U.S. GREEN BUILDING COUNCIL
NEW JERSEY

USGBC NJ Sustainability Education Program

The economics of sustainability have been tipped in our favor when you weigh the positive environmental benefits combined with the business case studies. Green building and LEED certification is among most the standard for measuring levels of 'greenness' in buildings and construction. It has been calculated as nearly half of all construction in the US currently. As a prerequisite for our continued efforts in the built world it is absolutely essential that we understand how to transition our industry to the sustainable future we envision as well and completely understand the results of the positive and negative elements.

The USGBC-NJ chapter has been given the wonderful opportunity of receiving a grant that allows us to help educate an incredibly diverse variety of New Jersey professionals, residents and workforce. Our training sessions have been home grown from our internal membership designed to showcase real case studies and LEED projects. Design and construction professionals increasingly need to increase their knowledge base to stay competitive in the market and be a valuable member in the LEED community as well as overall environmental steward. Our programs were designed to accommodate all levels from; the simplest explanation of sustainability and how it affects family, community, the globe; through envisioning fully sustainable environments and neighborhoods.

The members of USGBC-NJ have years of experience teaching sustainability and green building workshops publically as well as privately in their own independent businesses. Our team brings their real life lessons, experience and passion for sustainability and is engaging during these trainings offering you an interactive learning experience. The following are the courses we offer:

Fundamentals in Sustainability (8 Hours): This workshop is intended for those who are just beginning their journey into the sustainability realm beginning with an

introduction to the effects our built world has on our environment; what green building technologies can achieve; the basics of sustainability for our future; climate change and building impacts; motivators for green building; and conventional versus integrative approaches - and the associated benefits - to building design, construction and operations.
We will introduce the USGBC, green building principles and the fundamentals of the LEED Rating Systems. This course will offer you a beginning understanding of the sustainable construction and how to gain essential knowledge with the core concepts of sustainability and applications in your practice area.

LEED Green Associate Prep Course (8 Hours): This course will prepare you for the LEED Green Associate Exam and focus on the process to become accredited. You will learn about LEED in greater detail, including specific strategies, metrics and standards; each credit impacts to the project and associated synergies that can exist in projects. The workshop begins with an overview GBCI (Green Building Certification Institute); steps necessary to take the exam; and a detailed study plan with additional materials you will need to read/study.

All topics are geared toward understanding the elements of the LEED rating systems with the core of the workshop discussing LEED intents and concepts at the credit category level - across building types and rating systems - touching on strategies, synergies, and specific examples that are reinforced by real project cases. Key LEED metrics and LEED referenced standards are addressed throughout the workshop.

- Identify the key components of the LEED Rating Systems
- Discuss the LEED Certification process
- Describe the intents and associated concepts of each LEED credit category
- Describe successful LEED strategies
- Introduction to Green Building Fundamental and Integrated Design Principles
- Review of all LEED Rating System Categories
- LEED Green Associate Exam Tips

Corporate Sustainability – A view from the Green Office (2-4 hr): In the corporate world, economic factors play a decisive role in shaping sustainable decisions and making your company a success. We will discuss the economic value of sustainability in a corporate environment. We will explore how the

attitudes and motivators of corporate leadership have changed and effects employee morale. We will discuss our strategies and tools for tracking multiple office locations, monitoring and reporting metrics for sustainable corporate strategy.

Green Building Metrics & Energy (2-4 hr): There are many shades of green. The LEED rating system provides quantifiable measures and criteria for determining whether or not something is green, and how green it is. First we will give an overview of the metrics used in the LEED rating system for sustainable sites, water efficiency, indoor environmental quality and materials and resources. Then we will discuss metrics for energy use, including benchmarking, site vs source energy, and the connection to carbon emissions.

Designing Buildings for Energy Efficiency (2-4 Hr): How can we predict how much energy a new building will use? And what can we do during the design to make it more efficient? This course will discuss energy modeling programs, and how they can be used as design tools during the building design process. We will discuss some of the limitations of the models, and illustrate how this process fits into the LEED Certification process by presenting a LEED Platinum Case Study

Improving Energy Performance of Existing Buildings (2-4 hr): The energy performance of existing buildings can be measured. But how do you know where-when-why-and how that energy is used by the various systems – lighting, equipment, HVAC, etc.?? And how do we benchmark the performance to compare with similar buildings? This course will review the different types of energy audits, and how Energy Conservation Measures (ECMs) are identified and evaluated for financial payback. We will discuss some Energy Reduction Techniques, and how to continuously monitor the performance.

Open a Window; Indoor Air Quality and Beyond (4 hr): Did you know that studies show higher test scores from children in green classrooms? Or shorter hospital stays for patients? Or even higher productivity rates of employees in green buildings? This session will review how green building affect indoor air quality. Further to that fact we will explore how to keep your indoor air in top shape. As humans we can worsen our quality of air by bringing in items unknowingly and knowingly, maintaining our buildings, and even by cleaning. We will look at how buildings today can maintain good indoor air quality, review the detail practices

that happen during design, and also the items that must not be overlooked during construction. Additionally we will have an open discussion that will help you adjust as your daily habits and how you can start opening the window to your healthy air.

Communicating Your Ideas; The Integrated Approach (4 HR): The design efforts often require teams to communicate ideas and desires for the project. Integrated design requires the entire design team to work together. All affected stakeholders must work together throughout the project phases and to evaluate the design for cost, quality-of-life, future flexibility, efficiency; overall environmental impact; productivity, creativity; and how the occupants will be enlivened. This session will discussing the social changes of the past 40 years and expectations; understanding special relationships; real estate metrics, and the changing process. Changing the way a team interacts will help create the process, this presentation explains the role of all the stakeholders across the life cycle of the project, from defining the need for a building, through planning, design, construction, building occupancy, and operations. Closing this session we will have a mock 'charrette process' with a design project breaking up the class into different users. We will explore the process, allowing for buy-in of major decisions, while important and complex issues are addressed and explored.

Construction Phase Essentials for LEED Projects (4 Hr): Designing a LEED project is only half the battle, once you enter into the construction phase most often a new team enters the' family'. Learn how the construction phase documentation should be managed from the General Contractors point of view. Turner Construction has built dozens of LEED projects and will offer specific categories and points that the contractor must manage. Examples of Construction Waste Management Plans, Indoor Air Quality Plans and Indoor Air Quality Reporting measures will be shared with very valuable lessons learned.

Just the Facts (4 Hr): Understanding the elements that make up a green project can be difficult if not impossible without a complete understanding of the whole process. WE will have one entire session which uses all of the elements of the previous classes offered showing three case studies of a LEED Silver, Gold and Platinum project. Additionally we will explore other metrics that exist for non-

building related construction. (2 PSEG Projects + latest Platinum) Greenroads program, Neighborhood and Smart Growth Programs (LEED ND Lincoln Park)

Carbon Footprints – making a smaller path (4 Hr): Footprints in the sand is a famous poem… our carbon footprint is not quite as inspirational. The larger our footprints become or the more we manage to more we tax our precious earth. A carbon footprint is a representation of the effect human activities have on the environment in terms of the amount of greenhouse gases produced, measured in units of carbon dioxide. Measuring this can be difficult when we try to quantify the elements that effect our activities. Are we looking at the true carbon lifecycle? From extraction, to manufacturing, to production, transportation, life time use and finally disposal and or reuse/recycling?

Taking all of these elements into account leads to very different thoughts of are you a size 5 or a size 10 shoe? Our session will give each participant a quick understanding of their own personal footprint, understand their family and home impacts, simple steps to make a big difference and also look at how construction and building practices can help lower the overall carbon impacts on our environment.

BD&C 252: LEED for New Construction, Credit by Credit Review

This five-session series focuses on the technical requirements of the LEED for New Construction and Major Renovations 2009 Rating System, addressing the rating system's seven credit categories: Sustainable Sites (SS), Water Efficiency (WE), Energy and Atmosphere (EA), Materials and Resources (MR), Indoor Environmental Quality (IEQ), Innovation in Design (ID) and Regional Priority (RP).

Each category will be explored in a credit by credit format, reviewing the overall category intent and the individual intents of the prerequisites and credits within it. Learn the technical requirements of the credits and, through real-world case examples shared by USGBC NJ LEED Faculty, strategies that work to achieve them and hear personal case examples that demonstrate how credits have been successfully achieved on real LEED projects.

O&M 252: LEED for Existing Buildings: Operations & Maintenance Credit by Credit Review

This five-session series focuses on the technical requirements addressing the rating system's seven credit categories: Sustainable Sites (SS), Water Efficiency (WE), Energy and Atmosphere (EA), Materials and Resources (MR), Indoor Environmental Quality (IEQ), Innovation in Design (ID) and Regional Priority (RP).

Each category will be explored in a credit by credit format, reviewing the overall category intent and the individual intents of the prerequisites and credits within it. Learn the technical requirements of the credits and, through real-world case examples shared by USGBC NJ LEED Faculty, strategies that work to achieve them and hear personal case examples that demonstrate how credits have been successfully achieved on real LEED projects.

GBCI EPP Course Approval

Level 100 Courses

Climate Change and LEED (R) GBCI CE Units 1.5 AIA/CES 1
Category: Project Systems and Energy Impacts
This course is intended to allow participants to first understand the reasons behind climate change and why carbon neutrality has become one of the foremost pressing issues of our time. Then, this course will detail how buildings play a critical role in carbon emissions and what can be done on an individual building or portfolio wide approach to reduce emissions cost effectively. Finally, the relationship of green building, embodied in the Leadership in Energy and Environmental Design (LEED(R) green building rating system, to carbon neutrality will be outlined allowing participant to make informed decisions related to green building, energy efficiency, renewable energy, and carbon reduction.

The Integrated Design Process & GreenBuilding GBCI CE 1, AIA 1
Category: Stakeholder Involvement in Innovation
The process is often as important as the end product in green design. This course will review the sustainable design process, with a focus on integrated project team delivery. This course will demonstrate how the charrette process works and importance goal setting and impact on design strategies carried from design to construction. While there are no points in the LEED# rating system for following the integrated design process, it is almost impossible to create truly cost effective, holistic sustainable designs without it.

Level 200 Courses

Green Building and Energy Metrics GBCI CE 1.5

Category: Project Systems and Energy Impacts

Green Building and Energy Metrics offers an introductory course that explains the basics of green building, focusing on issues surrounding energy use, providing attendees with a firm understanding of not only the importance of the issue, but key terms and relevant design and operations steps that can be taken. This course is intended as an introductory courses to more in-depth energy design and management courses.

Legal Considerations when Building Green GBCI CE 1

Category: Other

This course offers an introduction to the legal considerations when building green in New Jersey. The topics for discussion will include an overview of the LEED rating system, the USGBC, and the relevant statutes that attempt to define #green building#. In addition, the course will cover risk management solutions concerning insurance and green contracts, legal issues arising out of green projects, as well as a review of the pending and proposed legislation relating to sustainable design.

Moving Transportation Forward GBCI CE 2 AIA 1

Category: Other

During this session we will look at how our highways and their construction impacts our everyday lives. By developing an understanding of how we currently manage our highway infrastructure, with the understanding that cars and highways are not going away anytime in the next 50 or so years; how do we make for a more sustainable future? We will discuss the 5 core concepts of sustainability; water, land, energy, resources and air. Specifically how they can be addressed in highway design and construction.

Home Performance in the Trenches GBCI CE 1.5

Category: Project Systems and Energy Impacts

For many years the Building Science Community has been contributing to our understanding of how improving a Building's Envelope can improve the Efficiency of a home. A wide variety of Construction Details and materials are available to the Design Professional. The challenge is how to select and implement these improvements in a cost effective and practical way into everyday building practices. This presentation demonstrates how to get started with a series of cost effective materials and techniques that are being successfully used in improving the Residential Building Envelope.

The Big Picture: How the Building Envelope Relates to the Whole Building Approach GBCI CE 2 AIA/CED 1

Category: Project Systems and Energy Impacts

The Big Picture: How the Building Envelope Relates to the Whole Building Approach intends to demonstrate the critical nature of proper envelope design and detailing to ensure high performance for the building's end user. It is designed for mid- to high-level professionals in the residential design and construction fields, with the goal that participants will understand the science behind design with the Whole Building Approach. Building science principles will be presented including heat, pressure and moister transfer, as well as the impact these pressures have on insulation, air infiltration, condensation, and the overall impact on the envelope. In addition, the effects of these factors on HVAC equipment, ventilation, moisture management and durability will also be explored. Further, the presentation will explore the effects of building science on the existing housing stock, energy auditing and energy retrofits on existing residential structures. Finally, the presentation will review past and current energy codes, as well as where energy codes are going and why.

Thermal Enclosures Systems – Building a Better Box GBCI CE 1
Category: Improvements to the Indoor Environment
Thermal Enclosure Systems # Building a Better Box will provide design professionals with a greater awareness of how thermal bridging and air leakage occur in buildings. A review of the relevant building science principles is included, as is a review of a selection of common insulting products. Problem areas will be identified, discussed and illustrated with real life examples. Participants will not only learn how their design decisions and architectural details are critical to the creation of a #better box# but also understand how they can provide the construction team with the tools they need to implement the design successfully.

Level 300 Courses

Improving Performance of Existing Buildings GBCI CE 1.5
Category: Project Systems and Energy Impacts
Improving Performance of Existing Buildings offers attendees a look into the necessary steps to understand how an existing building performs, some typical measures to improve performance, and the monitoring that can be done after improvements are made to ensure the design intent is being met. The program will discuss the energy audit process in-depth, explaining the differences between the varied energy audit process that can be undertaken. The presentation will also provide the user with an understanding of the complex world of energy investment economics, explaining the various ways to determine the financial implications of energy upgrades.

Designing Buildings for Energy Efficiency GBCI CE 1.5
Category: Project Systems and Energy Impacts
Designing Buildings for Energy Efficiency explores the design possibilities to achieve energy efficiency in buildings. The presentation covers general principles of energy modeling and reviews real world case studies from pre-project design through building monitoring to explore how true energy efficiency design becomes reality.

Understanding LEED Green Coatings Standards and Indoor Air Quality
Category: Improvements to the Indoor Environment GBCI CE 2
"Understanding LEED Green Coatings Standards and Indoor Air Quality" is geared towards painters, plasterers, and other construction professionals with the goal that participants will understand the basic strategies of the USGBC and LEED certification process for buildings. The program should provide an awareness of other national standards and laws surrounding VOCs and toxic chemicals in finishes. The presentation will include a detailed look at LEED categories with regards to finishes, what documentation is needed, and other strategies for gaining and running a successful job site on a LEED registered project.

LEED Applied to Lab Facilities GBCI CE 4 Plus others
Category: None
This course will explain how to achieve sustainability and LEED certification in buildings that have laboratory and or research & development spaces. The integrated design process will provide to be the backbone for successful laboratory projects under the LEED system, and we will focus on green building science, minimum energy requirements, and space restraints as they pertain to labs/R&D.

The presentation follows the categories of LEED demonstrating the solutions to e ach credit in the aspects of a lab project and how to create energy-efficient designs that are healthy and follow all of the conservation and minimal impacts of LEED projects.

USGBC Courses by Langan Engineering

Sustainable Site Development and Regenerative Design: The Role of the Site/Civil Engineer

Geared toward design professionals, the goal of this course is to provide participants with an understanding of the important role that a site/civil engineer plays in sustainable design projects. Often, there is a misperception that a site engineer simply creates a complimentary stormwater design. However, early involvement from a practiced site engineer can positively impact choices being made about conceptual site development plans including: site selection, site lighting, heat island effect reduction, and transportation access. Two case studies will be presented.

Landscape: Value, Challenges and Sustainable Solutions

This course addresses the environmental, economic and public health values that sustainable plantings bring to communities and development projects and the challenges to establishing successful, long-lived plantings. A case study of the process involved in designing sustainable planting is explored and examples of how sustainable planting technologies can contribute to LEED credits are explained.

On-Site Wastewater Treatment – Constructed Wetland Systems

This course is geared toward design professionals, with the goal that participants will understand the pragmatic and ideological motivations to pursue alternative wastewater technology systems. On-site constructed wetland wastewater treatment systems, including the appropriate project and site conditions for implementing them, as well as some logistical design considerations, will be discussed. Participants will learn the relevance of these systems to the LEED certification process, and potential credits that could be positively impacted. A series of case studies will be presented, displaying projects taken from design through construction under varying site conditions.

Land Use and National Resources Site Assessment

Land uses and natural resources are defined and discussed in the presentation. Specific natural resource categories addressed include prime farm land,

floodplains, wetland, endangered and threatened species habitat, parkland, and greenfield sites. The course was prepared with design professionals in mind, with the goal that participants will better understand certain land use and natural resource subjects used in the LEED certification process, specifically under the Sustainable Sites category.

Ground Down Challenges to Constructing Geothermal Systems
This course is geared toward architects and mechanical, electrical, and plumbing (MEP) engineers, with the goal that participants will come away with a general understanding of the challenges of creating a ground couple for geothermal heating and cooling systems. This course describes the various types of ground couples commonly used throughout the United States, including areas where these systems may not be appropriate. A series of case studies are presented to demonstrate construction with different site conditions. Feasibility analysis, permitting, and costs to install the bound-couple portion of a geothermal system are also discussed.

Sustainable Planning – What Does it Mean?
This course introduces professionals to the basics of one of the hottest topics in urban development and planning – sustainability. Planning has a long history. Sustainable design has a somewhat more recent emergence. A combination of the two fields is leading to sustainable planning, but what is that? This course will explore some example sustainable planning systems from around the country and identify key similarities and differences. Participants will understand some of the key characteristics about an area that impacts how the two practices are married and the focus of sustainable planning process.

GBCI Approved by DPC Associates

Water Reuse Systems and Integrated Water Resource Management
Water is a critically important resource. There is now available a whole new method of successfully handling wastewater. This approach features switching from huge wastewater treatment plants to more localized systems.

This course describes the basic social and environmental aspects of water resource management. This program includes case studies of successful municipal projects solving these vital problems faced by engineers and planners, today.

GPRO – Green Professional Building Skills Training

The GPRO training program is designed for experienced building professionals who seek to integrate green practices into the core knowledge of their trade.
Fundamentals of Building Green *is the prerequisite for ALL GPRO trade-specific courses.*

Fundamentals of Building Green

The program materials and exam cover the "green gap" between standard trade skills and the new awareness and skills required to successfully implement green building. Individuals with experience in construction and building operations will have an advantage when taking *Fundamentals of Building Green* and in passing the certificate exam, but anyone with an interest in green building is encouraged to participate.

FUNDAMENTALS OF BUILDING GREEN: 4 HOURS

PART A: SUSTAINABILITY
1. Why Green Building?
2. Climate Change: Causes & Impacts
3. Our Natural Resources: Sustainability Challenges
4. The History of Environmental Protection
5. Continuing the Road to Sustainability

PART B: GREEN BUILDING
6. How Do We Know It's Green?
7. Codes and Standards: Ensuring Performance
8. Applying Sustainability: Using LEED Credits

PART C: YOUR ROLE IN BUILDING GREEN
9. Construction Activity Pollution Prevention
10. Construction Waste Management
11. Construction Indoor Air Quality
12. Commissioning

Construction Management

GPRO Construction Management fills the "green gap" for individuals with construction experience such as: CM or GC Site Superintendent, Project Manager, Executive Project Manager, Project Engineer/Clerk, Sustainability Manager, experienced tradesman with five years of experience, tradesperson with site supervision or management responsibility, facilities manager or building owner, owner's representative or project manager, project architect, professional engineer, or commissioning agent.

FUNDAMENTALS OF BUILDING GREEN: 4 HOURS

PART A: SUSTAINABILITY
1. Why Green Building?
2. Climate Change: Causes & Impacts
3. Our Natural Resources: Sustainability Challenges
4. The History of Environmental Protection
5. Continuing the Road to Sustainability

PART B: GREEN BUILDING
6. How Do We Know It's Green?
7. Codes and Standards: Ensuring Performance
8. Applying Sustainability: Using LEED Credits

PART C: YOUR ROLE IN BUILDING GREEN
9. Construction Activity Pollution Prevention
10. Construction Waste Management
11. Construction Indoor Air Quality
12. Commissioning

CONSTRUCTION MANAGEMENT: 6 HOURS

1: Construction Management and Green Building
2: Pre-Con Services: Sustainability Planning in the Design Phase
3: Proposal for Construction Services: Addressing Sustainability
4: Trade Bid & Award: Incorporating Sustainability Strategies
5: Mobilization
6: Training Your Trades on Project Goals and Requirements
7: Shop Drawings and Submittals
8: Rough In, Finishes and Fit-out
9: Commissioning and Close-Out
10: Measurement & Verification

Operations & Maintenance Essentials

GPRO Operations & Maintenance Essentials is intended for a wide variety of professionals who work on-site in building operations and maintenance.

The types of buildings addressed range from multifamily residential to high-rise commercial to industrial. Candidates range from building superintendents and managers to stationary or operating engineers.

FUNDAMENTALS OF BUILDING GREEN: 4 HOURS

PART A: SUSTAINABILITY
1. Why Green Building?
2. Climate Change: Causes & Impacts
3. Our Natural Resources: Sustainability Challenges
4. The History of Environmental Protection
5. Continuing the Road to Sustainability

PART B: GREEN BUILDING
6. How Do We Know It's Green?
7. Codes and Standards: Ensuring Performance
8. Applying Sustainability: Using LEED Credits

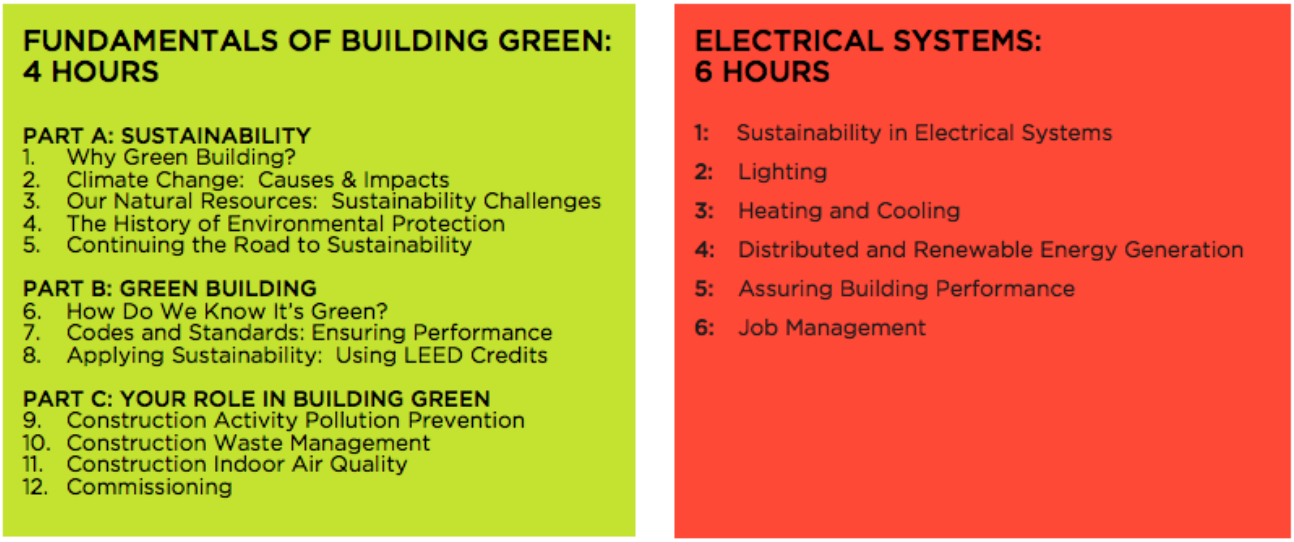
PART C: YOUR ROLE IN BUILDING GREEN
9. Construction Activity Pollution Prevention
10. Construction Waste Management
11. Construction Indoor Air Quality
12. Commissioning

OPERATIONS & MAINTENANCE ESSENTIALS: 8 HOURS

1: Operations & Maintenance in Green Building
2: Building Performance Metrics
3: The Building EnvelopeHeat Transfer
4: Water Use
5: Heating and Cooling
6: Lighting
7: Indoor Air Quality
8: Dealing With Waste
9: Commissioning and Energy Audits
10: Additional Educational Opportunities and Resources

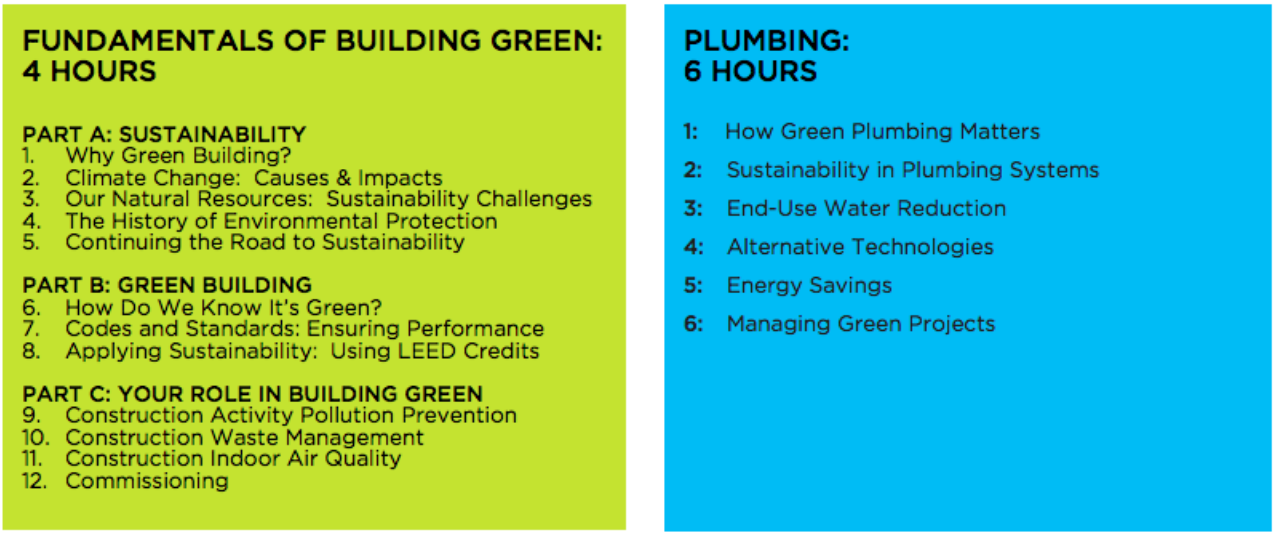
Electrical Systems

GPRO Electrical Systems teaches sustainable construction practices to electricians and workers in the electrical industry.



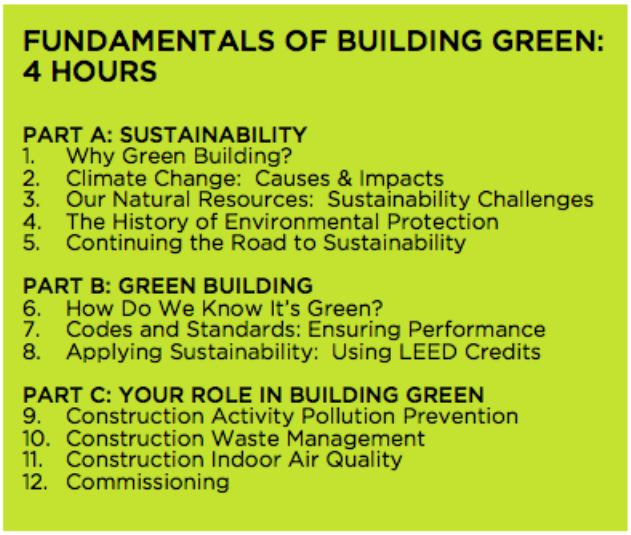
Plumbing

GPRO Plumbing teaches sustainable construction practices to plumbers and workers in the plumbing industry.



Mechanical-Air

GPRO Mechanical – Air teaches sustainable construction practices to HVAC mechanics and workers in the heating and air conditioning industry.



USGBC Webinar Courses

COMMERCIAL COURSES

LEED 101: Green Building Basics and LEED

Level: 100

This workshop is intended for those who are new to green building and looking to learn the basics of green building and LEED. The workshop offers an introduction to USGBC, green building principles and the fundamentals of the LEED Rating System. It includes topics on climate change and building impacts; motivators for green building; and conventional versus integrative approaches.

Learning Objectives:

- Describe green building and the role of USGBC and LEED
- Recognize the intents of each LEED credit category
- Explain key sustainability terms and concepts
- Identify green building best practices
- Recognize cutting-edge examples
- Discuss cost considerations of green building
- Recognize your role in green building

Credential Maintenance	Units
AIA/CES (LU)	3.5
BOMI (CPD)	3
CoreNet (CPD)	4
CSI (CEU)	.35
IDCEC (CEU)	.3
IFMA (CFM/FMP)	3.5

LEED 201: Core Concepts & Strategies

Level: 200

This workshop is intended for anyone who wants more than a basic understanding of LEED - including those with a stake in their company's or community's building practices, those directly involved in green building projects, and those pursuing GBCI's LEED Green Associate credential. The workshop provides essential knowledge of sustainable building concepts.

Learning Objectives:

- Identify the key components of the LEED Rating System.
- Discuss the basic LEED Certification process.
- Describe the intents and associated concepts of each LEED credit category.

- Explain regulations, recognitions and incentives related to each credit category.
- Recognize successful LEED strategies and measurements for achieving credit category goals.

Credential Maintenance	Units
AIA/CES (LU)	7 HSW/SD
BOMI (CPD)	7
CoreNet (CPD)	7
CSI (CEU)	0.7

BD+C 251: Understanding Building Design+ Construction LEED Rating Systems

Level: 200

This workshop introduces the credit intents, key elements, main requirements, and reference standards of the Green Building Design and Construction (BD+C) LEED rating systems.

Learning Objectives:

- Recognize the unique aspects of the BD+C rating system family, and differences between each rating system (NC, CS, and Schools) within this family
- Identify the minimum program requirements for the BD+C rating systems
- Describe the goal, intent, and requirements of BD+C prerequisites and key credits
- Identify synergies between BD+C credits
- Plan for key considerations and requirements for the LEED certification process

Credential Maintenance	Units
GBCI CE Hours	7
GBCI CE Hours (LEED BD+C Specific)	7
AIA/CES (LU)	7 HSW/SD
BOMI (CPD)	7
CoreNet (CPD)	7
CSI (CEU)	0.7

BD+C 301: Implementing the Building Design + Construction LEED Rating System

Level: 300

NOTE: This course formerly called Green Building Design + Construction: The LEED Implementation Process.

This workshop is intended for professionals who are familiar with the basic concepts of the LEED for New Construction and Major Renovations Rating System, but new to implementing it on projects or looking to brush up on implementation best practices. It is appropriate for new LEED APs, as well as those pursuing GBCI's LEED AP Building Design + Construction credential. The workshop addresses LEED tools and unique aspects of the New Construction rating system. Workshop participants will discuss the roles and responsibilities of key stake holders in the LEED process, as well as strategies for communicating with team members at various stages of that process.

Learning Objectives:

- Explain unique aspects of the LEED 2009 for New Construction and Major Renovations rating system
- Apply and facilitate the LEED process with stakeholders
- Apply LEED tools to a new construction or major renovation project
- Identify key green decisions throughout the process of earning LEED certification

Credential Maintenance	**Units**
GBCI CE Hours	7
GBCI CE Hours (LEED BD+C Specific)	7
AIA/CES (LU)	7 HSW/SD
BOMI (CPD)	7
CoreNet (CPD)	7
CSI (CEU)	0.7

O+M 251: Understanding the Operations +Maintenance LEED Rating System
Level: 200
This workshop introduces the credit intents, key elements, main requirements, and reference standards of the Green Building Operations + Maintenance (O+M) LEED rating system. Workshop participants will gain a solid understanding of the core concepts and strategies behind a successful existing green building project.

Learning Objectives:

- Recognize the goal, intent, and unique aspects of credits and strategies to meet them
- Identify the minimum program requirements
- Understand the unique aspects of the EB:O+M rating system (including process differences)
- Understand the costs and benefits of EB:O+M certification
- Identify requirements and strategies to meet prerequisites and key credits

- Plan for key considerations and requirements for the LEED certification process

Credential Maintenance	Units
GBCI CE Hours	7
GBCI CE Hours (LEED O+M Specific)	7
AIA/CES (LU)	7 HSW/SD
BOMI (CPD)	7
CoreNet (CPD)	7
CSI (CEU)	0.7

O+M 301: Implementing the Building Operations + Maintenance LEED Rating System

Level: 300
NOTE: This course formerly called Green Building Operations + Maintenance:

The LEED Implementation Process intended for building owners, operators and suppliers who are familiar with the LEED for Existing Buildings: Operations & Maintenance Rating System, but new to implementing it on projects or looking to brush up on implementation best practices. It is also useful for design professionals, investors and others seeking to enhance their existing buildings with green operations. It is appropriate for new LEED APs, as well as those pursuing GBCI's LEED AP Building Operations + Maintenance credential.

Workshop participants will discuss the roles and responsibilities of key stakeholders in the LEED process, as well as strategies for communicating with team members at various stages of that process. Experts will walk the class through the phases of a typical project, including key decisions that project teams must make and guidance on how to make them. Throughout the day, you will engage with other participants in interactive activities using case examples to enable you to work hands -on with LEED implementation strategies and Rating System tools. At the end of this workshop, you should be able to apply your new found knowledge to real-life LEED projects, Existing Buildings: Operations & Maintenance rating system also available to support LEED implementation and documentation on and recertification knowing knowledge in advance: LEED 2009 for Existing Buildings: Operations & Maintenance Rating System, including knowledge of prerequisites and credits competency with the LEED Reference Guide for Green Building Operations and Maintenance 2009 Edition, as this course will not review every LEED credit fundamentals of building operations and maintenance and be able to answer the following questions in advance of taking this course: Who are the parties involved in building operations and maintenance, and what are their general roles? Green strategies and technologies for building

operations and maintenance? For Existing Buildings: Operations & Maintenance Rating System, as well as their intents and requirements? To have a solid grasp of this information, we encourage you to take LEED Core Concepts & Strategies - offered both Faculty-led and online - to build your knowledge to the appropriate level before you take this 300-level workshop.

Meets GBCI eligibility requirements for the LEED Green Associate.

Credential Maintenance	**Units**
GBCI CE Hours	7
GBCI CE Hours (LEED O+M Specific)	7
AIA/CES (LU)	7 HSW/SD
BOMI (CPD)	7
CoreNet (CPD)	7
CSI (CEU)	0.7

ID+C 301: Implementing the Interior Design+Construction LEED Rating System

Level: 300

This workshop is intended for professionals who are familiar with the basic concepts of the LEED for Commercial Interiors Rating System, but new to implementing it on projects or looking to brush up on implementation best practices. It is appropriate for new LEED APs, as well as those pursuing GBCI's LEED AP Interior Design + Construction credential. The workshop addresses LEED tools and unique aspects of this particular rating system. Workshop participants will discuss the roles and responsibilities of key stakeholders in the LEED process, as well as strategies for communicating with team members at various stages of that process.

Learning Objectives:

- Explain unique aspects of the LEED 2009 for Commercial Interiors rating system
- Recognize key green decisions throughout the LEED 2009 for Commercial Interiors process.
- Implement LEED 2009 for CI process for interior fit-up projects.
- Apply integrative approach with project stakeholders.

Credential Maintenance	**Units**
GBCI CE Hours	7
GBCI CE Hours (LEED ID+C Specific)	7
AIA/CES (LU)	7 HSW/SD
BOMI (CPD)	7
CoreNet (CPD)	7
CSI (CEU)	0.7

ND 251: Understanding the LEED for Neighborhood Development Rating System

Level: 200

This workshop introduces the intent, key elements, main requirements and unique aspects of the LEED for Neighborhood Development Rating System. Workshop participants will gain a solid understanding of the core concepts and strategies behind a successful green neighborhood development.

Learning Objectives:

- Describe the prerequisites and major credit requirements of the LEED for Neighborhood Development (LEED-ND) rating system
- Explain the stages involved in the LEED-ND certification process
- Describe the range of LEED-ND project types and strategies
- Determine if a project is eligible for LEED-ND certification
- Communicate unique aspects and limitations of LEED-ND

Credential Maintenance	**Units**
GBCI CE Hours	7
GBCI CE Hours (LEED ND Specific)	7
AIA/CES (LU)	7 HSW/SD
AICP (CM)	7
BOMI (CPD)	7
CoreNet (CPD)	7
CSI (CEU)	0.7

ND 301: Implementing the LEED for Neighborhood Development Rating System

Level: 300

This workshop is intended for professionals who are familiar with the basic concepts of the LEED 2009 for Neighborhood Development Rating System, but new to implementing it on projects or looking to learn implementation best practices. It is appropriate for new LEED APs and other implementers, and is also helpful for those pursuing GBCI's LEED AP Neighborhood Development credential.

Learning Objectives:

- Recognize key decisions and best practices for integrating LEED-ND into the development process
- Apply the LEED-ND rating system to real-world projects
- Understand the synergies and relationships between LEED-ND credits
- Navigate the complexities within the LEED-ND rating system

Credential Maintenance	Units
GBCI CE Hours	7
GBCI CE Hours (LEED ND Specific)	7
AIA/CES (LU)	7 HSW/SD
AICP (CM)	7
BOMI (CPD)	7
CoreNet (CPD)	7
CSI (CEU)	0.7

Healthcare 251: Understanding the LEED for Healthcare Rating System

Level: 200

Learn about the unique challenges of implementing green building practices to sustainable healthcare facilities. This workshop will present the background for the development of the LEED for Healthcare Rating System as well as a strong business case for the use of LEED for Healthcare. Participants will learn about key credit intents and requirements, the pilot credits relevant to LEED for Healthcare, and how this new rating systems differs from LEED for New Construction.

Learning Objectives:

- Define the unique needs and issues for applying green building in the healthcare industry.
- Describe the background for the development of the LEED for Healthcare Rating System.
- Distinguish between LEED NC and LEED for Healthcare.
- Discuss the value/business case for the use of LEED for Healthcare.
- Summarize key credit intents and requirements.
- Understand pilot credits relevant to LEED for Healthcare.

Credential Maintenance	Units
GBCI CE Hours	3.5
GBCI CE Hours (LEED BD+C Specific)	3.5
AIA/CES (LU)	3.5

Retail 251: Understanding the LEED for Retail Rating Systems

Level: 200

Learn about the unique challenges of implementing green building practices to retail spaces. This workshop provides an overview of the LEED for Retail Rating System, key credit intents and requirements, and the similarities and differences of this rating system to both LEED for New Construction and LEED for Commercial Interiors.

Learning Objectives:

- Describe how it addresses the unique needs and issues for applying green building in the retail industry
- Compare to LEED NC and LEED CI
- Apply the value/business case for LEED for Retail
- Summarize intents and requirements of unique credits
- Identify low cost, no cost strategies for implementing LEED for Retail

Credential Maintenance	**Units**
GBCI CE Hours	3.5
GBCI CE Hours (LEED BD+C Specific)	3.5
GBCI CE Hours (LEED ID+C Specific)	3.5

RESDENTIAL COURSES

LEED 101: Green Building Basics and LEED

Level: 100

This workshop is intended for those who are new to green building and looking to learn the basics of green building and LEED. The workshop offers an introduction to USGBC, green building principles and the fundamentals of the LEED Rating System. It includes topics on climate change and building impacts; motivators for green building; and conventional versus integrative approaches.

Learning Objectives

- Describe green building and the role of USGBC and LEED
- Recognize the intents of each LEED credit category
- Explain key sustainability terms and concepts
- Identify green building best practices
- Recognize cutting-edge examples
- Discuss cost considerations of green building
- Recognize your role in green building

Credential Maintenance	**Units**
AIA/CES (LU)	3.5
BOMI (CPD)	3
CoreNet (CPD)	4
CSI (CEU)	.35
IDCEC (CEU)	.3
IFMA (CFM/FMP)	3.5

LEED 201: Core Concepts & Strategies

Level: 200

This workshop is intended for anyone who wants more than a basic understanding of LEED - including those with a stake in their company's or community's building practices, those directly involved in green building projects, and those pursuing GBCI's LEED Green Associate credential. The workshop provides essential knowledge of sustainable building concepts.

Learning Objectives:

- Identify the key components of the LEED Rating System.
- Discuss the basic LEED Certification process.
- Describe the intents and associated concepts of each LEED credit category.
- Explain regulations, recognitions and incentives related to each credit category.
- Recognize successful LEED strategies and measurements for achieving credit category goals.

Credential Maintenance	**Units**
AIA/CES (LU)	7 HSW/SD
BOMI (CPD)	7
CoreNet (CPD)	7
CSI (CEU)	0.7

HOMES 252: Understanding the LEED for Home Ratings System

Level: 200

This course provides an introduction to the LEED for Homes rating system and delivery model. The course addresses the intents and requirements of prerequisites and key credits within the rating system while providing real world examples of strategies to meet them. The course also identifies the roles and responsibilities of key stakeholders.

Learning Objectives

- Identify the types of projects which are eligible.
- Recognize the roles and responsibilities of key stakeholders in the LEED certification process.
- Recognize goals, intents, and requirements of prerequisites and key credits, and strategies to meet them.
- Identify synergies between LEED credits.
- Plan for key considerations and requirements for the LEED certification process.

Credential Maintenance	Units
GBCI CE Hours	7.5
GBCI CE Hours (LEED Homes Specific)	7.5
AIA/CES (LU)	7 HSW/SD
BOMI (CPD)	7
CoreNet (CPD)	7
CSI (CEU)	0.725
NARI Green (CEU)	0.7

HOMES 301: Implementing the LEED for Homes Rating System

Level: 300

This workshop is intended for homebuilders and residential design professionals who are familiar with the basic concepts in the LEED for Homes Rating System, but new to implementing it on projects or looking to brush up on implementation best practices. It is appropriate for new LEED APs, as well as those pursuing GBCI's LEED AP Homes credential.

The workshop addresses LEED tools and unique aspects of the LEED for Homes rating system. Workshop participants will discuss the roles and responsibilities of key stakeholders in the LEED process, as well as strategies for communicating with team members at various stages of that process. Experts will walk the class through the phases of a typical project, including key decisions that project teams must make and guidance on how to make them. Throughout the day, you will engage with other participants in interactive activities using case examples to enable you to work hands-on with LEED implementation strategies and Rating System and verification tools. At the end of this workshop, you should be able to apply your newfound knowledge to real-life LEED for Homes projects. A few days prior to the workshop, you will receive short case studies to review in preparation of the course. These case examples will provide the basis of the morning discussion and set the stage for rest of the day.

RECOMMENDED PRIOR KNOWLEDGE: To ensure that you make the most of this workshop, you should have the following knowledge in advance: Experience with residential green building practices Competency with the LEED for Homes Rating System, including knowledge of prerequisites and credits Competency with the LEED for Homes Reference Guide, Familiarity with the LEED for Homes delivery model. To help you assess if this course is at the appropriate learning level for you, you should understand the fundamentals of home building design and construction and be able to answer the following questions in advance of taking this course: Who are the parties involved in a LEED for Homes project, and what are their general roles? What are basic green strategies and technologies?

What are all of the prerequisites and credits of the LEED for Homes Rating System, as well as their intents and requirements? If you do not yet have a solid grasp of this information, we encourage you to take the LEED for Homes Program Review webinar series to build your knowledge to the appropriate level before you take this 300-level workshop.

Instruction from official USGBC Faculty who are experts in LEED for Homes and trained in facilitation and adult learning techniques, Participant workbook, which includes PowerPoint slides, interactive learning activities based on real LEED projects, sample LEED for Homes assessment and verification tools, LEED for Homes Scope and Eligibility Guidelines, and a glossary of key green building definitions Option to order one copy of the Reference Guide at a discounted rate. Continuing education for 7 hours of instruction directly reported to AIA and CSI; certificate of completion for self-reporting to other professional organizations. Lunch and refreshment breaks and upon completion of a post-workshop survey, access to additional supplementary resources.

This course, like all USGBC LEED education programs, meets GBCI eligibility requirements for the LEED Green Associate.

Learning Objectives:

- This course was designed to prepare you to facilitate the participant process for a LEED for Homes project, including:
- Communicating the unique aspects of LEED for Homes
- Successfully using LEED for Homes assessment and verification tools
- Communicating the roles and responsibilities of various players in the LEED for Homes process
- Communicate to stakeholders specific details of LEED for Homes
- Identifying key green decisions throughout the process of earning LEED for Homes certification

Credential Maintenance	**Units**
GBCI CE Hours	7
GBCI CE Hours (LEED Homes Specific)	7
AIA/CES (LU)	7 HSW/SD
CSI (CEU)	.7

REGREEN 301: Implementing Residential Remodeling

Level: 300

If you're looking to distinguish yourself as a green residential remodeling professional, REGREEN is for you. The full-day workshop builds on foundational knowledge of the REGREEN Residential Remodeling Guidelines and available online courses and will assist you in identifying and evaluating which green considerations, concepts and strategies will make a meaningful and positive impact on your next project.

Learning Objectives:

- Employ building science principles and whole-house systems approach on residential remodeling projects.
- Implement residential green remodeling strategies on your next project.
- Conduct a value-based, ROI analysis for common green remodeling strategies.
- Obtain green business development resources.

Credential Maintenance	**Units**
GBCI CE Hours	7
AIA/CES (LU)	7
BOMI (CPD)	7
CoreNet (CPD)	7
CSI (CEU)	.7
IDCEC (CEU)	.7
NARI Green (CEU)	.7

HOMES 401: Green Rater Training

Level: 400

The two-part LEED for Homes Green Rater Training is designed to prepare qualified participants to provide verification services on LEED for Homes projects. Applicants must meet initial qualifications and complete a two-part training.

Learning Objectives:

- Identify responsibilities of a LEED for Homes Green Rater in each phase of a project
- Manage and conduct verification activities
- Effectively use the project checklist file
- Communication effectively with project teams and LEED for Homes Providers
- Apply the sampling protocol on applicable projects
- Prepare accurate and complete certification submittal packages

Credential Maintenance	**Units**
GBCI CE Hours	14
GBCI CE Hours (LEED Homes Specific)	14
AIA/CES (LU)	14 HSW/SD
BOMI (CPD)	14
CoreNet (CPD)	14
CSI (CEU)	1.6

AIA Courses

LEED from 2005 to Present: A Historical Perspective / - 021809/2009
Building Science & Performance
LU: 1
Credit: LU/HSW/SD

1. The understanding of green building industry trends
2. The basics of the LEED rating system and its development over time
3. Application of LEED for holistic design in the marketplace today
4. The principles of sustainable design

Architecture 2030 and Carbon Neutrality / -061509/2009
Building Science and Performance
LU: 1
Credits: LU/HSW/SD

1. Architects will learn about the architecture 2030 challenge
2. Will learn the principles of carbon neutrality
3. Will learn how to implement the 2030 challenge in order to create carbon neutral communities
4. Will learn relationship of LEED to Carbon Neutrality

Blue Vinyl, Green vinyl, Nice Vinyl, Mean Vinyl – A Panel Discussion of the Sustainability of PVC/-041210/2010
Building Science and Performance
LU: 2
Credit: LU/HSW/SD
Attendees will learn:

1. In general about the manufacturing process of PVC and the improvement on the safety measure used during manufacturing.
2. Advances in the recycling of PVC materials
3. Toxicity of the PVC manufacturing process
4. PVC-alternative products

Communicating Your Ideas; the Integrated Approach /-101410-2010
Project Management

LU: 4
Credit: LU

1. Define the elements of an integrated design project and identify team members
2. Describe the benefits of a project using the integrated design approach
3. Prepare the attendees for the different type of approach and discuss potential issues, explaining each their roles and responsibilities
4. Describe the activities of an integrated design charette, understanding, communicating, sharing ideas, evaluation of costs to project.

Conforming to the LEED Rating System and Requirements /--042109/2009
Building Science and Performance
LU: 2
Credits: LU/HWS/SD
Architects will:

1. Gain an understanding of the Leadership in Energy & Environmental Design (LEED) rating system
2. Will obtain a thorough analysis of the growing trends to build green and the benefits of being certified by LEED
3. Will understand the principles of sustainable design
4. Will learn specific strategies and technologies contributing to green building

Full Day Green Associate Exam Prep / -101010/2010
Building Science and Performance
LU: 8
Credits: LU

1. Overview and review of the USGBC and GBCI organizations with an understanding of the LEED Green Associate role during a project
2. Identify key components of all LEED credits for the review of the LEED Green Associate examination. Sample test questions have been created to help student understand what types of questions will be asked during the LEED GA Examination
3. Review additional information that is available on line that will support knowledge and elements necessary to pass the Green Associate Exam. A detailed review of the different sources will be reviewed.

4. Understand the LEED process, review of the LEED online process live with the examples of LEED Letter Credit Templates being shown how to submit.

Fundamentals of Sustainability – The Whole Story - / -101110/2010
Building Science and Performance
LU: 8
Credits: LU/HSW/SD

1. Design professionals, building owners, operators and anyone in the industry will learn the importance of sustainable measures for our construction industry today. We will explore the importance of the different elements and look at the negative effects the environment has seen.
2. Personal practices from how we behave at home to what we do for our daily habits can affect our impacts of sustainability in the world. We will explore the simple tasks we all have to do and their impacts while related to carbon footprints and a better environment.
3. We will understand the specific examples of green core building design elements and see how to incorporate them into projects and practices.
4. We will explore the resources available for measuring sustainability: i.e. LEED, water footprinting, carbon footprinting, CO2 calculations, etc.

Fundamentals of Sustainable Design and LEED/ -060210/2010
Building Science and Performance
LU: 4
Credit: LU/HSW/SD
Architects will:

1. Understand personally the importance of why we need Green Buildings
2. Learn the fundamentals of USGBC's LEED Rating System
3. Understand and define specific examples of green core building design practices
4. Know resources for LEED buildings and fundamentals of sustainable building practices.

Green Buildings Workshop: Materials and Resources / - 100309/2009
Design and Design Services
LU: 2

Credit: LU
The architects will:

1. Learn an introduction to LEED V3 as it relates to materials and resources
2. Learn an overview of Materials and Resources section of LEEDV# checklist
3. Be given a review of case studies showing current best practices
4. Learn of the submission process of LEED registered projects

Green Building Market Intelligence: Turning Trends into Opportunities /- 041510/2010

Building Science and Performance
Topic: Building Envelope
LU: 1
Credit: LU
Architects will:

1. Learn about the impact of sustainable design in the future of architecture (intelligence in market opportunities, financial paybacks and benefits, and building at highest level of growth)
2. Learn about the role that green building regulation and standards are having on the architectural profession
3. Learn how to translate research into practical applications thru graining in depth understand of trends in sustainable design
4. Be able to capitalize on the opportunity for architects in greening existing buildings being driven by corporate leaders and government.

Green Building Materials for Interior Design & Construction / - NBAIACESGBM1/2010

Description: This course will describe how to determine how 'green' a material really is, examples of sustainable, healthy materials and examples of something incorrectly marked as 'green, ' examples of lessons learned while searching for green building products and show case studies about the design process of selecting interior green building materials for new building and renovation projects.
Sustainable Design
LU: 1
Credits: LU/HSW/SD

Attendees will:

1. Learn how to determine how ‘green’ a material really is – reading beyond the marketing labels and what to look out for
2. Learn examples of sustainable, healthy materials and examples of something incorrectly marketed as ‘green’
3. Hear examples of lessons learned while searching for green building products
4. By using case studies, learn about the design process of selecting interior green building materials for new building and renovation projects.

Green Building Principles and Practical Application / -NJEP04/2010

Building Science and Performance

LU: 4

Credits: LU/HSW/SD

Architects:

1. That attend this course will understand the principles of sustainable design
2. Will learn how to articulate the triple bottom line concept
3. Learn how to define green building strategies and technologies
4. Will understand the LEED rating system and its application to green buildings

Green Building Principles and Practical Application – Full Day / -NJEP08/2010

Building Science and Performance

LU: 8

Credit: LU/HSW/SD

Architects:

1. That attend this course will understand the principles of sustainable design
2. Will learn how to articulate the triple bottom line concept
3. Learn how to define green building strategies and technologies
4. Will understand the LEED rating system and its application to green buildings

Green Buildings Workshop: Sustainable Sites / -091209/2009
Design and Design Services
LU: 2
Credit: LU
The architects will:

1. Learn an introduction to LEED V3 as it relates to site design
2. Learn an overview of sustainable sites section of LEED V3 checklist
3. Will be given a review of case studies showing current best practices
4. Learn of the submission process of LEED registered projects

Green Buildings Workshop: Energy and Atmosphere / -092609/2009
Design and Design Services
LU: 2
Credit: LU
The Architects will:

1. Learn an introduction to LEED V3 as it relates to energy and atmosphere
2. An overview of Energy and Atmosphere section of LEED V3 checklist
3. Be given a review of case studies as showing best practices
4. Learn of the submission process of LEED registered projects

Green Buildings Workshop: Green Building Basics /-101709/2009
Design and Design Services
LU: 2
Credits: LU
The architects will:

1. Learn an introduction to LEED V3 as it relates to green building basics
2. Learn an overview of green building basic concepts
3. Be given a review of case studies showing current best practices
4. Will learn of the submission process of LEED registered projects

Green Buildings Workshop: Overall LEED Certification / 101009/2009
Design and Design Services
LU: 2
Credit: Lu

The architect will:

1. Learn an introduction to LEED V3
2. Learn an overview of the LEED V3 checklist
3. Be given an review of case studies showing current best practices
4. Learn of the submission process of LEED registered projects

Green Buildings Workshop: Water Efficiency / -091709/2009

Design and Design Services

LU: 2

Credit: LU

The Architects will:

1. Learn an introduction to LEED V3 as it relates to water efficiency
2. An overview of Water Efficiency section of LEED V3 checklist
3. Be given a review of case studies as showing best practices
4. Learn of the submission process of LEED registered projects

Green Existing Buildings: Legal Process Implementation /-102710/2010

Building Science and Performance

LU: 1

Credit: LU

Architects will learn:

1. Overview of the LEED for existing building rating system
2. Legal aspects of "green leasing"
3. Learn how to incorporate integrated design and triple bottom line in the design process
4. Learn how to implement a LEED for Existing Buildings into a project

Green Masters Series: the 3 new tracks of LEED: NC, EB, & CI /nhsb1/2009

Other

LU: 1

Credit: LU

1. Attendees will learn how LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.

2. Attendees will learn about accreditation exam process and the 3 new exams offered.
3. Attendees will learn about the differences of the 3 exams, to understand not only why to become accredited, but which exam is best to take.

Home Performance with Energy Star and REGREEN /-01110/2010
Building Science and Performance
LU: 1
Credit: LU/HSW/SD

1. Introduction to the NJ Home Performance with Energy Star (HPwES) Program and how the program works in broad terms.
2. Introduction to the REGREEN and how the program works in broad terms
3. Learn some of the resources available to become educated about sustainable building.

How to Implement the Whole House Approach to Energy Efficiency /-021810/2010
Building Science and Performance
LU: 1
Credit: LU/HSW/SD
Architects attending this course will learn:

1. How an energy audit can diagnose comfort and energy inefficiency problems in the home's design
2. Various components of energy efficient homes
3. What defines a continuous thermal boundary
4. How unconditional air infiltrates and conditioned air exfiltrates the home

Indoor Air Quality Requirements for Green Buildings / -NNJFCA/ 2008
Building Science and Performance
LU: 1
Credit: LU/HSW
Architects who attend this session will learn:

1. How to better understand the LEED rating system as it applies to Indoor Air Quality

2. How to maximize operational efficiency while minimizing environmental impacts
3. Design strategies for indoor air quality
4. The review of appropriate indoor air quality standards

Integrating Green Building and Sustainability with the Regulatory Process /-02810 /2010

Legal
LU: 1
Credit: LU/HSW/SD

1. Explain how green building will go beyond today's main stream programs and codes beyond their current scope
2. Give insight into the driving force behind today's codes
3. Explain the work of the green building and code communities to create green building codes that not only protect the health and safety of building occupants but also address the larger ecological based risks of building design and construction
4. Overview of examples of green codes and standards such as: The UCC and Municipal Green Building Ordinances, Standards to Codes i.e. LEED, Architecture 2030, Energy Star, California's Green Building Code the First in the Nation, the ICC's – International Green Construction Code Development Process

LEED – Build Green Everyone Profits / -ONJSB3 / 2007

Other
LU: 1
Credit: LU

1. Attendees will learn how reduced building operating costs create value in a financial sense that can be monetized for the owners. How some of those cost savings occur in different property types. How LEED can create higher value via productivity and possibly higher revenue as well. Also, how social and societal value is created when LEED and green practices are applied. And finally, how to overcome the barriers to LEED and Green practice application in real estate development world.

LEED Applied to R/D & Lab Facilities / - 101210/2010
Building Science and Performance
LU: 1
Credit: Lu/HSW/SD

1. Understand the items of LEED that are achievable to all buildings including Lab facilities reviewing synergies that are available.
2. An understanding of the code requirements as the control lab systems and equipment, explanation of lab systems and controls that result in energy savings.
3. Differentiate between standard building systems and new technologies that offer optimization of all building systems
4. Review of current trends in green chemistry, variable speed equipment, modular HVAC systems approach and more.

LEED for Neighborhood Development in NJ/ NJSB5/ 2009
Other
LU: 1
Credit: LU

1. Attendees will learn how the LEED rating system is applied to the concept of a neighborhood becoming LEED certified
2. Attendees will learn about the design principles as it applies to multi-projects in LEED NJ
3. Attendees will learn about the LEED rating system, LEED ND Pilot, the projects selection and how it is progressing

LEED New Construction – Optimizing Energy Performance / -NJSB2/2009
Other
LU: 1
Credit LE
Attendees will:

1. Learn about the three different paths for energy optimization available within the credit, including ASHRAE 90.1, the ASHRAE Design Guide for Small Buildings, and the Advanced Buildings benchmark.
2. Examine the implications of applying ASHRAE 90.1 including mandatory provisions, and whole building simulation with process and non-process load.
3. Learn about the USGBC, LEED rating system, and the chapter's efforts to educate the marketplace, architects being a primary target.

LEED Rating Systems and Design Process /-033108/2008

Design and Design Services

LU: 1

Credit: LU

Attendees will learn:

1. About the USGBC's LEED rating system for buildings and the certification process.
2. How to integrate the LEED rating system into the design process.
3. How to register a project for certification.

LEED – Build Green Everyone Profits / -njsb2/2009

Other

LU: 1

Credit: LU

1. Attendees will learn how reduced building operating costs create value in a financial sense that can be monetized for the owners. How some of those cost savings occur in different property types. How LEED can create higher value via productivity and possibly higher revenue as well. Also, how social and societal value is created when LEED and green practices are applied. And finally how to overcome the barriers to LEED and Green practice application in real estate development.

LEED- GA Exam Review Course/ -060211/2010

Building Science and Performance
LU: 4
Credit: LU

1. Overview and review of USGBC and the GBCI< identifying the differences.
2. Weekly study plan with available links to 'free" documents on the internet.
3. Identify key components of all LEED Categories and accreditation types and levels
4. Prepare for success when taking the Green Associate Exam. Practice questions, types of questions asked, & strategy for testing success.

Local Government's Role in Fostering Green Building and LEED/ ONJSB6/2009

Other
LU: 1
Credit: LU

1. Attendees will learn how LEED rating system is being applied at the local government levels in NJ, how to incorporate into master plan and/or ordinances. Case studies of what is being done in 3 of NJ's municipalities re: LEED and green building language. General green building practices and obstacles in design phase in local government.

Moving Transportation Forward Sustainability / -060212/2010

Building Science and Performance
LU: 1.5
LU: LU/HSW/SD

1. Understand sustainable principles as they relate to our transportation industry
2. Apply the concepts known in green building design to the horizontal practices of planes, trains and automobiles
3. Understanding the major impacts of transportation in our planning principles
4. Practical approaches to horizontal construction with a lower environmental impact

NJ Green Home Remodeling Guidelines /-NJGHRG/2010
Building Science and Performance
LU: 1
Credit: LU/HSW/SD
Attendees will learn:

1. What the NJ Remodeling Guidelines are
2. Why the Guidelines were created and the purpose of the Guidelines
3. The format of the Guidelines
4. How the Guidelines are meant to be used

Open Window: IAQ & Beyond/ -101310/2010
Building Science and Performance
LU: 2
Credit: LU/HSW/SD

1. To review how green buildings have a positive affect on indoor air quality, and just how quickly it can change
2. Understanding the elements that are considered toxins to indoor air quality and talk about maintaining healthy air
3. We will review details in air ventilation, air flow, monitoring, lighting controls, view to the exterior all which have a positive effect on human productivity
4. Additionally, we will discuss the daily habits of people in homes, offices and communities and discuss the different tactics that can help adjust behavior and opening the window to healthy air.

Planning for Sustainability/ -121409/2009
Sustainable Design
LU: 1
LU: LU/HSW/SD

1. Provide an understanding of land use zoning codes, how they function and impact development in general
2. Highlight land use zoning codes that create road blocks to sustainable design development projects

3. Identify the type of land use zoning codes that can promote or assist sustainable design development projects
4. Discuss how the planning process should be properly incorporated into the overall development process s to account for sustainable design issues.

REGREEN – An overview / 031110/2010
Building Science and Performance
LU: 1
Credit: LU/HSW/SD
Attendees will learn:

1. The purpose for which REGREEN was created – to green residential renovations
2. The format of the REGREEN Guidelines and how the Guidelines were meant to be used
3. A small sampling of the specific content of REGREEN – for example, specific information on 3 of the REGREEN Project Types
4. About the Educational component of REGREEN.

REGREEN Green Home Remodeling Guidelines / -REGREEN/2010
Building Science and Performance
LU: 1
Credit: LU/HSW/SD
Attendees will learn:

1. Why the REGREEN Guidelines were created and the intent of the Guidelines
2. About the format of the Guidelines
3. In general, how to use the Guidelines for energy Savings
4. About the REGREEN Education Program and the Certificate Program

Sustainability for LEED Facilities /-122011-AH/2011
Understand the introduction to LEED and implementing on a larger scale for facility managers of multiple buildings
Design and Design Services

LU: 1
Credits: LU

1. Understanding SUSTAINIBILITY for today's facilities
2. Initiating sustainability in your company
3. Finding resources for measuring levels of GREEN Energy Waste Processes change
4. Discovering a NEW NORMAL/BALANCING competing demands

Sustainability in the Military Built Environment /-051010/2010
Building Science and Performance
LU: 1
Credit: LU/HSW/SD
Attendees will learn:

1. How the US Military has made a commitment to obtain LEED Silver minimum for all new buildings
2. Other Army Corps of Engineers commitment to sustainable practices
3. Executive Order 13514, which requires all federal government entities to create a plan to reduce their carbon output
4. Some specifics about how the Army Corps of Engineers is implementing Executive Order 13514 and reducing their carbon output

Sustainable Site Development and Regenerative Design: The Role of the Site/Civil Engineer/ -101909/2009
Legal
LU: 1
Credits: LU/HSW/SD

1. Provide an understanding of the role the civil engineer needs to play in identifying and evaluating a site where a sustainable development is planned
2. Provide an understanding of the role the civil engineer in defining site constraints and the valuable input that can be provided to the other disciplines that are part of the development team.
3. Highlight through two case studies some potential approaches that should be replicated and others that should be avoided on sustainable design projects.

Tools for Designing Energy Efficient – LEED and Energy Star /-090620/2009
Other
LU: 6.5
Credits: Lu/HSW

1. Using Tools for Designing Energy Efficient LEED and ENERGY STAR Certified Buildings, the participant will be able to set energy targets for design buildings, run energy simulations, evaluating building performance, contact a Green Charrette, make the business case and find incentives to support the design and construction of energy efficient buildings. ENERGY STAR is a combination of online training courses offered by ENERGY STAR to meet the needs of professionals looking to design, construct, operate, evaluate and certify high performance buildings. ENERGY STAR is a combination of online training courses offered by ENERGY STAR to meet the needs of professionals looking to design, construct, operate, evaluate and certify high performance buildings. (These courses are approved foe 3AIA credits combined). GREEN BUILDING STUDIO is a two hour program developed by Green Building Studio Inc. to demonstrate how to use their internet based energy simulation tool for evaluating proposed designs, (NYSERDA has previously offered this course with 2AIA credits) conducting a Green Charatte. Gail Lindsey is an internationally recognized expert in Green Design and has facilitated Green Charrettes around the world. This one hour segment is a distillation of a daylong seminar. KEED & ENERGY STAR. Draws from the USGBC's introduction to the LEED Rating System with an emphasis on the Energy& Atmosphere section. It demonstrates how using Energy Star Tools can help design teams achieve points within the LEED Rating Systems E&A Category. NJ Smart Start Incentives: this program was developed by the NJ Board of Public Utilities to explain the available incentives for energy efficient equipment and custom measures.

Updates on Economic American Recovery and Reinvestment Act of 2009 /-061609/2009
Legal
LU: 1

Credits: LU
Attendees will learn:

1. How they can take advantage of the stimulus plan to being in more design work to their firm
2. The Program details as related to the Board of Public Utilities, through the office of Clean Energy
3. How the programs encourage building owners to participate in the design and redesign of existing structures
4. How the funding mechanisms will work

USGBC NJ North Branch Sustainable Bluer Vinyl Screening and Discussion /-092102/2009

Building Science and Performance
LU: 2
Credit: LU/HSW/SD

1. Learning about the Life Cycle Analysis (LCA) of products. Products throughout their life cycle have affects on the health of persons manufacturing the product, installing the product, occupying the building it is installed in and after the product is removed or the building is demolished
2. Understanding some of the potential affects PVC has on the health of persons manufacturing it, installing it, occupying the building it is installed in and after it is removed or the building is demolished
3. Identify potentially healthier and more environmentally friendly alternatives to PVC
4. To give attendees the opportunity to discuss with the firm director and with other attendees how this knowledge can be applied to their projects.

Water Efficiency and Reuse – and LEED / NJSB4/2009

Other
LU: 1
Credit: LU
Architects will learn:

1. How LEED is spurring forward a new era in water resource management, Ed Clerico PE LEED AP is President of Alliance Environments, has been instrumental in the design, implementation and operation of over 30 water resue systems in the northeast and most recently in 6 systems in New York City, all on LEED Gold buildings.
2. How NYC reduced water use 20% since 1990 via a menu of water efficiency programs that are customer oriented.
3. The designs and processes of LEED Rating System

What is Smart Grid Technology and how can America benefit from it? / -022410/2010

Building Science and Performance
LU: 1
Credit: 1
Architects who attend this course will learn:

1. How the power grids across America deral eiyh stresses in order to avoid brown outs
2. Power grid programs in play to incentivize end users to drop unnecessary electric loads when grids are stressed
3. What smart grid technology is
4. How to incorporate smart grid technology into building design

Your Carbon Footprint and Your Bottom Line/ -030810/2010

Building Science and Performance
LU: 1
Credit: LU/HSW/SD
Attendees will learn:

1. President Obama's Executive Order 13514 which requires that all Federal Agencies set greenhouse gas emissions reduction targets, increase energy efficiency, conserve water, reduce waste, support sustainable communities, and leverage Federal purchasing power to promote environmentally-responsible products and technologies
2. How EO#13514 affects their company, municipality or organization
3. The basics of calculating their carbon footprint
4. Methods to reduce their carbon footprint