analysis. Applicable changes to the 2009 IBC will be discussed in context with discussed provisions.
- 186: COMBINATION INSPECTION OF SMALL COMMERCIAL STRUCTURES**  
**Dan Weed, CCC, LLC.** Provides new commercial inspectors with basic techniques and an understanding of conducting inspections of small commercial buildings. The discussion will include preparation, presentation and inspections of the building, plumbing, mechanical and electrical portions of a building.
- 187 & 486: 2009 INTERNATIONAL RESIDENTIAL CODE UPDATE**  
**Steve Thomas (Monday) & Gary Pringey (Thursday), CCC, LLC.** Reviews the changes from the 2006 edition to the 2009 edition of the IRC. The background behind many of the changes will be discussed to provide the participant with an understanding of the intent of the changes and how to apply it to their everyday work. Discussion covered in this class will also include the code change process.
- 188: LEADERSHIP ESSENTIALS – POWER OF POSITIVE LEADERSHIP**  
**Lynn Pollard, Pollard Consulting.** Learn how to create and maintain positive attitudes and positive thinking in yourself and others! Recognize what is required to create innovation and "buy-in" at all levels! Become a force for positive change through your positive leadership!
- 189: IPC WATER DISTRIBUTION & BACKFLOW PREVENTION**  
**John LaTorra, Redwood City, CA.** This class will be a discussion of the water distribution provision of the 2009 IPC, as well as cross connection, back flow and back siphonage hazards and related requirements.
- 190: 2009 INTERNATINONAL MECHANICAL CODE**  
**Sam Dardano, City of Boulder.** An in depth review of the 2009 IMC and an update on the 2009 IMC changes.
- 191 & 291: 101 ESSENTIAL NEC RULES**  
**Mike Holt, Mike Holt Enterprises, Inc.** Mike Holt will present a two day program covering the most important 101 Code rules that directly relate to fire and electrical shock hazards. These 101 rules were chosen by Mike as the most relevant safety rules that every electrical professional needs to be aware of.
- 192: 2009 INTERNATIONAL FIRE CODE UPDATE**  
**Fire Marshal's Association of Colorado Instructors.** This class addresses significant changes to the 2009 IFC as well as gives the beginning fire inspector a basic overview of the IFC. The class will provide the participant an understanding of the code development process and background for each code change. The instructors will be members from FMAC's teaching cadre.
- 193: COMPANY OFFICER FIRE INVESTIGATION**  
**Kevin Crawford, North Metro Fire Authority.** This class will assist the company officer at several levels of Fire Investigation including how to preserve evidence during suppression, how to identify fire damage patterns to locate the area of origin and how to recognize the need to involve Fire Investigators and other experts in the investigation process.
- 281: OUTSIDE THE BOX PLAN REVIEW**  
**Steve Thomas, CCC, LLC.** The discussion will address the review and inspections of alternate designs and performance based design. The class addresses the true intent of the code versus the prescriptive language of the code. It encourages the student to look outside the box when evaluating unusual conditions or projects. The ICC Performance Code will be reviewed as part of this class. Although not widely adopted, this code provides a method to deal with unusual conditions.
- 282: RESIDENTIAL ENERGY PLAN REVIEW AND INSPECTION**  
**Eric Makela, Britt/Makela Group** An overview of the 2009 IECC as it relates to residential occupancies, with a focus on how to perform plan review and inspections under the IECC as well as the IRC.
- 283: CONSTRUCTION DEFECTS, FAILURES, AND REPAIRS**  
**Paul J. Bennett, P.E., Knott Laboratory.** This course will be taught by a forensic engineer and will cover both structural and non structural building failures. Multiple case studies will be presented. The International Existing Building Code (IEBC) and Chapter 34 of the International Building Code (IBC) will be utilized for repair design examples. **Recommended texts:** 2009 IBC and 2009 IEBC
- 284: FIRE-RESISTIVE CONSTRUCTION**  
**Richard Walke, UL, Tom Thompson, Wally Prebis, P.E.** An in-depth discussion of the general fire-resistive requirements of Chapters 7 and 8, 2009 IBC, ASTM E-119 and other ASTM Standards, including a detailed discussion of specific fire-resistive construction requirements.
- 285: 2009 IBC OCCUPANCY BASED DESIGN REQUIREMENTS**  
**Greg Keith, P.h.D.** This class is an interactive workshop that will demonstrate the system of determining major code requirements that are based on occupancy classification. Requirements such as location on property, exterior wall fire-resistance rating and opening protective requirements, mixed occupancy design options, and allowable height and area determination will be discussed in detail. Practical exercises will reinforce the relationships between the various occupancy based design requirements. Applicable changes to the 2009 IBC will be discussed in context with discussed provisions.
- 286: ACCESSIBILITY 101**  
**Tom Meyers, CCC, LLC.** This class provides basic concepts of disabled accessible design and construction using the International Building Code and ICC/ANSI A117.1. This class will discuss WHEN accessible features are required by the IBC and HOW a building and its site is made accessible by the A117.1 Standard. This class is intended for the code user who is either new to accessible design or is in need of a refresher on the ever-changing requirements.
- 287 & 584: 2009 INTERNATIONAL BUILDING CODE UPDATE**  
**Gary Pringey (Tuesday) & Tom Meyers (Friday), CCC, LLC.** Reviews the changes from the 2006 edition to the 2009 edition of the IBC. The background behind many of the changes will be discussed to provide the participant with an understanding of the intent of the changes and how to apply it to their everyday work. Subjects covered in the class will include the code change process, mixed occupancies, atriums, accessible means of egress and many more.
- 288 & 388: THE COMPLETE PERMIT TECHNICIAN**  
**Steve Burger, Bureau Veritas.** This 2-day course is intended to provide essential information in the areas of code history and administration, legal aspects, customer service, basic construction, inspection process, zoning terms, permit fee calculations, basic occupancy, construction types, basic means of egress and dealing with difficult customers. Please bring a calculator, 2009 IBC, 2009 International Zoning Code, Legal Aspects of Code Administration and Basic Code Enforcement books.

- 289: PLUMBING FOR COMBINATION RESIDENTIAL INSPECTORS**  
**John LaTorra, Redwood City, CA.** This class will cover the plumbing provisions of the IRC, specifically intended for the combination residential inspector. Attendees will learn basic techniques and an understanding of how to conduct plumbing inspections as part of effective combination residential inspections.
- 290: 2009 INTERNATIONAL FUEL GAS CODE**  
**Sam Dardano, City of Boulder.** An in depth review of the 2009 IFGC and an update on the 2009 IFGC changes.
- 292: EMERGENCY COMMUNICATIONS SYSTEMS**  
**Scott Craig, PE and David Tomecek, PE – Hughes Associates, Inc.** The 2010 Edition of NFPA 72 will introduce the concept of Emergency Communications Systems (ECS). ECS includes many familiar notification and communication systems (such as fire alarms and firefighter telephones) and some systems new to the general public (such as mass notification systems and two-way radio communications enhancement systems). Some of these concepts are also included in the 2009 IFC, such as emergency responder radio coverage in Appendix J. Class will discuss the history, impacts and basic design features of ECS, with focus on mass notification and two-way radio enhancement systems, to familiarize users, engineers and authorities with their implementation and the associated benefits and challenges.
- 293: INTRODUCTION TO FIRE CODE PLAN REVIEW**  
**Mark Wassom, PE., Colorado Division of Fire Safety and Romeo Gervais, PE., Loveland Fire and Rescue.** This is an introductory class intended for the entry-level fire plans examiner with little or no experience with architectural plans and plan review. We will review the basics of plan review, responsibilities of plans examiners and the permit process. Students will be introduced to a step-by-step approach to performing fire code plan reviews. The course will include practical examples and question and answer sessions. Entry level students should register for both the Introductory class and the Fundamentals class on Wednesday (#393).
- 381: ACCESSIBILITY 202**  
**Tom Meyers, CCC, LLC.** Devoted to advanced accessibility requirements using the International Building Code and ICC/ANSI A117.1. Topics will include scoping for accessible design, compliance paths for existing buildings, and Accessible, Type A and Type B residential requirements. New design methods not fully addressed by the IBC will also be discussed. The class will provide Federal accessibility background to help the student negotiate the maze of regulations and their base intent in the IBC.
- 382: COMMERCIAL ENERGY PLAN REVIEW AND INSPECTION**  
**Eric Makela, Britt/Makela Group.** In addition to a basic overview of the 2009 IECC and ASHRAE 90.1, this class will focus on how to perform energy plan review and inspections for commercial occupancies.
- 383: TOP TO BOTTOM ENGINEERING**  
**Bob Malouff, P.E., Malouff Engineering.** New for 2009 - An informative interactive seminar to help you, the contractor, inspector, or plan reviewer to understand how engineering principles are applied to the building design – not from the ground up, but from the roof down. Real life examples will be provided including showing the correct way to do things and what can go wrong when key components aren't installed properly or are missed all together. **Recommended texts:** 2009 IBC and 2009 IRC
- 384: PLAN REVIEW AND INSPECTION OF FIRESTOP SYSTEMS**  
**Richard Walke, UL and Brice Miller, FireTrak.** Focus will be on understanding the requirements and referenced standards for penetrations, joints and perimeter fire containment systems covered in Sections 713 and 714 of the 2009 IBC. The understanding of these requirements and how to find systems meeting these requirements will facilitate plan review and inspection of these life safety features.
- 385: 2009 IBC TYPES OF CONSTRUCTION OPTIONS**  
**Greg Keith, P.h.D.** This class is an interactive workshop that will demonstrate the system for the determination of construction requirements based on type of construction. The differences between the various IBC types of construction categories, fire resistance, materials (noncombustible and combustible), opening protection requirements, and general high-rise and smoke control requirements will be discussed. Techniques as to how to select the proper type of construction and identify the type of construction for existing buildings will be stressed. Applicable changes to the 2009 IBC will be discussed in context with discussed provisions.
- 386: EXTERIOR WALL SYSTEMS**  
**Steve Thomas, CCC, LLC.** Water intrusion through exterior walls may be the largest problem in residential construction today. This class discusses the IBC and IRC requirements for exterior walls. General installation requirements of products will be discussed, including weather barriers, flashing, wood/hardboard siding, masonry veneer, stucco and exterior insulated finish systems (EIFS).
- 387 & 487: MOISTURE CONTROL, INDOOR AIR POLLUTION AND MOLD IN BUILDINGS**  
**Joseph Lstiburek, Building Science Corporation.** An entertaining, stimulating and thought-provoking two days that will change the way you think about how we build today's buildings. Topics include changes in building technology, why we don't build the way we used to, vapor diffusion and air flow retarders, vented & unvented roof and crawl spaces, keeping the rain & ground water out, biologicals, indoor air quality, HVAC, issues on mold and alternative materials & techniques
- 389: 2009 INTERNATIONAL PLUMBING CODE UPDATE**  
**Daryl Kuiper, Colorado Chief Plumbing Inspector.** This class will provide an overview of the 2009 IPC and all the 2009 changes.
- 390: HVAC FABRICATION & INSTALLATION STANDARDS & PROCEDURES**  
**Jerry Hall, SMACNA Colorado.** This class is designed to assist in identifying proper HVAC fabrication, installation and operation procedures for residential, commercial and industrial applications. In addition, a portion of the program will be devoted to a review of established methods of inspecting HVAC components. The program will utilize hands-on training, textbook learning and open dialogue to examine HVAC problems that are encountered in the field on a daily basis.
- 391: CHANGES TO THE 2008 NATIONAL ELECTRICAL CODE**  
**John Travers, Hialeah, FL.** This course covers major changes in the 2008 National Electric Code and the impact these changes have on Electricians, Contractors and Inspectors.
- 392: FIRE ALARM SYSTEM WIRING AND NEC REQUIREMENTS**  
**Tim Moroney, Code Consultants International, Inc.** This class is an introduction to wiring for fire alarms systems. Wiring methods, including the inspection of wiring installations, and NEC compliance for articles 725, 760 and 300, will be covered.

- 393: FIRE CODE PLAN REVIEW FUNDAMENTALS**  
**Mark Wassom, PE., Colorado Division of Fire Safety and Romeo Gervais, PE., Loveland Fire and Rescue.** This class will provide the entry-level to intermediate fire plans examiner an overview of fundamental, step-by-step review techniques used to verify that construction documents comply with applicable building and fire codes for fire protection and life-safety requirements. Subjects addressed in the course include site plan reviews for access and water supply, means of egress, fire-resistive compartmentalization as well as basic fire protection system review. The course will include practical examples, exercises and question and answer sessions.
- 481: THE CODE: SWORD OR SHIELD**  
**Todd S. Welch, Pikes Peak Regional Building Counsel.** Come learn while you practice the legal aspects of code application and/or enforcement. An interactive, hands-on experience with code application and/or enforcement. Each member of the class will be given an assignment to play the role of a witness, lawyer or expert. Attendees will try the case during the class. Attendees will be asked to spend time prior to the class studying their assignment. Please make sure to provide an e-mail address for each participant. The class will be limited to 30.
- 482: PHOTOVOLTAIC SOLAR SYSTEMS**  
**Ken Thames, Thames Solar.** This workshop will present standardized guidelines for applying code provisions to photovoltaic (PV) solar system installations. The guidelines have been developed to assist local code officials and provide a common set of installation requirements needed to demonstrate compliance with code requirements and clarify installation requirements for system installers.
- 483: DESIGN OF WOOD FRAME BUILDINGS FOR HIGH WIND LOADING**  
**Paul J. Bennett, P.E., Knott Laboratory.** This course will cover the 2001 Wood Frame Construction Manual (WFCM), a prescriptive design guide useful for high wind regions. An overview of the WFCM will be given and a 2 story home example will be presented. Alternate construction methods for high wind areas will be discussed. Alternate high wind design guides, such as ICC-600, will also be discussed.  
**Required texts:** 2001 WFCM and ICC-600 (free download)
- 484: BUILDING AREAS, FIRE AREAS & MIXED OCCUPANCIES**  
**Dan Weed, CCC, LLC.** This seminar is a comprehensive discussion of the major compartmentalization concepts of the IBC, focusing on those requirements that deal with building size, sprinkler options and mixed-use buildings. Fire-resistance-rated construction is also addressed. This class will include topics on allowable areas, area increases, unlimited area buildings, fire area concept and construction, incidental/accessory use areas and separated/non-separated uses.
- 485: 2009 IBC PRESCRIPTIVE MEANS OF EGRESS COMPONENTS**  
**Greg Keith, P.h.D.** This class is an interactive workshop that will discuss in detail the prescriptive construction requirements for the various means of egress components intended to support a given means of egress design. All means of egress components from doors to horizontal exits will be pursued. How various exit access components, exit components and exit discharge components are used to satisfy certain means of egress design requirements will be discussed. Applicable changes to the 2009 IBC will be discussed in context with discussed provisions.
- 488: READING PLANS**  
**Steve Thomas, CCC, LLC.** This class will focus on the layout of construction documents and how to read the plans for compliance with the codes. The recommended order of the plans and how they are laid out will be discussed, including the civil, electrical, architectural, plumbing, structural, mechanical and fire sprinkler plans. The use of symbols and scales on drawings will also be discussed and how to interpret their use.
- 489: BASIC PLUMBING INSPECTION**  
**Daryl Kuiper, Colorado Chief Plumbing Inspector.** This class is very basic in nature and geared for the entry-level plumbing inspector or someone wishing to become a plumbing inspector.
- 490: RESIDENTIAL HVAC DESIGN**  
**Gil Rossmiller, Town of Parker.** This one day class will focus on the 2009 IRC requirements for calculating building heating and cooling loads in accordance with ACCA Manual J, equipment selection in accordance with ACCA Manual S and duct sizing in accordance with ACCA Manual D. This class will work through a typical house design to include, total heat gain, total heat loss, latent loads, sensible loads, equipment selection and duct design, all from the field inspectors and plans examiners perspective.  
**Strongly suggested prerequisite class:** 390: HVAC Fabrication & Installation Standards and Procedures
- 491: NEC ARTICLE 680 (POOLS, SPAS & FOUNTAINS) AND NONMETALLIC RACEWAYS**  
**John Travers, Hialeah, FL.** This course examines National Electrical Code Article 680 on Pools, Spas & Fountains. It also covers the requirements for Nonmetallic Raceways including the new Articles in the NEC on recently developed products such as High Density Polyethylene Conduit, Nonmetallic Underground Conduit with Conductors, Reinforced Thermosetting Resin Conduit, Liquidtight Flexible Nonmetallic Conduit and Electrical Nonmetallic Tubing.
- 492: CODE & DESIGN STANDARDS FOR COMBUSTIBLE DUST OPERATIONS**  
**David Leiker, BCER Engineering.** This course will cover the hazards of combustible dust environments and the mechanism for combustible dust explosions. It will address how to apply the design standards only briefly mentioned in Chapter 13 of the IFC, as well as requirements in the IMC, NEC and NFPA 13. This course will summarize, in useful and basic terms, the complexity of the additional design standards and code requirements.
- 493: RESIDENTIAL FIRE SPRINKLERS USING P2904**  
**Tom Meyers, CCC, LLC.** This class will focus on the IRC provisions for the prescriptive design and installation of residential fire sprinkler systems in one- & two-family dwellings and townhouses. The location of sprinkler heads, pipe sizing and overall installation requirements will be discussed. Practical installation issues will also be discussed.
- 581: EXISTING HOUSING & THE INTERNATIONAL PROPERTY MAINTENANCE CODE**  
**Dan Weed, CCC, LLC.** This seminar provides an overview of housing and property maintenance inspections as outlined in the International Property Maintenance Code. Defining and identifying specific ways to handle dangerous buildings will be discussed. The seminar will assist code personnel who are seeking a better understanding of how to approach property maintenance inspection, how to conduct a thorough inspection and how to follow through with appropriate enforcement actions.
- 582: ICC 700 - GREEN BUILDING STANDARD**  
**Gil Rossmiller, Town of Parker.** This seminar introduces the residential green building standard developed by the ICC and the National Association of Homebuilders. ICC 700-2008 is the first residential green building standard accredited by the American National Standards Institute (ANSI). Upon completion, participants will be better able to understand the history of the development, explain the intent and scope, and describe the organization and layout of the National Green Building Standard.



- 583: WALL BRACING PROVISIONS OF THE 2009 IRC** **Paul J. Bennett, P.E., Knott Laboratory.** The wall bracing portion of the 2009 IRC has changed significantly. This class will go through the new wall bracing provisions and then apply them to a 2 story example structure. Overall lateral load path, shear wall concepts, and failure examples will be covered. **Required texts:** 2009 IRC
- 585: 2009 IBC PERFORMANCE BASED MEANS OF EGRESS DESIGN** **Greg Keith, P.h.D.** This class is an interactive workshop that will describe how to design a means of egress system based on Chapter 10 requirements. The performance based aspect of means of egress design that is intended to accommodate various building configurations will be emphasized. The "three-part" means of egress system provisions will be discussed in detail. Comprehensive practical exercises will reinforce the "system" of proper means of egress design. Applicable changes to the 2009 IBC will be discussed in context with discussed provisions.
- 586: PRESTRESSED CONCRETE SPECIAL INSPECTION** **Walter J. "Wally" Prebis, P.E., Doug Schlegel, P.E.** An in-depth discussion of prestressed concrete theory, pretension and post-tension methods, inspections, and practical applications. The latest version of the *Prestressed Concrete Institute Design Handbook* will be provided.
- 587: ROOFING INSPECTION** **Rich Boon.** An overview of the provisions of Chapter 15, 2009 IBC. Instruction will focus on proper application techniques and review of all types of roof coverings as well as evaluation reports applicable to roof covering products
- 588: RESIDENTIAL PLAN REVIEW** **Steve Thomas, CCC, LLC.** This class is designed primarily for the building department employee who has an interest in learning more about the plan review aspects of working at the front counter. The course is intended to provide essential information that will assist in doing plan review as it relates to such items as patio covers, room additions, decks, garages, and other small residential projects.
- 589: COMMERCIAL PLUMBING INSPECTION** **Daryl Kuiper, Colorado Chief Plumbing Inspector.** This is an advanced course dealing with commercial plumbing provisions. The class will include topics such as indirect waste piping, interceptors, examples of different type of DWV systems and sizing, determining appropriate fixture levels, roof drainage and more.
- 590: GREASE HOODS:** **Guy McMann, Jefferson County.** This class is an in depth review of Type I hood systems and grease ducts with an emphasis on correct hood installation and understanding what type of hood is required over what type of appliances. The proper installation and inspection of grease ducts, make-up air and exhaust systems as well as a brief explanation of required fire suppression systems will be included.
- 591: LIGHTNING & LIGHTNING PROTECTION** **John Travers, Hialeah, FL.** A review of the characteristics of Lightning and studies by the University of Florida on Lightning will be covered including a review of NFPA 780, Lightning Protection.
- 592: BENCHMARKING YOUR DEPARTMENT FOR EXCELLENCE** **Rick Black, Center for Public Safety Excellence.** This workshop presentation will provide the participant with information towards developing the processes necessary to achieve International Fire Department Accreditation. Topics include Self-Assessment for quality improvement; Community Risk Analysis, Standard of Cover and Community Driven Strategic Planning for Fire Departments.
- 593: NFPA 13D AND NFPA 13R** **James Golinveaux, Tyco-Fire Suppression and Building Products.** In this one-day training program, you will gain knowledge on a variety of topics related to the residential fire sprinklers, such as installation standards (NFPA 13D and 13R), residential system components, design, and special residential situations. Students can expect a review of piping, valves, alarms, available sprinkler choices, as well as unique design situations which include beamed ceilings, sloped ceilings, sloped beamed ceilings, and obstructions.

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## PLEASE READ - IMPORTANT STUFF

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**PLEASE COMPLETE** the Registration Form. You must check the classes you wish to attend in order to register.

Please fill out a **SEPARATE FORM FOR EACH PERSON** attending and be sure to **PRINT CLEARLY** all requested information.

**PLEASE NOTE:** Registrations can now be submitted online at [www.coloradochapericc.org](http://www.coloradochapericc.org). When submitting registrations online, credit card information must be provided.

**PLEASE NOTE:** Please register as soon as possible as certain classes will be limited in size. Individual classes will be filled on a first come, first served basis. If a selected class is filled, you will be notified by the education committee and asked for your alternative choice(s).

**REFUND POLICY:** If the request for a registration fee refund is received by **February 12, 2010**, 100 percent of the fee will be refunded. Fees will not be refunded if the request is received after **February 12, 2010**.

NOTE: WE CANNOT ACCEPT REGISTRATIONS BY FAX. FULL PAYMENT MUST ACCOMPANY REGISTRATION FORM.  
OUR FEDERAL TAX IDENTIFICATION NUMBER IS: 23-7421122

### **FELLOWSHIP BREAKFAST-Tuesday, March 2nd 6:30 AM**

The Colorado Chapter of ICC would like to invite you to our third Educational Institute Fellowship breakfast. This year will be more informal with a short inspirational message along with some Christian music to start your day. Seating is limited so register early.

**COST:** Donations will be accepted.

**REGISTRATION:** Please register by checking the box for the fellowship breakfast on the registration and course selection form.

### **PARKING**

As we have experienced in the past, there are far more attendees than available on-site parking spaces. The Marriott will be making some additional spaces available to attendees, but parking on-site will again cost \$7.00 a day. Attendees, especially local attendees, are encouraged to carpool or take RTD's light rail.

**COLORADO CHAPTER EDUCATIONAL INSTITUTE**

www.coloradochaptericc.org

**REGISTRATION AND COURSE SELECTION FORM**

REGISTRATION DEADLINE IS **FRIDAY, FEBRUARY 12, 2010.**

Complete a **SEPARATE REGISTRATION FORM FOR EACH PARTICIPANT.** Please **PRINT OR TYPE** the following as you wish it to appear on your badge:

NAME: (PRINT CLEARLY PLEASE!) \_\_\_\_\_

REPRESENTING: \_\_\_\_\_

PHONE: (    ) \_\_\_\_\_ EMAIL: \_\_\_\_\_

MAILING ADDRESS: \_\_\_\_\_

Telephone: (303) 658-2077 or Email: [dhorras@cityofwestminster.us](mailto:dhorras@cityofwestminster.us) for program information. Submit your registration online at [www.coloradochaptericc.org](http://www.coloradochaptericc.org).

**FEE CALCULATION AND COURSE SELECTION – MARK THE APPLICABLE BOXES**

Attendance		Amount Enclosed for This <b>Individual</b>
Full Week (5 days)	<input type="checkbox"/> \$ 325	\$
Per Day	<input type="checkbox"/> \$ 75	
Fellowship Breakfast	Tuesday 3/2/10, 6:30 AM <input type="checkbox"/>	

**MAIL TO: COLORADO CHAPTER ICC, EDUCATION COMMITTEE, P.O. BOX 961, ARVADA, COLORADO 80001**

Full payment **MUST** accompany registration form(s). Registration deadline is Friday, February 12, 2010.

Our Federal Tax ID Number is: **23-7421122.**

<b>DAY ONE - MONDAY, MARCH 1, 2010 - 8:00 AM</b> (All Classes Are Full Day - Choose Only One Class Per Day)	
<input type="checkbox"/> 181 Egress Behavior and Analytical Techniques <input type="checkbox"/> 182 Building Science 101 and the Code <input type="checkbox"/> 183 Soils Identification and Foundation Design <input type="checkbox"/> 184 Basic Means of Egress <input type="checkbox"/> 185 2009 IBC Practical Occupancy Classification <input type="checkbox"/> 186 Combination Inspection of Small Commercial Structures	<input type="checkbox"/> 187 2009 IRC Update <input type="checkbox"/> 188 Leadership Essentials - Power of Positive Leadership <input type="checkbox"/> 189 IPC Water Distribution and Backflow Prevention <input type="checkbox"/> 190 2009 International Mechanical Code <input type="checkbox"/> 191 101 Essential NEC Rules (also check Day 2) <input type="checkbox"/> 192 2009 IFC Update <input type="checkbox"/> 193 Company Officer Fire Investigation
<b>DAY TWO - TUESDAY, MARCH 2, 2010 - 8:00 AM</b> (All Classes Are Full Day - Choose Only One Class Per Day)	
<input type="checkbox"/> 281 Outside the Box Plan Review <input type="checkbox"/> 282 Residential Energy Code Plan Review and Inspection <input type="checkbox"/> 283 Construction Defects, Failures, and Repairs <input type="checkbox"/> 284 Fire-Resistive Construction <input type="checkbox"/> 285 2009 IBC Occupancy Based Design Requirements <input type="checkbox"/> 286 Accessibility 101	<input type="checkbox"/> 287 2009 IBC Update <input type="checkbox"/> 288 The Complete Permit Technician (also check Day 3) <input type="checkbox"/> 289 Plumbing for Combination Residential Inspectors <input type="checkbox"/> 290 2009 International Fuel Gas Code <input type="checkbox"/> 291 101 Essential NEC Rules (also check Day 1) <input type="checkbox"/> 292 Emergency Communications Systems <input type="checkbox"/> 293 Introduction to Fire Code Plan Review
<b>DAY THREE - WEDNESDAY, MARCH 3, 2010 - 8:00 AM</b> (All Classes Are Full Day - Choose Only One Class Per Day)	
<input type="checkbox"/> 381 Accessibility 202 <input type="checkbox"/> 382 Commercial Energy Code Plan Review and Inspection <input type="checkbox"/> 383 Top to Bottom Engineering <input type="checkbox"/> 384 Plan Review and Inspection of Firestop Systems <input type="checkbox"/> 385 2009 IBC Types of Construction Options <input type="checkbox"/> 386 Exterior Wall Systems	<input type="checkbox"/> 387 Moisture Control, Indoor Air Pollution & Mold (also check Day 4) <input type="checkbox"/> 388 The Complete Permit Technician (also check Day 2) <input type="checkbox"/> 389 2009 IPC Update <input type="checkbox"/> 390 HVAC Fabrication & Installation Standards and Procedures <input type="checkbox"/> 391 Changes to the 2008 National Electrical Code <input type="checkbox"/> 392 Fire Alarm System Wiring and NEC Requirements <input type="checkbox"/> 393 Fire Code Plan Review Fundamentals
<b>DAY FOUR - THURSDAY, MARCH 4, 2010 - 8:00 AM</b> (All Classes Are Full Day - Choose Only One Class Per Day)	
<input type="checkbox"/> 481 The Code: Sword or Shield <input type="checkbox"/> 482 Photovoltaic Solar Systems <input type="checkbox"/> 483 Design of Wood Frame Buildings for High Wind Loading <input type="checkbox"/> 484 Building Areas, Fire Areas & Mixed Occupancies <input type="checkbox"/> 485 2009 IBC Prescriptive Means of Egress Components <input type="checkbox"/> 486 2009 IRC Update	<input type="checkbox"/> 487 Moisture Control, Indoor Air Pollution & Mold (also check Day 3) <input type="checkbox"/> 488 Reading Plans <input type="checkbox"/> 489 Basic Plumbing Inspection <input type="checkbox"/> 490 Residential HVAC Design <input type="checkbox"/> 491 NEC Article 680 and Nonmetallic Raceways <input type="checkbox"/> 492 Code & Design Standards for Combustible Dust Operations <input type="checkbox"/> 493 Residential Fire Sprinklers Using P2904
<b>DAY FIVE - FRIDAY, MARCH 5, 2010 - 8:00 AM</b> (All Classes Are Full Day - Choose Only One Class Per Day)	
<input type="checkbox"/> 581 Existing Housing & the International Property Maint. Code <input type="checkbox"/> 582 ICC 700 Green Building Standard <input type="checkbox"/> 583 Wall Bracing Provisions of the 2009 IRC <input type="checkbox"/> 584 2009 IBC Update <input type="checkbox"/> 585 2009 IBC Performance Based Means of Egress Design <input type="checkbox"/> 586 Prestressed Concrete Special Inspection	<input type="checkbox"/> 587 Roofing Inspection <input type="checkbox"/> 588 Residential Plan Review <input type="checkbox"/> 589 Commercial Plumbing Inspection <input type="checkbox"/> 590 Grease Hoods <input type="checkbox"/> 591 Lightning and Lightning Protection <input type="checkbox"/> 592 Benchmarking Your Department for Excellence <input type="checkbox"/> 593 NFPA 13D and NFPA 13R

\*\*\* Call the Marriott DTC at 800-228-9290 or 303-779-1100 for Hotel Accommodations. \*\*\*

When calling, be sure to reference the 'Colorado Chapter Educational Institute' for the available room rate of \$ 139 per night.