Take and Pass the LEED Green Associate Exam & the LEED AP+ Building Design and Construction

More than 110 course attendees Passed the LEED-NC 2.2 exam the First Time

What is LEED?

The Leadership in Energy and Environmental Design (LEED) is an internationally accepted guide for the design, construction, and operation of green buildings. LEED® has been adopted by USA, Canada, United Arab Emirates, Mexico, China and India.

Why learn about LEED?

Owners and developers are demanding **green buildings** to save money while protecting the environment and occupants' health. More than 5000 building owners are currently seeking LEED® certification.

Who should attend?

Industry professionals seeking to **take and pass the LEED-AP exam** as well as looking to incorporate green strategies into their building projects:

• Architects • Designers • Consultants • Owners
• Engineers • Developers • Contractors • Manufacturers

What's covered?

The course will cover the LEED 2009 for New Construction in sufficient details for the participants to take and pass the LEED AP Green Associate test and/or the LEED AP+ Building Design and Construction. All LEED recognized areas will be covered:

- Sustainable Site Development
- Water Efficiency
- Energy and Atmosphere
- Materials and Resources
- Indoor Environmental Quality
- Innovation in Design

How long is the course?

To provide the in-depth coverage of all the LEED credit requirements, intent, strategies and submittals, the duration of the course is **3 days**. Other 1-day LEED courses only introduces the LEED rating system and is usually not enough to pass the LEED exam. The in-depth coverage of the LEED requirements offered in this course is the primary reason that **more than 110 course attendees have passed the LEED-AP exam the first time**. The course will also cover **more than 200 test sample questions.**

Dates: October 27-29, 2009

Daily sessions will be from 8:00 to noon and from 1:00 to 5:00. Each day's schedule will include continental breakfast, lunch, morning and mid-afternoon refreshment breaks.

Limited Seats because of small class sizes. RSVP.

Past Participants Say

"Thanks for a great class. I would have never passed the test without taking your course." Benjamin Heppe, Andrews and Anderson Architects, Golden, Colorado, USA

"I passed my AP exam!!!! Thanks for all the course materials. Your presentations were essential!" Natalie Dustman, Sustainable Home Resources, Denver, Colorado, USA

"I just want you to know that I would never have passed this exam if we had not gone over such explicit details of each credit, so I thank you." Amy Johnson, University of Denver, Colorado, USA

"I took the exam and passed with a 185. I was well prepared and appreciate everything you have done to prepare us throughout the course." Peter Pincoffs, University of Denver, Denver, Colorado, USA

Presenter

Dr. Hazem Elzarka is a Professor of Construction Management at the University of Cincinnati, USA. He also taught at the Burns School of Real Estate and Construction Management, University of Denver. **He is a registered professional engineer (PE) in the State of Ohio and is also a LEED Accredited Professional (LEED AP)**. He has consulted for major US and international construction firms including Centex Rooney, Stone & Webster, Fluor Daniel, and Chemonics. His consulting work primarily focuses on Green Buildings, Total Quality Management, sustainable construction, LEED certification. He has more than 50 publications in refereed journals and conference proceedings.

Additional Benefits

You will be introduced to LEED CS and LEED for Schools.

Fees

$1,200 per attendee. $600 for students.

Course Location

College of Applied Science's Room A204. 2220 Victory Parkway, Cincinnati, OH 45206. **Parking is available behind the building.**

Registration

To register contact **Danielle Prewitt** at (513) 556-6553 or prewitde@UCMAIL.UC.EDU

Course Agenda

Day 1

Introduction

- Buildings Impact on the Environment
- Benefits of Green Buildings
- What is "Green Design"?
- What is LEED?
- Introduction to LEED Categories
  - ✓ Sustainable Sites
  - ✓ Water Efficiency
  - ✓ Energy & Atmosphere
  - ✓ Materials & Resources
  - ✓ Indoor Environmental Quality
- LEED Products

Costs of Green Buildings

Sustainable Sites

- Erosion & Sedimentation Control
- Site Selection
- Development Density
- Brownfield Redevelopment
- Alternative Transportation
- Reduced Site Disturbance
  - ✓ Green Roof
- Storm water Management
  - ✓ Rain water collection systems
  - ✓ Gray water collection systems
  - ✓ Pervious paving
- Heat Island Effect
  - ✓ Open Grid Pavement Systems
- Light Pollution Reduction
- Review Questions

Water Efficiency

- Water Efficient Landscaping
  - ✓ Native Vegetation
  - ✓ Efficient Irrigation Systems

Day 2

Water Efficiency (Continued)

- Innovative Waste Water Technologies
  - ✓ Low flow fixtures
  - ✓ On-site waste water treatment
- Water Use Reduction
- Review Questions

Energy & Atmosphere

- Building Systems Commissioning
  - ✓ Commissioning Process
  - ✓ Commissioned Systems
  - ✓ Selection of CxA
  - ✓ Time of involvement of CxA
- Optimize Energy Performance
  - ✓ Energy conservation measures
  - ✓ ASHRAE Standard 90.1 2004
  - ✓ Energy Simulation
- Refrigerant Measurement
  - ✓ Global Warming
- Renewable Energy
  - ✓ Photovoltaic Systems
  - ✓ Geothermal Energy systems
- Measurement & Verification
- Green Power
  - ✓ Green Tags
- Review Questions

Materials & Resources

- Storage & Collection of Recyclables
- Building Reuse
  - ✓ Structural Elements
  - ✓ Non-structural Elements
- Construction Waste Management
- Resource Reuse
- Recycled Content
  - ✓ Post-consumer vs. Pre-consumer

Day 3

Materials & Resources (Continued)

- Regional Materials
- Rapidly Renewable Materials
- Certified Wood
- Review Questions

Indoor Environmental Quality

- Minimum IAQ Performance
  - ✓ Under floor air distribution
  - ✓ Natural Ventilation
- Tobacco Smoke (ETS) Control
- Carbon Dioxide (CO_2) Monitoring
- Ventilation Effectiveness
- Construction IAQ Management Plan
  - ✓ Proper Scheduling
  - ✓ Construction Area Isolation
  - ✓ Building Flush out
- Low-Emitting Materials
- Indoor Chemical & Pollutant Control
- Controllability of Systems
- Thermal Comfort
- Daylight & Views
- Review Questions

Innovation & Design Process

- Innovation in Design
- LEED Accredited Professional
- Review Questions

LEED Certification Process

- Design -Construction Phase Credits
- Certification Fees
- LEED on-line
- Review Questions

LEED AP Exam Preparation