



brainfiller®

Your International Source for
Electrical Power Training

2011 National Electrical Code®

2 Days

1.6 CEUs



This 2 Day class covers the major articles found in the latest edition of the National Electrical Code®. You will not only learn what the various code articles mean, but you will also learn how to correctly apply the code in the design and installation of electric power systems. Rather than just going through the articles, you will also see how and why some of the articles were developed to gain a better understanding of their meaning. This 2 day class has many examples and problems to solve that reinforce the concepts. You will also learn where some of the major exceptions and traps can be found.

What you **WILL** receive:

- Training manual containing almost 500 pages
- Jim's transformer calculation worksheets
- A better understanding of how to use the NEC
- Tips on where common code mistakes are made
- Many application examples and problems
- 16 hours of Continuing Education Credit



What you **WILL NOT** receive:

- A commercial to sell you products or equipment
- A sales pitch to sell engineering study services
- A class that is just an overview or teaser

What is so special about Jim Phillips' Power System Class?

Jim is not only one of the most popular and sought after instructors in the industry, he is also directly involved with the development of industry standards and practices. He is a member of the IEEE working group that develops *IEEE Std. 1584tm*, *IEEE Guide for Performing Arc Flash Hazard Calculations*. With a career spanning 30 years and having taught over 2000 training programs to people from all seven continents, Jim draws from his vast experience in the industrial, commercial and utility fields.



Course Agenda 2011 National Electrical Code®

Page 1 of 2

Article

90	Introduction
	Chapter 1 General
100	Definitions
110	Requirements for Electrical Installation
	Chapter 2 Wiring and Protection
210	Branch Circuits
215	Feeders
220	Branch, Feeder, and Service Calculations
230	Services
240	Overcurrent Protection
250	Grounding and Bonding
	Chapter 3 Wiring Methods and Materials
300	Wiring Methods
310	Conductors for General Wiring
320	Armored Cable: Type AC
324	Flat Conductor Cable: Type FCC
326	Integrated Gas Spacer Cable: Type IGS
328	Medium Voltage Cable: Type MV
330	Metal Clad Cable: Type MC
334	Nonmetallic Sheathed Cable: NM, NMC, NMS
338	Service-Entrance Cable: Type SE and USE
340	Underground Feeder and Branch Circuit Cable
342	Intermediate Metal Conduit: IMC
344	Rigid Metal Conduit: Type RMC
348	Flexible Metal Conduit: Type FMC
352	Rigid Polyvinyl Chloride Conduit: Type PVC
358	Electrical Metallic Tubing: Type EMT
362	Electrical Nonmetallic Tubing: Type ENT
368	Busways
380	Multioutlet Assembly
392	Cable Trays
398	Open Wiring on Insulators



brainfiller®

Your International Source for
Electrical Power Training

Course Agenda 2011 National Electrical Code®

Page 2 of 2

Article

Chapter 4 Equipment for General Use

408	Switchboards and Panelboards
430	Motors, Motor Circuits and Controllers
440	Air Conditioning and Refrigeration Equipment
445	Generators
450	Transformers and Transformer Vaults
460	Capacitors
490	Equipment Over 600 Volts, Nominal

Chapter 5 Special Occupancies

500	Hazardous Locations - Class I, II, and III
501	Class I Locations
502	Class II Locations
503	Class III Locations
504	Intrinsically Safe Systems
505	Class I, Zone 0, 1 and 2 Locations
517	Health Care Facilities

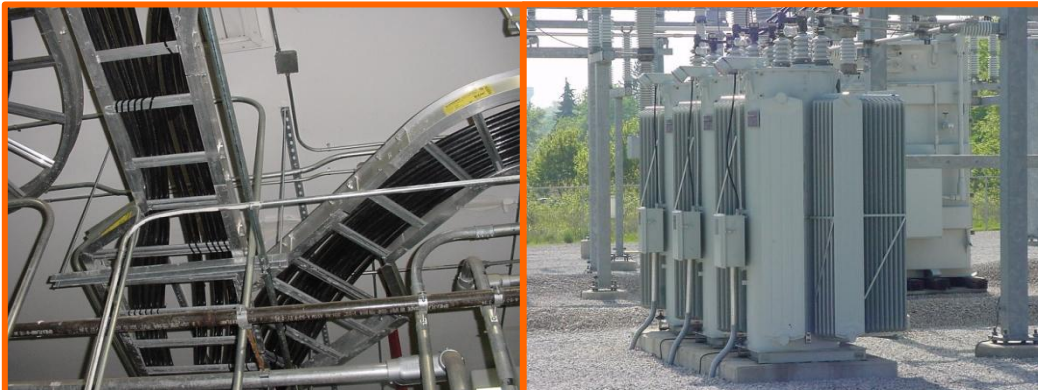
Chapter 6 Special Equipment

690	Solar Photovoltaic Systems
694	Small Wind Electric Systems

Chapter 7 Special Conditions

700	Emergency Systems
701	Legally Required standby Systems
702	Optional Standby Systems

Design Examples and Problems





brainfiller®

Your International Source for
Electrical Power Training

On Site Training

Have This Course at Your Location!

Hold this class at your location for a greater savings. For an all inclusive fee you receive the following for each attendee:

What you **WILL** receive:

- Training manual containing almost 500 pages
- Jim's transformer calculation worksheets
- A better understanding of how to use the NEC
- Tips on where common code mistakes are made
- Many application examples and problems
- 16 hours of Continuing Education Credit

Call Brenda at **800-874-8883** or
e-mail at: **brenda@brainfiller.com**
for an On-Site Training Proposal!

**Plan Ahead - Jim's schedule usually
fills up months in advance!**





brainfiller®

Your International Source for
Electrical Power Training

Jim Phillips, P.E.

Member of IEEE 1584 *IEEE Guide for Performing Arc Flash Hazard Calculations*

Vice - Chairman of Task Group - *IEEE 1584.1 Guide for the specification of scope and deliverable requirements for an arc-flash hazard calculation.*

Member of IEC 61482-1-2 Determination of arc protection class of material and clothing by using a constrained and directed arc (box test)

Author of the book: *Complete Guide to Arc Flash Hazard Calculation Studies*

Is a regular contributor to Electrical Contractor

Founder of the internationally known website: www.ArcFlashForum.com

For 30 years, Jim has been helping tens of thousands of people around the world understand electrical power systems design, safety, theory and applications. Having taught over 2000 seminars during his career to people from all seven continents (Yes Antarctica is included!), he has developed a reputation for being one of the best trainers and public speakers in the industry.

Jim does not just talk about arc flash and electrical safety - he is part of the development of the arc flash standards! He is also the instructor that has taught other instructors in the industry. Jim is a member of the IEEE 1584 Committee - *IEEE Guide for Performing Arc Flash Hazard Calculations*. He is Vice-Chairman of the IEEE Task Group - IEEE 1584.1 "Guide for the specification of scope and deliverable requirements for an arc-flash hazard calculation study in accordance with IEEE 1584"

Jim literally wrote the book about arc flash studies with his book titled: ***Complete Guide to Arc Flash Hazard Calculation Studies*** available from brainfiller.com and Amazon.com He also wrote "How to Perform an Arc Flash Study in 12 Steps" published by NFPA.

In addition to being a regular contributor to Electrical Contractor Magazine, he was one of the main contributors for the NEC Digest. He has authored many articles published in Europe and is a regular speaker at conferences around the world.

Jim earned a BS Degree in Electrical Engineering from the Ohio State University. His career began with Square D Company's Power System Analysis Group where he was responsible for system studies, power system software development and training at their engineering programs.

Later, Jim was in charge of the studies group of the System Protection Section of Ohio Edison Company. He was part of the adjunct faculty for Stark State College where he taught evening classes in electrical power systems.

Jim is a Registered Professional Engineer, with experience that includes everything from planning transmission systems, to design and analysis of industrial, commercial and utility power systems, cogeneration plant design, expert witness and forensic analysis.

Jim continues to travel the globe typically flying over 150,000 miles a year to work with various U.S. and international standards organizations and speak at many conferences and training events.